

Introduction/Overview

At the present time there is no surface or underground coal mining activity in Mississippi. While Mississippi contains other mineral resources — such as zeolite, sand and gravel, limestone, and some of the richest top soil in the world — the economic potential of surface coal mining has yet to be realized.

There are several factors which hinder Mississippi from mining its deposits of bituminous coal. The bituminous coal that exists in Mississippi is part of the Pottsville coal deposits which, due to subsidence, are quite deep. Also, the coal deposits in Mississippi are overlain by Cretaceous sediments, compounding the problem of economically removing the overburden.

Lignite coal is present in a seam that extends from Northwestern Mississippi through North Central Mississippi and into the central section of the State. The lignite is deposited in the Tertiary sediments and is associated with shallow Wilcox and Claiborne groups. Exploration by some coal companies has revealed that just 200 feet below the surface there is an estimated 5.3 billion tons of lignite coal in Mississippi.

The outlook for future extraction of bituminous coal in Mississippi is not bright, but if the mining of lignite grade coal should become economical, Mississippi would then be able to compete in the energy production industry.

Program Management and Budget

The regulatory authority in Mississippi is the Department of Natural Resources, Bureau of Geology, Mining and Reclamation Section (MRS). Because there is no surface or underground coal mining or immediate prospect for such mining in Mississippi, the State's program has not been required to be implemented. Several personnel with the Bureau of Geology devote a small part of their time to matters pertaining to the program.

Due to the lack of mining activity in Mississippi, the State elected not to apply for grant funds for fiscal year 1983 or any year since. The fiscal year 1982 Program Development Grant has been closed out.

Because there is no coal mined on Federal land in Mississippi, there is no Federal lands cooperative agreement.

Permitting and Bond Setting

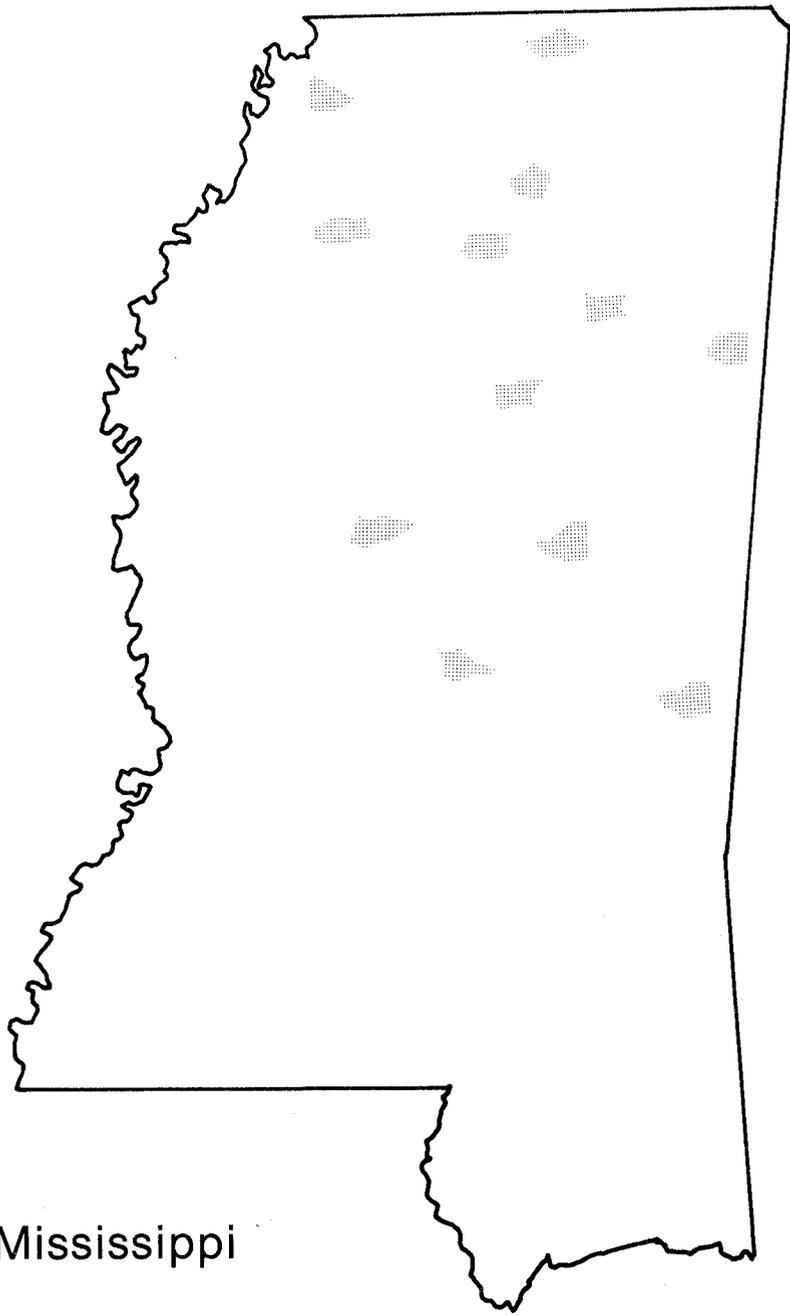
Due to the absence of mining activity in Mississippi, there has been no activity by the State in the areas of bonding and permitting.

Inspection and Enforcement

During the report period there was no activity by the State in the area of inspection and enforcement due to the absence of coal mining operations.

Abandoned Mine Lands

There is no Abandoned Mine Land Reclamation Program in Mississippi.



Mississippi

Coal Bearing Lands

Introduction/Overview

Coal-bearing beds underlie 23,000 square miles or about one third of the total area of Missouri. Twelve out of more than twenty named seams have been or are commercially mined. The remainder are too thin for commercial production.

The coal rank varies from high volatile A to C bituminous. The demonstrated coal reserve base is estimated to be 6.04 billion tons, or 1.24 percent of the U.S. coal reserves. Coal-bearing strata are generally thin seams which can be up to five feet thick. Typically, seams which are mined are 28 inches thick.

Coal deposits were first mined in Missouri in the 1840's, with the coal used primarily for domestic heating and blacksmithing. Production increased with the introduction of steamboats on the Mississippi and Missouri Rivers and the expansion of the railroads. Coal production in 1917 was 6 million tons. Decreases in production were caused by competition from inexpensive sources of alternative fuel, such as natural gas and fuel oil. In the 1940's, the introduction of surface mining to the State stopped the decline in production. A demand for the coal in steam power generating plants was also a factor in increasing coal production.

In 1985, 14 coal mines in 10 counties produced 5,566,000 tons of coal. The primary use of the coal was for the generation of electricity. These mines provided employment for about 1,200 miners working daily.

The climate is temperate and continental, characterized by long winters with persistent snow cover, long summers with average July temperatures greater than 77 degrees Fahrenheit, and short spring and fall seasons. No major climatic problems have been encountered that would cause difficulty in the reclamation of mined lands.

Program Management and Budget

The Missouri Land Reclamation Commission (MLRC) administers the mine reclamation and regulatory program. The regulatory program was conditionally approved November 21, 1980, subject to correction of 23 minor deficiencies included in 3 conditions. The deficiencies were corrected and the regulatory program was fully approved January 17, 1983.

On April 13, 1983, Missouri submitted a program amendment consisting of a proposed revision to the performance bonding and enforcement provisions. This amendment created and implemented a Coal Mine Land Reclamation Fund to be used to complete reclamation after any applicable performance bond has been exhausted. All permittees are required to pay an assessment to the fund based on the tonnage of coal shipped, sold, or otherwise disposed of. On May 8, 1984, this amendment was conditionally approved.

On January 30, 1986, OSMRE advised Missouri about the inadequacy of the alternative bonding system and the plans to resolve the current backlog of forfeiture sites. Missouri responded with legislation and rules increasing the required bond rate from \$500 per acre to \$2,500 per acre. The State has established a Task Force to address the problem of the reclamation cost exceeding the funding available. The State has also provided a scheduled outlining how the backlog of bond forfeiture sites will be addressed.

On June 11, 1986, OSMRE also advised the State about State regulations which were determined to be less effective than or inconsistent with the Federal requirements. Missouri has submitted a schedule to revise those regulations.

Presently, there is no coal mining on Federal lands. Therefore, Missouri and OSMRE have not adopted a cooperative agreement for coal mine reclamation on Federal lands.

Permitting and Bonding

Missouri made vast improvements in its cultural resource program during the evaluation period. The State is now requiring all coal surface mining permit applications to contain a letter of clearance from the State Historic Preservation Officer. As a result, Missouri's approved permit applications are now in full compliance with cultural resource permitting requirements.

Regarding the hydrology portion of coal surface coal mining permits, the State has revised its requirements for diversions to include more detailed designs in the permit applications. In addition, the State revised its guidelines to include data on groundwater in the Probable Hydrologic Consequences and Cumulative Hydrologic Impact Assessment sections, and revised its procedure for evaluation of permanent impoundments. Those actions by the State resolved three deficiencies that had been noted previously.

Bond release inspections in Missouri were well-documented and procedures were followed. Missouri approved 25 bond releases during this period. Missouri forfeited bonds on permits covering 943 acres during the reporting period.

During the evaluation year, OSMRE expressed concern that pond design criteria required by the State do not address effluent quality. Missouri's policy is to use the U.S. Soil Conservation Service (SCS) method to calculate retention time. The State contends that the SCS method is adequate and there is no evidence to suggest that existing ponds are in violation. OSMRE has initiated a study that compares the SCS method of calculating retention time with an OSMRE method that calculates the corresponding effluent quality. In those cases where the SCS method shows unacceptable potential water quality, field sampling is also planned. If the sampling indicates water quality is a problem, OSMRE will determine under what criteria the SCS method is acceptable.

OSMRE also raised two concerns with the State concerning soil productivity. Currently, Missouri does not require a demonstration in all cases that the productivity of proposed substitute soils will be equal to or exceed the productivity of adjacent undisturbed prime farmland soils. Also, Missouri is not requiring applicants to submit premining soil productivity information. An action plan has been developed to resolve these concerns.

During the 1986 review period, OSMRE also expressed concern that the State is not requiring permittees to submit as-built road certifications. An action plan has been developed to resolve this concern.

Inspection and Enforcement

Missouri initiated its inspection and enforcement system in November 1980. During the 1986 review period, as with previous review periods, inspections and inspection reports were complete and adequately covered all performance standards. During the year, the State conducted 935 inspections (both partial and complete inspections) on 94 inspectable units and issued 151 enforcement actions (NOVs).

Missouri responds to citizen complaints in most cases within the required 15 days for a written response and 10 days for a site inspection, if warranted. The State is loading complaint data into its computer system to augment manual tracking of complaints.

Missouri's response to ten-day notices has improved and was generally satisfactory. Appropriate responses increased from 70 percent in the previous reporting to 93 percent for this period. In addition, responses exceeding the ten-day response period decreased from 62 percent to 43 percent this reporting period.

In the past, Missouri's inability to meet inspection frequency requirements had been a concern, but considerable progress has been made in this area. While inspection frequency was 47 percent during the 1985 reporting period, it had increased to 87 percent during the 1986 reporting period. An action plan has been developed to assure 100 percent frequency in the future.

The State continues to have some problems with the timeliness of abatement inspections and issuance of Cessation Orders. An action plan has been cooperatively developed to resolve this concern.

Abandoned Mine Lands

During this evaluation period, Missouri started eight new reclamation construction projects. There were no delays in awarding contracts. Missouri continues to operate a very effective Abandoned Mine Land Reclamation Program.

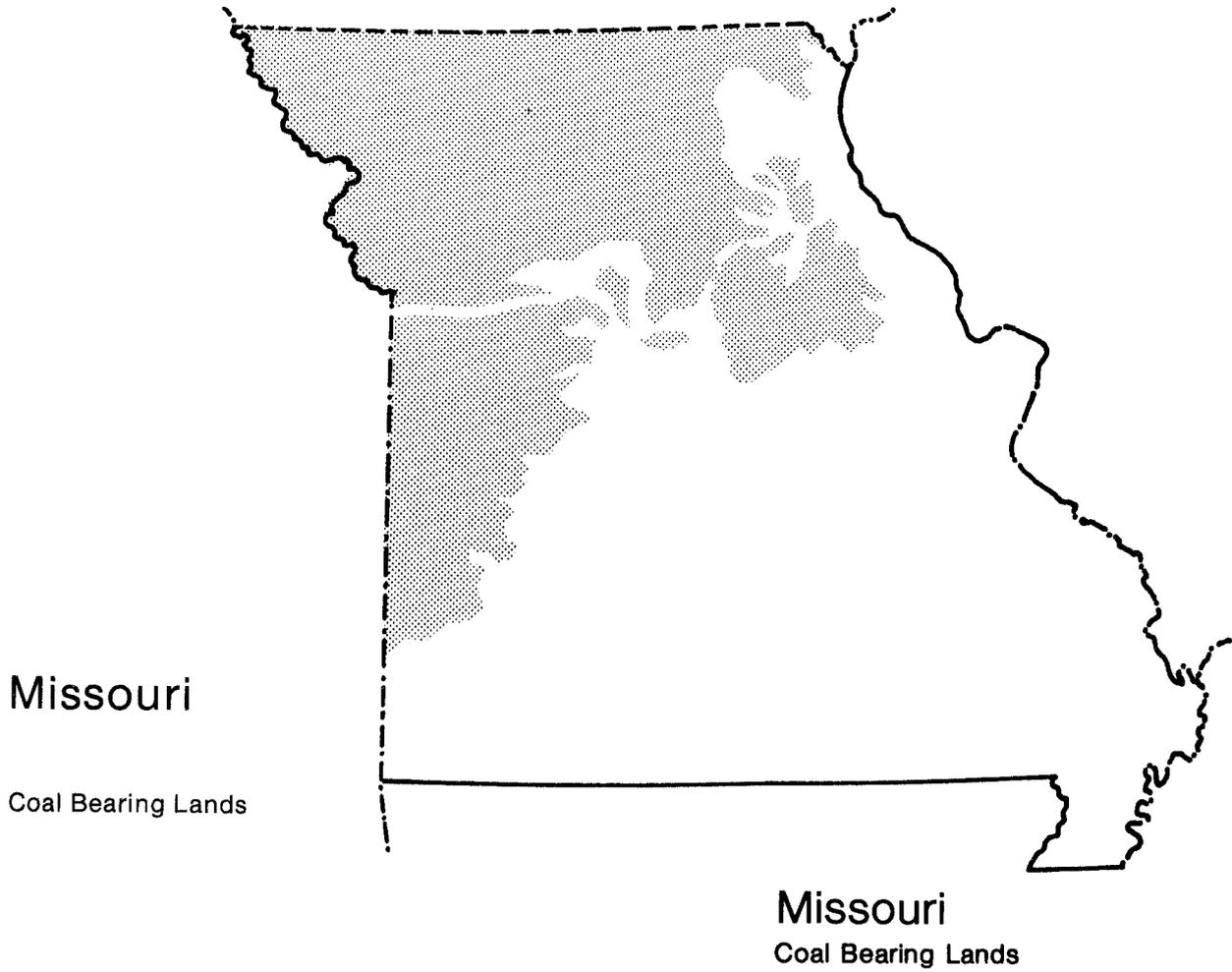
Facts About Mining in Missouri

	Amount	% U.S. Total
Coal Production (tons)*	5,566,000	.63
Surface Mining	5,566,000	1.05
Underground Mining	0	0
Producing Mines*	14	.29
Surface	14	.55
Underground	0	0
Average Production/Mine**		
Surface	397,571	
Underground		
Acreage Under Permit***	41,895	1.29

