

STATE REGULATORY PROGRAMS

The Surface Mining Control and Reclamation Act (SMCRA) specifies that because of the diversity in terrain, climate, and other physical conditions in areas subject to mining operations, the primary government responsibility for surface mining and reclamation operations should rest with the states. To achieve primary regulatory authority, often referred to as "primacy," a state must submit a program that demonstrates the state's capability to carry out the provisions of SMCRA.

There are currently 24 states with primary regulatory authority for state surface mining laws and regulations approved under SMCRA. Those states have the authority to implement, administer, and enforce the program for regulating surface coal mining and reclamation, as well as coal exploration activities, consistent with the approved state program.

The elements of approved state programs include authority and responsibility to:

- review, approve or disapprove, and issue surface mining permit applications,
- inspect coal mine sites and issue notices of violation and cessation orders, assess penalties, and pursue alternate enforcement measures,
- process petitions to declare lands unsuitable for mining,
- enact and enforce regulations consistent with the Federal statute and regulations,
- provide necessary funding and staffing to implement the approved program, and
- coordinate the permit review and issuance of permits with other state and Federal agencies.

Once the Secretary approves a state's program, the state becomes the regulatory authority over coal mining on non-Federal and non-Indian lands within its borders. The Federal Government then assumes a monitoring role. Also, once a state has achieved primacy, the Secretary of the Interior may approve a program, commonly called an Abandoned Mine Land (AML) program, for the reclamation of lands disturbed by previous mining activities and left in an unreclaimed condition. Approval of the state reclamation plan entitles the state to receive funds allocated to it from the Abandoned Mine Reclamation Fund.

Any state with an approved regulatory program may elect to enter into a cooperative agreement with the Secretary to provide for state regulation of surface coal mining and reclamation operations on Federal lands within the state. This is discussed further under the section on Federal regulatory programs.

The following states had approved regulatory programs during fiscal year 1986: Alabama, Alaska, Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Missouri, Montana, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, West Virginia, and Wyoming.

Oversight

Once a state obtains approval of its permanent regulatory program, OSMRE's role becomes one of assistance to the state and verification that the requirements of the surface mining law are being met. This process is commonly termed "oversight." OSMRE's responsibilities in its oversight role are to:

- assist the state in implementing its approved program,
- make necessary investigations to ensure compliance with SMCRA,
- monitor the state's AML program,
- inspect any mining operations as may be necessary to evaluate the state's performance on inspections,
- issue cessation orders for violations which create an imminent danger to the health or safety of the public, or which cause or can reasonably be expected to cause significant, imminent environmental harm to land, air or water resources, and
- enforce any part of the state program not being enforced by the state, or implement a Federal program where necessary.

OSMRE conducts an annual evaluation of each state's performance in carrying out its approved program requirements. As part of that evaluation, OSMRE reviews permits issued by the state, performs oversight inspections of mine sites in the state, and conducts special studies of topics of interest in the state. OSMRE findings are discussed with the state and the state offers feedback on those findings.

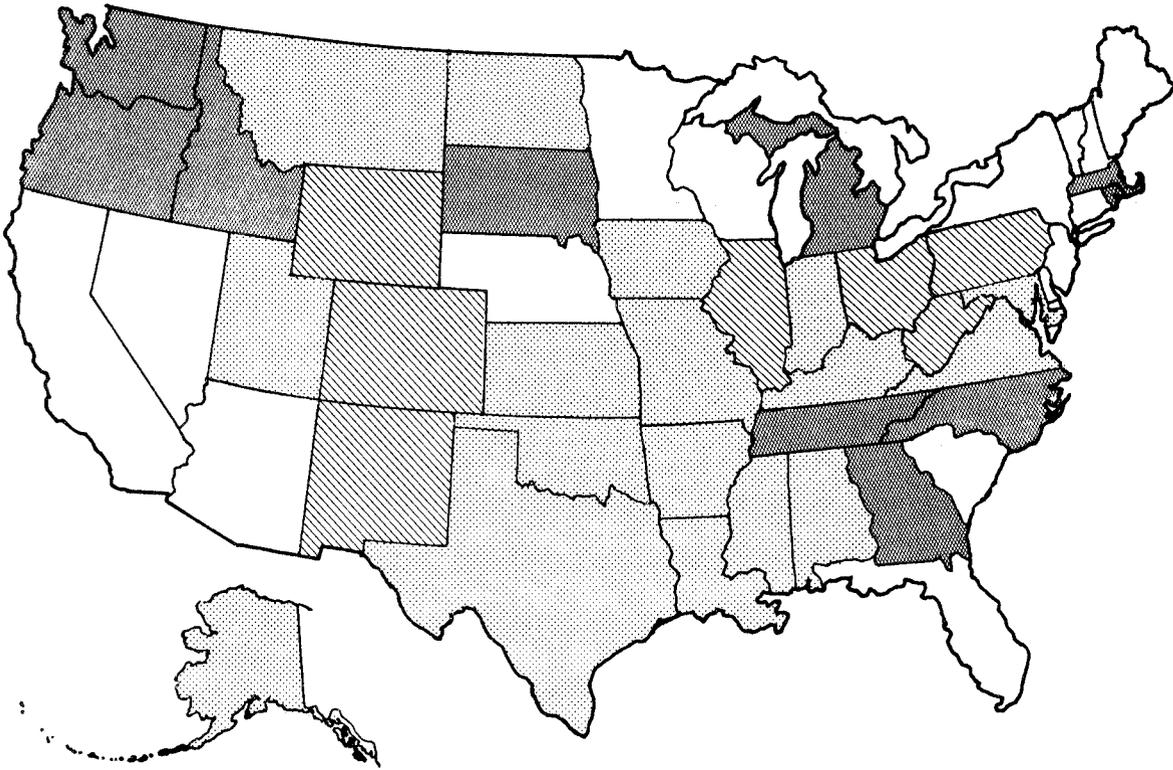
As a result of OSMRE's oversight activities and meetings with the state, an action plan is cooperatively developed on steps to resolve significant problems or deficiencies. The plan is to include actions to be

taken by the state and OSMRE, as well as a schedule for those actions. Every attempt is made to reach a mutually agreed upon plan.

To the extent some areas are not fully resolved, the action plan is to set forth actions that OSMRE will take to achieve resolution.

The chapters that follow summarize OSMRE's evaluation of individual state programs for the review period July 1, 1985 through June 30, 1986.

Coal production data is from the U.S. Department of Energy's report "Coal Production 1985", which presents the Federal Government's most up-to-date nationwide data.



STATE PROGRAM STATUS

FY 1986

-  FULLY APPROVED
-  CONDITIONALLY APPROVED
-  FEDERAL PROGRAMS
-  NON-PARTICIPATING STATES

ALABAMA

Introduction/Overview

The largest producing coal field in Alabama, the Warrior Coal Field, was discovered in 1821. Since that time, coal has become Alabama's leading industrial mineral, both in production and income. Alabama currently ranks 10th in the Nation in the production of coal. The continued production of Alabama's high quality, low sulfur coal will insure the State a place among the Nation's leaders in natural energy production.

Alabama contains both bituminous and lignite grade coal. The bituminous coal is mined with underground and surface methods from 4 major coal fields in 24 counties. From largest to smallest they are: The Plateau Field; The Warrior Field; The Cahaba Field; and the Coosa Field. The Plateau Field is characterized by steeply dipping coal seams associated with moderately deep southwesterly plunging anticlines. The Warrior Field represents Alabama's largest producing field and contains easily minable horizontal seams. The Cahaba and Coosa Fields are both more structurally complex than the two other major fields. The coal in these areas is associated with synclinal troughs and exhibits highly undulating thicknesses.

The State's lignite coal, which is located in southern Alabama, is not presently being mined. If the market dictates future extraction of lignite coal, however, two major factors will enhance Alabama's chance of economic recovery. First, the lignite coal in Alabama is of relatively good grade, and second, the deposits are very shallow and will be easily mined.

During fiscal year 1986, more than 9,000 workers participated in the operations of Alabama coal mines. Thousands more were employed in related industries, such as coal processing and the chemical industry.

Program Management and Budget

The regulatory program in Alabama is administered by the Alabama Surface Mining Commission (ASMC). The State gained primacy when its regulatory program was conditionally approved, effective May 20, 1982. The remaining conditions were removed July 5, 1984.

The state agency administering the Abandoned Mine Lands (AML) program is the Alabama Department of Industrial Relations. The AML program was granted full approval on May 20, 1982.

During the latter part of 1985 and the early part of 1986, the Alabama legislature's "Sunset" Committee attempted to abolish the Alabama Surface Mining Commission and return the program to OSMRE. This attempt failed and the Sunset Committee suspended action, for one year, in order to permit further evaluation.

In addition, some important changes were made in the Alabama law. One new provision prevents state regulations from being any more stringent than the comparable Federal regulations.

Although a Federal Lands Cooperative Agreement between Alabama and OSMRE became effective August 30, 1985, no mining is currently taking place on Federal lands in the State.

Permitting and Bonding

The State has implemented a well-organized, efficient permitting process that, during the annual permitting evaluation, revealed only minor areas where improvement could be made.

Those areas included informational requirements for probable hydrological consequences (PHC) and cumulative hydrological impact assessment (CHIA) as well as negative determinations of prime farmland. To resolve the issue of informational requirements for probable hydrological consequences, ASMC has implemented new guidelines for PHC preparation. The state is resolving the CHIA issue by incorporating OSMRE's draft CHIA guidelines document into the CHIA process. ASMC, not the applicant, will now make all prime farmland determinations, thus insuring that the data are included in the permit.

Two in-depth studies of drainage structures and topsoil substitution were conducted. Findings from the drainage study indicated that drainage structures were not always being constructed according to design. ASMC and OSMRE's Birmingham Field Office resolved the issue by requiring either reconstruction of the structures to match the certified design or, where existing structures meet all performance standards, submission of new design certifications to match the existing structures. As a result of the topsoil substitution study, ASMC has reviewed all previously approved topsoil substitution requests and deleted those that do not meet the standards. Also, ASMC plans to hire a soil scientist for its permitting staff.

In July 1985, the State implemented a new bond determination process that resolved previous concerns that bond amounts were too low to complete reclamation. OSMRE's Eastern Field Operations Office has

reviewed the revised bonding provisions and has concluded that bonds are now adequate to accomplish reclamation.

During the evaluation period, the OSMRE Birmingham Field Office concurred with the State's bond release actions in 76 percent of the cases reviewed. Most of the instances of non-concurrence occurred during the early part of the evaluation period. The quality of the bond releases approved by the State during the latter part of the evaluation showed a significant improvement over those released during the first half of the period, primarily because the State adopted a point frequency method for determining vegetative cover.

Approximately 50 sites inspected by the Birmingham Field Office during this evaluation period had existing conditions that indicated that the permittee's bond should be forfeited. On all sites on which a bond forfeiture was indicated, the State notified the permittee of its determination to forfeit the bond.

Inspection and Enforcement

Alabama has an effective inspection and enforcement program which requires minimal oversight. The effectiveness of the State's program is due, in part, to the cooperation of ASMC in promptly addressing those issues which require attention. The State has an excellent record with regard to its frequency of inspections, due primarily to increased computer capability, which allows for tracking inspections conducted on each permit. The increased computer capability also allows tracking of violations by type and has therefore enhanced the State's ability to determine patterns of violations.

On complete inspections, the State cited violations at approximately one third the rate at which violations were cited by the OSMRE Birmingham Field Office. Some of the apparent discrepancy may be attributed to poor documentation of individual violations on the State's inspection reports. OSMRE's Birmingham Field Office and the State are continuing to investigate and resolve this problem.

