

MINED LAND RECLAMATION IN OHIO

1947 -- 1987

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## FOREWORD

Some 300 million years ago much of North America lay beneath shallow seas that were essentially swampy deltas across what has become southeastern Ohio. During the Pennsylvanian geological period, decaying vegetation of the ancient swamp metamorphosed into peat beds and eventually into coal. It was these vast seams of coal that, in the 1800s, fueled Ohio's industrial development and created jobs and communities in the hill counties of the state.

At the same time coal was being formed, the seaborne sulphates buried in the peat beds combined with iron to form iron sulphide that became impurities in the coal. These impurities were generously deposited in the Ohio coal seams and remained to present a multitude of problems in the utilization of this resource.

The mining of Ohio coal was originally conducted by underground methods where overlying cover provided a stable roof and a reasonably safe work place for the miners. In order to provide adequate roof support it was necessary to leave as much as half of the coal in ribs and pillars. Where coal seams were beneath thin or unstable cover, the deep mine method could not be used. Early on, it was apparent to coal operators and the industries depending on coal for energy that much of the resource in Ohio could not be recovered without major modification of the mining procedure. These changes came about gradually but were accelerated during periods of national emergency. Starting with the Civil War in the 1860s and continuing through World War I and World War II, the need for more coal and more economical mining methods made it expedient to develop and pursue surface mining of this mineral.

It is intended that this document portray the regulation of the surface mining industry in Ohio during its formative years and provide an insight into the ever changing statutory requirements under which it has operated.

Sections of this historical report were prepared by former Chiefs Irving I. Dickman, Ernest J. Gebhart and Charles Call. Each contributed significant data and information from the period of his tenure as Chief. Donald E. Richter provided input from the industry and reclaimers view and the formatting and editing were done by Ernest J. Gebhart.

## HISTORY OF OHIO COAL MINING

Ohio's coal field is located within the southeastern counties along the Ohio River and the Pennsylvania border. This boundary, encompassing 12,000 square miles in 34 counties, is roughly defined by a line from Portsmouth through Chillicothe, Newark and Canton. Of the 60 identifiable coal seams occurring in Appalachia, 21 are being or have been mined in Ohio.

In the 185 year history of coal production in Ohio, over 31 billion tons of coal have been extracted. The state's first commercial production of coal, 100 tons, was recorded in 1800 in Jefferson County. Production grew to an all time high of 55 million tons in 1970. A steady decline in the markets for Ohio coal had reduced this to a little over 30 million tons a year in the 1980's. Coal production in the state was restricted to underground mining until just before World War I when surface mining first appeared. During the first year of this conflict, coal production reached almost 48 million tons and this figure would not be equaled or surpassed until 1970.

Underground mine production dominated the market until World War II when stripmining came into its own, and since that time it has remained the prime producer of coal in Ohio. In 1985, 61 percent of Ohio's coal was from surface mines, 36 percent from underground and 3 percent from augering.

The Pittsburgh (#8) coal was the most heavily mined seam with the Middle Kittanning (#6), Meigs Creek (#9), Clarion (#4A) and Lower Kittanning (#5) seams also being heavily produced. These five seams accounted for 80 percent of the coal produced over the years.

## WHY SURFACE MINING?

From the outset, it was apparent that the only way to recover coal seams lying close to the surface was by surface mining, as the overburden above the coal was too thin to support underground mining. Surface mines can go into production rather quickly, while it takes several years to develop an underground mine. The initial start-up costs for surface mines are much less than those for an underground mine. It is also much easier to control adverse problems that may occur with a surface mine operation as they are readily observed and corrective measures can be taken. In areas of relatively flat terrain, total recovery of the coal resources can be accomplished. However, when the topography rises sharply and the cover or overburden above the coal seam increases in depth, the removal operation must cease when it reaches the limits of the machinery being used to remove the cover. Quite often, larger equipment is brought in by other companies to completely remove all of the coal reserves. By comparison, deep mine or underground methods usually leave 25% to 50% of the coal reserves in the ground.

## HISTORY OF SURFACE MINING

In Ohio, some limited attempts were made at surface mining in the late 1800's, but old-time coal men said that the coal under eastern Ohio was of little or no value. Thus, they continued with deep mine practices that go back to the Civil War days when fuel was in great demand for many purposes. These were costly ventures and ultimately created a demand for inexpensive fuel sources. This demand generated new interest in coal and new mining technology development. World War I energy needs sparked new demands, and some open pit or surface mines began operation and made a profit. Many more surface operations started to produce large quantities of eastern and southeastern coal to supply the demand, and eventually 27 counties in the unglaciated portion of eastern Ohio were involved with surface or strip mining.

Stories told about early strip mining in Ohio indicate that a low cover vein of coal in Vinton County south of McArthur was mined with a steam shovel mounted on railroad tracks. This event apparently took place before or during World War II and furnished coal for the war effort. There are remnants of old strip banks on the former Raccoon State Forest that evidence this activity. No doubt the stripping shovel used coal from the working pit as its source of fuel. A bit more indirectly, it can be said that the Big Musky and the Gem of Egypt do the same thing in their way. There is a difference, however, in that their fuel is electricity generated from coal hauled considerable distances, burned, turned into steam to generate electricity and then returned to the mines over high tension wires.

