Oklahoma Department of Mines
Coal Division

Mission

The Oklahoma Department of Mines Coal Division is dedicated to protecting the environment of the State of Oklahoma, to protecting the health and safety of the miner and to protecting the life, health, and property of citizens who are affected by mining or mining activities through the enforcement of state mining and reclamation laws. The Coal Division accomplishes this by enforcing the administrative law found in *Oklahoma Administrative Code 460* (OAC).

Coal Division Personnel

The Oklahoma Department of Mines Coal Division consists of three basic subdivisions comprised of Technical Services, Permitting, and Inspection & Enforcement. Technical Services and Permitting are located in Oklahoma City. The Inspection and Enforcement staff are located in three field offices in Wagoner, McAlester, and Poteau.

The Coal Division is dedicated to protecting the environment and citizens of the State of Oklahoma and accomplishes this goal by:

- Reviewing permit applications, revisions, and field amendments for completeness, technical adequacy, and bonding requirements identified in the permitting phase;
- Conducting complete and partial inspections on coal permits as required by state and federal rules and regulations and the specific requirements of the approved permit such that non-compliance items are identified and appropriate abatement measures implemented;
- Conducting annual and mid-term permit reviews in compliance with statutes and regulations;
- Conducting bond release inspections in compliance with statutes and regulations;
- Conducting citizen complaint inspections in compliance with statutes and regulations;
- Gathering evidence and testifying at hearings as required by statute and regulations;
- Conducting Student Outreach Programs at local area schools to provide students and teachers of Oklahoma with a better understanding of the mining process in Oklahoma;
- Receiving on-going training and information concerning current technical advances and trends.

Permit Process

Before commencement of coal mining operations, a mining and reclamation permit must be obtained from the Oklahoma Department of Mines Coal Division. A coal permit is issued when the mine operator submits an acceptable application and posts adequate bond to cover reclamation costs, should it be necessary for a third party to complete the reclamation process. The operator's permit application must include the requirements for legal and financial compliance, provisions for safeguarding environmental resources, and detailed operation and reclamation plan. Before disturbing the site, the

employees of the coal mining operation must be trained and certified in accordance with state and federal safety regulations. Mining practices, reclamation, and health and safety procedures are monitored on a regular basis by the Departments' field inspectors.

Mining Process

After the coal mining permit is issued the first thing the mining company does is mark the permit boundaries and put up a mine identification sign. Then the company builds sediment ponds and berms. This is done to control all surface drainage, so that none leaves the permit area without first passing through a sedimentation pond. Sedimentation ponds allow sediment to settle out of the surface water before the water is discharged off the disturbed area.

The next step in the mining process involves the removal of topsoil. The topsoil is removed in a separate layer, then stockpiled and protected for later use. Once the topsoil and any subsoil is removed, the company will begin digging a box-shaped pit, removing the remaining material above the coal - the overburden or spoil.

Generally the overburden must be blasted in order to be removed. The mining company must follow an approved blasting plan that limits ground vibration and air blast to safe levels. Seismographs are used to monitor each blast and the blasting records are kept by the company for public or Department review.

The overburden from the first pit is stockpiled in an approved location on the permit area. After the overburden is removed, then the coal is removed and taken to a coal processing area on the permit called a coal pad. Once the coal is on the coal pad, then it is crushed to a certain size and stockpiled. Then the coal is loaded, generally onto trucks, to be hauled to the purchaser.

Once the coal is removed from the first pit, then overburden from the next pit is used to fill the previous pit. This process goes on until all the coal on the permit is mined, or all coal that is economically feasible to mine is mined. At the end of the coal removal process, the stockpiled overburden from the first pit is used to fill the last pit.

If the owner of the land wants the final pit to be left open as a large water impoundment, the company can request permission from the Department to do so. This impoundment must fill with water and be suitable for the approved post-mining landuse.

Once all pits are backfilled, the area is graded so that the contours of the land match the pre-mining contours as much as possible. Then the topsoil is replaced evenly over the disturbed area. After the topsoil is respread, it is seeded or sprigged with the approved vegetation and mulched to help prevent erosion until the vegetation is reestablished. Sometimes the landowner desires the land to be reclaimed with trees or wildlife plantings. After the area is seeded or sprigged, the company must maintain the area for a minimum of five years before receiving final bond release. The land is then returned to the landowner's control.