The State is currently using procedures that were approved on July 15, 1986, for detecting and prosecuting coal operators who are illegally posing as clay and shale operators. The effectiveness of State action under the new procedures is being evaluated. OSMRE's Birmingham Field Office is prepared to assist ASMC as needed until the situation is resolved.

Abandoned Mine Lands

The Alabama Abandoned Mine Lands Reclamation Program completed 25 AML projects during fiscal year 1986. These projects included backfilling portals, airshafts, and impoundments; reclaiming subsidence-prone properties; and eliminating highwalls, as well as general reclamation of abandoned surface mines.

The State has been very efficient in enforcing the timely start-up and completion of projects. A penalty system for late completions was enacted through which contractors are charged a daily fine for each day that work continues past the specified contract length. Only one late completion out of 25 projects occurred during the year.

Facts About Mining in Alabama

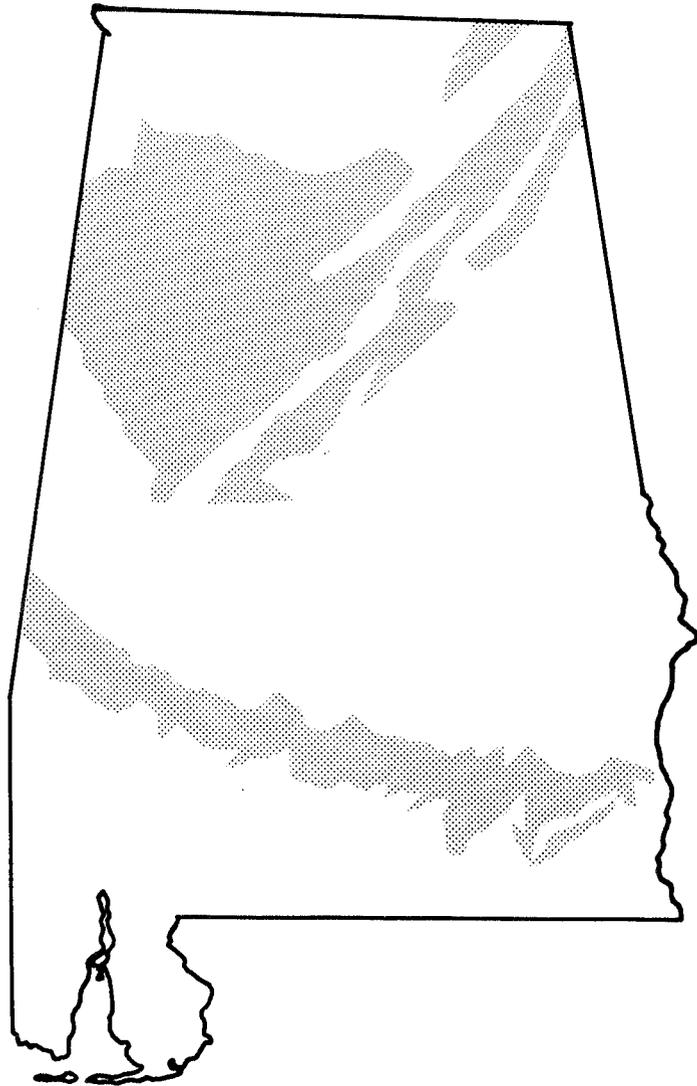
	Amount	% U.S. Total
Coal Production (tons)*	27,797,000	3.15
Surface Mining	13,357,000	2.51
Underground Mining	14,440,000	4.12
Producing Mines*	131	2.75
Surface	111	4.34
Underground	20	.90
Average Production/Mine**		
Surface	120,333	
Underground	722,000	
Acreage Under Permit	71,619	2.21

*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	\$11,859,982
Total Permits	427
Inspectable Units (All Lands)	413
Total Inspections (Partial and Complete)	4,258
Enforcement Actions (NOVs Issued)	426



Alabama

Coal Bearing Lands

Introduction/Overview

The coal deposits in Alaska occur in several major coal fields or basins in the State. The major coal fields are Nenana, Matanuska, Bering River, Susitna Lowland, Northern Coal, and Kenai. Of those, only Matanuska and Nenana have been developed significantly.

The deposits underlie about one-fourth of the State or an area larger than the State of Montana. Approximately 60 percent of the coal is bituminous and 40 percent is subbituminous. Less than one percent is lignite or anthracite.

Although the demonstrated coal reserve base is only 6.1 billion tons, or 1.25 percent of U.S. reserves, revised estimates place the hypothetical reserves at 5.5 trillion tons and the identified coal reserves at 170 billion tons. These differences are due to limited detailed exploration programs within the State.

The first significant and continuous coal mining operations in Alaska began in 1916 with the construction of the Alaska Railroad. Development of the Matanuska Field supplied the U.S. Navy and the Alaska Railroad with coal, while development of the Nenana Field supplied coal to the city of Fairbanks. Conversion of the Alaska Railroad to diesel in the 1950's and the subsequent conversion of the Anchorage utility and military installations to natural gas in 1967 resulted in the closures of the major Matanuska coal operations.

Today, the only producing coal mine in the State is the Poker Flat Mine, operated by Usibelli Mine, Inc. The mine is a surface operation in the Nenana Coal Field near Healey, Alaska. Usibelli produced 1,433,000 tons in 1985 for use by a mine-mouth power plant, three military bases, two public utilities, one retail customer, and one long-term Korean contract. The mine provides employment for an average of 78 miners working daily. The permit area for Usibelli is about 2,377 acres.

Certain conditions affecting mine reclamation are unique to Alaska because of its extreme northern latitude. For example, permafrost occupies about 75 percent of the State's land area; tundra vegetation occupies large treeless regions in the State; and extremely cold weather and a short summer season occur in many parts of Alaska. In addition, hydrologic conditions are considerably different from other states; major streams fed by heavily silt-laden glacial meltwater contain greater concentrations of natural sediment than the effluent discharge limits permitted by Federal regulation. In addition, certain locations in the State, such as the Beluga coalfield, are potentially subject to high seismic risk. These factors make mining and reclamation of coal land in Alaska more difficult than in other states.

Program Management and Budget

Alaska's program to regulate surface coal mining was approved on May 2, 1983. There were no conditions placed on the program. The Abandoned Mine Lands (AML) program was approved on December 23, 1983. No significant actions occurred during 1986 that affected the Alaska permanent program. There is no Federal lands cooperative agreement with Alaska.

Under the Alaska Surface Coal Mining Control and Reclamation Act, the Commissioner of the Department of Natural Resources is the regulatory authority for the surface mining regulatory program and for the abandoned mine land program. This authority was formally delegated to the Director of the Division of Mining and Geology, although the Commissioner does retain some of the final decision-making authority.

The Division of Mining and Geology has 5.64 full-time equivalent individuals in its coal reclamation program, and 1.15 positions for AML duties.

Permitting and Bonding

At the close of the 1986 evaluation period, Alaska had not yet issued a permanent program permit to the one active surface coal mine that was in existence when the Alaska regulatory program was approved. (That permit was issued May 27, 1987.)

Inspection and Enforcement

Although the number of partial inspections for the review period was adequate, two additional complete inspections should have been made. OSMRE will continue to monitor monthly inspections and to encourage the State to conduct the necessary number of inspections during fiscal year 1987.

Abandoned Mine Lands

Alaska received its first construction grant during this evaluation period, totaling \$198,327. Of that, \$135,400 has been obligated. The grant will cover work on five projects, all of which have been started.

Facts About Mining in Alaska

	Amount	% U.S. Total
Coal Production (tons)*	1,433,000	.16
Surface Mining	1,433,000	.27
Underground Mining	0	0
Producing Mines*	1	.02
Surface	1	.04
Underground	0	0
Average Production/Mine		
Surface	1,433,000	—
Underground	0	—
Acreage Under Permit**	2,377	.07

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

**Interim Program Permit.

Salient Statistics—1986 Review Period

Total Budget	\$787,635
Total Permits	1
Inspectable Units (All Lands)	1
Total Inspections (Partial and Complete)	12
Enforcement Actions (NOVs Issued)	1



Alaska

Coal Bearing Lands

ARKANSAS

Introduction/Overview

Arkansas coal seams underlie about 1,400 square miles, or less than 2.7 percent of the total area of the State. The deposits are divided into the East and West Coal Districts within the Arkansas Valley. Both are located near the western border of Arkansas.

The demonstrated coal reserve base in Arkansas is 417.9 million tons, or less than one-tenth of one percent of the national reserve base. The coal is ranked as bituminous and semi-anthracite. Most of the commercial coal is mined from thin beds that are at least 14 inches thick. In some locations, however, the lower Hartshorne coalbed can be as much as eight feet thick.

Arkansas coal is presently used for the manufacture of metallurgical coke and fuel for smelters. The coal is well suited for domestic use and steam production because of its high heat value and low ash content. Arkansas low volatile bituminous is blended with 80 to 90 percent high volatile coal in the manufacture of metallurgical coke.

In 1985, seven permitted mines in Arkansas produced 80,000 tons of coal with conventional draglines and stripping shovels. These mines provided employment for an average of 23 miners working daily. Most of the active mines are close to past mining sites and re-mining of pillars of underground mines by surface methods is common.

The topography of the Arkansas Valley Coal Area is predominantly lowlands, with ridges that have average elevation of about 500 feet. The lowlands and ridges extend east and west. Usually the flat-topped ridges are capped with sandstone. Uplands are heavily forested with an oak-hickory-conifer forest, and the valley areas are used for crop and pasturelands. Precipitation ranges from 40 to 50 inches per year; the maximum occurs in the spring and early summer.

Program Management and Budget

The Arkansas surface coal mining reclamation and enforcement program is administered by the Arkansas Department of Pollution Control and Ecology (ADPCE). The State gained primacy when its regulatory program was conditionally approved on November 21, 1980, subject to the correction of four minor program deficiencies. The four deficiencies were resolved by the State and the Arkansas permanent regulatory program was fully approved on January 22, 1982. Authority for the State to administer its Abandoned Mine Land Reclamation Program was granted upon approval of the Arkansas Reclamation Plan on May 2, 1983.

During the oversight period of July 1, 1985 to June 30, 1986, two changes were made to Arkansas regulations that affected the State's permanent regulatory program. On August 15, 1985, OSMRE approved amendments that allowed a violation abatement period of more than 90 days under certain circumstances, and established procedures for conducting informal assessment conferences. On December 2, 1985, OSMRE approved an amendment which established a blaster training and certification program and changed certain performance standards with regard to the use of explosives.

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

Permitting and Bonding

ADPCE has improved its performance in certain areas concerning permitting and bonding, and now requires that all information needed for permit approval be submitted in the permit application package. During the evaluation year, ADPCE made all required written findings before approving the applications.

ADPCE's performance in requiring pre-mine vegetation and land use data was consistent with Arkansas program criteria. The State adequately determined amounts of reclamation bonds and fulfilled all requirements with respect to cultural resources reconnaissance and mitigation measures. OSMRE noted no significant problems in procedures used by ADPCE for releasing bonds once reclamation activities were completed.

OSMRE did observe instances where ADPCE had approved sedimentation pond and diversion designs that did not demonstrate compliance with performance standards for effluent quality and erosion control. OSMRE also identified eight sites where conditions existed such that bond forfeiture was in order. ADPCE had issued Notices of Bond Forfeiture on three of these sites but had not taken action on the remaining five sites. The State is cooperating with OSMRE to resolve those problems, and an action plan addressing the issues has been developed.

Inspection and Enforcement

Currently, there are 38 inspectable units in Arkansas, 22 of which are active. ADPCE inspectors met or exceeded the number of required inspections on all the inspectable units during the review period.

Also during the review period, ADPCE conducted 478 inspections and issued 68 Notices of Violations and 18 Failure-to-Abate Cessation Orders. This indicates ADPCE is citing all observed violations.