Early on, there were no laws providing for the reclamation of stripped lands. The operators walked away after the mining was complete and drastic results occurred to the surface terrain. These areas became known as "pre-law" operations, and it is good to report that they are gradually being absorbed by the Abandoned Mine Law.

A study made by the U.S. Forest Service indicated that from 1914 to 1946, approximately 36,000 acres in eastern and southern Ohio had been affected by this method of mining. In the following two years, 1946 to 1948, it was estimated that an additional 9,000 acres were affected. As interest in regulating this method of mining developed, these 45,000 + acres were considered to be "pre-law" and not immediately subjected to legislation enacted in 1947. Amendments to the original statutes subsequently provided for their being included in the reclamation efforts through substitution, remining or unreclaimed land funding.

Extensive surface mine operations were started by the Hanna Coal Co. near Cadiz, Ohio in 1940, using an 8 cubic yard shovel that was brought down from the Minnesota iron-ore range. Surface mining in Ohio was now really under way. This company was a pioneer in reclamation work and retained a group known as the Ohio Reclamation Committee to plant trees and seed grasses and legumes. From 1941 through 1945, Hanna planted 2 1/2 million tree seedlings along with many acres seeded. During 1946 and 1947, another 2 1/2 million seedlings were planted, and 2,000 acres were seeded. These early efforts established a reclamation pattern and the need for laws to regulate reclamation, and Ohio took action.

#### THE OHIO STRIP MINE LAW

In 1947, Robert R. Paton, Assistant State Forester for the Division of Forestry at Wooster, Ohio was given a leave of absence to study the strip mine laws in states bordering on Ohio. His task was to frame a law that could be used to initiate reclamation policies for the surface miners operating in Ohio. What resulted was the ~~first Strip Mine Reclamation Act.~~

While the first strip mine law was not a perfect law, it did mark the beginning of a reclamation program in Ohio. Its main requirements were that ~~the tops of spoil banks be leveled to not less than 15 feet in width, and that they be revegetated with trees, grass or shrubs.~~ In order to ensure compliance, the operator was required to post a performance bond in the amount of \$100 per acre, with a minimum of \$1000. He was also required to obtain a permit for which he paid a \$50 fee. The licensing of strip mine operators was administered by the Division of Mines in the Department of Industrial Relations, and the reclamation of affected areas was supervised by the Director of the Ohio Agricultural Experiment Station and the State Forester.

In 1947, some of the leaders of the coal industry began to doubt the wisdom of this course and many environmentalists voiced their concerns about these minimal efforts. After many lengthy sessions, they decided to cooperate with the proponents of regulatory legislation in an effort to produce a model law with the objective of ending for all time the controversy over strip mining regulation.

These efforts culminated in the Coal Strip Mine Land Reclamation Act passed by the 98th General Assembly which became effective on July 23, 1949. This law required a license fee of \$50, a fee of \$10 for each acre to be affected, and a bond at the rate of \$190 per acre: \$140 for grading the spoil

banks and \$50 for revegetating. The minimum bond was \$1000. A new agency was to be responsible for administering this law and the Division of Reclamation was created in the Department of Agriculture.

Zoyd Flaler was named the first Chief of the Division of Reclamation and remained in that capacity from 1948 to 1954. Dwight Miller took over in 1954 and supervised the Division until January 20, 1960 at which time Irving I. Dickman took charge and functioned as Chief until December 30, 1964. Administrative changes combined it with the Division of Forestry to be known as the Division of Forestry and Reclamation. Irving Dickman was named Chief of the combined divisions and acted in that capacity from January 1965 to November 1969 when he retired from state employment. During his tenure with Reclamation, he followed this pattern: "Regardless of how much or how little land is disturbed for the removal of coal, it is desirable that reclamation be done in order to improve the productivity of the land and contribute to the state's economy. Whether the reclaimed land can best be utilized for agriculture, forestry, wildlife, recreation or other purposes depends upon many factors, such as topography, spoil characteristics, environmental geography, and economics". "The responsibility for the reclamation work lies with the operator. It is my belief that most of the operators are conscientiously meeting this obligation." One operator said, "The legacy in strip-mined areas that we leave for future generations should be one that can be left with pride, not shame."

Ernest J. Gebhart was named Chief of the combined divisions after Dickman's retirement and served in that capacity from November 1969 to June 22, 1973. At that time, Forestry and Reclamation were separated into two divisions, both under the umbrella of the Department of Natural Resources. Raymond Lowrie (a Federal employee on loan to Ohio) was named Chief of the Division of Reclamation, and served from June 22, 1973 to December 20, 1974. George Evans (also a Federal employee) took over from January 1975 to April 1, 1975 at which time Kenneth Faulk became acting Chief from March 28, 1975 to September 1976. Charles Call was named Chief in September 1976 and administered the Division until 1983. Larry Mamone took over in 1983. He retired in July 1987 and was replaced by Tim L. Dieringer.

#### LEGISLATIVE AMENDMENTS

The first amendments to the 1949 act came about in 1955 when the operator's bond was increased from \$190 an acre to \$200. In those final cuts that could not be used for water impoundments, it was required that the bottom of the pit be covered with soil material suitable for growth and planted to trees, shrubs or grass. The removal of coal by auger mining was included in the definition of strip mining, and it became mandatory for the Chief to refuse to issue a license for failure to comply with the law.

