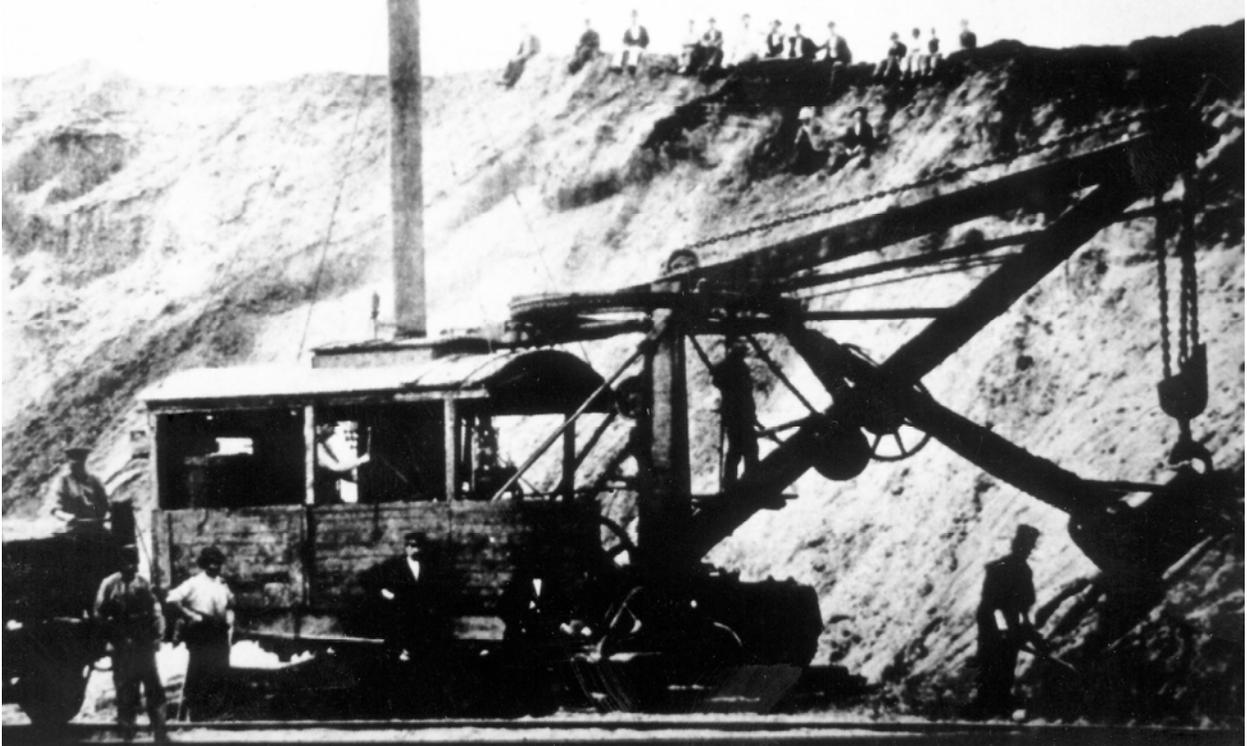


I INTRODUCTION



In the early 1900s, steam powered mining equipment became the dominant method of coal removal

History of Mining in Indiana

Bituminous coal was first discovered in Indiana along the Wabash River in 1736. Coal mining began in Indiana in the middle 1800's using the underground mining method. Today, abandoned underground coal mines underlay extensive areas of Indiana. By the early 1900's, with the development of steam-powered equipment, surface mining soon became the dominant method of coal removal in the State. Indiana coal mine operators pioneered surface mined land reclamation in the United States. In 1926, a few of them joined together to form the Indiana Coal Producers Association. They voluntarily decided to replant (*revegetate*) parts of their spoil banks (which were piles of removed rock and soils) through reforestation to either have a cash crop or to hide the spoil. Not all early mine operators joined the association and reclamation remained sporadic. As a result, the State of Indiana passed a law in 1941 that required the planting of trees on spoil banks. Indiana was the second state in the nation to implement a reclamation law.

By 1967, Indiana law had realized major revisions that included provisions for the planting of farm crops, hay and grasses on mined land; requirements that certain acid-forming rocks and other materials be buried; and areas reclaimed for agriculture were to be accessible by farm machinery. Operators had to plan in advance for how the land would be used after mining was completed. Standards were established for the creation of lakes and the leveling of peaks and ridges caused by rock and soil removal. It was the

first law in the nation to have rules that required the grading of mined land to specific contours. A performance bond was placed on land to be mined was not released until reclamation was completed and revegetation was successful.

On August 3, 1977, the United States Congress passed the Surface Mining Control and Reclamation Act (SMCRA). It established stringent national standards for coal mining and reclamation and created the federal Office of Surface Mining, Reclamation and Enforcement (OSMRE) as part of the Department of Interior. SMCRA established the Abandoned Mine Reclamation Fund to reclaim mined lands that had been inadequately restored or abandoned before passage of the Act of 1977. It is supported by coal mine operators who pay a reclamation fee of 35 cents per ton of removed coal.

Because of the diverse mining conditions in the United States, Congress intended that, upon approval of a state's proposed law and regulations by the Secretary of Interior, the state should be the primary regulator rather than OSMRE. Under the law, the Secretary of the Interior must approve any state program that meets or exceeds the federal standards. State standards must be at least as effective as the federal standards and ensure that citizens are protected to the same extent that they would have been under the federal standards. This procedure allows individual states to gain primary control (*primacy*) over the regulation of surface mining.

On July 29, 1982, the Indiana Division of Reclamation (DOR) gained primacy and began to administer state mining law that had incorporated federal SMCRA requirements. OSMRE oversees the DOR administration of the approved regulatory program. OSMRE inspectors, who work with the Division to solve issues, make periodic inspections.