ADPCE is experiencing problems in the collection of civil penalties. Approximately \$3 million in total civil penalties are owed to ADPCE and have not been collected. ADPCE appeared to assign a low priority to collecting these penalties. In addition, ADPCE did not take necessary actions, allowed under its program, to compel compliance with 82 outstanding State-issued Cessation Orders. OSMRE and the State have developed an action plan to resolve these issues.

Abandoned Mine Lands

During the reporting period, ADPCE placed increased emphasis on its AML Program. Projects funded under a fiscal year 1984 construction grant have been completed and work is progressing satisfactorily on fiscal year 1985 construction projects.

OSMRE oversight inspections indicate that construction is proceeding according to project plans and inspections. Project designs are effectively abating all threats to the public health, safety, and general welfare identified at the sites.

Any problems identified in the Abandoned Mine Land Program have been minor in nature and were resolved immediately by ADPCE when noted.

Facts About Mining in Arkansas

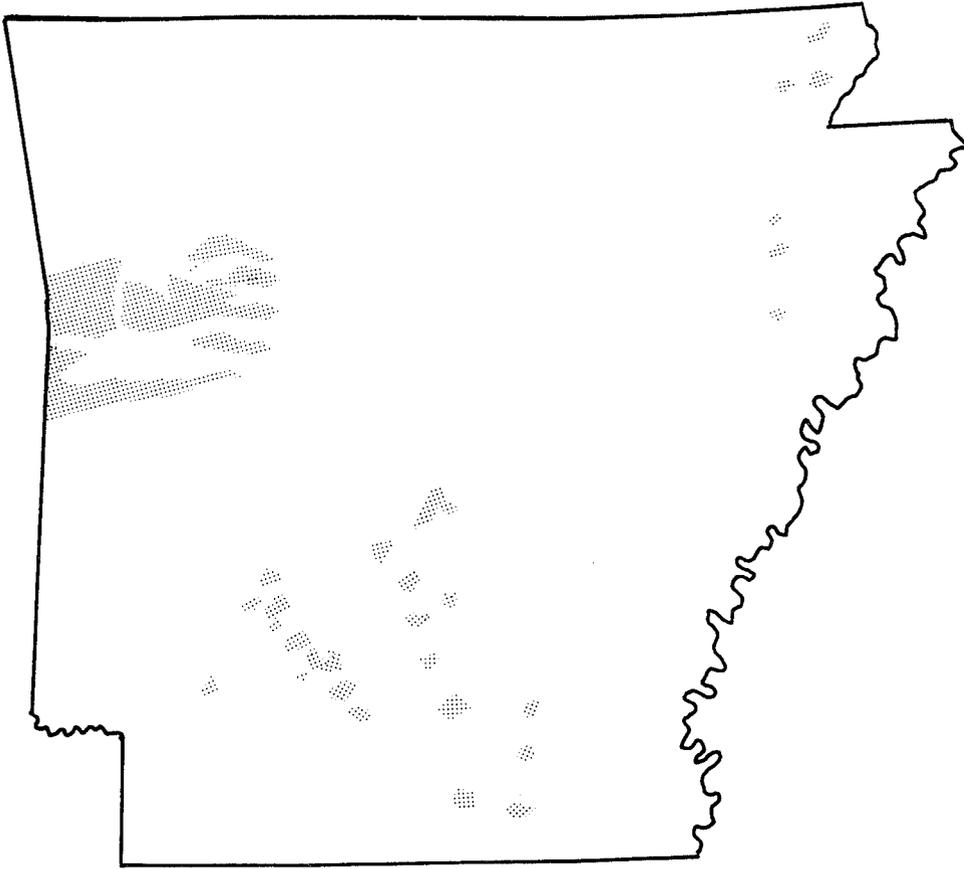
	Amount	% U.S. Total
Coal Production (tons)*	80,000	.009
Surface Mining	80,000	.02
Underground Mining	0	0
Producing Mines	7	.15
Surface	7	.27
Underground	0	0
Average Production/Mine (tons)**		
Surface	11,500	
Underground	0	
Acreage Under Permit	2,468	.076

*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	\$1,631,816
Total Permits	38
Inspectable Units (All Lands)	38
Total Inspections (Partial and Complete)	478
Enforcement Actions (NOVs Issued)	68



Arkansas

Coal Bearing Lands

Introduction/Overview

Coal-bearing regions cover approximately 29,600 square miles, which is 28.4 percent of the total area of Colorado. The most important coal-bearing regions, from a standpoint of both total in-place resources and present annual production, are the Green River and Uinta regions in the northwestern and west-central parts of the State, respectively. Colorado coal resources vary from lignite to anthracite. More than 70 percent are bituminous; 23 percent subbituminous; 5 percent lignite; and less than 1 percent anthracite. The demonstrated coal reserve base in the State is about 17.2 billion tons, or 3.5 percent of the national reserve base.

Commercial coal production in Colorado first began in 1861, while surface mining for coal began in the early 1950's. In 1962, 7 of Colorado's 117 mines were open pits, producing 14 percent of the State's total annual production of 3,400,000 tons. By 1973, 9 of 37 mines were surface mines, producing 53 percent of the State's total annual production of 6,960,685 tons.

In 1985, 12 of the state's 35 producing mines were surface operations and produced 10,865,000 tons of the state production of 17,243,000 tons. Colorado coal mines provided employment for an average of more than 2,800 miners.

Differences in elevations create many climatic zones in Colorado. Annual precipitation may range from 13 inches in the area of the Wise Hill Mine No. 5 in Craig, Colorado, to 17 inches in areas such as the Mount Gunnison Mine near Gunnison, Colorado. Generally, precipitation rates are low, making revegetation difficult. With careful selection of plant species, however, this problem can be overcome. The growing season can be up to 169 days at some sites, but is usually much less, especially in the mountainous regions of the State.

Program Management and Budget

The Colorado Mined Land Reclamation Division (CMLRD), a division of the Colorado Department of Natural Resources, administers the regulatory program in the State. Colorado gained primacy when its regulatory program was conditionally approved, effective December 15, 1980, subject to the correction of 45 deficiencies. By June 30, 1986, 6 of the conditions remained. OSMRE is currently working with the State to resolve those issues.

During the evaluation year, several program amendments were approved. Effective February 5, 1986, the number of inspections of inactive mine sites was decreased from an average of one inspection per month, including one complete inspection per calendar quarter, to an average of at least one complete inspection per calendar quarter. Also, CMLRD is now able to conduct aerial inspections, which are partial inspections. The State also revised its regulations to include a 30-day cap on the \$750 daily assessment for Failure-to-Abate Cessation Orders.

Permitting and Bonding

During the evaluation year, CMLRD performed satisfactorily the program elements that had been selected for nationwide oversight evaluation. No deficiencies were found relative to the permitting aspects of CMLRD's policy on management of rilling and gullying or on the use of incidental boundary revision on non-Federal lands.

CMLRD is also effectively conducting the cultural resource portion of its coal program, and is using acceptable estimating techniques in determining reclamation bond amounts.

Inspection and Enforcement

Colorado increased its frequency of inspections from 41 to 91 percent during the evaluation year. The improvement is attributable to Colorado's actions to increase the number of inspection personnel, as well as a program amendment in 1986 that allowed reduced inspections at inactive mine sites and the use of aerial inspections for partial inspections. There are 27 inactive sites included in the total of 57 inspectable units in Colorado.

During the year, CMLRD inspectors conducted 613 inspections and issued 76 enforcement actions covering 81 violations; these include the issuance of 12 failure-to-abate cessation orders. Although Colorado's rate of citing violations was lower on complete inspections than what OSMRE oversight inspections indicated it should be, the majority of the violations cited by OSMRE inspectors were administrative-type violations, such as a lack of certification for fills, sediment pond inspection reports, and water monitoring records. OSMRE is working with the State to see that all violations are cited in the future.

CMLRD responded appropriately to all Ten-Day Notices, improving its rate for such responses from 90 percent the previous year.

CMLRD issued a total of 74 orders proposing assessments of civil penalties during the evaluation year. Through the assessment process, in which the operators request a conference on the penalty, 53 cases were settled. Civil penalties totaling \$59,675 were collected during the review period. Included in this amount were the civil penalties of 27 cases from the previous year and 47 cases settled and collected this evaluation year.

Five partial bond release requests were received by CMLRD during the evaluation year. Two were approved, two were pending, and one was denied. Only one permanent program permit was forfeited during the evaluation year. The site involves approximately 150 acres and \$39,071 in forfeited bond. CMLRD started bond forfeiture procedures on one initial program permit. The surety agreed to reclaim the site and contracted for the reclamation work before the bond forfeiture proceeding was held, however.

Abandoned Mined Lands

Colorado continued to administer an effective and efficient AML Program.

Approximately 93 percent (428 of 459) of Colorado's known Priority I, II, and III AML problem areas are now either abated or funded for abatement. The total cost of all AML work done to date and for abating all presently known AML hazards (including subsidence) is \$38 million; of this, \$18 million has already been funded.

Closing hazardous mine openings was the major force of the State's reclamation effort during 1985 and 1986. Colorado also used funds from the Abandoned Mine Reclamation Fund to abate health and safety hazards associated with subsidence from abandoned underground coal mine workings and to construct a new mine drainage improvement project. Selection of those sites was based primarily on data from the State AML inventory.

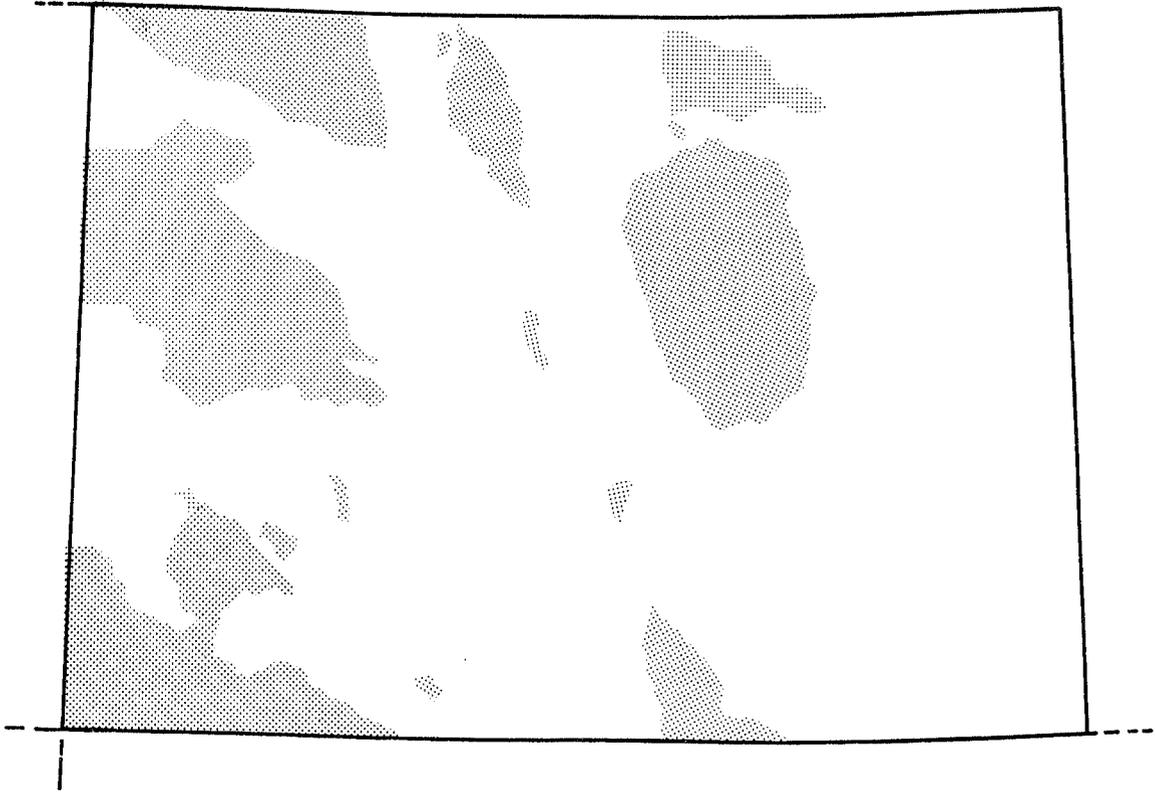
Facts About Mining in Colorado

	Amount	% U.S. Total
Coal Production (tons)*	17,243,000	1.95
Surface Mining	10,865,000	2.04
Underground Mining	6,377,000	1.82
Producing Mines*	35	.73
Surface	12	.47
Underground	23	1.04
Average Production/Mine		
Surface	905,416	*
Underground	277,260	*
Acreage Under Permit	92,045	2.84

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

Salient Statistics—1986 Review Period

Total Budget	\$5,850,026
Total Permits	57
Inspectable Units (All Lands)	57
Total Inspections (Partial and Complete)	613
Enforcement Actions (NOVs Issued)	64



Colorado

Coal Bearing Lands

ILLINOIS

Introduction/Overview

Illinois has the largest reported bituminous coal resources of any state, and, in 1985, became the fourth largest coal producing state in the Nation, following Kentucky, Wyoming, and West Virginia.