Further amendments to the law in 1959 transferred the Division of Reclamation from the Department of Agriculture where it had been since 1949 to the Department of Natural Resources. This legislation provided for the State to acquire pre-law or other unreclaimed strip-mined land and develop it for the benefit of the state. This resulted in the acquisition of sizable tracts

of unreclaimed lands in Perry, Harrison and Jefferson counties from capital improvement funds appropriated for this purpose. These lands are now reclaimed and are being administered as state forests by the Division of Forestry in the Department of Natural Resources.

Again, major statutory changes were made in 1965 with the Division of Reclamation and the Division of Forestry being combined into a new Division of Forestry and Reclamation. In addition to operational updating which included an increase in fees and bond, major revisions were made in the reclamation provisions. The grading requirement of "gently rolling topography" was expanded to "gently rolling, sloping or terraced topography". Added was a prohibition against "long uninterrupted slopes" and a requirement to leave the graded surface of reclaimed spoil banks free of large rocks or other obstructions so as to provide for the use of suitable machinery for maintenance and harvest of crops from these areas. Specifications were established for the construction of access roads and fire lanes so as to prevent their erosion. Requirements were included for covering and revegetating the final cut bottom when water could not be impounded in it to a height sufficient to cover the exposed coal seam at the base of the highwall.

A completely new requirement was placed on the coal operator in that he was to include a reclamation plan with his application for a strip mine license. In addition, revegetation plantings had to be successful or redone. There was also a provision permitting the Chief to refuse to issue a license where there was a possibility of deposition of sediment in a stream bed or on the land of others.

Under Ohio law, the Water Pollution Control Board had the responsibility for preventing, controlling and abating pollution of the waters of the state, and the Division of Reclamation had the responsibility for administering the laws relating to reclamation of lands disturbed by coal strip mining. Since some of these responsibilities dealt with water quality and are overlapping, a cooperative agreement was entered into by these agencies for the exchange of information and notification of violations when they were discovered by either party.

Lack of visible progress in restoring stripmined land to productivity and the failure to prevent off-area damage brought on yet another major and more drastic revision of the reclamation laws. What became known as the 1972 law had its origin in dissatisfaction in the results of the 1965 amendments. In the late 1960's the environmental movement focused attention upon the area of strip mine regulation with priorities placed on completely backfilling the highwalls left by the last cut, saving and restoring the top soil, and preventing or minimizing erosion and water pollution. The most significant change was that an operator provide both a mining and reclamation plan for the Chief's review, thus moving the regulatory authority into the mining process.

Sub. H.B. 928 was the bill that eventually was chosen by the Ohio General Assembly to govern coal mining in Ohio. It was signed into law on April 10, 1972 by Governor John Gilligan. Thoroughly revising Sect. 1513 of the Ohio Revised Code, the language of the new statute was substantially tougher than comparable legislation in Ohio's neighboring Appalachian states. However, it

was apparent that the success of the legislation depended not only on linguistic intent, but also on proper implementation by the governmental agency charged with administration, the zeal of enforcement, and the success of favorable court interpretation.

The new law did not appreciably alter the administrative mechanism of Ohio surface coal mine regulation. The Division of Forestry and Reclamation in the Ohio Department of Natural Resources was still the central regulatory agency, with the Chief of the Division as the primary officer. The Chief was given authority to adopt, amend and rescind rules to administer and enforce Chapter 1513 of the Ohio Revised Code. Rules to this end were promulgated shortly after the passage of Sub. H.B. 928 and duly filed with the Secretary of State. They did not become effective, however, as before they were approved by the Secretary, the Chief was enjoined by court order from implementing them. This action stemmed from objections from the mining industry and the Ohio Reclamation Association. The Division therefore operated without formal rules until a subsequent change in the statute was made.

The Reclamation Board of Review was also kept but its only function was to hear appeals of a specific order of the Chief. They do not pass on the fitness of general rules the Chief might promulgate. The board was increased from a membership of five to seven with the added members being representatives of the public.

Important to the private citizens was the sweeping remedies of redress. Mandamus, or the right of a party to sue to compel a public officer to discharge his duties, was applicable to stripmine inspectors, the Chief, the Director of the department of Natural Resources, the Attorney General and the Governor. The new Ohio law also added something no other Apalachian state had, a conflict of interest clause for anyone in the Department of Natural Resources or the Attorney General's office. "Any person in these state agencies who has any direct, indirect, or supervisory responsibility to enforce Chapter 1513 must not engage in, be an owner of, or be employed in strip mining or he will be removed from office." Concurrent with penalties for violation, mandamus, and conflict of interest is a further expansion of the private citizen's ability to obtain redress by the equitable remedies clause. Any and all of the penalty and enforcement provisions of Chapter 1513 did not prevent the Attorney General, or any other person adversely affected or about to be adversely affected by strip mining operations from suing to ensure compliance with Chapter 1513. This remedy was to be cumulative and concurrent with any other remedy.

The finances of strip coal mine administration and reclamation by the State of Ohio was the new law's most complicated aspect. Essentially, fiduciary arrangements fell into five categories: license fees, fines, realty benefits, bonds and a severance tax.