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

Salient Statistics—1986 Review Period

Total Budget	\$1,717,993
Total Permits	94
Inspectable Units (All Lands)	94
Total Inspections (Partial and Complete)	935
Enforcement Actions (NOVs Issued)	151



MONTANA

Introduction/Overview

Montana's demonstrated coal reserve base is about 120.3 billion tons, 24.6 percent of the U.S. reserve base. This is the largest demonstrated coal reserve base in the Nation.

Coal fields are located throughout the State, primarily east of the Continental Divide. Three of the seventeen coal fields in the State have producing mines. These include the Fort Union, Powder River, and Bull Mountain Fields. Mines in the North Central and Red Lodge Coal Fields are under consideration for development. Coal resources range in rank from lignite to high volatile A bituminous. The majority of the coal currently mined is subbituminous in rank.

While Lewis and Clark mentioned the presence of coal along the banks of the Missouri River in Montana in 1805, the first major mine opened in 1867 at Chestnut, Montana, near Bozeman. It served Fort Ellis until the mine was bought by the Northern Pacific Railroad in 1883. By 1900, underground coal mining had developed throughout the State, primarily to supply the railroads. In the 1920's, large-scale surface mining began in Colstrip to fuel railroad steam engines. Currently, all coal production in the State is by surface mines.

In 1985, nine surface mines in four counties produced 33 million tons of coal. Nearly all the coal mined was used for the generation of electricity, with very small amounts being used for home heating. Montana coal mines provide employment for an average of 1,112 miners working daily. The productivity rate per miner for surface mining was second highest in the Nation.

The unique topography of the semi-arid West was given special recognition in the surface mining law. Section 510(b) (5) of SMCRA provides special protection for alluvial valley floors, many of which occur in the Powder River Coal Basin of Montana. Generally, alluvial valley floors (AVF) are areas in the western U.S. that are located in valleys having an associated stream channel, are underlain by unconsolidated deposits whose surface usually has an appearance of flood plains or terraces, and have an agricultural importance derived from water availability. The surface mining law includes specific prohibitions on mining certain AVFs, stringent reclamation standards for those AVFs not prohibited from mining, and requirements that mining not materially damage the hydrologic functions of an AVF.

Most of the area currently mined in Montana is considered semi-arid. Two factors presenting problems to rehabilitation of mined lands are short growing seasons and a low annual precipitation rate. Despite these problems, most of the revegetation efforts, using mainly grasses, have been largely successful because much of the precipitation occurs during the summer months when the rainfall is needed for germination of the vegetation.

Program Management and Budget

The Office of Surface Mining Reclamation and Enforcement granted conditional approval to the Montana regulatory program on April 1, 1980, and final approval on February 11, 1982. The Montana Abandoned Mine Lands Program was approved on November 24, 1980. A Federal lands cooperative agreement was approved on May 8, 1981, with a substantial number of acres under permit in Montana on Federal lands.

The Montana Department of State Lands (DSL) implements both the Title IV, Abandoned Mine Lands Reclamation Program, and the Title V, Regulatory Program.

The Reclamation Division of the Department of State Lands has administered the initial regulatory program since February 3, 1978, and is responsible for administering the permanent regulatory program. The Reclamation Division is also responsible for carrying out the provisions of the Cooperative Agreement with the Department of the Interior to regulate surface coal mining operations on Federal lands.

The Montana Department of Health and Environmental Sciences (DHES) analyzes water quality samples collected from drainageways, sediment ponds, and other areas on or adjacent to coal mines for DSL. Water quality sample results are reported to DSL's Reclamation Division, which then takes appropriate action under the Montana Strip and Underground Reclamation Act. Also, the Water Quality Bureau of the Department of Health and Environmental Sciences enforces the Montana Water Quality Act and related rules by issuing Montana Pollutant Discharge Elimination System permits for coal mine discharges.

Permitting and Bonding

During the evaluation period, OSMRE reviewed Montana permanent program permits and found that the permits contain good information on premining vegetation, land use surveys, and revegetation plans.

OSMRE found that reclamation performance bonds adequately cover all aspects of regulatory liability in the event of bond forfeiture. OSMRE's permit review indicated that some small mine permits that were issued were inadequately documented. OSMRE is pursuing resolution of the problems with the small mine permits cooperatively with the state.

Also during the review period, the Montana legislature passed two bills that were approved by OSMRE as part of Montana's permanent program. One bill revises permit review response requirements. The second bill changes procedures for bond release.

Inspection and Enforcement

During the evaluation year, the Department of State Lands improved its inspection frequency on permitted mines. Montana overall exceeds the number of inspections required.

Also during the year, the Montana legislature passed a bill, which was approved by OSMRE as part of Montana's permanent program, regarding a 30-day limit for a maximum fine of \$750 per day for a person or operator who fails to correct a violation.

Early in the evaluation period, DSL was not terminating violations, even though on-the-ground abatement had occurred. By the end of the review period, DSL was terminating all violations. OSMRE will continue to monitor this administrative responsibility.

DSL did not always follow enforcement procedures of the permanent program in a timely manner. OSMRE will monitor for more timely enforcement procedures in the coming year.

Also during the year, DSL did not always assess violations within its own prescribed 30-day limit, with assessments taking an average of 24 additional days. The State has committed to meet the 30-day limit in the future. OSMRE will continue to monitor DSL's assessment activities and urge that it follow the approved program.

Abandoned Mine Lands

Montana is satisfactorily implementing its AML Program. The majority of abandoned mine land projects completed during the year were to close hazardous mine openings, conduct subsidence abatement, and remove hazardous structures that had been abandoned at mine sites.

During the evaluation year, OSMRE, the National Advisory Council for Historical Preservation, and DSL entered into a memorandum of agreement to mitigate adverse effects on two sites of historical importance prior to the reclamation of these abandoned mine sites.

Facts About Mining in Montana

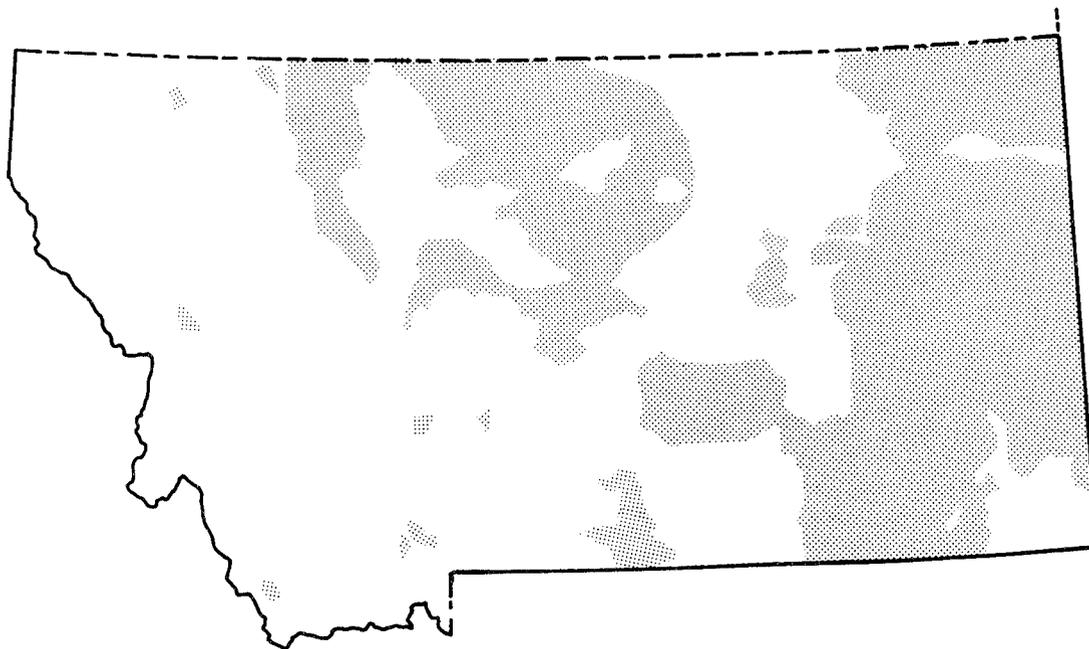
	Amount	% U.S. Total
Coal Production (tons)*	33,290,000	3.77
Surface Mining	33,290,000	6.26
Underground Mining	0	0
Producing Mines*	9	.19
Surface	9	.35
Underground	0	0
Average Production/Mine**		
Surface	3,290,000	
Underground	0	
Acreage Under Permit	29,978	.93

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Salient Statistics—1986 Review Period

Total Budget	\$6,177,616
Total Permits	20
Inspectable Units (All Lands)	21
Total Inspections (Partial and Complete)	287
Enforcement Actions (NOVs Issued)	19



Montana

Coal Bearing Lands

Introduction/Overview

Although early Spanish settlers used New Mexico coal several centuries ago, significant commercial coal mining in the State began in 1861, when the U.S. Army opened a mine to supply Fort Craig, New Mexico. Since then, coal from the State has been used to fuel railroads, lead and copper smelters, and other industry. As in other states, demand for coal in New Mexico decreased as use of alternative fuels grew. With the advent of inexpensive methods of stripping overburden, however, and the increased demand for coal by power plants seeking to supply electricity to the growing Southwest, New Mexico coal production has increased in recent years.

Most of the coal produced in the State today comes from the San Juan Basin in the northwest part of the State and the Raton Area in the north central part. The demonstrated coal reserve base is 4.65 billion tons, about one percent of the national reserve base.

During the review period from July 1, 1985 to June 30, 1986, 12 coal mines on 50,695 permitted acres of non-Indian lands produced 11,228,639 tons of coal. Two underground mines and ten surface mines produced 935,915 and 10,292,724 tons of coal, respectively. Coal mines on non-Indian lands in New Mexico provided employment for an average of 900 miners.

The climate of the State, particularly in the San Juan Basin, is arid. Records indicate that the average annual precipitation in that area is 6.13 inches. Most of the precipitation occurs as thundershowers in August to October. Revegetation in parts of the San Juan basin is extremely difficult because of low rainfall and high erosion potential.

Program Management and Budget

New Mexico's permanent regulatory program was conditionally approved by the Secretary of the Interior on December 31, 1980. The Energy and Minerals Department is the designated regulatory authority for New Mexico, and the Mining and Minerals Division (MMD) administers the program for the Department. The New Mexico Surface Mining Act established a regulatory program to assume jurisdiction over the regulation of surface coal mining and reclamation operations in the State. As part of that program, the Coal Surface Mining Commission (CSMC) was created. The Commission promulgates regulations to implement the State's Act and to hear appeals of decisions from the Director of the Mining and Mineral Division. The Division performs all permitting, inspection, enforcement, and administrative duties under the Act that are not expressly delegated to the Commission.

The New Mexico Abandoned Mined Lands Program was approved on July 17, 1981. Abandoned mined land concerns are handled by the Abandoned Mined Lands Bureau of the Mining and Minerals Division. The AML Bureau was created in February 1983.

Two sets of regulations are in effect in the New Mexico program: CSMC Rule 79-1, adopted on June 4, 1979, applies to those mines still operating under initial program permits; CSMC Rule 80-1 adopted May 15, 1980, applies to mines that are re-permitted under the permanent program. AML Reclamation Program Provision, Section 884.13, includes the plan by which the AML program operates.

The Secretary's approval of a cooperative agreement delegating authority to New Mexico to regulate mining and reclamation on Federal lands was published in the **Federal Register** on December 20, 1982.

Permitting and Bonding

In fiscal year 1986, New Mexico re-permitted all mines under the permanent regulatory program, except one underground mine that is on a schedule for final approval.

The State has resolved several problems with the permitting process that had been identified during 1985. For example, the MMD developed an effective method for ensuring that bond amounts are adequate; based its permit approval on sound technical information on topics that were identified as problem areas earlier; and resolved problems in planning for fish and wildlife protection. OSMRE is developing action plans in coordination with New Mexico to resolve the remaining problems of accepting incomplete designs for contour furrows and implementing alternative sediment control practices.