Coal-bearing rocks underlie about 65 percent of Illinois, including all or parts of 86 of its 102 counties. An estimated 181 billion tons of coal resources are still in the ground. Using present mining methods, more than 30 billion tons are classified as recoverable. This represents almost one-eighth of the total recoverable reserves of all types of coal in the United States.

Through 1985, approximately 5.1 billion tons of coal had been mined in Illinois, and more than 1,150 square miles had been affected by surface mining. This latter figure represents one-half of one percent of the State's total land acreage.

With much of Illinois coal overlain by prime farmland, the relationship between mining and agriculture represents a major challenge to the surface mining industry and the farming community.

By the 1960's, surface mining methods accounted for more than 50 percent of the State's total production. Beginning in 1972, however, underground methods regained dominance, and by 1985 underground production accounted for 64 percent of total production.

Eighty-four percent of the coal produced in Illinois is used by electrical utilities in Illinois, adjoining states, and in states as far away as Florida. Exports have steadily increased during the past several years.

The number of working miners in 1985 stood at more than 13,000, representing an annual payroll of \$475,000,000.

Program Management and Budget

The Illinois Department of Mines and Minerals administers the surface mining regulatory program, which was approved June 1, 1982. Five conditions were imposed at the time of approval, three of which have been met. The remaining conditions are being addressed by the State in its extensive regulatory reform submission, which is currently under review by OSMRE.

Illinois submitted blaster certification regulations, which were approved on October 30, 1985. OSMRE has approved a final rule that sets standards for productivity of reclaimed prime farmland. This rule, representing the joint effort of several state agencies and universities, is indicative of Illinois' commitment to full prime farmland restoration.

On May 8, 1986, oral arguments were heard on a suit filed by the Illinois South project and nine other organizations, challenging the Secretary of the Interior's decision to approve the Illinois Program and characterizing the program as inadequate. In a June 26, 1987, court decision, the Secretary was upheld on all counts.

Illinois has submitted a proposed cooperative agreement for Federal lands. The agreement is currently under review by OSMRE. If approved, the transfer of the Federal lands program to the State under this agreement would take place in 1987.

Permitting and Bonding

Illinois continues to employ effective permitting practices, reviewing and approving complex applications in an average of seven months from the time they are submitted. As confirmed in a recent study by the Office of Technology Assessment, Illinois is the leader not only in the reclamation of prime farmlands (of which Illinois has more than any other state), but also in the reclamation of other croplands that are not subject to prime farmland reclamation standards.

Permits approved by Illinois also effectively deal with other long-term environmental effects of mining peculiar to the Illinois Coal Basin. One such impact is the diversion and replacement of major streams and small rivers. Often several miles of streambed and riparian habitat are involved. Illinois' close attention to these matters enables the recovery of millions of tons of otherwise unminable coal while ensuring the restoration of important hydrologic and ecological resources.

Illinois is also effectively addressing the impacts of surface subsidence due to the use of longwall mining technology in underground mines.

OSMRE's 1986 review of the Illinois bonding procedures revealed continued compliance with the approved bonding program. The State procedure is yielding sufficient bond amounts to guarantee reclamation; revisions to bond amounts are being made as required. Bond forfeiture proceedings were initiated by the state at each site where such action was appropriate. At those forfeiture sites where reclamation was completed, work was found to be satisfactory.

Inspection and Enforcement

The State met or exceeded the required inspection frequency on all mines during the evaluation period. While the regulations required 1,359 inspections, 1,681 inspections were performed. The OSMRE review of various documents and field inspections, however, indicates that less-than-complete inspections are being conducted in some cases. The State disagrees with this conclusion, but has indicated that assuring quality inspections is a continuing priority.

The State has shown improvement in its rate of citing violations. OSMRE oversight indicates that Illinois cites close to 80 percent of all existing violations. Comparison with previous years' figures reveals that the citation rate for both the State and OSMRE is much lower and that the percentage of non-administrative violations has dropped. These factors indicate a trend toward increased overall compliance in Illinois.

Illinois is successfully administering the civil penalty provisions of the State program. Each violation was assessed; 38 percent of all assessments required a monetary penalty. The remaining 62 percent were appropriately waived under the supervisor's discretionary powers. To date, the State has averaged a collection rate of 79 percent for notices of violation and 11 percent for cessation orders. The low rate of collection for cessation orders can be attributed to the high percentage of bankrupt permittees receiving orders. There are currently \$645,000 in outstanding penalties in Illinois, much of which may prove to be ultimately uncollectible due to permittee insolvency.

Abandoned Mine Lands

Illinois continues to pursue aggressively the reclamation of past coal mining sites. While the scope of work in recent construction grant submittals has been pared by as much as 30 percent because of reduced funding appropriations the number of acres being reclaimed has increased due to a gradual shift in emphasis to large environmental-hazard sites. The largest AML sites, being more visible to the public, have brought the Illinois AML program greater statewide recognition.

On January 1, 1986, the Illinois Abandoned Mined Lands Reclamation Council, the State authority charged with the AML program, became a separate agency within the Illinois State government and is no longer affiliated with the Illinois Department of Mines and Minerals. This action has streamlined operations and has resulted in reclamation being completed ahead of schedule more often.

Facts About Mining in Illinois

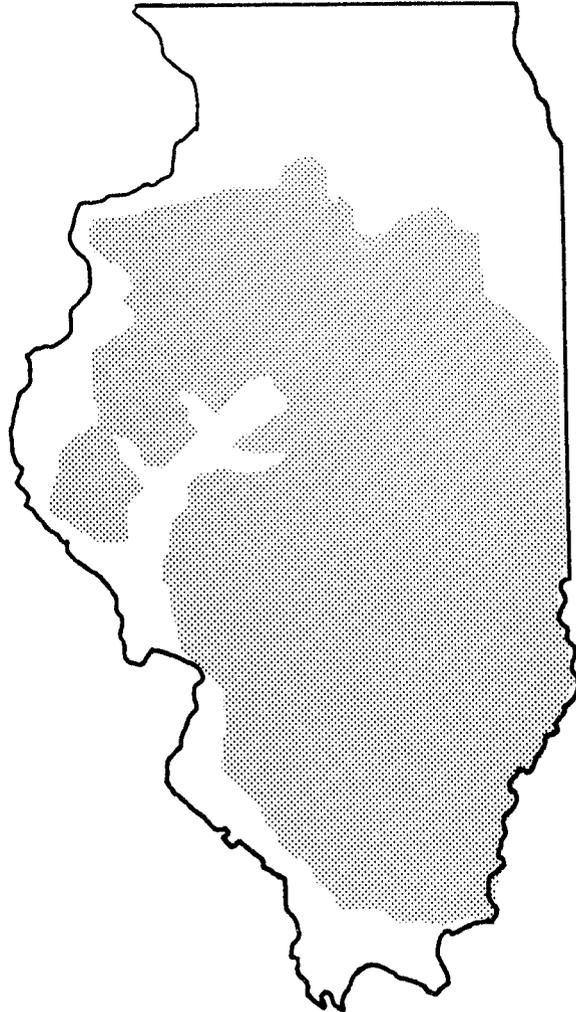
	Amount	% U.S. Total
Coal Production (tons)*	59,201,000	6.7
Surface Mining	21,858,000	4.11
Underground Mining	37,343,000	10.64
Producing Mines*	54	1.13
Surface	20	.78
Underground	34	1.54
Average Production/Mine**		
Surface	1,092,000	
Underground	1,098,323	
Acreage Under Permit	110,800	3.42

*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	\$14,415,131
Total Permits	114
Inspectable Units (All Lands)	114
Total Inspections (Partial and Complete)	1,681
Enforcement Action (NOVs Issued)	154



Illinois

Coal Bearing Lands

Introduction/Overview

The State of Indiana has regulated the environmental impacts of coal mining since 1941. It was the second state in the Nation to pass legislation requiring mined land reclamation. The present permanent regulatory program was approved by the Secretary of the Interior and became effective on July 29, 1982.

The coal reserves in Indiana are located in the southwestern part of the State, with 25 counties in that region having significant known reserves. Coal is currently being mined in 17 of those counties. Recent estimates place the State's total in-ground reserves at approximately 55 billion tons. Recoverable reserves are estimated to range from 20 to 25 billion tons, of which less than 2 billion tons have been mined since 1837.

The bulk of Indiana's coal resources is found in seven major coal seams, with smaller amounts lying in rider seams that occur stratigraphically above and below the various major seams. The seams are present in the Pennsylvanian strata along the eastern flank of the Illinoisan Coal Basin and generally dip to the west and southwest with a gradual gradient. The flat to rolling terrain and the rather shallow depths of the coal seams (60 to 200 feet) make much of the State's coal reserves extractable by surface mining methods. Future plans, however, may call for the opening of more underground operations because of several newly mapped reserves with seams of up to 10 feet in thickness.

In 1985, 31,262,000 tons, which is 94 percent of the State's total production, were extracted by surface mining operations and 2,053,000 tons were extracted from underground mines. Production from underground mines has increased almost 90 percent since 1983, compared to an increase of about 1 percent for surface mining production.

Program Management and Budget

Full primacy was granted to the State of Indiana on July 29, 1982. The permanent program is administered by the Indiana Department of Natural Resources, Division of Reclamation. During the 1986 oversight year, Indiana proposed several program amendments which were approved by OSMRE and which have positively affected the State's implementation of its permanent program. Among the most significant of these amendments are the following:

- Indiana now has a fully approved blaster training and certification program. OSMRE initially approved the State blaster certification and training program contingent upon successful completion of a new blaster's examination. This examination was reviewed by OSMRE in August and found to substantially fulfill all requirements.
- Indiana has increased its permit fee amount from \$50 per acre to \$100 per acre. The additional income will be used by Indiana for administrative support of its approved program.

No mining has been proposed on any Federal lands in Indiana, so a cooperative agreement between the State and OSMRE has not been signed.

Permitting and Bonding

During this oversight period, Indiana submitted a number of program amendments to OSMRE for review and approval. For example, an amendment to add interim bond release revegetation standards has been approved by OSMRE. Permanent program revegetation bond release standards will be submitted by Indiana and approved by OSMRE prior to any 100 percent permanent program bond release.