License fees were derived through an application to strip, an amendment to an application, a renewal on acreage in the original application, and from exceeding stripping the original acreage applied for. The charge was \$150 for each application, plus \$30 per acre to be stripped. Monies generated by licensing were deposited in the Strip Mining Administration and Reclamation

Reserve Fund, partially for the administrative costs of the Division of Forestry and Reclamation. Twenty thousand dollars of license fee revenue were placed in the Reclamation Fee Rotary Fund for possible refunds if the operator stripped less than the acreage estimated in his original application. It was required that a certificate of public liability insurance be filed with the Chief by the operator before a license was issued, affording bodily injury and property damage protection in the amount of \$300,000.

Fines were derived through violations of Chapter 1513 of the Ohio Revised Code that were punishable by a series of levies varying from \$100 to \$5000. Fines assessed were paid into the Strip Mining Administration Reserve Fund.

The Chief of the Division of Forestry and Reclamation was authorized to acquire title for the state to stripmined lands for reclamation purposes. After state sponsored reclamation, the Chief could sell, lease, or grant easements or charge a mineral royalty on the reclaimed land. Any monetary benefit was to be deposited in the Strip Mining Administration and Reclamation Reserve Fund.

An important fiscal reform in Ohio was the imposition of a severance tax of four cents per ton on coal and salt, and one cent on limestone, dolomite, sand and gravel. This revenue was to be deposited in the General Revenue Fund for environmental protection and for reclamation of land affected by strip mining. Up to one-half of the revenue from the severance tax could be transferred to the Unreclaimed Lands Fund. Management of any monies so appropriated for reclamation was to be administered by a newly created Board of Unreclaimed Lands. Expenses the Board might incur were to be paid from the Strip Mining Administration and Reclamation Reserve Fund. An additional \$250,000 was appropriated from the General Revenue Fund for the use of the Board of Unreclaimed Lands on June 30, 1973.

The bonding provisions were the most complex of the fiduciary requirements of Chapter 1513. An operator was required to post a bond on approval of his application to mine, on approval of an amendment to an application, on continuance of mining on acreage described in his original application beyond one year and on exceeding mining the acreage for which he originally applied. The bond deposited with the Chief was delivered by him to the treasurer of state who held it in trust to guarantee successful reclamation. If the operator stripped less acreage than he originally applied for, he was entitled to a refund. The operator was also entitled to interest on his performance bond while it was held by the treasurer of state. In no case was the amount of bond on a single application to be less than \$5000. The bond amount was based on the estimate by the Chief of the cost to the state to reclaim the acreage applied for. Release of the bond to the operator was two-fold. The Chief released one-half of the bond on satisfactory grading of the area under reclamation, and the remaining half on satisfactory planting of the area under reclamation. Failure of the Chief to act upon the operator's request for reclamation approval within a specified time was conclusive presumption of reclamation approval and release. If the Chief decided either on the grading or planting requirements that the operator had not complied, failed to comply within an extension of time, or had his decision sustained in appeal, three situations could develop: (1) the surety

chooses to reclaim, and is successful; (2) the surety chooses to reclaim and fails; (3) or the surety declines to reclaim. If the surety failed in the reclamation attempt, or chose not to attempt reclamation, the bond was defaulted as cash to the Chief and deposited in the Strip Mining Reclamation Fund to be used to reclaim that specific area of land the operator had failed upon.

In the event the bond was not sufficient to reclaim the defaulted land, the operator was still liable for funds for reclamation to standards set by the Chief.

Crucial to the 1972 law were statutory provisions relating to pollution. The law permitted no pollution, no acid mine drainage and no substantial erosion or deposition of sediment. It forbade the operator to create any of these conditions and forbade the Chief to permit the operator to create any of them. This enforcement approach, backed by stiff penalties for violation, was a double-edged sword that affected both the operator and the Chief.

Essential to pollution prevention also was the exhaustive pre-plan required by the Chief from the operator as a part of the license application. The operator was to present a complete plan of mining and reclamation before the commencement of mining to safeguard against pollution. This included an assessment of factors which could contribute to identifying and estimating reclamation costs and could deal with adjacent acid-water flooded deep mines that might be encountered. The bill called for reclamation grading to backfill to the original contour, with some exceptions.

The Chief could grant variances if the operator planned to develop real estate, sanitary, or agricultural developments on the affected area.

~~This was the first time that Ohio law required backfilling the final cut, saving and replacing topsoil, preventing erosion and water pollution, and revegetating to standards not heretofore required.~~

A provision in the bill, inserted in the Senate Agriculture Committee, allowed the operator to select the type of vegetative cover to be reestablished to the exclusion of the land owner's interests. This resulted in an immediate departure from the planting of trees as a primary cover to the planting of grasses and legumes. The establishment of this type of cover was less expensive to the operator and had greater potential for early bond release after successful establishment.

In 1975, the Ohio Surface Mine Law was passed. This bill regulates the mining of all minerals, other than coal, and makes reclamation mandatory. This includes all other minerals mined from the surface in Ohio. Operators were required to obtain a permit for their operation, good for a ten-year period.

In 1976, the Division drafted legislation to implement Ohio's Abandoned Mined Lands Program. This bill set guidelines and authorized the allocation of four cents per ton severance tax on coal to be earmarked for the reclamation of lands prior to 1972 and not reclaimed. The bill was duly introduced to the General Assembly, hearings were held and the bill was passed and signed by the Governor.