* Coal Mining on Indian Lands in New Mexico is regulated by OSMRE. Mines on other coal-bearing lands in the State are regulated by the New Mexico Mining and Minerals Division (MMD). This chapter discusses only those mines regulated by MMD on non-Indian lands. OSMRE's regulation of mines on Indian Lands is discussed in the chapter entitled "Indian Lands," included in the section on Federal Regulatory Programs.

Inspection and Enforcement

During the review period, New Mexico took enforcement actions on-site whenever possible and cited all observed violations during joint and non-joint inspections. Also, MMD inspectors continued to improve their thoroughness of complete inspections and responded appropriately to all OSMRE Ten-Day Notices.

New Mexico maintained a high inspection frequency rate. All but one of the State's inspectable units had the required number of complete and partial inspections, resulting in an inspection frequency per inspectable unit of 92 percent. New Mexico also improved the quality of its inspection and enforcement program. A few problems remained from previous years. State inspectors did not always complete inspection reports in a timely manner, resulting in decreases in the quality and accuracy of inspection findings and thereby increasing the difficulty of enforcement and civil penalty actions.

As part of its development of a formal process for administration of the pattern of violation process, the State has started entering all New Mexico enforcement actions into a computer program that will automatically identify patterns and bring them to the attention of the MMD staff. OSMRE has been working with the State to develop a process through which the State will provide documentation showing that enforcement actions reaching the 30-day limit have been, or will be, considered for alternative measures, such as permit suspension or revocation, action against corporate officers, and criminal and individual penalties.

During the review period, New Mexico reviewed all violations for civil penalties and determined proposed penalty amounts in accordance with State program requirements. Revised assessments resulting from administrative proceedings, such as assessment conferences, and informal and formal hearings, were not marked by the same uniformity and reasoning as the proposed assessments, however. In particular, documentation was often not sufficient to allow a third party to determine if the adjustments were made in compliance with State program criteria.

OSMRE is working with New Mexico personnel to develop management action plans that address the previously mentioned problems.

Abandoned Mine Lands

The State's reclamation effort during the review period focused primarily on the closure of hazardous mine openings. New Mexico also used funds from the Abandoned Mine Reclamation Fund to abate health and safety hazards associated with abandoned underground coal mine workings. Selection of those sites was based primarily on data from the State AML inventory.

Facts About Mining in New Mexico

(NON-INDIAN LANDS ONLY)

	Amount	% U.S. Total
Coal Production (tons)*	11,228,639	1.27
Surface Mining	10,292,724	1.94
Underground Mining	935,915	.26
Producing Mines*	12	.25
Surface	10	.39
Underground	2	.09
Average Production/Mine**		
Surface	1,029,272	—
Underground	467,957	—
Acreage Under Permit	50,695	1.56

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

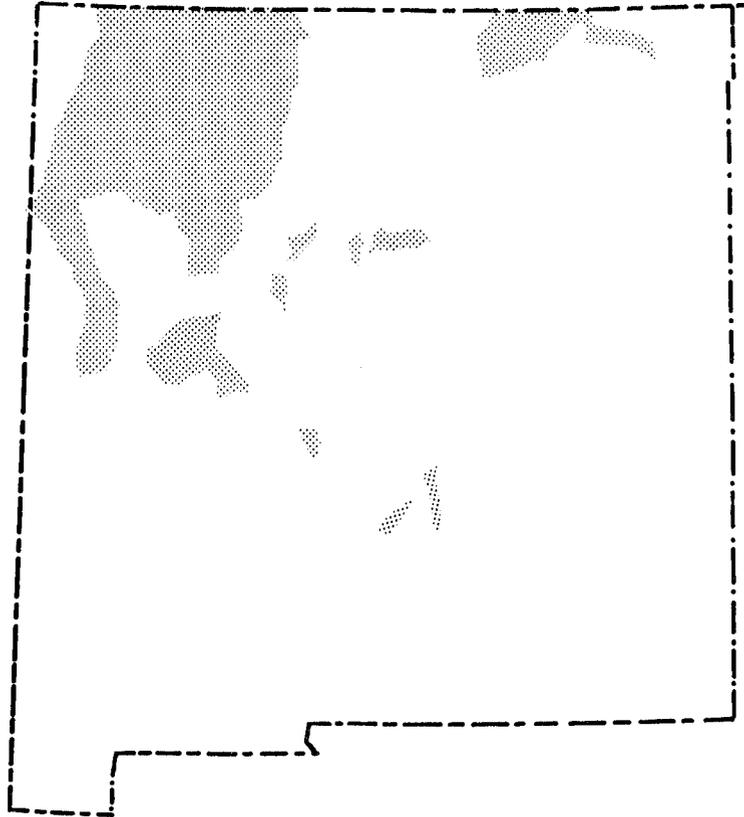
**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Sallent Statistics—1986 Review Period

Total Budget	\$4,120,446
Total Permits	13
Inspectable Units (All Lands)	13
Total Inspections (Partial and Complete)	149
Enforcement Actions (NOVs Issued)	33

New Mexico

Coal Bearing Lands



NORTH DAKOTA

Introduction/Overview

All of the coal resource in North Dakota is lignite. The lignite fields of North Dakota cover approximately 40 percent of the total area of the State. These fields constitute part of The Great Plains Coal Province, located in the western part of the State. Most of the commercially produced tonnage is mined from six mining districts: (1) Noonan-Columbus, (2) Velva, (3) Beulah Zap, (4) Hegal, (5) Harmon, and (6) Lehigh. North Dakota coal seams are generally thick. For example, the Harmon seam can be up to 30 feet thick, while most seams are in the 10 to 12 foot range. The demonstrated coal reserve base in North Dakota is 9.86 billion tons, which is two percent of the U.S. base.

The first commercial mine in North Dakota opened in Morton County in 1873. As the railroads crossed the plains, demand for coal increased and was supplied by underground mines in the State. By 1884, the State lignite production had reached 35,000 tons. North Dakota was among the first states to shift from underground to large-scale commercial surface coal mining. By 1927, 40 percent of the total production was by surface mining, compared to 2 percent for the Nation as a whole. By 1959, 86 percent of the total production was by surface mining while the national average was 22 percent. Surface mining has been the exclusive method in North Dakota since 1966.

In 1985, 14 lignite producing surface mines located in nine counties produced 26.8 million tons of coal. The vast majority of the coal mined was used for generating electricity. North Dakota coal mines provide employment for more than 1,180 miners.

With rich topsoils and ample annual precipitation of 15 to 17 inches, North Dakota does not have the reclamation problems of the arid states. Saline overburden, however, can have adverse effects on the land and water resources if not carefully monitored.

Program Management and Budget

The North Dakota Public Service Commission (PSC) is the approved regulatory authority for the State of North Dakota.

North Dakota's regulatory program received conditional approval on December 15, 1980, and, following the approval of several amendments to the program, has now been given full approval.

A cooperative agreement between North Dakota and the U.S. Department of the Interior for the regulation and control of surface coal mining on Federal lands became effective September 15, 1983. Currently, 12 permits contain leased Federal coal, affecting a total of 6,650 acres of Federal land.

Permitting and Bonding

The PSC performed 59 permitting actions during the 1986 review period. Five new permit applications were received and one permit application was approved. Nine applications were received for permit renewal or repermit and six were approved. In addition, 46 permit revisions were approved.

The PSC requires performance bonds to cover the estimated cost to perform reclamation. The PSC has been criticized in the past for failure to have a detailed system for calculating reclamation costs and for not including all known costs in approved bonds. The PSC has now finalized procedures for calculating reclamation costs and will begin to recalculate performance bonds for permanent program permits. OSMRE will monitor the recalculation of performance bonds.

Inspection and Enforcement

The PSC conducted 1,035 partial inspections and 209 complete inspections during the year, and exceeded the required inspection frequency for all inspectable units. Inspections were complete and thorough.

The PSC's enforcement actions are timely and appropriate, and no continuing issues or remedial actions are pending.

There were no Ten-Day Notices issued by OSMRE to the PSC during the annual review period. The PSC cited only two violations during the annual review period. Neither violation resulted in environmental damage.

Abandoned Mine Lands

North Dakota has been aggressive in obtaining AML funds and reclaiming AML sites. To date, the PSC has obtained construction grant approval to expend \$6,889,928 in Federal funds to reclaim 18 projects. The PSC has completed 11 projects since the inception of its program.

The PSC has a well-trained, highly professional AML staff consisting of five full-time and three part-time staff positions.

The staff conducts daily inspections on AML sites that are under construction and administers all functions of the AML program. All grant applications and associated reports are submitted in a timely manner. The AML staff is cooperative and dedicated toward achieving the goals of the surface mining law.

Facts About Mining in North Dakota

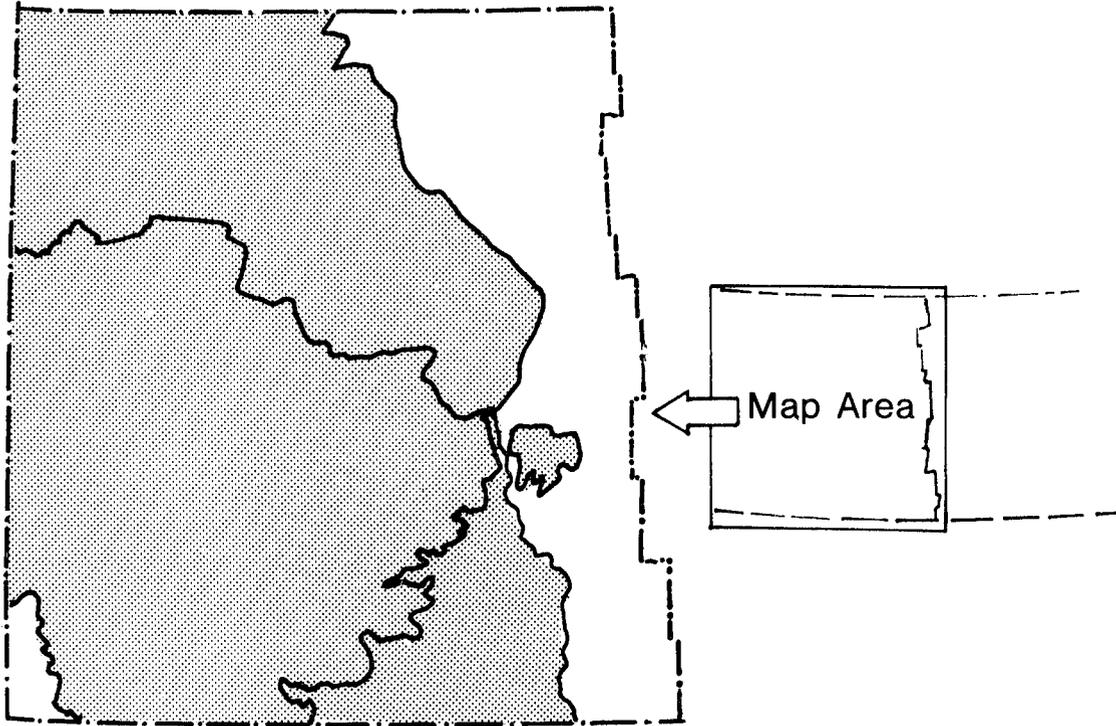
	Amount	% U.S. Total
Coal Production (tons)*	26,873,000	3.04
Surface Mining	26,873,000	5.05
Underground Mining	0	0
Producing Mines*	14	.29
Surface	14	.55
Underground	0	0
Average Production/Mine**		
Surface	1,919,500	—
Underground	0	—
Acreage Under Permit	45,618	1.41

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Salient Statistics—1986 Review Period

Total Budget	\$1,286,696
Total Permits	45
Inspectable Units (All Lands)	47
Total Inspections (Partial and Complete)	1,222
Enforcement Actions (NOVs Issued)	2



North Dakota

Coal Bearing Lands

Introduction/Overview

The State of Ohio has an estimated 46 billion tons of coal beneath 12,000 square miles of the eastern third of the State. Recoverable coal reserves within this vast resource are estimated at 21 billion tons, 3.2 billion tons of which have been mined since 1800.

Coal resources in Ohio lie in as many as 60 identifiable coal seams in the Pennsylvanian and Permian rocks along the northwestern flank of the Appalachian coal basin. Except where interrupted by minor faults and erosional discontinuities, these rocks dip gently and uniformly to the east, simplifying the mining methods needed to extract the coal. Fourteen of the sixty coal seams are considered to be important, although nineteen seams were mined in 1985.

Coal production in 1985 totaled 35,602,000 tons, continuing the downward trend of the past 10 years. Of the 1985 production, 21,956,000 tons (62 percent) were produced by surface mining operations and 13,646,000 tons (38 percent) by underground mining operations. A total of 9,052 employees took part in these mining operations, with total wages of \$293,450,861. Employment figures for 1985 represent an eleven percent reduction in the Ohio mining work force from 1984, and a four percent reduction in total wages paid.

Program Management and Budget

The State of Ohio received primacy to regulate the surface coal mining operations within the State on August 16, 1982. Granting of primacy was conditioned on Ohio's addressing 28 items that did not fulfill the requirements of SMCRA. All of the conditions have now been addressed by Ohio except for one concerning a requirement to provide a showing that the performance bonding system is adequate to assure timely reclamation. OSMRE is presently reviewing a proposed amendment to the Ohio approved program to determine if the amendment provides for an adequate bonding system.

The Division of Reclamation is the regulatory authority in Ohio. It is one of ten divisions within the Department of Natural Resources. The Division of Reclamation is composed of six sections with 184 staff positions. Of these, 162.15 full-time equivalent positions are supported in part with Federal funds.