The resolution of issues involving probable hydrologic consequences and cumulative hydrologic impact assessments (PHC/CHIA) is being pursued by OSMRE and the State. OSMRE has provided training courses and computer technology, and held discussions to establish a basis for the submittal of PHC data by operators, and for the management of such data and preparation of CHIAs by the State. The State has added a hydrologist to its staff and may get funding for a second. Staff members who are not hydrologists are also being trained to assist in the program.

OSMRE is working with the State to assure that in its implementation of the approved state program, prime farmland restoration is assured. Currently, Indiana's regulations and permit application form do not sufficiently identify acceptable methods and standards for measuring crop yield on prime farmland areas. The permit application form needs to be brought into conformance with State regulations because it allows measurement of soil properties rather than crop yield as a basis for bond release. The State's allowance of soils mixing and compaction has also been questioned by OSMRE. OSMRE is negotiating with the State to develop action plans for resolving these issues in a timely manner.

Inspection and Enforcement

During this evaluation period, significant progress was made in improving inspection frequency performance. Indiana exceeded inspection frequency requirements on 36 percent of its inspectable units. State inspectors are making more thorough inspections and more complete pre-inspection document reviews. The content and quality of inspection reports have improved for permanent program permits through the use of an expanded narrative description of mine site conditions. Documentation of citations has also improved, and now includes statements describing evidence gathered during inspections to support observed violations.

The collection of civil penalties continues to be an area of concern. Indiana is not pursuing collection of past due penalties as aggressively as it might. The State, however, recently developed a system to track all violations from issuance of notice of violation through penalty assessment and final collection, and this should markedly assist in resolving the problem.

Abandoned Mine Lands

During the evaluation period, Indiana used money from the AML reclamation fund to correct problems related to abandoned mine highwalls, open shafts, underground subsidence, and water pollution from coal waste and barren spoil piles. Significant improvements were made in program operations, especially in estimating construction costs and in meeting projected reclamation schedules. The State is becoming very efficient in the use of available program funds, with an average obligation rate of 95 percent of the first three construction grants approved. The Indiana program is progressing well in the reclamation of high-priority projects.

Issues addressed during this evaluation period include a question of State control of contractual reclamation work and concern with the State's procurement procedures. Regarding control of reclamation, it appears there is a need to clarify the delegation of reclamation monitoring responsibilities between the State's Division of Reclamation and Division of Engineering. The procurement issue focuses on Federal requirements for free and open competition in the selection of consultants. OSMRE anticipates early resolution of the construction monitoring issue through discussions with officials of the Indiana Department of Natural Resources. The procurement issue was resolved by clarifying Federal procurement requirements and by reaching agreement on future practice.

Facts About Mining in Indiana

	Amount	% U.S. Total
Coal Production (tons)*	33,316,000	3.77
Surface Mining	31,262,000	5.88
Underground Mining	2,053,000	.59
Producing Mines*	70	1.47
Surface	66	2.58
Underground	4	.18
Average Production/Mine**		
Surface	473,667	—
Underground	513,250	—
Acreage Under Permit	126,690	3.91

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

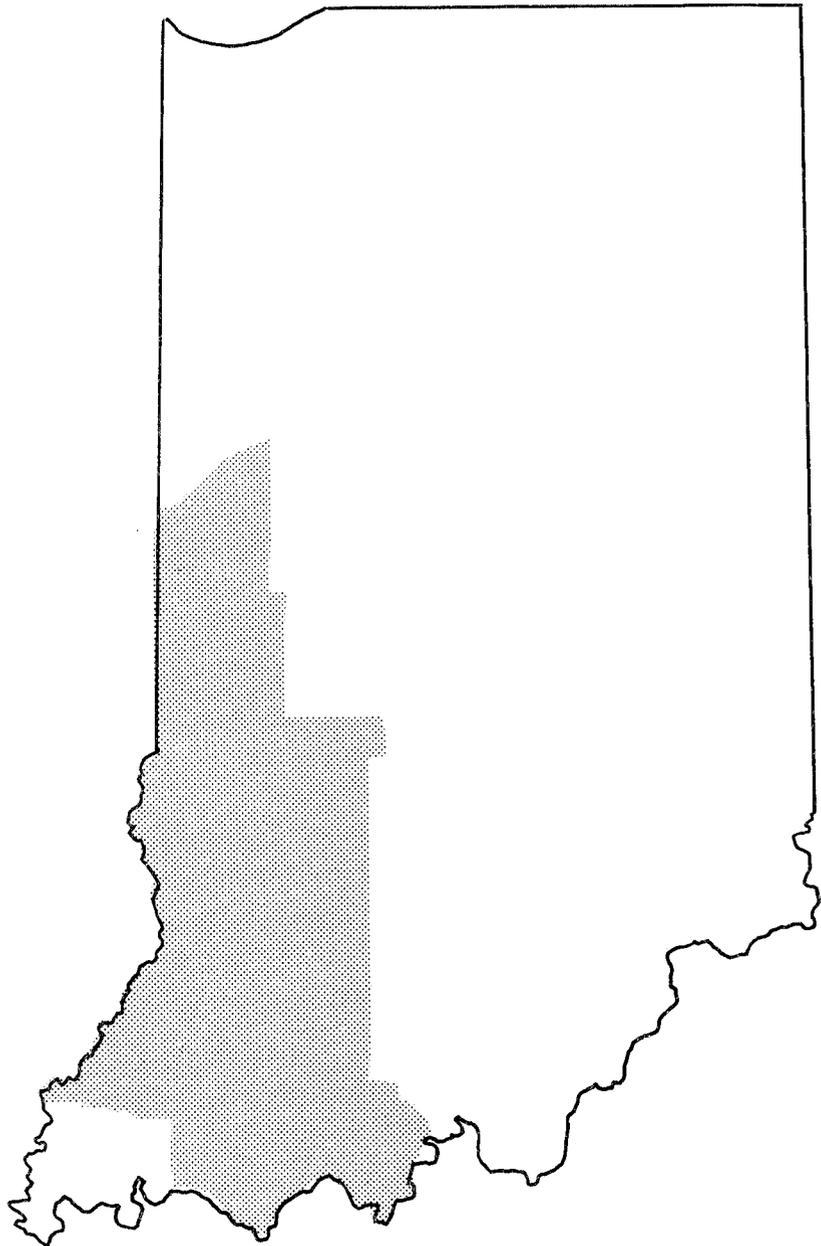
**Data unavailable on a per mine basis, so figures do not provide a weighted average.

Salient Statistics—1986 Review Period

Total Budget	\$8,157,211
Total Permits	578
Inspectable Units (All Lands)	578
Total Inspections (Partial and Complete)	7,430
Enforcement Actions (NOVs Issued)	456

Indiana

Coal Bearing Lands



IOWA

Introduction/Overview

Coal-bearing regions cover about one third of Iowa, primarily in the south-central part of the State. Coal ranges from subbituminous to high-volatile B bituminous, with the majority as high-volatile C bituminous. The demonstrated coal reserve base in the State is 2.2 billion tons, or less than one-half of one percent of the U.S. coal reserves. Coal beds are typically thin seams with a maximum thickness of five feet.

Coal deposits in Iowa were first mined in the 1840's for blacksmithing and domestic purposes. Demand for coal increased with the use of coal in steamboats and railroads. Production peaked in 1917 when Iowa produced 9 million tons of coal. Conversion to natural gas and fuel oil caused a decrease in coal demand until the 1940's. Since that time, demand by electrical power generating plants has caused a rebound in the production of coal.

In 1985, Marion and Monroe Counties were the only coal-producing counties in the State. Four surface mines and one underground mine produced 419,000 and 172,000 tons respectively, for a total of 591,000 tons used primarily in generating electricity. Coal mines in the State provided employment for 127 miners working daily. Surface mines in the State primarily use conventional draglines. The surface mining productivity rate in the State is less than the national average, due to the thin seams being mined. The mining productivity rate for underground mines, however, is slightly higher than the national average.

The topography of the southern and southeastern Iowa coal region is rolling to hilly and is dissected by streams. Agricultural crops and pastures are the dominant land use, with steeper slopes remaining forested. To the west and southwest, the topography is the same but a higher percentage of the land is devoted to agriculture.

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. Climate does not pose a difficulty in the rehabilitation of mined lands.

Program Management and Budget

The Secretary of the Interior conditionally approved the Iowa permanent regulatory program on January 21, 1981, to be effective April 10, 1981. The Iowa Department of Soil Conservation assumed responsibility for the regulation of all surface coal mining operations and coal exploration operations in the State at that time.

Program approval was subject to the correction of three minor deficiencies. Those have since been corrected, and Iowa received full approval of its permanent regulatory program on March 28, 1982. An additional condition was placed on the Iowa program on November 8, 1983, concerning the State's lack of a civil penalty prepayment provision. Following approval of a program amendment to add that provision, the condition was removed on June 28, 1985.

Iowa has developed its abandoned mine land (AML) plan and prepared an inventory of projects. OSMRE approved the State AML plan on March 28, 1983.

On July 1, 1986, Iowa reorganized its government structure and placed the regulatory and AML functions under the newly created Division of Soil Conservation (DSC) in the renamed Iowa Department of Agriculture and Land Stewardship.

Iowa and OSMRE have not pursued a cooperative agreement for coal mine reclamation on Federal lands because no coal mining has occurred on these lands, nor is any anticipated in the near future.

Permitting and Bonding

By March 22, 1983, Iowa had completed the repermitting of all active coal mining operations under the permanent program. Through a long-term assistance effort, OSMRE and the State have entered into a cooperative exercise to resolve permitting deficiencies that OSMRE identified in Iowa's permanent program permits as they were first issued. Iowa has developed a draft permitting policy handbook for hydrology and geology and is in the process of developing additional handbooks to address other areas of permitting policy. Requirements for specific baseline information, which has been lacking from some permits, will be addressed in the new handbooks. The development of permitting policies has already resulted in an improvement in the quality of Iowa permits.

Bonding of all coal mining operations is required by DSC before a permit is issued. A minimum bond of \$10,000 applies to all sites. During 1984, the State experienced several bond forfeitures where the amount of bond was insufficient to reclaim the mine site completely. A program to incrementally increase the bond amounts was initiated pursuant to requests by OSMRE. Bond amounts were increased during 1985, but were still found to be inadequate to cover the full cost of reclamation should the State be required to reclaim the site due to bond forfeiture. In a cooperative effort between Iowa and OSMRE, reasonable cost factors for moving overburden and administrative costs were agreed upon and all active permits were reevaluated for bond amount. On October 1, 1986, the State notified operators of active mines sites to submit revised bond amounts that should be adequate to effect reclamation.

In 1985, Iowa received applications from three operators eligible to participate in the Small Operators Assistance Program (SOAP). OSMRE allocated a SOAP grant to fund hydrology and geology permitting requirements for these small operators. Due to the length of time needed to prepare permitting policy guidelines to implement SOAP, the State requested an extension for its SOAP grant. There is currently one operator eligible for SOAP assistance.

Inspection and Enforcement

Iowa met 100 percent of its required inspection frequency on all inspectable units. Completeness of inspections has improved. Citizen complaints were adequately addressed. The quality of inspection reports also improved significantly during the past year. Iowa has responded adequately to Ten-day Notices issued by OSMRE. Enforcement actions taken by Iowa were issued in a timely manner and follow-up inspections were conducted in a more timely manner than last year.

Iowa has followed its approved procedures in the prompt service of citations to operators. Extensions of time for abatement of violations did not exceed the 90-day time limit. No problems were identified with the prescribed abatement measures. Modification, vacation, and termination of notices and orders were generally appropriate and improvements were noted in the documentation that supports these actions. No pattern of violations was found for operations in the state. Iowa had no problems with exploration operations, illegal and unpermitted operations, or exempt operations during the evaluation year.