In 1977, the Federal Surface Mining Control and Reclamation Act was signed by the President of the United States, and was placed under the U.S. Department of Interior. This required Ohio to adjust its regulations to comply with the Federal Strip Mine Law. Division of Reclamation personnel immediately started rewriting Ohio's strip mine law to bring it into compliance with the Federal Strip Mine Act for the Interim Program, or phase-in program.

The changes were numerous and substantive. The industry was not enthusiastic about some of the amendments which affected underground miners. Prior to the federal law, the Division of Reclamation had no authority over underground mines.

The Division staff increased substantially in 1978-79 under grants provided by the Office of Surface Mining, for support and personnel facilities. The Division instituted a crash training program for both new and tenure employees to implement the new law. It also retained a full time attorney to rewrite existing regulations to comply with the Interim Program Law. They were approved by the Department of Interior Office of Surface Mining, Washington, D.C.

The provisions of the Federal Strip Mine Law required that the individual states, in order to retain control over coal mining, must have a permanent program in place 18 months after the implementation of the Interim Program. The staff started to work on a permanent program package in August 1978.

One of the financial incentives to the state to involve itself in the regulatory program was the federal Abandoned Mined Land Program. The Federal Strip Mine Law extracted a 35 cent per ton severance tax from the coal industry to up-grade the state program. Fifty per cent of the severance tax would be returned to the state to reclaim lands affected by coal mining prior to August 1977 and left in an unreclaimed state. In addition, another 10 per cent was available for special projects. Based on the tonnage of coal extracted, this could amount to ten million dollars per year.

The Division expanded its Abandoned Mine Land staff, surveyed the unreclaimed coal lands in Ohio, and prioritized them on a basis of environmental degradation, hazards to public safety and public awareness. The staff held public hearings, and made recommendations for projects to the Board of Unreclaimed Strip Mine Lands, and proceeded with letting public construction contracts.

The Division submitted a Permanent Program Proposal to the Office of Surface Mining in early 1979, but this was rejected after citing numerous errors and omissions. Several revised proposals were submitted at later dates, but it was not until December 1982 that final acceptance was granted.

In 1981, Federal House Bill 1051 became law and was named the Coal Mining and Regulation Law. It mandated that the Division of Reclamation assume primary jurisdiction for its administration and enforcement.

#### SMALL OPERATOR ASSISTANCE PROGRAM

The Small Operator Assistance Program, S.O.A.P., was initiated by the Ohio Division of Reclamation in January 1980. This program was started as the result of the 1977 Surface Mining Control and Reclamation Act. With the advent of this law, hydrologic and geologic studies were required on areas to be permitted for coal mining. If a coal company did not produce more than 100,000 tons of coal from their permitted areas and associated mining areas, the hydrologic/geologic study could be paid for through the Small Operator Assistance Program. Upon application to the Division of Reclamation's Small Operator Assistance Program, the company's eligibility was determined by verifying that the production did not exceed 100,000 tons and there was nothing that would preclude the company from obtaining a permit. Consultants who performed these studies had to qualify through the Division of Reclamation for grants received from the federal government. The federal government obtained this money from the severance tax levied upon coal companies. A company obtaining assistance through S.O.A.P., and exceeding 100,000 tons production is required to repay the State.

#### ABANDONED MINED LANDS PROGRAM

Ohio faces a multitude of environmental and public safety problems as a result of its long history of coal mining. A national inventory of mine lands identified nearly 700 problem areas in the state. About 300 of these directly affect the health, safety and general welfare of Ohioans. The most common problems include subsidence, acid mine drainage, landslides, open mine entries, abandoned structures and equipment and flooding of roads and adjacent lands. The cost of alleviating these problems was estimated to be well over \$115 million. Acid mine drainage was having a devastating effect on major river basins in eastern and southern Ohio. About 60 percent of the acid mine drainage was originating from unsealed or improperly sealed, abandoned underground mines. The remaining 40 percent was being discharged from abandoned surface mines. Together, these two sources were discharging a million pounds of acid into local streams every day. In addition, approximately 640 miles of streams were affected by coal mine related sedimentation.

On July 1, 1977 Ohio's Mined Land Reclamation Program became operational with the establishment of the Unreclaimed Lands Fund. The fund, supported by a severance tax imposed on active strip and surface mine operators that extract coal and industrial minerals, was to be used to complete reclamation

projects on public and private lands affected by strip and surface mining before 1972. The fund receives \$2.5 to \$3 million annually from this source.

Much of the land disturbed by strip mining prior to 1948 was not reclaimed after mining. While most of the strip mining occurred after the enactment of the 1948 strip mine law and its subsequent amendments, requirements were not adequate to prevent off-site damage or to restore the productive capacity of the land. The most common and most serious physical damage attributable to both abandoned surface and underground mines is the pollution of streams with acid mine drainage. Degradation of water by the addition of hardness, iron, sulphates, aluminum, dissolved and suspended solids contributes to the deterioration of water quality.

The erosion of sediments from strip mined surfaces can be as much as 1000 times greater than from undisturbed land. These sediments disrupt the ecosystem of receiving streams by smothering bottom life, both plant and animal. Under provisions of the program, the Chief of the Division of Reclamation may cost-share on reclamation projects with owners of unreclaimed mined lands. The Board on Unreclaimed Strip Mined Lands may fund up to 75 percent of the engineering and construction costs of these projects. To be eligible, the lands to be reclaimed must be causing pollution of the waters of the state or damaging adjacent property.