Bond Releases

Phase I Bond Release - After mining is completed on any increment or identifiable unit of a mine, the mine operator may apply for a Phase I Bond Release. This is the first of three phases in which the performance or reclamation bond monies are released to the operator. Typically, this release is sought after all backfilling and grading has been completed on the increment or identifiable unit. The backfilling and grading must be done to achieve approximate original contour (AOC). The removal of all support facilities (unless otherwise approved in the permit) must be done prior to Phase I bond release. These facilities include coal pads, office and maintenance areas and roads. The operator can get the maximum amount of bond release allowed under Phase I if, in addition to the above requirements, the topsoil has been replaced to the depth specified in the approved permit. Permanent structures must be in place at this time. Temporary structures that are needed for sediment control must be in place and maintained at the time of Phase I approval. These temporary structures for sediment control must remain until the drainage area controlled by them has attained Phase II vegetation standards.

Phase II Bond Release - The second of the three phases in which the performance or reclamation bond monies are released to the operator is known as Phase II. Typically this release is sought after re-vegetation standards have been met on an increment or identifiable unit of a mine. Topsoil depths should be verified at this time if they were not verified during the Phase I bond release. All permanent vegetation species, including grasses, trees and shrubs must have been planted on the site in accordance with the approved permit and land uses. Success of the re-vegetation must be demonstrated by methods either described in the permit or by approved sampling procedures described by the Department. At a minimum, the area to be released must not be contributing suspended solids or acid drainage to stream flow or runoff outside the permit area in excess of the standards set forth in the regulations. The Department will re-calculate the required bond to remain posted and release the bond monies exceeding this amount.

Phase III Bond Release - The third and final of the three phases in which the performance or reclamation bond monies are released to the operator is known as Phase III. Typically this release is sought after the fifth full year of bond liability has passed. This can be achieved five years after the last augmented seeding of an increment or identifiable unit of a mine. Since this is the final release of liability on an area, all post-mining land uses must match those specified in the approved permit and meet all requirements of the regulations. Re-vegetation success must be demonstrated in a similar manner as Phase II. In addition to ground cover, productivity must be

demonstrated according to the approved post-mining land use. All temporary structures must be removed before Phase III. Permanent structures must be stable and water impoundments must hold a stable water level. Discharges from approved impoundments shall not degrade the quality of receiving waters.

After all criteria for Phase III are met, all bond monies are released and the land is returned to the control of the landowner.

Coal Production

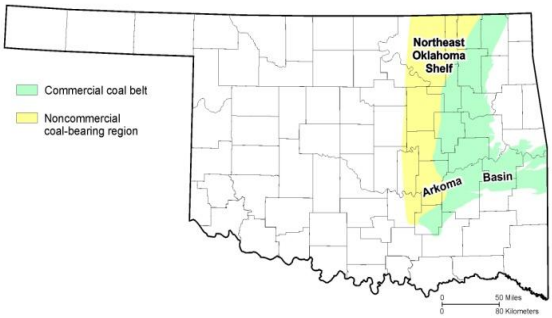
Oklahoma coal production has declined from its peak of 5.73 million tons in 1981 to a low of 979 thousand tons in 2010. This trend can be attributed to several factors, including the reduced demand for metallurgical coal, the loss of cement markets in Dallas, lower prices for coal, high transportation costs, lack of financial incentives, lack of available local investment capital, and lower prices for natural gas. One bright spot is the use of Oklahoma coal at the Applied Energy Services Cogeneration Plant near Shady Point, Oklahoma, which burns in excess of 800,000 tons of Oklahoma coal each year. Until recent years, the major consumption of Oklahoma coal had been by out-of-state utilities. Major in-state use of Oklahoma coal has been by the cement and lime industry and utilities. Cumulative coal production in Oklahoma (1873-2010) is 294 million tons.