The Wayne National Forest is the only Federal land within the Ohio coal fields. There are 878 acres of Federal land presently under permit in connection with 12 mining operations. Those 12 constitute 1.0 percent of the total number of mining operations in Ohio and 0.6 percent of the total acreage permitted. The Department of the Interior and Ohio have established a cooperative agreement, under which Ohio assists the Department in the regulation of operations on Federal lands. No additional funding is provided to Ohio for this activity.

Permitting and Bonding

The State has eliminated a backlog of permanent program re-permit applications, including the permitting of underground mines and coal preparation plants and the timely processing of new permit applications. That is a significant accomplishment.

The regulatory authority also corrected permitting deficiencies relating to public notice, public participation requirements, and the use of alternative resoiling materials. Remaining deficiencies in the permitting area, including ones concerning hydrologic requirements, coal waste disposal, and excess spoil, are presently being resolved.

The Ohio program has an alternative system of performance bonding. Instead of requiring the amount of bond to equal the potential cost to the State of reclaiming a mining operation, the amount of bond is fixed at \$2,500 per acre of area to be disturbed. This alternative system includes the use of a fund that is available to supplement the bond for a permit if additional funds are necessary. The fund has \$2 million available and can be supplemented with up to \$1 million annually as additional funds are needed. The fund is supported by revenue generated from a state excise tax on the production of coal and other minerals.

OSMRE had approved the Ohio program with a condition that the alternative bonding system be shown to be adequate to assure timely reclamation. OSMRE is proceeding with a study of the bonding system and is considering changes to the system proposed by Ohio.

Inspection and Enforcement

Ohio has improved its performance in meeting the inspection frequency requirements from 60 percent in 1985 to 93 percent in 1986. The improvement is mostly attributable to revised rules modifying the inspection requirements on inactive mine sites. Ohio is not conducting required inspections on pre-bond forfeiture sites but has assured OSMRE that these sites will be inspected at the required frequency in the future.

OSMRE has continued to express concern about the failure of the regulatory authority inspectors to cite violations that occur on coal mining operations. OSMRE's annual evaluation of the Ohio State Program indicated that 46.8 percent of the violations encountered by OSMRE inspectors had been present during the previous complete inspections by State inspectors. OSMRE, however, has observed a trend by Ohio to cite more violations since October 1985, decreasing the number of uncited, previously existing violations found by OSMRE since that time.

The encouraging trend can be attributed to the State's communicating to its inspection staff that all violations are to be cited and that follow-up inspections by supervisory and management personnel would occur to assure compliance with the approved program.

Abandoned Mined Lands

During the 1986 review period (including the interim period of April 1 to June 30, 1985), Ohio had two AML administrative grants and four AML construction grants in effect. These six grants approved a total of \$41,444,844 for 316 preliminary design, final design, or construction projects.

Accomplishments by the Ohio AML Program during the 1986 review period included an improvement in the obligation rate on construction grants and an improvement in the monitoring of construction projects by the State.

The 1986 OSMRE evaluation of Ohio's AML Program identified remaining problems with inadequate processing of construction completion certificates and associated AML liens and incomplete landowner rights-of-entry for AML projects. Ohio has initiated corrective actions in these areas.

During the 1986 review period, Ohio completed 35 of 136 construction projects at a total cost of \$10,005,000. Also during the 1986 review period, OSMRE approved 11 emergency projects in Ohio totaling \$1,160,500.

Facts About Mining in Ohio

	Amount	% U.S. Total
Coal Production (tons)*	35,602,000	4.03
Surface Mining	21,956,000	4.13
Underground Mining	13,646,000	3.89
Producing Mines*	204	4.28
Surface	190	7.43
Underground	14	.63
Average Production/Mine**		
Surface	115,557	—
Underground	974,714	—
Acreage Under Permit	82,363.7	2.54

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

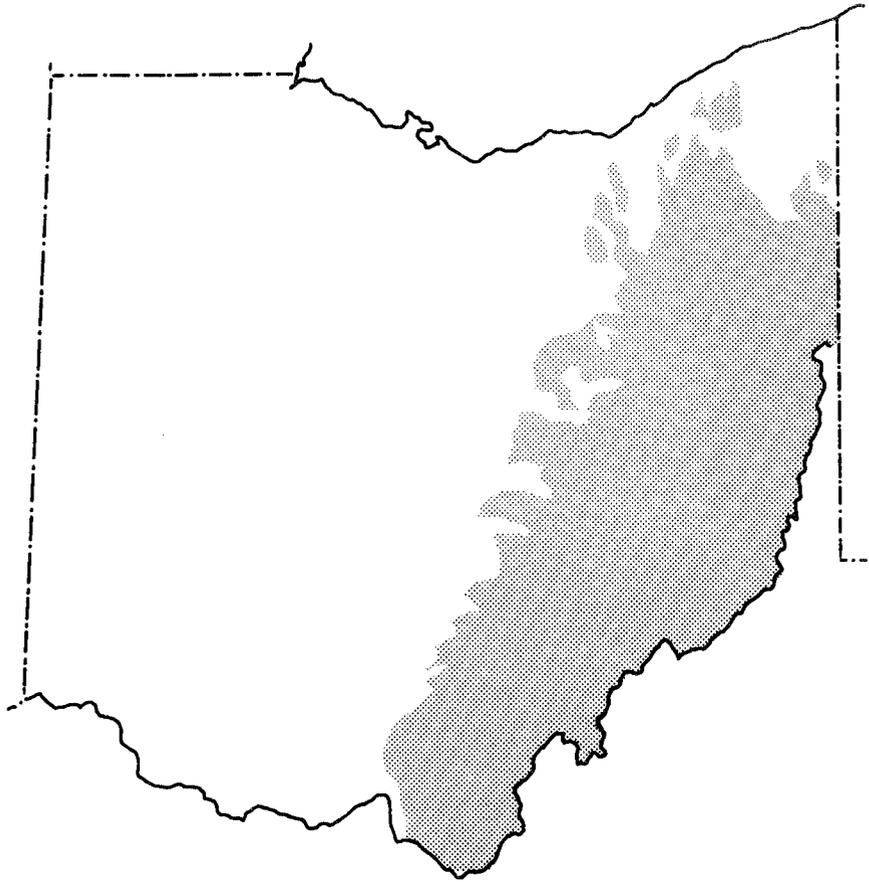
**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Salient Statistics—1986 Review Period

Total Budget	\$12,690,088
Total Permits	982
Inspectable Units (All Lands)	1,172
Total Inspections (Partial and Complete)	11,921
Enforcement Actions (NOVs Issued)	1,764

Ohio

Coal Bearing Lands



OKLAHOMA

Introduction/Overview

The coal-bearing strata of Oklahoma occur in the eastern part of the State over an area of 14,500 square miles, 20.7 percent of the total area of the State. The deposits of present commercial value cover about 8,000 square miles and are bituminous, Middle Pennsylvanian seams ranging from ten inches to five feet thick. Demonstrated coal reserves in Oklahoma are 1.6 billion tons, amounting to 0.37 percent of U.S. coal reserves. In 1985, 28 mines in 10 counties produced 3,337,000 tons, equivalent to 0.37 percent of U.S. coal production from surface mines. The primary use of Oklahoma coal was for the generation of electricity. The climate of the coal-bearing area of Oklahoma is continental. Most surface mines are reclaimed as pastureland.

Program Management and Budget

The surface coal mining reclamation and enforcement program in Oklahoma is divided between two State agencies, the Oklahoma Department of Mines (ODM) and the Oklahoma Conservation Commission (OCC). ODM is responsible for regulating the reclamation of current coal mine operations and OCC is responsible for administering the abandoned mine land program.

Oklahoma gained primacy when its regulatory program was conditionally approved on January 19, 1981, and the last condition was satisfied on January 14, 1986.

Authority for the State to administer the Abandoned Mine Land program in Oklahoma was granted upon approval of the Oklahoma Reclamation Plan on January 21, 1982.

The surface coal mining reclamation and enforcement program on Federal lands in Oklahoma is administered by OSMRE.

On April 30, 1984, the Director of the Office of Surface Mining Reclamation and Enforcement substituted direct Federal enforcement of the inspection and enforcement portions of the Oklahoma program. This substituted enforcement was based upon a finding that ODM had not effectively implemented, maintained or enforced the inspection and enforcement portions of its program. Effective January 1, 1986, ODM's inspection and enforcement authority was reinstated for all sites where mining had been completed or the site abandoned. On those sites where mining is active or under temporary cessation, OSMRE retained inspection and enforcement authority pending an affirmative demonstration by ODM that each affected permit and reclamation bond has been reevaluated and appropriately revised. ODM is working toward this goal with OSMRE assistance.

Despite the concerns raised during this evaluation and delays in resuming full program authority, Oklahoma has made progress in implementing its approved program. Oklahoma is conducting a program that achieves most of the SMCRA requirements critical to the primary goal of protecting the public and the environment from adverse effects of surface coal mining. OSMRE is working with the State to resolve outstanding concerns and to ensure an expeditious return of full program authority. It is expected that these concerns will be resolved by June 30, 1987.

Permitting and Bonding

In the period since the Director instituted partial Federal enforcement of the Oklahoma program, ODM has increased the size and technical capabilities of its permitting staff. OSMRE has noted improvement in permits issued by ODM, especially in the areas of geologic information, reclamation and operation plans, bond calculations, and bond release. It should be noted that problems identified in this report are general concerns that are not indicative of overall program deficiencies.

During the 1986 review period, ODM approved eight permit applications and two exploration operations for greater than 250 tons. ODM corrected problems identified in the 1985 review period by ensuring that topsoil handling plans were adequate and that applicants did not have any outstanding violations that would preclude permit issuance.

As part of OSMRE's plan for returning full program authority to Oklahoma, ODM is required to upgrade existing active permits to meet permanent program standards. ODM's progress in this area has been slow with only five of the 37 permits being upgraded during the review period. OSMRE and ODM have developed a plan to ensure a more timely improvement of these permits.

OSMRE is also working with the State to improve the quality of permit approval as well.

ODM did not forfeit bonds when conditions warranted such a forfeiture. Out of 51 Notices of Forfeiture issued on Initial and Permanent Regulatory Program sites, only six bonds have been collected. An action plan has been developed to resolve the problem.

Inspection and Enforcement

During the period since the Director instituted partial Federal enforcement of the Oklahoma program, ODM has increased its inspection staff from 5 to 11 and has ensured that its inspectors are properly trained. This increase in the number and training of ODM's inspectors should resolve the inspection and enforcement deficiencies that led to Federal enforcement.

In this review period, ODM made the required inspections on 190, or 87 percent, of its 217 inspectable units. Oklahoma did not have inspection and enforcement authority in the 1985 review period, and most of the concerns with inspection frequency were attributed to the problems associated with the return of partial authority to ODM.

ODM conducted 1,172 inspections during the review period and cited 69 violations. OSMRE noted that ODM cited over one-third of its violations on the 57 inspections conducted with an OSMRE inspector. OSMRE is continuing to work with ODM to ensure that all observed violations are cited.

ODM reviewed all violations for assessment and fully documented decisions regarding proposed civil penalties. ODM has developed a backlog with respect to holding assessment conferences, however. The collection of penalties remains a problem, with ODM needing to make more progress in collecting approximately \$2.4 million in penalties owed since 1984. ODM has not consistently held formal hearing when appeals were filed. OSMRE identified 191 cases where hearings were requested but have yet to be held. At the close of the evaluation period, the State was developing a new system for tracking and scheduling hearings. The backlog of hearings will be resolved early in 1987.

Abandoned Mine Lands

Oklahoma has identified approximately 30,000 acres of abandoned mine lands. OCC is using its share of the Abandoned Mine Land Reclamation Fund to reclaim eligible lands. Projects are selected for funding in accordance with the approved AML Plan.

Reclamation of selected sites is progressing at a satisfactory rate. Completed projects are successful in abating threats to the public health and safety or the environment.