Another facet of this program provides for the Chief to negotiate directly with operators of active mines adjacent to abandoned mine lands to reclaim these lands. Coupled with re-mining to recover additional coal, a very significant amount of abandoned mine land is being brought up to current law standards and major problems alleviated.

The availability of both state and federal severance tax dollars has funded a number of abandoned land restoration projects in Ohio. The federally funded program provided nearly \$11 million for project design and construction, and an additional \$17 million was on the horizon in 1985. The state program undertook the design and construction of 16 projects and four water quality studies in 1984-85. Since 1979, almost \$50 million has been devoted to these projects.

#### RECLAMATION BOARD OF REVIEW

During the deliberations of the General Assembly in 1946 and continuing throughout the years, it was their determination that a method of appealing orders and actions of the Chief of the Division of Reclamation must be established and maintained. They created the Reclamation Board of Review to which operators, landowners or anyone else aggrieved by the Chief's decision could appeal for relief.

The first board consisted of five members appointed by the Governor and confirmed by the Ohio Senate. They served five-year staggered terms and were selected for their knowledge in forestry, agronomy, and earth grading. One member was a representative of the public and one an active stripmine operator representing the mining industry.

This board makeup persisted until the 1972 amendments added two more public representatives, making it a board of seven. Later amendments removed the mining industry representative and added another public representative. The surface mining law was again amended in 1977 to extend surface mining control to the quarrying, gravel and clay operations in the state, and a representative of the mineral industries was added. This member sits on the board only when industrial mineral appeals are being heard. The current board is the same except that one of the public members must be an attorney. Authority to hire hearing officers was extended to the board when case loads became burdensome and one or more attorneys were employed to hear cases and make recommendations to the board.

The board hears cases as a quasi-judicial body and may uphold the Chief in his orders and decisions, may reverse or modify them or may refuse to hear cases not within its jurisdiction. Appellants and the Chief can further appeal decisions of the board to higher courts if not satisfied with the board's determinations.

Over the years, this board has been served by conscientious members who receive nominal compensation for their services. They have been both praised and condemned for their decisions by the miners, the landowners and the public. Their decisions have been upheld in the higher courts but there have been some reversals in significant matters that have modified their statutory interpretations.

The future of the board is somewhat clouded as the Federal Office of Surface Mining is not convinced that as lay persons they provide adequate appeal opportunities and should be replaced with a more legally trained body.

## SUMMARY

At this writing, the Division of Reclamation is forty years old, has had nine chiefs, and one acting chief. Division personnel has increased from two in 1947 to near 150 in 1987. The regulatory agency has functioned under the leadership of the Department of Industrial Relations, the Department of Agriculture and the Department of Natural Resources. Mine operator's bond coverage fluctuated from \$100 per acre in 1947 to variable rates in 1972 that were determined by the Chief to \$2500 per acre in more recent years. Grading spoil banks has progressed from the operators only being required to cover the face of the coal seam to complete backfill to original contour and restoration of top soil. Revegetation requirements were met under early statutes by planting trees on essentially ungraded spoil banks and continued until the 1972 law made it economically favorable to plant grasses and legumes.

During this time, both large and small mine operators have come and gone, leaving their mark on Ohio's landscape. Some of the original licensed operators are still mining coal and have survived both changes in the reclamation laws and swings in the coal market.

With the laws and programs now in effect, Ohio is recovering from its history of inadequate reclamation. Under existing statutes, it is possible for an operator to have a profitable enterprise and at the same time restore the disturbed land to productivity.

ADDENDUM

CHIEFS OF DIVISON OF RECLAMATION

Zoyd Flaler ( first chief) 1948 to 1954

Dwight Miller 1954 to January 20, 1960

Irving I. Dickman 1960 to December 30, 1964

CHIEFS OF DIVISION OF FORESTRY AND RECLAMATION

Irving I. Dickman January 1965 to November 1969

Ernest J. Gebhart November 1969 to June 22, 1973

CHIEFS OF REFORMED DIVISION OF RECLAMATION

Raymond Lowrie (Federal) June 22, 1973 to December 20, 1974

George Evans (Federal) January 1975 to April 1, 1975

Kenneth Faulk (acting) March 28, 1975 to September 1976

Charles Call September 1976 to 1983

Larry Mamone 1983 to June 30, 1987

Tim Dieringer August 1987 to present

RECLAMATION PERSONNEL  
1965 - 1969

Dickman, Irving I., Chief  
Gebhart, Ernest J., Assistant Chief  
Bates, G. Orville, Staff Spec. Reclamation  
Swearer, Herbert, Office Manager  
Woodrull, Pearl C., Staff Spec. Reclamation  
Mullins, Hilliard D., Inspector  
Mamone, Larry W., Inspector  
Mingus, Robert, Inspector  
Boyles, William, Inspector  
Drescher, Ralph, Inspector  
Wood, James, Inspector  
Cosma, Sam, Inspector  
Tharp, Wesley K., Inspector  
McCoy, Saul, Law Enforcement Spec.  
Shankland, Helen, Secretary

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"FACT SHEET" IM PROGRAM

I. Background of 1514 ORC

A. Law was passed in 1975

1. Regulates mining of all non-coal minerals in state.
2. "Mining" constitutes removal of minerals over 5' in depth over an acre in size.
3. Division has processed over 1100 applications since 1975.
4. Permits are issued for a 10-year period.
5. Division maintains 800 plus active permits.
6. Regulate mining of approximately 60,000,000 tons of minerals per year.