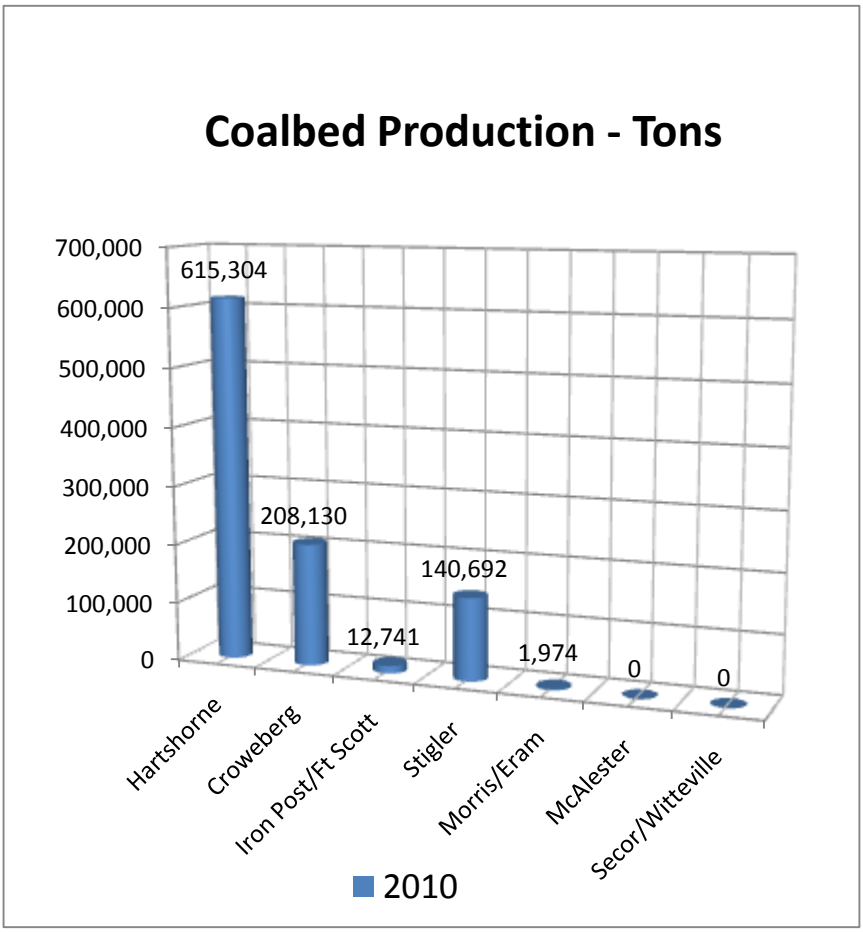
The Coal Division is currently responsible for fifty-eight (58) coal mine sites from northeastern through southeastern Oklahoma. The Coal Division field inspectors conducted 720 safety inspections for fiscal year 2009.

COAL (Tons Produced)	
Coal Production Information	**2010**
Producing Counties	6
Companies Reporting	4
Men Employed, Average Per Month	
Total Man Days Worked	
Total Man Hours Worked	
Total Tonnage	978,842
Counties	**2010**
Haskell	140,692
LeFlore	615,304
Nowata/Craig	3,342
Okmulgee	1,974
Rogers	173,934
Total Coal Production	**978,842**
Coal Permit Activities	
Permits Issued	2
Permits on Inspectable Units List	58
Acreage Permitted	24,463
Inspections Conducted	512
Violations Issued	22
Phase III Bond Releases Approved	2
Revisions Issued	20

Coalbeds

A total of 25 named bituminous coal beds are present and have been mined in eastern Oklahoma. Most past production has been from the Hartshorne, Lower Hartshorne, McAlester, and Croweburg Coals, which were mined by underground methods. A total of 85% of the coal produced in 2008 and 2009 was mined at surface operations in the Hartshorne, Lower Hartshorne, Stigler, Secor, Croweburg, Morris and Iron Post Coals. In 2009, 43% was produced from an underground mine that was started in the Hartshorne Coal in 1995. Coal rank, generalized for all coals at or near the surface, ranges from high-volatile bituminous in the northeast Oklahoma shelf and western Arkoma Basin to medium-volatile bituminous and low-volatile bituminous in the eastern Arkoma Basin in Oklahoma. Rank increases from west to east and with depth in the Arkoma Basin, attaining semi anthracite in Arkansas.





Customer Service

The Oklahoma Department of Mines Coal Division is dedicated to customer service. The Department receives citizen complaints in various forms. We receive oral complaints, written complaints, bond release objections, etc. The Department prides itself on responding to each complaint in a prompt and courteous manner.

Public Service

The Oklahoma Department of Mines Coal Division Staff developed a Student Outreach Program in 2000. The Student Outreach Program provides students and teachers, in the State of Oklahoma, with a better understanding of the mining process. The program entitled "The Oklahoma Mining Experience" is available to any classroom in the Oklahoma from October thru April. The program is designed to include hands-on and interactive activities such as rock samples, seismograph demonstrations, and a blasting video for 4th, 5th, 6th, 7th and 8th grade classes. The interaction between the presenters and students make this presentation a fun and educational "mining experience." Fact sheets and activity handouts are also available and are given to teachers for distribution. The Department employees enjoy the experience of taking coal mining into the classroom and have informative literature, activities, and visual aids that are used to develop specific presentation in the school's classrooms or as a mine site field visit.