Abandoned Mine Lands

Iowa started five construction projects during the year and an additional project was ready for construction at the close of the evaluation period. Iowa will have all funded projects under construction by August 1986. The State has acknowledged, however, that it has insufficient staff to monitor construction projects adequately and has agreed to rectify this matter.

During the year, Iowa used its OSMRE-allocated funds for an AML administrative grant and an amendment to its existing rural abandoned mine program construction grant. Iowa's AML administrative grant funding has increased because of additional engineering and design contracts. The administrative funding will remain at about its fiscal year 1986 level for the remainder of the program. The rate of obligation has been timely on the construction grant and all draw downs have been timely. The expected receipts for the state share of AML fee collections for fiscal year 1986 should be about \$85,880.

Facts About Mining in Iowa

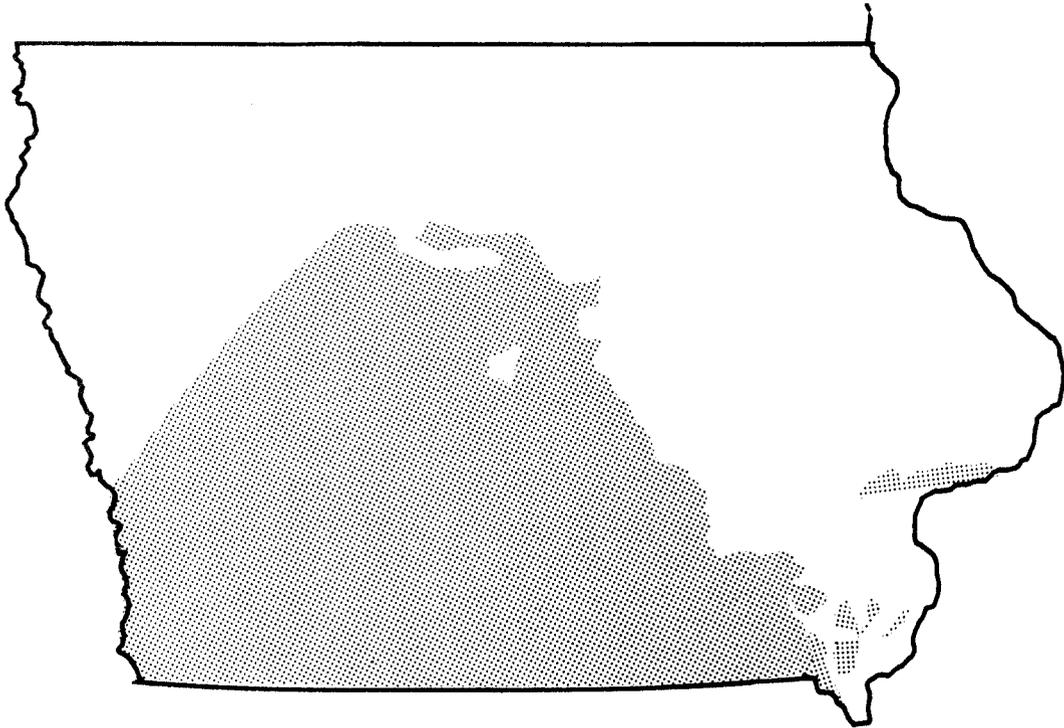
	Amount	% U.S. Total
Coal Production (Tons)*	591,000	.067
Surface Mining	419,000	.078
Underground Mining	172,000	.049
Producing Mines*	5	.1
Surface	4	.16
Underground	1	.04
Average Production/Mine (Tons)**		
Surface	104,750	—
Underground	172,000	—
Acreage Under Permit	3,460	.11

*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	\$599,331
Total Permits	26
Inspectable Units (All Lands)	26
Total Inspections (Partial and Complete)	332
Enforcement Actions (NOVs Issued)	24



Iowa

Coal Bearing Lands

Introduction/Overview

The coal-bearing areas of Kansas cover approximately 18,800 square miles or 23 percent of the total area of the State. The geologic age of the coal is mainly Pennsylvanian. Some thin lignite deposits, however, are found in Lower Cretaceous rocks. The strata of the Middle and Upper Pennsylvanian rock contain at least 53 seams of coal. Four of these seams are actively mined and at least 10 others were mined in the past. The remainder are too thin for economic production.

Coal in Kansas ranges from lignite to high volatile A bituminous. The demonstrated coal reserve base is estimated to be 987,500,000 tons, approximately 0.2 percent of U.S. coal reserves. Coal beds are generally in thin seams up to 5 feet thick. The overburden-to-coal stripping ratios in Kansas are among the highest in the Nation, with some ratios up to 35 to 1, but typically 20 to 1.

The first commercial coal mining operation in Kansas opened at Fort Scott in Bourbon County, in 1865. As in other states, coal production in Kansas increased during the industrial revolution, and then fell as industry later converted to alternative fuels. The peak production occurred in 1916 and 1917 with annual production of 7,250,000 tons. The lowest recorded production occurred in 1975 with only 500,000 tons. Surface mining production exceeded underground mining for the first time in 1931. From 1964 to the present, coal production in Kansas has been solely by surface mining methods.

In 1985, five mines produced 994,000 tons, 0.11 percent of the U.S. production, by surface mining methods. These mines provided employment for 283 miners working daily. The productivity rate per miner hour is low because of the thin seams and high overburden-to-coal ratios. All of the present coal production is in the southeast part of the State.

The climate of the coal-bearing areas of Kansas is continental, with the average annual precipitation ranging from 30 inches in the northeast part of the State to more than 40 inches in the southeast part of the State. Rainfall is sufficient for most reclamation work.

Program Management and Budget

The State Corporation Commission, Mined Land Conservation and Reclamation Board (MLCRB) administers the mine reclamation and regulatory program in Kansas. The regulatory program was fully approved on April 14, 1982. In response to OSMRE's regulatory reform efforts, Kansas has amended its regulations to be consistent with the revised Federal regulations. OSMRE is currently reviewing those program amendments.

Because no coal is mined on Federal lands in the State, Kansas and OSMRE have not adopted a cooperative agreement for coal mine reclamation on Federal lands.

Permitting and Bonding

In this year's evaluation, OSMRE found that approved permits contained adequate baseline vegetation data for granting reclamation liability release and appropriately specified methods for measuring revegetation success. The findings indicate the State has resolved previously identified problems in those areas. In addition, MLCRB has reviewed, identified, and is resolving all permitting aspects of soils and topsoil handling deficiencies.

MLCRB has established and is using for the first time a clearly defined cost-estimating guideline for determining bond amounts. OSMRE has determined that the bond amounts calculated for permits this year, using the new procedures, are adequate to cover the cost of reclamation.

OSMRE has expressed concern about MLCRB's approval of permits lacking information on which to base a finding that adverse impacts to threatened and endangered (T&E) species will not occur. OSMRE has provided technical support and training to MLCRB to assist in the development and implementation of an application review process that will assure proper T&E species clearance.

Permits that had earlier been identified as deficient are being revised. OSMRE provided technical support and training to enable the state to independently carry out permit reviews and assisted MLCRB in inventorying deficient permits.

Bonds on two permits were forfeited during the review period. Both bonds were collected and reclamation plans prepared. One of the bonds is insufficient to fully reclaim the site. The MLCRB is reclaiming forfeited sites to the extent that funds will allow and the State is exploring ways to complete reclamation on the one site where the bond forfeited was insufficient. Improvements made in the bond calculation process should provide for sufficient bonds to adequately reclaim future sites.

In last year's review, OSMRE found that Kansas was not issuing proposed penalty assessments within the required 30-day time frame. The 1986 review of 43 violations showed considerable improvement, and near the end of the review period, the MLCRB amended its civil penalty assessment procedures to comply with its regulations and correct the problem. OSMRE will monitor the results of the new procedures in 1987.

Inspection and Enforcement

Since Kansas initiated its new inspection system in September 1984, all required inspection frequency requirements have been met. During the year, the MLCRB conducted 617 inspections on 52 inspectable units and issued 43 enforcement actions (NOVs) covering approximately the same number of violations. A large percentage of the violations that are still outstanding (37 out of 43) can be attributed to one operator who filed for Chapter 11 bankruptcy. The enforcement actions against that operator were taken after the operator had filed for bankruptcy.

The State's responses to citizen complaints were timely and responses to OSMRE Ten-Day Notices were appropriate. Notices of Violations (NOVs) and Cessation orders (COs) were issued in a timely manner. Abatement inspections occurred within an acceptable average of 1.8 days of the abatement date.

MLCRB has complied with its approved program in processing the only bond release request received this review period. MLCRB performed a detailed evaluation of the bond release application and site inspection to ensure compliance with its permanent program before releasing the bond.

Abandoned Mine Lands

During this evaluation period, the Mined Land Conservation and Reclamation Board (MLCRB) started three of four planned construction projects. This was a significant accomplishment for the State, overcoming past delays in moving Abandoned Mine Land reclamation projects to the construction stage. The MLCRB construction projects are now progressing on a revised schedule.

Facts About Mining in Kansas

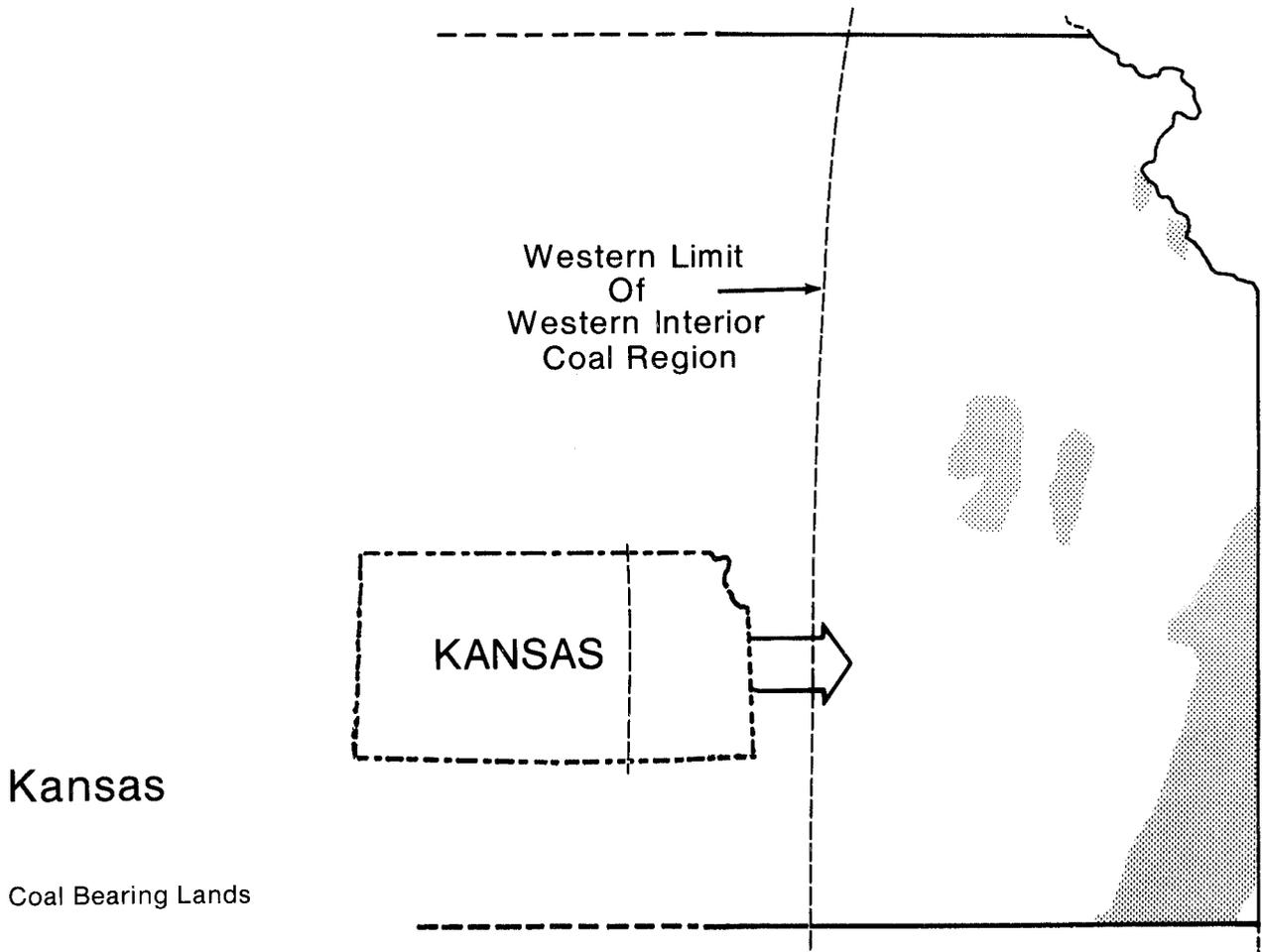
	Amount	% U.S. Total
Coal Production (Tons)*	994,000	.1
Surface Mining	994,000	.19
Underground Mining	0	0
Producing Mines*	5	.1
Surface	5	.19
Underground	0	0
Average Production/Mine (Tons)*		
Surface	198,800	
Underground	0	
Acreage Under Permit	8,596	.27

*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	\$766,493
Total Permits	50
Inspectable Units (All Lands)	52
Total Inspections (Partial and Complete)	617
Enforcement Actions (NOVs Issued)	43



KENTUCKY

Introduction/Overview

Kentucky is the largest coal producer in the Nation. Because of the size and variety of its coal industry, Kentucky encounters practically every conceivable situation in surface coal mining and reclamation.