Facts About Mining in Oklahoma

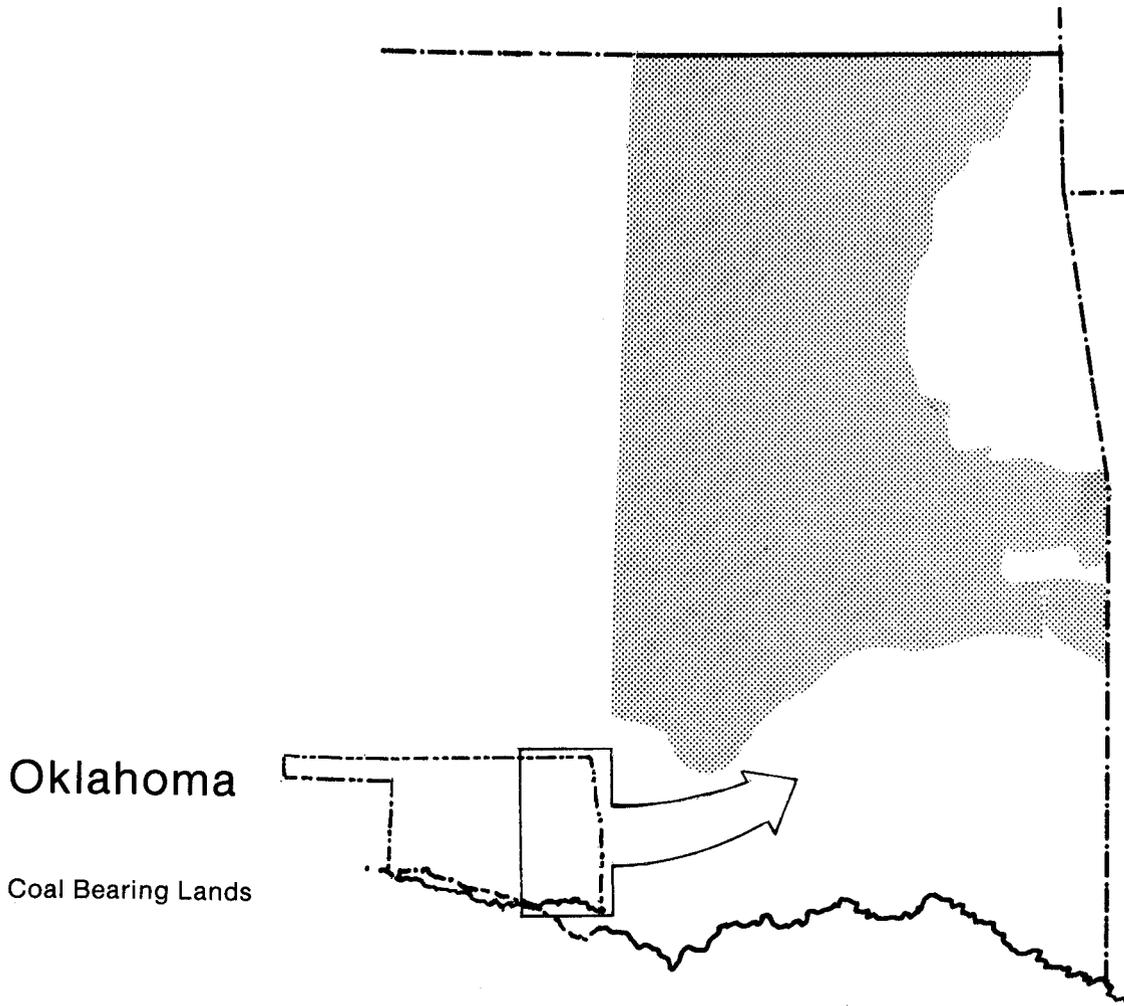
	Amount	% U.S. Total
Coal Production (tons)*	3,337,000	.37
Surface Mining	3,337,000	.63
Underground Mining	0	0
Producing Mines*	28	.59
Surface	28	1.1
Underground	0	0
Average Production/Mine (tons)**		
Surface	119,178	
Underground	0	
Acreage Under Permit	17,127	.53

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Salient Statistics—1986 Review Period

Total Budget	\$3,460,982
Total Permits	244
Inspectable Units (All Lands)	217
Total Inspections (Partial and Complete)	1,172
Enforcement Actions (NOVs Issued)	69



Introduction/Overview

For more than a century, coal has played an influential role in the economic and industrial development of Pennsylvania, particularly the steel making industry located in Pittsburgh, Bethlehem, and Johnstown, and has historically employed thousands of workers. In recent years, Pennsylvania's coal production has experienced a steady decline. In 1985, Pennsylvania dropped to the fifth largest coal producer in the Nation, producing approximately 70 million tons, down 10 percent from 1984 production levels. Coal employment has similarly fallen to a level of approximately 24,800.

Pennsylvania operators produced more than 66 million tons of bituminous coal from 466 surface mines and 91 underground mines, which were located primarily in the southwestern part of the state. An additional 4.7 million tons of anthracite coal were produced by 112 surface mines and 105 underground mines in the anthracite fields of the eastern part of the state. Bituminous reserves total 23 billion tons, or 5.3 percent of U.S. reserves, while anthracite reserves total 7.1 billion tons, or 97 percent of U.S. reserves. The State is now the only producer of anthracite in the country.

The geology of Pennsylvania is dominated by the Appalachian Mountains, running from the northeast to the southwest and dividing the State into distinct geographic and climatic regions. The western part of the State, where the majority of bituminous mines are located, is characterized by mountains and gently rolling hills. Areas within this region containing acidic overburdens demand special reclamation efforts. The anthracite fields in the east are characterized by steeply pitching seams, some with dips in excess of 60 degrees. Such seams require highly specialized mining techniques, and present unique challenges for solving problems such as mine subsidence associated with abandoned anthracite mines.

Areas affected by surface mines generally range from 10 to 300 acres. Underground operations in the State, on the other hand, generally affect from 5 to 50 surface acres, including roads, mechanical installations, processing and loading facilities, and storage and office buildings. Surface mining coal employment is generally characterized by operations with fewer than 50 workers at a site. Underground mining shows great variance in size ranging from very small, one or two man operations, in the anthracite region, to very large and complex operations employing hundreds of miners at mines generally located in the southwestern portion of the State.

Program Management and Operations

The Pennsylvania Department of Environmental Resources (DER) is the agency authorized to administer both Title IV and V programs pursuant to the Surface Mining Control and Reclamation Act of 1977. Pennsylvania acquired primary jurisdiction for the enforcement of regulatory provisions of the Act effective July 31, 1982, when its program was conditionally approved. At that time, primacy and continued funding of the Pennsylvania program was subject to the correction of 10 minor deficiencies. An eleventh condition was later added in 1983. Effective May 19, 1986, all but one of these conditions had been satisfied. The sole remaining condition, involving the award of expenses and attorney fees in administrative proceedings, will not be addressed until Federal rules on the subject are finalized.

Several program amendments introduced during 1986 will significantly affect future implementation of the Pennsylvania regulatory program. In response to OSMRE's expressed concerns on the manner in which DER administered several civil penalty and related enforcement provisions, Pennsylvania submitted a program amendment proposing to limit accrual of mandatory civil penalties at 30 days, and initiate alternative enforcement actions. Approval of that amendment on September 8, 1986, authorized Pennsylvania to allow for a 30-day civil penalty cap, but it also rejected bond forfeiture and license denial as alternative enforcement options. Additional program amendments are now under consideration that provide for the reclamation of abandoned mine land as a substitute for payment of civil penalties; reduced staffing requirements; and changes to the present bond forfeiture and licensing provision necessitated by Pennsylvania Act 181 of 1984, amending the State's surface mining law.

On July 9, 1986, OSMRE notified Pennsylvania that certain State regulatory program provisions pertaining to permitting requirements associated with roads no longer met the requirements of SMCRA or Federal regulations. Changes to DER regulations involving the definition of "surface mining activities" and "haul roads" were necessary to make it clear that the construction of any road or similar disturbance outside a permit area for any purpose related to a surface mining activity is deemed a surface mining activity.

A formal cooperative agreement between Pennsylvania and OSMRE on the reclamation of coal mines located on Federal lands is not necessary since no coal is presently being mined on Federal lands in Pennsylvania. With Federal lands constituting only two percent of Pennsylvania and with no mining anticipated for those areas, the pursuit of such an agreement is unlikely in the future.

Permitting and Bond Setting

The principal program initiative in permitting during 1986 involved a concentrated effort to complete the process of repermitting approximately 600 interim operations, which are primarily underground mining operations and preparation plants located in the anthracite and bituminous coal fields. At year's end, DER had completed review of nearly all interim permits. Of those, any operation failing to secure required bonds will be ordered to cease mining and to immediately begin reclamation. Although Pennsylvania required an extended timeframe to complete the repermitting of pre-primacy operations, on-the-ground impacts have been minimal due to DER's enforcement policy that requires interim sites to adhere to permanent program performance standards.

Combined efforts of DER and OSMRE during 1986 have resulted in the modification of the bituminous surface mine permit application to solicit an adequate Probable Hydrologic Consequence (PHC) determination. In turn, the PHC provides supportive information for the proper implementation of an administratively complete and technically proficient Cumulative Hydrologic Impact Assessment (CHIA) process. Based upon the CHIA process, DER will be able to conduct an evaluation of a proposed mining operation in concert with existing and anticipated mining operations to assure the hydrologic balance of the entire area is properly protected. Field evaluation of this process has been initiated.

As part of its permitting process, the State requires a minimum bond of \$3,000 per acre for shallow surface mines, and progressively higher per acre amounts depending on the depth of the mining pit. Minimum bond for each surface mining and coal refuse disposal operation is \$10,000, and for all other mining operations is set at \$5,000 minimum. In addition, the State collects a \$50 per acre permit fee, which is used primarily in reclaiming sites where the operator has defaulted on his bond and the bond is insufficient to cover reclamation. In 1985, \$1.2 million was collected in state permit fees.

Pennsylvania's bond forfeiture program, currently under consideration for amendment, clarifies the \$50 per acre permit fee as an alternative bonding mechanism and provides criteria for the use of the reclamation fund as a supplement to forfeited bonds. The adequacy of Pennsylvania's bonding structure and reclamation fund is presently under study by OSMRE. Findings of that study will be incorporated into the assessment of the pending program amendment.

Inspection and Enforcement

Pennsylvania again sustained a high level of inspection activity during 1986. DER reported that it conducted 41,406 inspections in 1986. That amounts to a 21 percent improvement over 1985 inspection records and a 67 percent improvement from 1984, when inspection frequency was identified as a major program deficiency. DER is presently conducting 92 percent of the required number of inspections. This increased inspection activity has been accompanied by a similar rise in the number and rate at which violations are being cited. The Pennsylvania rate of citing violations when compared to OSMRE violation rates was 1 DER violation to 1.8 OSMRE violations, which is a 25 percent improvement over the previous year. Most significantly, overall violation occurrence showed a 20 percent decrease, indicative of an improved compliance record by the Pennsylvania coal mining industry.

A corresponding rise in DER enforcement activity also occurred during 1986. The 7,247 reported violations resulted in the issuance of 4,744 Inspection Report notices of violation and 2,190 compliance orders. The vast majority of these violations were resolved without need for further action, by mine operators taking the appropriate action to correct the identified problems within the allotted time. Only 327 cessations were needed as follow-up enforcement action.

Pennsylvania was also successful during 1986 in reaching penalty agreement in 574 cases resulting in the collection of \$498,411.50. The issuance of 2,190 compliance orders, however, necessitated that assessments be made on an additional 1,500 cases. Efforts to reduce last year's civil penalty backlog of 1,400 unresolved cases resulted in 41 formal assessments being issued. At the end of the review period, Pennsylvania faced an outstanding backlog of approximately 2,848 unresolved civil penalty cases. DER's present civil penalty program has proved inadequate to keep pace with Pennsylvania's improved inspection and enforcement activities. The State is now taking steps to eliminate the backlog.

Pennsylvania released 1,827 performance bonds based upon the acceptance of the reclamation at various stages on 46,880 acres of mined land. DER was compelled to forfeit 65 interim and 7 permanent program permits as a result of long standing unabated violations. The total bonds declared forfeit amounted to \$4,401,617. Collection of bonds during 1986 amounted to \$2,060,109. The collection of bonds declared forfeit by Pennsylvania has been significantly delayed because of a growing backlog of appeal cases pending before the Environmental Hearing Board. The State has recently hired additional hearing examiners in an effort to reduce the backlog.

Abandoned Mine Lands

The legacy of mining in Pennsylvania has produced acres of scarred landscape, massive coal refuse piles, and extensive areas honeycombed with abandoned underground passages that are responsible for severe subsidence problems. Due to the magnitude and severity of these safety and environmental hazards, Pennsylvania continues to be a major recipient of Abandoned Mine Reclamation Fund monies. During 1986 Federal funds have been extensively used by Pennsylvania to repair environmental damage from subsidence and burning waste banks, and to fill abandoned mine shafts. Priority selection for project funding is made from the data contained in the National Abandoned Mine Land Inventory. DER has revised the Pennsylvania listings to update data in line with the current data management processes.

The Pennsylvania construction grant request in 1986 totaled \$71 million, a net increase of 20 percent over the 1985 grant. OSMRE remains concerned with the low level of construction grant contract obligation under Pennsylvania's current practices. While \$34.4 million in construction grant funds were added during 1986, only about \$9 million in construction grant obligations were realized. Only two percent of the 1985 grant was obligated as of June 30, 1986. The overall construction grants awarded Pennsylvania to date, however, were at a 44 percent fund obligation level as of June 30, 1986, but had increased to 60 percent by December 31, 1986, thus showing significant improvement.

Cooperation and coordination between DER and OSMRE in AML grant management and emergency response activities remains excellent, providing for the prompt abatement of numerous hazardous conditions in the State caused by mining before passage of SMCRA.

Facts About Mining in Pennsylvania

	Amount	% U.S. Total
Coal Production (tons)*	71,408,000	8.09
Surface Mining	34,818,000	6.55
Underground Mining	36,590,000	10.43
Producing Mines*	774	16.25
Surface	578	22.60
Underground	196	8.88
Average Production/Mine**		
Surface	60,238	
Underground	186,683	
Acreage Under Permit	754,492.6	23.29

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Salient Statistics—1986 Review Period

Total Budget	\$75,252,347
Total Permits	4,103
Inspectable Units (All Lands)	4,103
Total Inspections (Partial and Complete)	41,406
Enforcement Actions (NOVs Issued)	2,190



Pennsylvania

Coal Bearing Lands

Introduction/Overview

About 97 percent of the near-surface coal resources in Texas is lignite coal. The most significant bituminous resources are in the north-central and southern part of the State. The demonstrated coal reserve base is 13.76 billion tons or about three percent of the U.S. coal reserves. The average thickness of coal seam mined in Texas is approximately 8 feet.

In 1985, 14 mines in 11 counties produced 45,459,000 tons of coal, 5.1 percent of the national output, by surface methods, primarily by conventional draglines. The primary use of the coal was for electric power generation. The coal production figures make Texas the Nation's sixth largest coal-producing state. These mines provided employment for 2,274 miners working daily.

The lignite producing area of Texas is divided into three topographic areas: (1) The East Texas Timberlands, (2) the Blackland Prairies and Claypan, and (3) the South Texas Plains. The Timberlands are characterized by gently rolling forested land used primarily for timber production. The Blackland Prairies and Claypan areas are more undulating with more rangeland and less forests. The South Texas Plains topography is mostly level to gently rolling and slightly to moderately dissected. The primary land use of the South Texas Plains is rangeland.