In addition to the mining and reclamation laws, operators must comply with a host of other local, state and federal laws and programs across the country to maintain a permit to mine coal in Indiana. Federal laws include:

- Clean Air Act
- Clean Water Act
- Federal Coal Mine Safety and Health Act
- Endangered Species Act
- Fish and Wildlife Coordination Act
- National Historic Preservation Act
- Archaeological and Historic Preservation Act
- Executive Order 11593 (relates to the protection of both historic and pre-historic sites)

Indiana Coal Facts

The United States is to coal what Saudi Arabia is to oil. The U.S. holds the largest recoverable coal reserves of any single nation. The U.S. coal reserves are so large that they will last more than 275 years at our current rate of consumption. Coal provides about 50% of the total amount of electricity used in the United States each day and 94% in Indiana.

The Illinois Coal Basin, of which Indiana is a part, is one of the largest coal fields in the United States. Estimates are that Indiana has 9.7 billion tons of commercial coal reserves.

Historically, Indiana has been one of the top ten states in national coal production with about 34 million tons mined annually. Almost 90% is extracted using surface mining methods, while the balance is mined using room and pillar underground technology.

In recent years, Warrick, Sullivan, Pike, Daviess and Greene have emerged as the top coal producing counties in Indiana. They are closely followed by Clay, Knox and Gibson.

Predictions are that Indiana mining will shift back to underground mining. Some 90% of Indiana's remaining recoverable reserves can be feasibly mined only by using underground mining methods. With a resurgence of underground mining, the counties of Sullivan, Gibson, Posey and Knox may become the most active since they have the most reserves.

The Role of the Division of Reclamation

The Indiana Department of Natural Resources / Division of Reclamation is responsible for regulating the mining of coal and the restoration of lands disturbed by coal extraction. The DOR is divided into two program areas: regulatory and restoration.

Regulatory Program

This program oversees active coal mining operations and the reclamation of the land by the coal company after the extraction of coal. The DOR has a unique and difficult dual responsibility: 1) regulating the coal mining industry in a way which strikes a balance between protecting society and the environment from the adverse effects of surface coal mining operations while 2) providing the national need for coal as an essential source of energy.

The Regulatory Program involves two primary areas:

- inspections/enforcement
- technical services/permitting

Responsibilities of the Inspections and Enforcement Section include reviewing permit applications, amendments, revisions and land use changes. A reclamation specialist is a highly trained professional responsible for enforcing 1) the permit process which authorizes when and where mining can take place, and 2) compliance with all mining and reclamation rules at the mine site. Reclamation specialists monitor mining activities from the time the permit is issued until the last acre is reclaimed and the final bond is released. An active mine is inspected regularly to ensure that the mine is obeying the regulations that protect both people and the environment from the potential adverse effects of mining. Emphasis is placed upon how the mine operates and controls:

- topsoil
- surface and subsurface protection of water systems
- regrading and revegetation
- blasting
- potential damage to land and structures caused by underground mine subsidence
- toxic material handling

A structural engineer, who evaluates complaints of blasting damage, is one of the specialists in the Blasting Section. This section monitors compliance in all areas related

to coal mine blasting including permit reviews, inspections, seismograph monitoring and special studies. The blaster at a mine must pass a test to be certified by the DOR. All blasts must be under the direct supervision of a certified blaster. A blaster, certified by the Division, is responsible for the storage, handling, placement and use of explosives at a coal mine.

The Technical Services Section provides assistance to all other Division sections. Their main responsibility is reviewing the technical aspects of permit applications for an area to be mined, such as:

- geology
- hydrological impacts
- mine drainage control
- soil conditions and land capability
- wildlife habitat
- underground mine subsidence control
- land use and revegetation
- prime farmland productivity restoration

Technical Services staff have expertise in agronomy, geology, hydrology, archaeology, natural resources management, and mining engineering.

Restoration Program

The Restoration Program addresses areas which were disturbed by coal mining prior to 1977, have been improperly reclaimed, and for which there is no continuing reclamation responsibility under SMCRA. Abandoned areas are reclaimed using federal or State funds dedicated for reclamation purposes. In the event that the Regulatory Program obtains forfeited bond money from a non-complying operator, the Restoration Program reclaims the site. The purpose of reclamation on these sites is to alleviate safety, health and environmental hazards while improving productivity and enhancing the landscape.

This program includes three sections:

- planning
- project management
- designing/engineering

The Planning Section obtains federal funds through annual construction grants for restoration of the abandoned sites that are eligible under the established OSMRE priority system. Funding comes from the coal mine operators who pay a 35-cents-per-ton fee on active surface mines and a 15-cents-per-ton fee on underground coal operations. OSMRE collects and administers all funds through grants to the State.

The Project Management Section is responsible for acquiring rights of entry from the landowners of the abandoned site. The program and the plans for the site are explained to the landowners. In order for the reclamation work to be done, landowners give the DOR right of entry to their property. When the restoration of the site is completed, DOR releases its right of entry.

The Engineering Section surveys the site to be reclaimed, examines soil and water conditions, and determines the type of reclamation needed. Reclamation plans and specifications are then prepared for the site.

Bids on the project are then requested. Contractors, pre-qualified to do reclamation work in Indiana, submit bids to perform the work specified in the reclamation plan.

Project managers regularly inspect the work of the contractor. Project managers monitor the progress closely to ensure that reclamation activities proceed as prescribed in the plans and specifications. For a more complete description of this program, please refer to the Division of Reclamation Citizen's Guide to Indiana's Abandoned Mine Lands Program.

Administrative Services

With staff in Indianapolis and Jasonville, this section is responsible for: administrative grants obtained from the federal government; for administrative, personnel and procurement services; budget and revenue; assorted special projects; and information technology.