Kentucky has two separate areas with extensive coal deposits: the Eastern Coalfield, which is part of the Appalachian Coalfield, includes 39 counties; the Western Coalfield involves 18 counties.

State coal reserves in mapped areas are estimated at 65 billion tons, with 27 billion tons in eastern Kentucky and 38 billion tons in western Kentucky. Another 52 billion tons are estimated in unmapped and unexplored areas.

Kentucky coals are high in volatile matter, low in sulfur and ash, and relatively high in heating value (12,000 to 14,000 btu). Eastern coal fields possess a sulfur content of less than 1 percent.

Program Management and Budget

Conditional primacy was granted to Kentucky on May 18, 1982. Since that time, all conditions placed on it at the time of approval have been removed.

During the 1986 review period, a court order was issued, finalizing a settlement agreement in a suit by the Sierra Club against Kentucky and OSMRE. In the suit, which was filed in 1982, the Sierra Club had objected to OSMRE's approval of the State program, because of alleged inadequacies in the program. The court order requires certain changes in the State program, and the State has made commendable progress in complying with the order.

A suit was filed during the review period by the National Wildlife Federation, alleging State program deficiencies. A similar suit has been filed against OSMRE alleging failure to take proper enforcement action across the country.

In addition, the State legislature passed several major actions involving coal mining during the review period. They were:

- (1) *An increase in the regulatory authority and budget for 28 additional people.*
- (2) *A two-year moratorium on all coal-related regulation changes, except those necessary to retain primacy.*
- (3) *A measure which allows for reclamation on areas outside the permit to be used as in-kind payment for penalties on violations.*
- (4) *A bond pool as an alternative bonding method.*
- (5) *A measure that provides for different regulatory requirements for operations involving secondary recovery of coal from previous waste deposits.*

OSMRE approved these changes but in most instances required that implementation be delayed until regulations are approved. The State also passed a measure which provides that all appeals of State decisions be held in local circuit courts rather than Franklin Circuit Court, but OSMRE has disapproved this amendment to the State program.

Permitting and Bonding

During the evaluation period, Kentucky revised its permit application form to provide more comprehensive coverage of the program requirements and improved its administrative review process through centralization in the Frankfort State office. These changes should greatly improve both the quality and consistency of the permitting process in the State.

Kentucky is implementing bonding procedures satisfactorily. One concern that surfaced during the review was that the bond calculation method currently in use does not include consideration of all reclamation costs. Another bonding concern was that the bond instruments do not contain the necessary provisions and riders. Discussions with the State are now underway to resolve these concerns.

Inspection and Enforcement

During the evaluation year many noteworthy improvements were observed in Kentucky's inspection and enforcement program, which has consistently been plagued with problems. Kentucky increased the number of violations written per inspection. At the same time, OSMRE observed a decline in violations in the field. Through the citing of more violations and initiatives in other areas of preventive enforcement, the State is beginning to achieve significant improvements in field conditions.

In September 1986, OSMRE and Kentucky signed a memorandum of understanding that sets out steps for strengthening the State's coal mine reclamation program. Under that agreement, the State agreed to intensify its investigations of operations claiming the exemption that excludes sites disturbing fewer than two acres from the surface mining law. That provision has been subject to abuse in the past.

The State has also agreed to establish an internal quality review team to evaluate inspector performance in an effort to improve the consistency and quality of inspections. The State will also pursue inspection and enforcement activities on coal exploration sites in recognized areas of past abuse.

During the year, Kentucky increased its use of alternative enforcement mechanisms, which are supplemental actions, such as individual civil penalty assessments and criminal actions, that can be taken to provide an additional deterrent to potential violators. Under the agreement, the State will now review each active enforcement case before the State's Office of General Counsel for possible alternative enforcement action. In addition, that office will review all active cases involving two-acre permits and will take alternative enforcement actions as appropriate within four years.

The State has also made several changes in its investigation procedures to help control illegal mining. Although those illegal mines are small to medium-sized, their cumulative impact, particularly in the counties where this type of mining proliferates, is substantial.

Abandoned Mine Lands

Surface and underground mining was extensive in Kentucky before passage of the Surface Mining Control and Reclamation Act of 1977. As a result, the State has a significant number of abandoned mine lands, creating a variety of adverse impacts on the health of the public and contributing to degradation of the environment.

The overall performance of the State Abandoned Mine Land program was good in the 1986 review period. The AML program is effectively fulfilling its objectives of reclaiming Kentucky's high priority abandoned mine lands. During the review period:

- The AML program continued to achieve high rates of grant fund obligation within the grant periods.
- The quantity and quality of projects completed improved considerably. In the previous evaluation period, 42 AML projects were completed, compared to 58 during the current period.
- Five projects involving public facilities were completed and are now providing potable water to communities where water sources had been depleted or contaminated by abandoned mine lands.
- The State made significant improvement in the accuracy of grant construction cost estimates in relation to contracted and final project construction costs. The disparity between grant estimates and actual costs has been a major concern in past evaluations.

While there are more accomplishments than problems in the AML Program, some issues remain. For example, the program needs to improve the success rate for establishing vegetation on AML projects. OSMRE has suggested two options to the State to remedy this problem: Hire a professional agronomist to review revegetation work; or require the contractor to guarantee revegetation success.

A second area of concern has been the need for better documentation for project site inspections. OSMRE believes project shortcomings can be overcome with improved inspection and monitoring. The State is taking steps to remedy this problem.

Facts About Mining in Kentucky

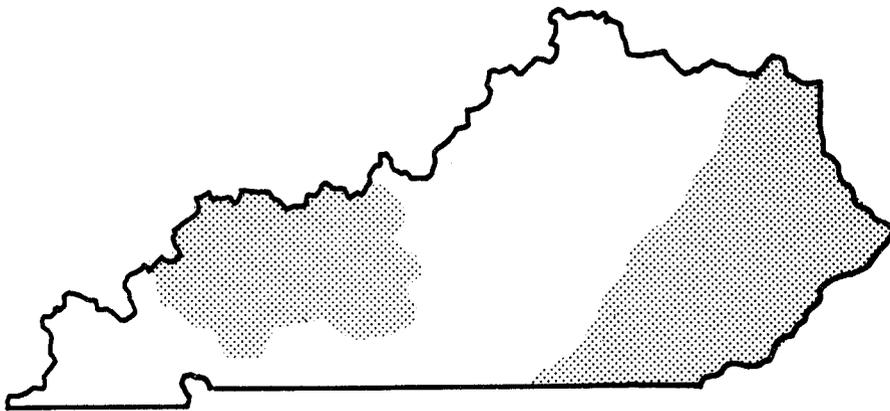
Total	Amount	% U.S.
Coal Production (Tons)*	152,272,000	17.25
Surface Mining	71,036,000	13.36
Underground	81,236,000	23.15
Producing Mines*	1,858	39.00
Surface	937	36.65
Underground Mining	921	41.73
Average Production/Mine (Tons)**		
Surface	75,812	
Underground	88,204	
Acreage Under Permit	882,441	27.23

**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	\$32,145,139
Total Permits	5,464
Inspectable Units (All Lands)	5,464
Total Inspections (Partial and Complete)	46,836
Enforcement Actions (NOVs Issued)	2,771



Kentucky

Coal Bearing Lands

Introduction/Overview

Louisiana's coal reserves consist entirely of lignite, with estimated recoverable reserves of about 1.0 billion tons. The lignite deposits are located in the northwestern part of the state, which is a moist, temperate region of highly erodible soils. Although lignite deposits were discovered in the early 1800's, the first documented use occurred at the Federal arsenal near Shreveport during the Civil War. By the late 1800's, lignite use was common by blacksmiths, railroads, and steamboats. Lignite production ceased, however, from the early 1900's until 1985.

On September 1, 1985, the Dolet Hills Mine, the only mine currently under permit in Louisiana, initiated operation, with projected annual production of 2.8 million tons. The operation's plan is somewhat unique because extraction was started at the portion of the permit area most distant from the associated mine-mouth power generating plant.

Program Management and Budget

The surface coal mining reclamation and enforcement program in Louisiana is administered by the Louisiana Office of Conservation (LOC), in the Department of Natural Resources. The Secretary of the Interior approved the State's permanent regulatory program on October 10, 1980, and its Abandoned Mine Reclamation Plan on November 10, 1986.

During the oversight period of July 1, 1985 to June 30, 1986, Louisiana submitted no amendments to its approved permanent regulatory program.

Permitting and Bonding

During the review period, LOC issued no new mining permits. In response to concerns expressed by OSMRE during permit review, LOC required a permitted operator to redesign and reconstruct an existing sedimentation pond and to reevaluate the design adequacy of the existing sediment control system. LOC further required the operator to obtain approval of all reevaluated designs before construction and specified certain elements to be addressed in each design package. These actions indicate LOC's willingness to promptly address OSMRE's concerns, and offer assurance that new permits will contain information to support satisfactory sediment and drainage control.

During the year, OSMRE observed LOC approving topsoil substitution operations without requiring the operator to provide a technically adequate justification. This problem has been observed in previous evaluations of Louisiana's program administration and OSMRE and LOC are continuing to discuss resolution of this issue.

With regard to determining amounts of reclamation bonds, OSMRE found LOC's performance to be consistent with program criteria. One application for partial bond release was received late in the review period but no action had been taken by June 30, 1986, the end of the evaluation period.

Inspection and Enforcement

During the review period, LOC inspectors continued to conduct all required inspections, citing 10 violations during 12 inspections. All violations were abated during the specified abatement period. Although all violations were reviewed for penalty assessment, none were found sufficiently serious to warrant a monetary penalty.

Abandoned Mine Lands

LOC submitted its proposed AML plan during this reporting period. OSMRE approved the plan on November 10, 1986.