Climate is not a limiting factor to reclamation in the lignite-producing area of Texas. Rainfall is adequate, ranging from 20 to 56 inches per year over the coal regions. Acid-producing material in the overburden has caused difficulty in the reclamation of some areas. Selective overburden handling techniques are generally necessary to achieve reclamation success.

Program Management and Budget

The surface coal mining reclamation and enforcement program in Texas is administered by the Railroad Commission of Texas (RCT).

The State gained primacy when its regulatory program was conditionally approved on February 16, 1980. The program was fully approved on June 18, 1980. Authority for the State to administer the Abandoned Mine Land Reclamation program was granted upon approval of the Texas Reclamation Plan on June 23, 1980.

During the oversight period of July 1, 1985 to June 30, 1986, one change was made to Texas regulations that will affect the State's permanent regulatory program. On July 9, 1985, OSMRE approved an amendment which consisted of modifications to the Texas regulations on effluent limitations and prime farmland.

Because no coal is mined on Federal lands in the State, Texas and OSMRE have not pursued a cooperative agreement for surface coal mine reclamation and enforcement on Federal lands.

Permitting and Bonding

During the 1986 evaluation period, RCT and OSMRE entered into an Action Plan Agreement designed to resolve previously identified deficiencies in the RCT program. The agreement set forth specific actions to be taken by each agency and established a timetable for the completion of each step. As a result the issues are now being resolved.

Additional issues that surfaced during the 1986 evaluation are also being addressed in action plans cooperatively developed with the state. Those issues include OSMRE concern that technical issues were not being properly resolved in the RCT hearings process before issuance of permits, and that the findings prepared by RTC were therefore based on inadequate technical information or upon information to be submitted at a later time.

The action plan also sets out steps for preventing instances in which RCT approved topsoil substitution operations based on inadequate technical data and operations plans and made significant permit changes associated with topsoil substitution operations without following approved permit revision procedures.

Bond amounts set by RCT are adequate to cover reclamation costs and are adjusted when appropriate. The bond forms accepted by RCT are approved under the Texas program and are properly executed.

Inspection and Enforcement

RCT met all inspection frequency requirements during the 1986 review period. The required inspection frequency was also met during the previous review period. Currently, there are 22 inspectable units in Texas, all of which are active.

During the review period, RCT conducted 387 inspections and issued 31 Notices of Violations (NOVs). All NOVs were terminated within the specified abatement period; therefore, no failure-to-abate Cessation Orders were warranted nor were any alternate enforcement actions necessary. RCT improved its rate of citing violations on joint versus non-joint inspections and by the end of the review period was citing all observed violations as required by the approved Texas program.

The OSMRE review of NOVs issued by RCT showed that some NOVs were terminated prior to the abatement of the violation. In instances where designs must be approved before corrective actions are initiated or where very extensive remedial actions are required, RCT terminates the NOV based on the submission of designs, plans, or schedules. Many times these NOVs are terminated before corrective action has been initiated. RCT has submitted a proposed amendment that will allow NOVs to be extended beyond 90 days. OSMRE's Tulsa Field Office is continuing to work with RCT to ensure resolution of this problem.

Abandoned Mine Lands

The year was primarily used to develop a design contract for approximately 1,300 acres of abandoned mine land. The planning and design will use a major portion of the State's AML fund. The project construction is expected to begin in fiscal year 1988 and continue through the life of the program. RCT is completing one non-coal project, closing 71 dangerous cinnabar mine shafts.

RCT has been slow to implement AML construction projects. OSMRE has discussed the lack of progress by RCT in reclaiming abandoned mine lands and the continued administrative expense of the program without significant construction progress. RCT has indicated that construction grants will be requested soon and that its AML fund will be utilized.

Facts About Mining in Texas

	Amount	% U.S. Total
Coal Production (tons)*	45,459,000	5.15
Surface Mining	45,459,000	8.55
Underground Mining	0	0
Producing Mines*	14	.29
Surface	14	.55
Underground	0	0
Average Production/Mine**		
Surface	3,247,071	—
Underground	0	—
Acreage Under Permit	109,929	3.39

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

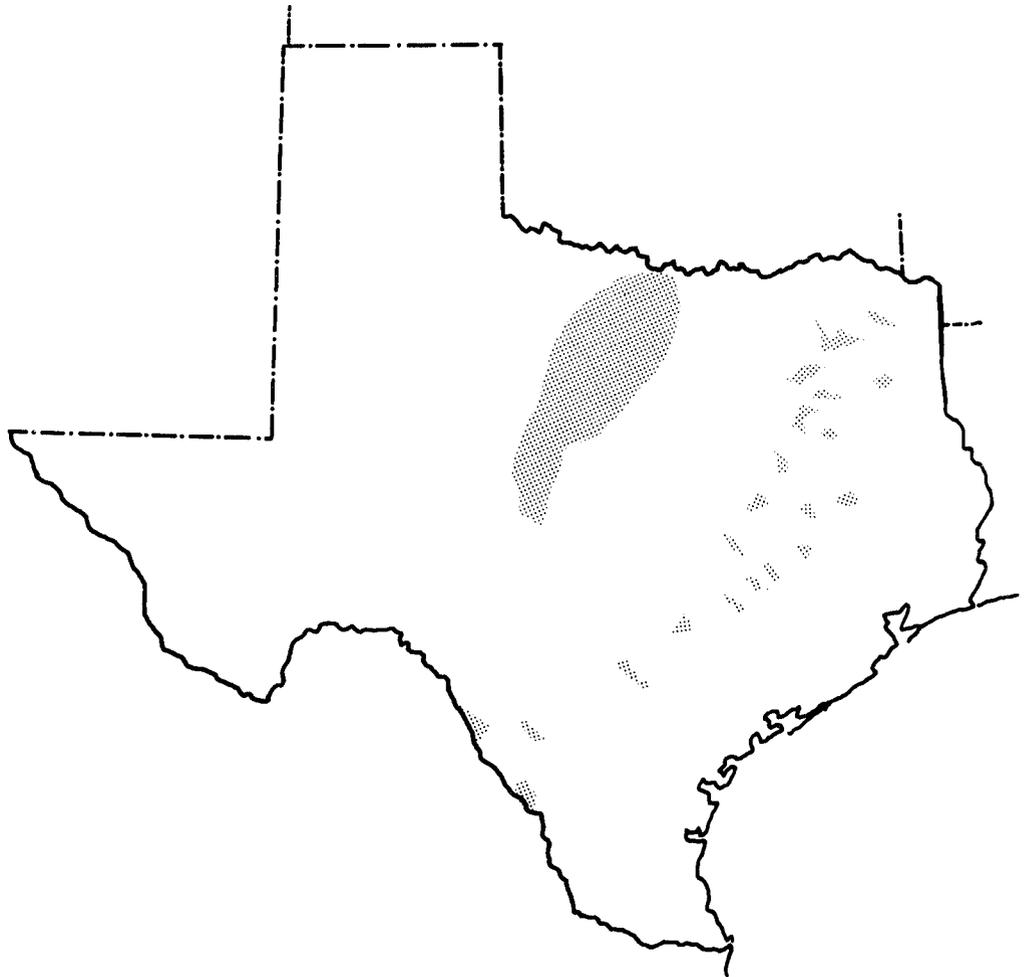
**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Salient Statistics—1986 Review Period

Total Budget	\$3,144,914
Total Permits	22
Inspectable Units (All Lands)	22
Total Inspections (Partial and Complete)	387
Enforcement Actions (NOVs Issued)	31

Texas

Coal Bearing Lands



UTAH

Introduction/Overview

While coal occurs beneath about 18 percent of the State of Utah, only 4 percent of the State has minable reserves. These coal fields are broken up into the Northern, Central, Eastern, and Southwestern Utah Coal Regions. The most productive region has been, and is, the Central Utah Coal Region, which includes the Book Cliffs, Wasatch Plateau, and Emery Coal Fields. Most Utah coals are bituminous.

All current coal production in Utah is by underground mining method, which is unique for any state in the Nation. Most current operations mine seams that are greater than 8 feet thick. The demonstrated coal reserve base in Utah is about 6.3 billion tons, 1.3 percent of the national reserve base. Most of Utah's coal resources are held by the Federal government and Indian Tribes.

In 1985, 22 underground mines in three counties produced 12,780,000 tons of coal. Utah coal mines provided employment for an average of 2,525 miners working daily.

The climate for the Central Utah coal region is characterized by hot, dry summers and cold, relatively moist winters. Because this coal region is greatly influenced by the mountainous terrain, normal precipitation can vary from 6 inches in the lower valleys to more than 40 inches on some high plateaus. The growing season can be up to five months in some of the valleys but only two and one half months in the mountainous regions of the State. Thus, without a good balance of these factors, mine land reclamation can be difficult in this region.

Program Management and Operations

The Regulatory and AML programs in Utah are administered by the Department of Natural Resources, Division of Oil, Gas and Mining (DOGGM). The State gained primacy when its regulatory program was conditionally approved on January 21, 1981, subject to the correction of 12 minor deficiencies. A thirteenth condition was added 6 months later. Following OSMRE's review and approval of amendments submitted by DOGGM, the Secretary removed several conditions on June 22, 1982; four on December 31, 1982; and the remaining two on March 7, 1983.

DOGGM currently performs all enforcement activities and a portion of permitting activities on Federal lands in Utah under a cooperative funding agreement. A Federal Lands Cooperative Agreement was signed in March 1987. There are no active mining operations on Indian lands in the State.

Permitting and Bonding

With one exception, repermitting of active mines in Utah is completed. DOGGM has completed the technical analysis for repermitting the remaining active mine and has recommended approval of the permit application. Because a Federal coal lease is being mined, the mining plan must be approved by the Assistant Secretary for Land and Minerals Management. At the close of the 1986 oversight year, the decision document was under review by OSMRE.

Four inactive mines are currently being repermited. The four mines submitted repermitting applications, but coal mining operations ceased before DOGGM could complete the processing and approval of the permit applications. In all cases, mining operations cannot be reinstated until a permanent program permit is approved. At OSMRE's request, DOGGM had placed a high priority on the repermitting of active mines, so is now completing the repermitting of the four remaining inactive mines. DOGGM anticipates that the permits for final reclamation of the four mines will be issued in the 1987 annual evaluation period.

For 33 performance bonds in DOGGM's permanent program, bonds for surface disturbance from underground mines averaged approximately \$14,000 per acre. Bond costs per acre vary from a high of \$74,600 to a low of \$5,000 per acre. DOGGM has required permittees to post a bond amount in excess of the minimum amount of bond (\$10,000) before issuing permits.

Inspection and Enforcement

During the 1986 review period, 79 percent of Utah mines were inspected as frequently as mandated, unlike 1985 when the State had a 100 percent inspection frequency. In addition, DOGGM had problems with scheduling inspections, resulting in excessive periods of time between complete inspections. That issue has been addressed in an action plan developed with the State.

DOGM inspectors accomplish thorough inspections and readily recognize violations. They do not, however, issue or terminate violations in a timely manner. In 1986, 38 percent of the violations contained in NOV's were issued from the office, rather than in the field during inspection, and 48 percent of abatement inspections were done after the abatement date. OSMRE is also working with the State to resolve those issues.

Abandoned Mined Lands

To date, 92 abandoned mine land coal sites have been approved for funding. In addition, 43 non-coal sites have been funded. The non-coal projects were requested and funded in conformity with Section 409 of SMCRA.

During the 1986 reporting period, three persons were killed and one injured in the State in accidents at abandoned non-coal mine sites. In another incident, two people were lost for two and one-half days while exploring a non-coal abandoned mine. The State requested reclamation funding to eliminate the hazards at these non-coal sites. The problems were abated with funds transferred from other projects.

Facts About Mining in Utah

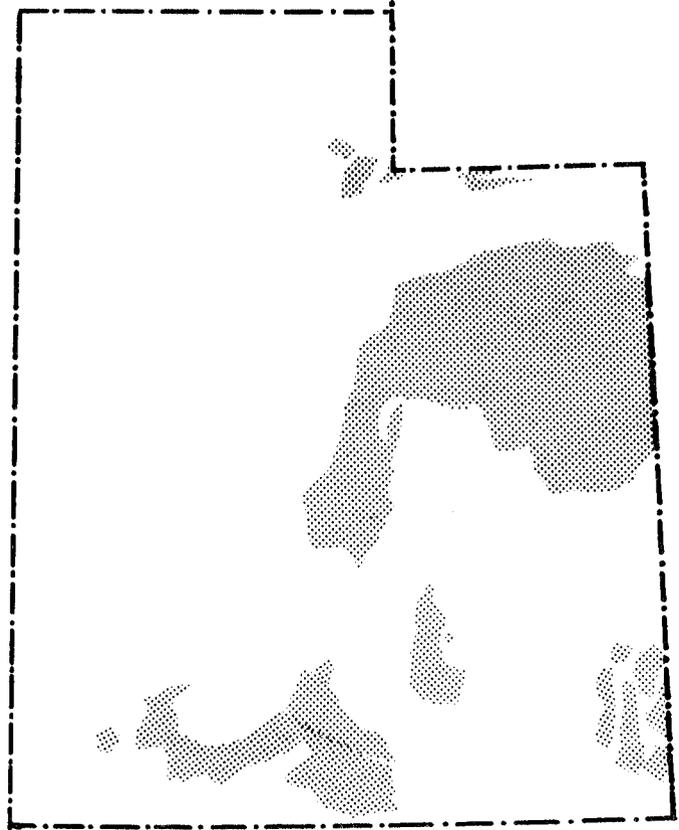
	Amount	% U.S. Total
Coal Production (tons)*	12,780,000	1.48
Surface Mining	0	0
Underground Mining	12,780,000	3.64
Producing Mines*	22	.46
Surface	0	0
Underground	22	1.0
Average Production/Mine**		
Surface	0	—
Underground	580,909	—
Acreage Under Permit	151,425	4.67

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Salient Statistics—1986 Review Period

Total Budget	\$2,584,329
Total Permits	29
Inspectable Units (All Lands)	29
Total Inspections (Partial and Complete)	292
Enforcement Actions (NOVs Issued)	62



Utah

Coal Bearing Lands

Introduction/Overview

Although coal is found in the Richmond and Farmville Basins, and Valley Coalfields of Virginia, almost all recent mining has occurred in the Southwest Virginia field. That area consists of Buchanan, Dickenson, Lee, Wise, Russell, and Tazewell Counties.