II. Requirements of Law:

- A. Application and map must be submitted showing proposed permit area and outlining mining and reclamation plan.
- B. Permit requires a filing fee of \$150.00, acreage fee of \$30/acre to be affected, and reclamation performance bond in the amount of \$500/acre or a minimum of \$2000. Bond is released at the rate of \$250/acre for grading completed and \$250/acre for planting completed.
- C. Annual reports and maps must be submitted showing the progress of the mining and reclamation on the permit. A filing fee of \$150 per year is required with the annual report.
- D. Mining requirements:
  1. Prevent contamination of underground water supplies.
  2. Control drainage.
  3. Store sufficient fill material to complete reclamation.
  4. Minimize acid water drainage.
  5. Detonate explosives in a manner that will prevent damage to adjoining property.
  6. Perform all mining and reclamation in a manner to prevent damage to adjoining property.

E. Reclamation Requirements:

1. Prepare site for future intended use upon completion of mining.
2. Establish final slopes not to exceed 18°.
3. Insure public safety with regard to highwalls and water impoundments.
  - a. Highwalls
    1. May be left if they are compatible with the intended future use.
    2. Must be stabilized; access must be restricted from the top and egress must be provided from the pit.
  - b. Impoundments
    1. Must be free of substances harmful to persons or wildlife and be maintained at a pH of 6.0 or above.
    2. Banks must be stabilized and egress provided.
    3. Access must be provided for recreational lakes with slopes of 15° or less.
    4. Other measures performed as necessary for public safety dependant on site conditions.

III. Impacts of Law

A. Protect adjacent properties from adverse effects of mining:

1. Erosion control
2. Sediment control
3. Regulate blasting (flyrock, ground vibration)
4. Prevent mining within 50' of roads or adjacent properties
5. Prevent flood hazards
6. Minimize acid water

B. Provide for public safety:

1. Highwalls (stabilized face, reduce backbreak, control access)

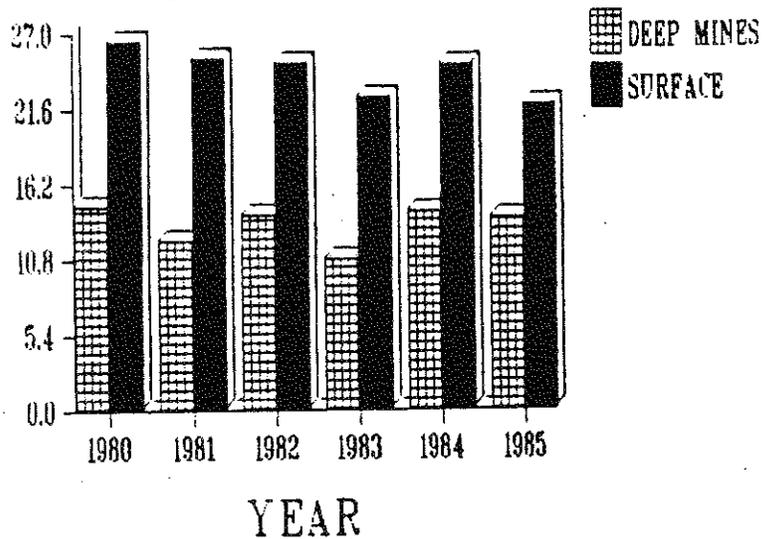
2. Impoundments (control access, provide egress, maintain stable slopes)
  3. Make recommendations for areas that have potential problems (visual screens, fences, earthen barriers).
- C. Require that future intended use comply with local zoning
- D. Return mined areas to useable land form:
1. Reclamation reduces effects of mining on environment.
  2. Reclaimed areas more aesthetically pleasing to public.
  3. Create recreation areas.
  4. Create areas more suitable for agriculture.
  5. Provide sites for future development.
- E. Benefits to the environment.
1. Minimize erosion, sedimentation, toxic water.
  2. Prevent contamination of underground water supplies.
  3. Insure manageable slopes on reclaimed areas.
  4. Insure revegetation of affected areas.
  5. Interaction with and promotion of other environmental agencies.
  6. Restore wildlife areas.
  7. Restore soil productivity.