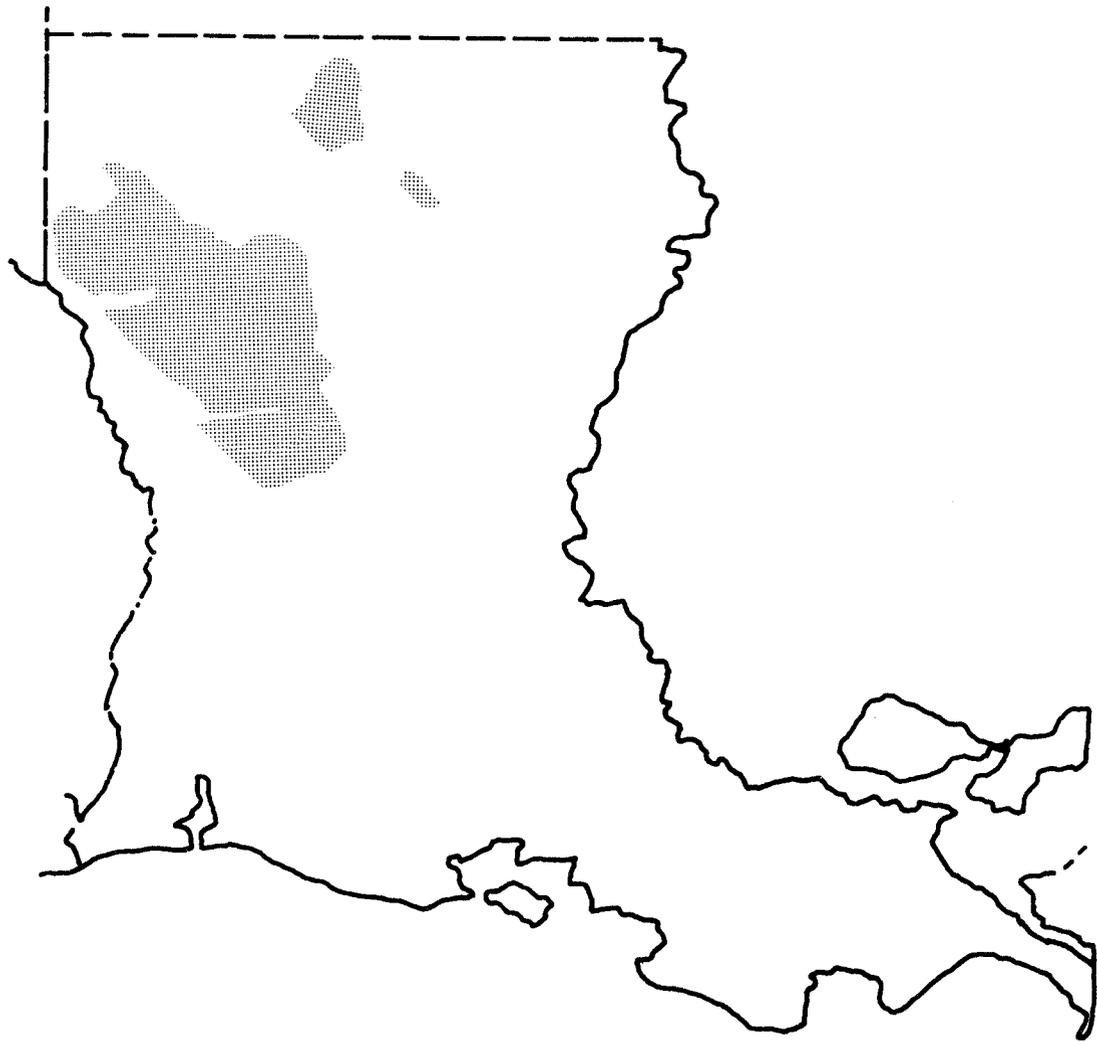
Facts About Mining in Louisiana

Total	Amount	% U.S.
Coal Production (tons)*	207,000	.02
Surface	207,000	.04
Underground	0	2
Producing Mines*	1	.02
Surface	1	.04
Underground	0	0
Average Production/Mine (tons)		
Surface	207,000	
Underground	0	
Acreage Under Permit	29,573	.91

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

Salient Statistics—1986 Review Period

Total Budget	\$545,343
Total Permits	1
Inspectable Units (All Lands)	1
Total Inspections (Partial and Complete)	12
Enforcement Actions (NOVs Issued)	10



Louisiana

Coal Bearing Lands

MARYLAND

Introduction/Overview

Coal mining plays only a minor role in the economy of the State of Maryland. It is, however, a major factor in the economy of the State's coal producing region, consisting of Garrett and Allegany Counties in the western-most part of the State. The Conemaugh and Allegheny geologic formations contain the five major minable seams in the State. With coal reserves estimated to exceed 850 million tons, some 100 million tons are considered recoverable by conventional mining methods.

Coal mining in Garrett and Allegany Counties provided employment for more than 807 persons. This figure does not include office workers, supervisory personnel, or independent truck haulers involved with mining. It also does not include indirect employment.

Program Management and Operations

The Maryland Department of Natural Resources is the State's coal mining regulatory authority. The Energy Administration is the first administrative subdivision under the Department with responsibilities for regulating coal mining and reclamation operations. Within the Energy Administration, the Bureau of Mines administers the State's coal programs.

Maryland's permanent program for regulating surface coal mining and reclamation operations was fully approved by the Secretary of the Interior on February 18, 1982.

On November 18, 1985, the Director of OSMRE approved in part certain statutory and regulatory modifications to the State's permanent program. The Director's approval required Maryland to make four amendments to its program. In an effort to satisfy the requirements, on January 14 and May 15, 1986, the State submitted additional program revisions concerning right-of-entry and coal exploration, which were approved in December 1986.

During the evaluation period, Maryland became one of the first states in the Nation to implement a blaster certification program. The program ensures that all blasters in the State receive training and testing, and are certified before they can conduct blasting activities on surface coal mining operations within the State.

On March 18 and April 23, 1986, Maryland submitted proposed emergency and permanent program rules for regulating previously unpermitted coal preparation plants in the State. The modifications are intended to bring four coal preparation facilities not located within the permit area of a mine under the jurisdiction of the Maryland program. A decision concerning the proposed amendments will be made shortly, after consideration of public comments.

During the evaluation period, OSMRE initiated a complete review of Maryland's permanent program to determine if it still met the requirements for approval following the revision of numerous Federal requirements. As a result of the review, on July 8, 1986, the Director of OSMRE formally notified the State that changes would have to be made in the State's approved program. These changes will be made through routine program amendment procedures.

Permitting and Bonding

During the evaluation period, the State Bureau of Mines issued four permits involving 277 acres. For the most part, OSMRE found that Maryland's permitting activities were satisfactory. OSMRE continued working with the State, however, to resolve several continuing problems, including a lack of documentation by the State of ground-water monitoring waivers, undocumented overburden analysis waivers, and insufficient site-specific geologic data in some permits. During the review period, OSMRE evaluated one permit involving auger mining and an adjacent two-acre operation. Although the auger mining area included an additional 1.3 acres beyond the two acres of disturbed area that was permitted by the State, Maryland did not consider the 1.3 acres above the auger mining operation to be disturbed and it was not included as part of the affected area. It is unlikely that this situation will occur again. OSMRE has recommended, however, that the State include such areas in the permit area when approving future two-acre operations which involve auger mining.

Maryland's bonding procedures were generally in compliance with the approved program standards. OSMRE recommended changes in the State's bonding procedures to ensure successful resolution of three deficiencies: Performance bond amounts were not based on estimated cost of reclamation; bond instruments did not require that the surety give prompt notice of actions involving insolvency, suspension, or bankruptcy; and letters of assignment from banks for certificates of deposit did not waive all right of set-off or liens as required by the State's regulations.

Inspection and Enforcement

During the evaluation period, Maryland met its required inspection frequency on 94 percent of the total inspectable units. The State conducted 1,913 inspections and initiated 122 enforcement actions. Maryland was successful in reducing the average time between the required abatement date and the actual inspection date from twelve days to only two days.

More than fifty percent of the violations cited by the State during the review period involved sediment control measures, effluent limits, and surface and groundwater monitoring. Based on a review of all 122 enforcement actions issued by the State during the evaluation period, OSMRE found that the State is complying with the enforcement provisions of its approved program. OSMRE did not identify any abatement measures or times for abatement that were inappropriate during its review of the State's enforcement actions.

During the evaluation period, the State conducted two show-cause hearings which resulted in the suspension of two permits.

Also during the review period, the State proposed penalties on 22 violations totalling \$139,535.

The State Bureau of Mines collected penalties on four violations totalling \$1,005 during this review period. Thirty-five cases were referred to the Attorney General for collection and four operator licenses were not renewed by the State for failure to pay penalties.

The Bureau of Mines initiated revocation proceedings on six permits during the evaluation period. Three permits involving 118 acres were revoked and their bonds in the amount of \$203,200 were forfeited during this period.

Abandoned Mine Lands

The State made significant progress this evaluation year in the execution of its Abandoned Mine Land Reclamation Program. Sixty-seven percent of all projects completed by Maryland were accomplished during the evaluation period. Additionally, Maryland has done an excellent job in meeting or exceeding estimates for project start dates. Estimates of project costs also improved and Maryland's final costs consistently matched construction contract amounts.

Facts About Mining in Maryland

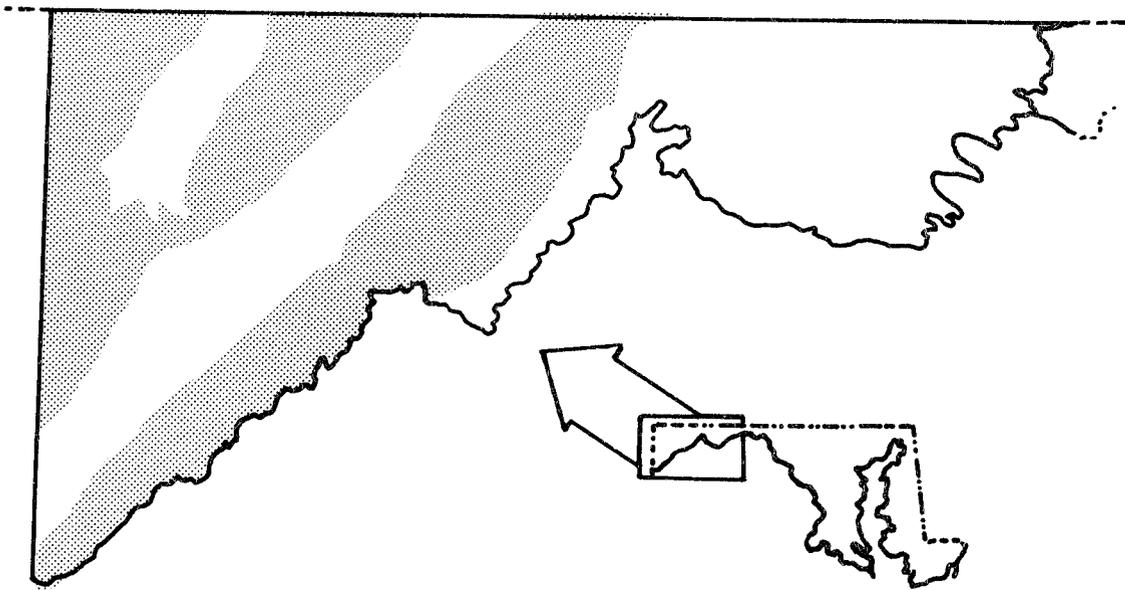
	Amount	% U.S. Total
Coal Production (tons)*	2,985,000	.034
Surface Mining	1,200,000	.23
Underground Mining	1,785,000	.51
Producing Mines*	45	.94
Surface	39	1.52
Underground	6	.27
Average Production/Mine**		
Surface	30,769	
Underground	297,500	
Acreage Under Permit	9,231	.28

*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	\$2,009,007
Total Permits	118
Inspectable Units (All Lands)	118
Total Inspections (Partial and Complete)	1,913
Enforcement Action (NOVs Issued)	86



Maryland

Coal Bearing Lands