Topography of the coal region is characterized by narrow valleys, steep slopes, and long, narrow ridges with occasional flat plateaus. Coal ranges from high-to low-volatile bituminous, and seams average three to four feet in thickness. Approximately 80 percent of coal production in Virginia is by underground mining operations. Potentially minable reserves are estimated at 2.6 billion tons—slightly less than 1 percent of the national total.

The coal industry employs directly only 0.3 percent of Virginia's population, according to the 1980 census, but, within the southwest coalfields, 23 percent of the population is directly employed by the industry. The local economy in that area is almost totally dependent on coal mining and processing. Statewide, the industry accounted for 1.2 percent of the State's gross economic production.

A total of 7,887 acres in Virginia is under permit, with mining operations ranging in size from less than 1 acre to 1,700 acres, and averaging 7.7 acres.

Program Management and Budget

The Virginia Division of Mined Land Reclamation (DMLR) administers the permanent regulatory program, which the Secretary of the Interior approved December 15, 1981. Nineteen conditions were placed upon the program at that time and one additional condition was added in August 1983. All 20 conditions have now been satisfied.

A program amendment was submitted addressing changes made in Federal regulations during OSMRE's regulatory reform efforts in 1982 and 1983. That amendment was approved on November 25, 1986.

During the fiscal year 1986 evaluation period, Virginia amended its program to alter the criteria used to determine whether a surface coal mining operation qualified for the two-acre exemption—a provision in SMCRA exempting mines that disturb fewer than two acres from the reclamation requirements of the Act. DMLR now applies the same criteria as OSMRE, thus resolving the most significant program deficiency identified by OSMRE.

DMLR and OSMRE entered into a cooperative agreement for state regulation of surface coal mining operations on Federal lands in April 1987. There are currently three permits on Federal lands in Virginia.

Permitting and Bonding

The State has made several improvements in permitting and bonding since the 1985 evaluation. For example, DMLR now performs a more thorough review of an applicant's history of violations and reclamation fee payment to determine if permits should be denied due to outstanding violations, penalties, or reclamation fees. Also, fish and wildlife surveys now contain adequate data, comments from landowners concerning post-mining land uses are now required, and complete written findings are made on all permit approvals.

In addition, surety companies are now required to attach riders to bonds, obligating them to notify DMLR of any circumstances preventing them from fulfilling their obligations under the bond.

DMLR's implementation of permitting requirements in the areas of subsidence control plans, mining operations plans, and plans for continued use of existing structures continue to be of concern. Program standards in all three of these areas are adequate as written. The State and OSMRE are now taking steps to fully implement those standards.

Inspection and Enforcement

For the fiscal year 1986 evaluation period, 10,005 inspections were conducted (6,028 partial and 3,977 complete). The required inspection frequency was met on 96 percent of the mine sites sampled, compared to 79 percent during the fiscal year 1985 evaluation.

Excluding violations pertaining to programmatic issues resolved during this review period, such as the two-acre exemption, DMLR responded appropriately to 88 percent of the violations referred to them by OSMRE by way of Ten-Day Notices. This is an improvement over the previous evaluation period when DMLR responded appropriately to 50 percent of the violations referred by Ten-Day Notices.

The timeliness of follow-up inspections has improved. Failure-to-abate cessation orders were issued an average of 9.5 days following expiration of the abatement dates set under Notices of Violation. For the previous evaluation period, the orders had been issued an average of 31 days after abatement dates had expired.

Abandoned Mine Lands

Virginia significantly upgraded its inventory of abandoned mine lands (AML) problems during the review period, yielding a more effective tool for program planning and for monitoring progress. Virginia has continued to obligate approved funding, resulting in more than 200 acres of AML reclamation in the past year.

In an effort to improve program effectiveness, Virginia implemented formal plans during the year to monitor completed projects and overall program progress. In addition, steps were taken that yielded savings in contracted inspection and engineering services. Virginia has continued to administer an effective AML program, and no significant problems were identified during the 1986 review period.

Facts About Mining in Virginia

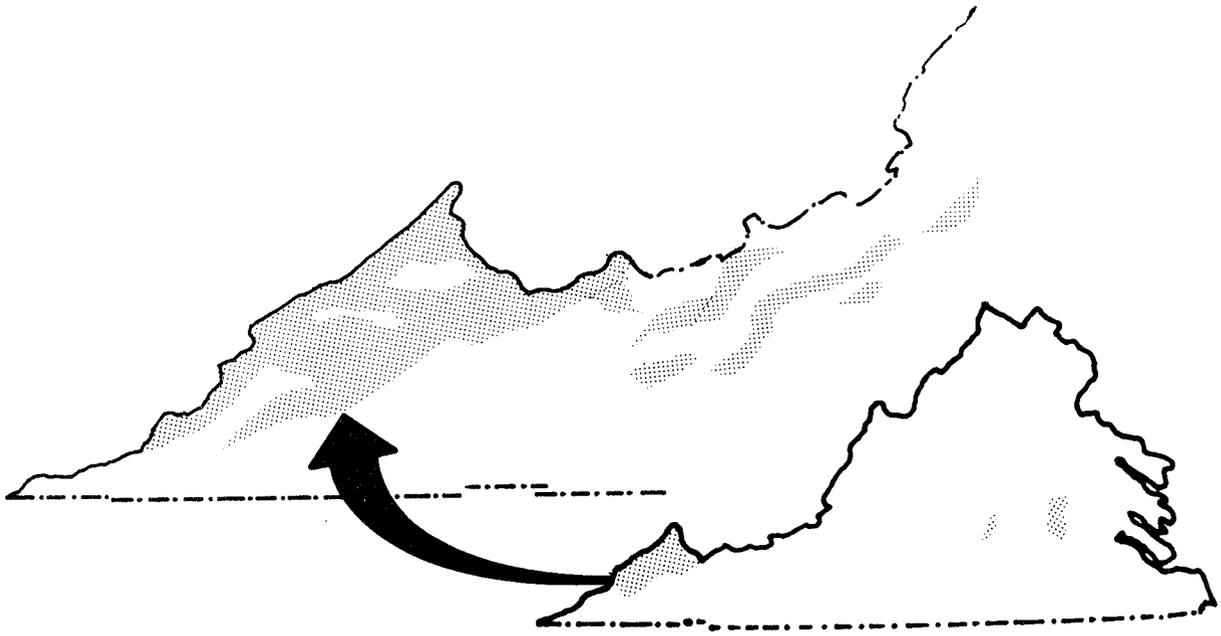
	Amount	% U.S. Total
Coal Production (tons)*	40,940,000	4.64
Surface Mining	7,390,000	1.39
Underground Mining	33,550,000	9.56
Producing Mines*	509	10.68
Surface	119	4.65
Underground	390	17.67
Average Production/Mine**		
Surface	62,100	
Underground	86,025	
Acreage Under Permit	7,887	0.24

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Salient Statistics—1986 Review Period

Total Budget	\$8,593,930
Total Permits	1,015
Inspectable Units (All Lands)	1,015
Total Inspections (Partial and Complete)	10,005
Enforcement Actions (NOVs Issued)	654



Virginia

Coal Bearing Lands

WEST VIRGINIA

Introduction/Overview

West Virginia ranks third in the Nation in coal production, surpassed only by Kentucky and Wyoming, and usually accounts for 15 to 20 percent of the total national production. Coal occurs in seams of minable thickness in all but 9 of the 55 counties in West Virginia. There are two coal-producing regions, the Northern field and the Southern field.

Coal is mined by both underground and surface methods. The underground mines in West Virginia account for approximately 52 percent of the mining operations and 80 percent of the total coal production. The surface mines are generally contour operations and, especially in the Southern field, are in steep slope areas, with slopes greater than 20 degrees. Many of the surface mines are removing multiple seams. Other surface mining methods, such as mountaintop removal, area mining, and augering, are used to a lesser degree in the State.

Although coal continues to play a major part in the State's economy, its role has declined from past levels. Coal production records, beginning with the establishment of the State in 1863, show a general increase in coal production and employment through the 1920's, a decline during the 1930's, and then a peak in the 1940's. The highest level of coal production occurred in 1947 when 173,653,816 tons were mined. During this period, coal mines were employing more than 100,000 persons, with 130,457 employees reported in 1940.

Mine employment has declined in recent years without a corresponding decline in production. In 1985, surface mines employed 6,292 persons and produced 24,011,000 tons of coal. Underground mines employed 29,621 persons and produced 103,753,000 tons. This total of 127,764,000 tons is a decrease of 2.4 percent from 1984.

Recoverable coal reserves in West Virginia total in excess of 56 billion tons of bituminous coal, which is approximately half the estimated original minable reserves in the State.

Program Management and Budget

The regulatory program in West Virginia was conditionally approved by the Secretary of the Interior on January 19, 1981. It is administered by the Department of Energy (DOE), which was established by an act of the West Virginia legislature during the 1985 session. Before creation of the DOE, the Department of Natural Resources administered the program through its Division of Reclamation. Within DOE, the Division of Mines and Minerals is responsible for the day-to-day administration of the approved program. The new organizational structure decentralized the permitting, inspection, and enforcement functions to six regional offices located throughout the State.

During the evaluation period of July 1, 1985 to June 30, 1986, OSMRE approved the State's revised surface mining reclamation and coal refuse disposal regulations, resulting in the removal of ten conditions that had been placed on the West Virginia program when it was approved. The deadline for resolving six remaining conditions as well as nine required amendments to the statute has been extended.

During the year, OSMRE identified areas where the West Virginia program appears to be inconsistent with the Federal program due to changes made in OSMRE regulations as a result of regulatory reform or court decisions. OSMRE met with the State in July to discuss these issues and, after reviewing the State's comments, notified the State of the amendments that will be required to its approved program.

Coal mining activities in West Virginia on Federal land are regulated by the State as provided in the cooperative agreement between OSMRE and DOE. Currently, there are seven operations on Federal lands within West Virginia. All are within the Monongahela National Forest, as is an approved exploration operation. DOE has received an application, which is currently under review, for an underground mining operation in the Forest as well.

Permitting and Bond Setting

The reorganization that resulted from the creation of the DOE placed responsibility for reviewing permit applications with the six regional offices of DOE. The DOE office in Charleston now provides only final approval or disapproval of the application, and issues the permits.

The review process continues to provide for presubmission site reviews by the field staff, thereby providing for early identification of problem areas and required site-specific information. This procedure reduces the number of requests for additional information or data during the review process and generally provides for a more timely decision on the permit application.

The State has made only minimal progress in implementing the hydrologic protection provisions of SMCRA. Cumulative Hydrologic Impact Assessments (CHIAs) are not being prepared by DOE and problems continue to exist in the adequacy of statements of probable hydrologic consequences (PHCs) and in the use of inadequate baseline hydrologic data.

To resolve the problem, the state has hired a full-time hydrologist. In addition, the State and OSMRE are developing an action plan that will provide further steps for resolving the issue.

A lack of coordination between DOE and the State Historic Preservation Officer (SHPO) and the need for a reliable cultural resource data base is also a deficiency in the State permitting process. Provisions intended to protect cultural and historic resources have not yet been fully implemented. DOE and the SHPO are working on ways to improve coordination. An action plan, being developed in cooperation with the state, also provides steps for resolving the issue.

The State's alternative bonding system continues to provide the environmental protection guarantees envisioned by SMCRA while at the same time greatly reducing the administrative burden of calculating and continually reviewing the actual cost of site reclamation. The West Virginia system requires a bond of \$1,000 per acre, with a \$10,000 minimum bond. In the event of bond forfeiture, the bond amount will be supplemented, if necessary, by a special reclamation fund, called a bond pool, to insure that sufficient funds are available to complete reclamation of the site. The bond pool is funded primarily by a one cent per ton tax on coal production. The tax is collected any time the fund balance drops below \$1 million. Collection continues until the fund balance exceeds \$2 million.

Inspection and Enforcement

During the evaluation period, DOE issued a new policy directive, clarifying the required inspection frequency for sites with partial bond release. This revised policy should increase the percentage of operations receiving the required number of inspections. In addition, DOE revised its policy on sites being mined under the State's one-acre landowner exemption to require that access roads be included when calculating whether the operation qualifies for the exemption.

DOE has also developed and implemented an effective, easily managed system for identifying patterns of violation. Under the new system, each time a violation is cited, all violations issued for that permit in the previous year will be reviewed. If the review identifies three or more violations of the same or similar standards within the past year, the inspector and his supervisor must review the case and submit it to DOE headquarters for a decision on whether the operator will be required to show cause why his permit should not be suspended or revoked.

DOE routinely investigates all citizen complaints, regardless of whether the complaints are written or oral. These investigations are documented on a special Citizen Complaint Investigation form, which records all pertinent information and any action taken in response to the complaint. The form, however, does not identify whether the complaint was oral or written nor does it include documentation that the citizen was informed of the right to accompany the inspector to the mine site or of the right to an informal review of the DOE action on the complaint. An action plan is being developed by OSMRE and the state to resolve the inadequacy of the form.