# COAL PRODUCTION

1980 - 1985

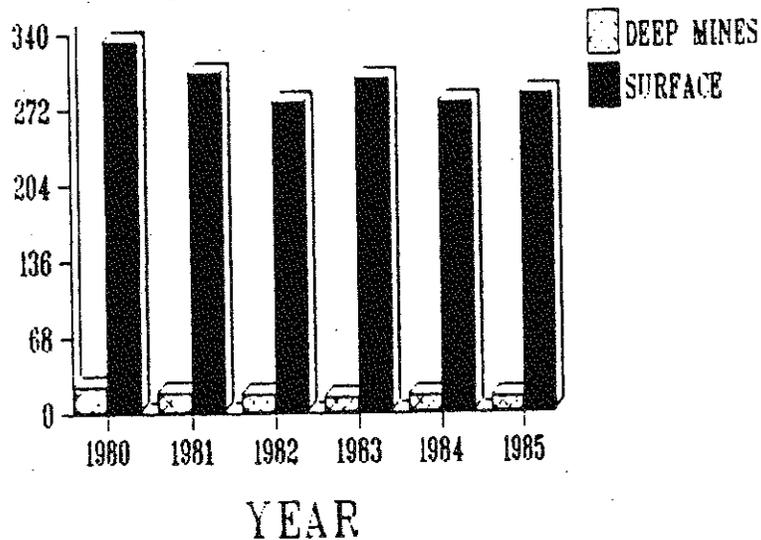
TONS PRODUCED  
( X 1,000,000)



# COAL MINE OPERATIONS

1980 - 1985

NO. OF OPERATIONS  
(COAL MINES)



## STATE AML PROGRAM SUMMARY SHEET

### 1. DESIGN/REPORT DEVELOPMENT

No. of Projects	Source of Funds	Amount of Funds
8	BUSML	\$86,490.60
	Other	\$74,591.60

### 2. UNDER CONSTRUCTION

No. of Projects	Acres	Source of Funds	Amount of Funds
41	589.4	BUSML	\$2,148,721.74
		Other	\$ 448,487.48

### 3. COMPLETED PROJECTS/MAINTENANCE

Type Projects	No. of Projects	Acres	Source of Funds	Amount of Funds
Reports/Investigations	5	NA	BUSML	\$266,631.88
			Other	\$ 80,073.00
Design Only	7	NA	BUSML	386,095.48
			Other	0.00
Design and Construction	59	1,814.1	BUSML	\$9,464,130.61
			Other	\$3,415,403.08
Reforestation	NA	527.3	BUSML	\$200,824.64
			Other	0.00

### TOTAL EXPENDITURES

BUSML	\$12,552,894.95
Other	\$ 4,018,555.16

### HIGHLIGHTS OF 3 STATE AML PROJECTS

PROJECT NAME	LOCATION	DESCRIPTION	ACRES	AMOUNT APPROP.	SOURCE OF FUNDS
Fairpoint Coal	Belmont Co.	Gob Pile	12.0	\$289,697.54	Board
Corning Gob Pile	Perry Co.	Gob Pile	16.8	\$210,260.94	Board
Doanville	Athens Co.	Stream Rest.	NA	\$116,700.00	Board

**OSMRE'S APPROPRIATIONS TO OHIO 1979-1985**

<b>YEAR</b>	<b>TYPE OF GRANT OR COOPERATIVE AGREEMENT</b>	<b>AWARD AMOUNT (DOLLARS)</b>
1979	Reclamation Plan	333,875.00
1980	National AML Inventory	187,880.00
1981	First Annual Work Plan	584,802.00
1982	Construction Administration	11,080,750.00 885,163.00
1983	Construction Administration	10,626,329.00 1,339,273.00
1984	Construction Administration	13,154,771.00 2,982,187.00
1985	Construction Administration	4,900,368.00 3,384,275.00
<b>TOTAL</b>		<b>49,459,673.00</b>

**OSMRE'S STATE APPROPRIATIONS NATIONWIDE 1981-1985**

<b>STATE</b>	<b>FEDERAL SHARE (DOLLARS)</b>	<b>STATE SHARE (DOLLARS)</b>	<b>TOTAL (DOLLARS)</b>
ALABAMA	863,000.	13,181,000.	14,044,000.
ALASKA	263,000.	469,000.	732,000.
ARKANSAS	918,000.	332,000.	1,250,000.
COLORADO	1,365,000.	14,912,000.	16,277,000.
ILLINOIS	4,678,000.	33,087,000.	37,765,000.
INDIANA	2,706,000.	32,416,000.	35,122,000.
IOWA	6,567,000.	594,000.	7,161,000.
KANSAS	858,000.	1,221,000.	2,079,000.
KENTUCKY	9,365,000.	105,804,000.	115,205,000.
MARYLAND	677,000.	1,969,000.	2,646,000.
MICHIGAN	100,000.	0.	100,000.
MISSOURI	23,800,000.	2,028,000.	25,828,000.
MONTANA	418,000.	24,411,000.	24,829,000.
NEW MEXICO	592,000.	6,437,000.	7,029,000.
NORTH DAKOTA	5,205,000.	3,353,000.	8,558,000.
OHIO	13,226,000.	35,419,000.	48,645,000.
OKLAHOMA	2,063,000.	4,904,000.	6,967,000.
PENNSYLVANIA	100,574,000.	61,539,000.	162,113,000.
TENNESSEE	1,262,000.	1,955,000.	3,217,000.
TEXAS	71,000.	1,560,000.	1,631,000.
UTAH	691,000.	5,240,000.	5,931,000.
VIRGINIA	9,196,000.	21,687,000.	30,883,000.
WEST VIRGINIA	25,133,000.	70,018,000.	95,151,000.
WYOMING	3,433,000.	85,556,000.	88,989,000.
CROW TRIBE	985,000.	0.	985,000.
HOPE TRIBE	333,000.	0.	333,000.
NAVAJO TRIBE	551,000.	0.	551,000.