Abandoned Mine Lands

The West Virginia AML Program continues to excel in the accomplishment of on-the-ground reclamation to eliminate health and safety problems caused by past mining practices. Approximately two-thirds of all reclamation and almost one-half of all projects started since the program began were completed during the 1986 evaluation period.

Compared with previous years, the State's rate of obligating administrative grant funds has improved. Data on project starts and costs, however, confirm that construction grant funds are requested before they are needed, resulting in a large backlog of 97 projects. This backlog is expected to decline over time as design capability increases.

Facts About Mining in West Virginia

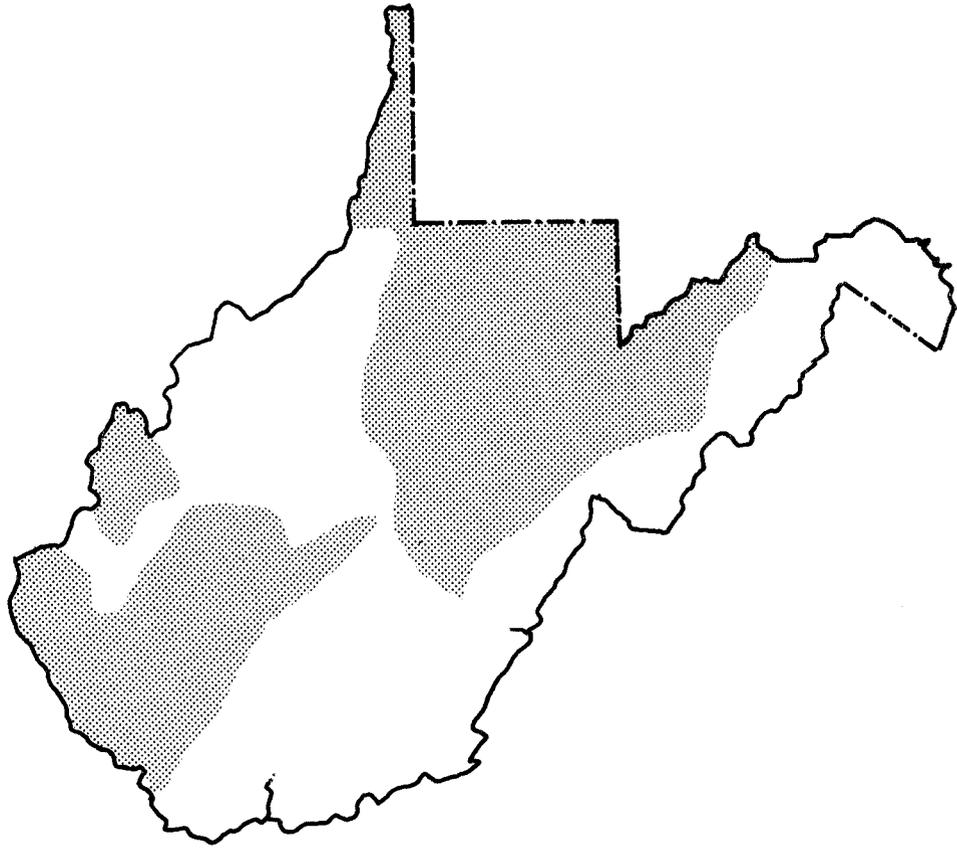
	Amount	% U.S. Total
Coal Production (tons)*	127,764,000	14.48
Surface Mining	24,011,000	4.52
Underground Mining	103,753,000	29.57
Producing Mines*	797	16.73
Surface	295	11.54
Underground	502	22.75
Average Production/Mine**		
Surface	81,393	
Underground	206,679	
Acreage Under Permit	201,514.5	6.22

*Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."

**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Salient Statistics—1986 Review Period

Total Budget	\$24,505,686
Total Permits	3,208
Inspectable Units (All Lands)	3,208
Total Inspections (Partial and Complete)	29,779
Enforcement Actions (NOVs Issued)	1,450



West Virginia

Coal Bearing Lands

WYOMING

Introduction/Overview

Wyoming, which is the second highest coal-producing state in the Nation, is noted for its extensive coal resources and extremely thick coal seams. The demonstrated coal reserve base of the State is about 69.3 billion tons, or 14.2 percent of the U.S. coal reserve base. Coal seams range generally from 10 to 80 feet in thickness, but one seam is as much as 220 feet thick.

The coal-bearing areas of Wyoming underlie approximately 41 percent of the total land area of the State. The coalfields are divided into the Rocky Mountain Coal Province and the Northern Great Plains Coal Province, which includes the highly productive Powder River Coal Basin. Wyoming coals rank from lignite to high volatile A bituminous. The majority of the coal produced is subbituminous in rank and comes from the Powder River Coal Region.

The presence of coal in Wyoming was discovered before 1834 on the Belle Fourche River. In 1865, the Denver and Salt Lake Stage Company opened the first mine in Carbon County, Wyoming. With the completion of the Trans-Continental Railroad, the demand for coal increased. Union Pacific Mines were opened in Carbon, Point of Rocks, and Rock Springs in 1869. The coal production for that year was 58,186 tons. Although the importance of coal as a major State industry decreased between 1910 and 1945, the State coal production remained above 6 million tons per year.

By 1958, however, the annual State coal production was down to 1.6 million tons. Production has steadily increased since the 1960's because of a demand for low-sulfur coal to fuel electric generating plants.

Until 1954, underground mines out-produced surface mines, but in that year, surface mines began to dominate production. Presently, only one underground mine remains active. About 80 percent of the coal produced in the State is shipped out-of-state. The majority of the mines in the Powder River Coal Basin began production in the early to mid-1970's.

In 1985, coal production in the State totaled 140,714,000 tons. One underground mine and 29 surface mines produced 1,058,000 and 139,656,000 tons of coal, respectively. Wyoming coal mines provided employment for an average of 4,476 miners working daily in that same year. The productivity rate for the Wyoming surface coal miner, which is 14.48 tons per miner hour, is the highest in the country and is due to the exceptionally large coal seams mined. Areas under permit for surface mines range from 92 to 38,490 acres with the average (mean) area being 7,052 acres.

Wyoming is one of the few states that must deal with thin overburden situations because of the extremely thick coal seams. The overburden-to-coal stripping ratio in a number of instances can be less than 1:1, which is highly unusual in other states. The Kemmerer Mine and Skull Point Mine qualify for the special provisions for bituminous coal mines, provided in section 527 of SMCRA. Essentially, these mines are large Western open pit mines with steeply dipping multiple seams, greater than 15 degrees, that began production before January 1, 1972. These mines are not exempted from reclamation, but variations are allowable from certain requirements regarding spoil handling, regrading to approximate original contour, elimination of depressions, and creation of impoundments.

Farming in alluvial valleys in the semi-arid West is another unique regional condition and is protected by section 510(b) (5) of the surface mining law. Generally, alluvial valley floors (AVF) are areas in the western U.S. which are located in valleys having an associated stream channel, are underlain by unconsolidated deposits whose surface usually has an appearance of flood plains or terraces, and have an agricultural importance derived from water availability. Such alluvial valley floors exist in the Powder River Coal Basin. The surface mining law includes specific prohibitions against mining certain AVFs, stringent reclamation standards for those AVFs not excluded from mining, and requirements that mining not materially damage the hydrologic functions of any AVF.

The climate of the Rocky Mountain Coal Province in Wyoming is somewhat harsh and is subject to long, cold winters and short summers. The average growing season varies from 59 to 103 days per year. The average annual precipitation is 8 to 11 inches. Much of the precipitation is snowfall, which is subject to uneven distribution and high sublimation rates. Revegetation with cool-season plants is used in this province.

The climate of the Northern Great Plain Coal Province is less harsh. It is semi-arid with an average of 13 inches of annual precipitation. Seventy-five percent of that precipitation falls during the growing season, which is from 124 to 152 days long. The establishment of vegetation on mined lands in both the coal provinces can be very difficult due to the low precipitation rates.

Program Management and Budget

The Wyoming Department of Environmental Quality, Land Quality Division (DEQ, LQD), has responsibility for the Wyoming Permanent Program. The agency implements the Abandoned Mine Lands Reclamation Program and the Regulatory Program.

OSMRE granted Wyoming conditional approval of its regulatory program on November 26, 1980. The Wyoming Abandoned Mine Lands Program was approved on February 14, 1983. A Federal lands cooperative agreement, which was initially approved on January 7, 1981, was renewed in December 1986. A substantial number of acres permitted in Wyoming (154,696 acres) are Federal lands.

The Land Quality Division has administered the initial regulatory program since August 3, 1977, and is responsible for administering the permanent regulatory program. The LQD is also responsible for carrying out the provisions of the Federal Lands Cooperative Agreement with the Department of the Interior to regulate surface coal mining operations on Federal Lands, and for regulating non-coal mining activities in Wyoming.

Permitting and Bonding

During the 1986 evaluation period, OSMRE reviewed the administrative completeness of two permit application packages. No significant omissions were discovered.

OSMRE also reviewed the adequacy of the State's bond determination or alternative bonding program, as well as State action in three areas regarding hydrology—water quality and effluent limitations; water rights and uses; and cumulative hydrologic impact assessments. No problems were identified in either the bonding or hydrology reviews.

Inspection and Enforcement

As a general rule, Wyoming inspections and reviews successfully identify potential problems in early stages of development, thereby preventing conditions that would result in violations being issued. Such preventive measures include:

- Repairing berms and diversions before they actually breach and become a violation;
- Reseeding or mulching an area with poor vegetative cover to prevent severe erosion; or
- Examining an area stripped of topsoil in advance of excavation and reminding the operator to widen the area when necessary to prevent loss of topsoil.

Abandoned Mine Lands

During the evaluation period, the Wyoming AML program conducted work on the Rock Springs subsidence control project (Project 6A). The project, which was designed as a slurry backfill operation of underground mines, was terminated before completion because citizens of Rock Springs alleged that the backfill activities were accelerating surface subsidence problems. Two independent studies commissioned by the State to determine the relationship of the backfill operation to the subsidence were inconclusive, giving no indication that the subsidence was accelerated by the work.

During fiscal year 1985, OSMRE had noted that grant reports were not received in a timely manner. The State initiated steps to correct the problem at the close of fiscal year 1985, and, during the 1986 evaluation period, all semi-annual and closeout reports were submitted on time.

Also during 1986, abandoned coal pits and spoil areas were reclaimed and environmental problems corrected both on and off the project site. Reclamation of bentonite pits has greatly improved the landscape and water quality of surrounding areas and has eliminated or controlled severe erosion problems. Almost all of the AML reclamation accomplished in the State has had site revegetation as a part of the project.

Facts About Mining in Wyoming

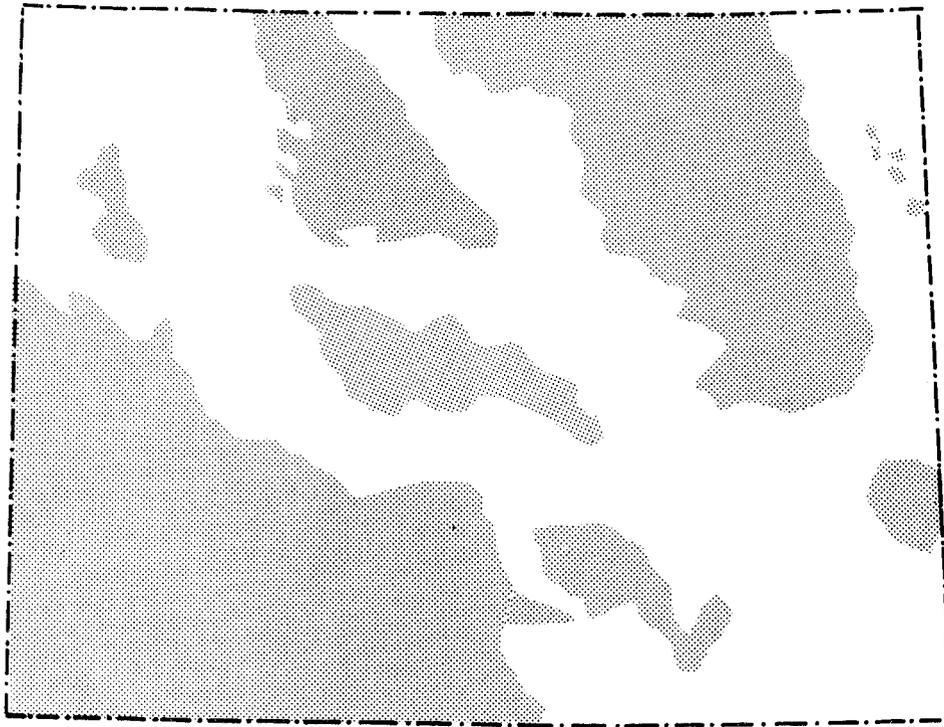
	Amount	% U.S. Total
Coal Production (tons)*	140,714,000	15.94
Surface Mining	139,656,000	26.26
Underground Mining	1,058,000	.30
Producing Mines*	30	.63
Surface	29	1.13
Underground	1	.04
Average Production/Mine**		
Surface	4,815,724	
Underground	1,058,000	
Acreage Under Permit	282,663	8.72

**Source: U.S. Department of Energy, Energy Information Administration, "Coal Production 1985."*

***Data unavailable on a per mine basis, so figures do not provide a weighted average.*

Salient Statistics—1986 Review Period

Total Budget	\$17,748,180
Total Permits	44
Inspectable Units (All Lands)	44
Total Inspections (Partial and Complete)	513
Enforcement Actions (NOVs Issued)	13



Wyoming

Coal Bearing Lands