

Equipment

The heavy equipment necessary for lignite mining must be purchased and relocated or assembled at the mine. RED HILLS MINE has in excess of \$60 million worth of equipment.

Here is a list of the major equipment:

- 1 Marion 8200 electric dragline, , equipped with an 82 cubic yard bucket
- 1 P&H 2800 XPB electric shovel, equipped with a 40 cubic yard bucket.
- 1 Huron 1224 Easi-miner, powered by a 1200HP Cummins Diesel, mines and loads lignite at 2,000 tons per hour
- 1 Letourneau L1100 front-end loader, used to load overburden and lignite into trucks and reclaim lignite form stockpile
- 2 Caterpillar 5230 excavators with 22 cubic yard buckets, used to load overburden material or lignite
- 9 Caterpillar 785B, 165 ton payload capacity end dumps, used to haul overburden and lignite
- 3 Caterpillar 789, 205 ton payload capacity end dumps, used to haul overburden
- 3 Caterpillar D11 dozers
- 1 Komatsu 475A dozer
- 1 Caterpillar D6 LGP dozer
- 1 Caterpillar D7 LGP dozer
- 1 Caterpillar D8 LGP dozer
- 3 Caterpillar D10R dozers
- 2 Cat 16H Motor Grader
- 1 Cat 24H Motor Grader
- 1 Cat 844 Rubber-Tire Dozer
- 1 Cat 345 Track Backhoe
- 1 Cat 365 Track Backhoe
- 2 Cat 40 Ton Articulating Dump Trucks (ADT)
- 1 Cat 966 Wheel Loader
- 2 12,000 Gallon Water Trucks



Red Hills Mine Reserves

- Over 200 million tons of mineable lignite
- Permitted area is 5,809 acres
- 6 seams, varying in thickness from 2 to 6 feet
- Average lignite quality:
 - 5120 BTU/lb
 - 43.09 % Moisture
 - 14.40% Ash



Interesting Facts

- Over 50% of electricity generation in the United States comes from coal.
- 2.7 Billion gallons of water were collected, sampled, cleaned and discharged from the minesite in 2004.
- RED HILLS MINE has planted over 200,000 trees as part of the reclamation process.
- Every American uses an average of 3.7 tons of coal each year.
- While coal use for domestic electricity has tripled since 1970, government statistics show sulfur dioxide emissions have decreased to 37 percent below 1970 levels.

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—The Coal Hard Facts

History

Mississippi Lignite Mining Company was formed in 1997 to supply lignite coal to the Red Hills Power Plant. Mississippi Lignite Mining Company is an affiliate of The North American Coal Corporation, the largest lignite producer in the United States. North American Coal and its affiliates operate 6 lignite surface mines producing over 33 million tons annually and also provides dragline services for limestone quarries in South Florida. The Red Hills power plant, which supplies electricity to Tennessee Valley Authority under a 30-year contract agreement, is owned and operated by Choctaw Generation, LLP, an affiliate of Tractebel Electricity and Gas International. Construction of RED HILLS MINE and facilities began in August 1998. Development of the initial boxcut began in April 1999, and the first lignite was mined in December 1999.



Our Greatest Resource - Our Employees

The RED HILLS MINE employees work as a team. We work cooperatively to achieve our goals while maintaining the highest ethical standards. We encourage participation in decision-making and recognize initiative and creativity. Hundreds of applicants are screened for the qualifications and skills necessary to safely operate and maintain heavy equipment. All employees must complete forty hours of “New Miner” training that includes company orientation, safety, mining operations and equipment maintenance. Currently, the mine employees 185 full time employees. During the development of this project, MLMC made a commitment to hire local citizens. As a result of recruiting efforts, 97% of the workforce personnel and 58% of the support staff are from the local area.



Geology

The lignite at RED HILLS MINE is found within the Wilcox formation. In MS, this formation extends southeastward from Memphis to Meridian in a “belt” that is approximately 10 miles wide. Geologically speaking, it is a young formation in that it is only 57 million years old. The lignite seams at RED HILLS MINE were formed in a fluvial (stream) environment in which several sequences of flooding and stream channel migration occurred. It was during these periods that “swampy” conditions occurred and organic matter was deposited. Over time, this organic matter was buried and compressed into lignite. Geologists have found that it takes approximately 16 feet of organic matter to make 1” of lignite. The MS Geologic Survey estimates MS’s lignite reserves to be 8.0 billion tons. The RED HILLS MINE is the first large scale user of this plentiful resource.



Environmental Compliance & Land Stewardship

The RED HILLS MINE conducts coal mining operations in strict compliance with a Surface Coal Mining and Reclamation Permit submitted to and issued by the Mississippi Department of Environmental Quality. This Permit contains a detailed inventory of natural resources prior to mining, a detailed description of how the resources will be effected or protected during mining, how mining will be conducted and how the land and other natural resources will be restored or reclaimed to productive and useable conditions after mining has been completed. The mine is also required to operate in compliance with many other local, state, and federal laws and regulations relating to county road closures and relocations, surface and ground water quality and water use, archeological and historical resources, wetlands, rare and endangered plants and animals, radio transmissions, solid waste disposal, and dam design. Most of the mined land at the RED HILLS MINE is being restored to loblolly pine forest as requested by area landowners. Small openings (green patches) are designed into upland forested areas and drainage bottoms are reclaimed to include hardwood plantings, enhanced stream channels, small wetland areas, and ponds important for local fish and wildlife resources. The mine has also constructed and manages a 75-acre recreational fishing lake stocked with bass, bream, catfish and crappie. The mine actively manages reclaimed land until it can be returned to the owner’s care, generally a period of at least 5 years after all mining and reclamation is complete as required by mining regulations.

Uncovering and Handling the Lignite

A P & H 2800, 40 cubic yard, electric shovel uncovers the top seam of lignite. The shovel loads the material into Caterpillar 785 and 789 off-highway end dump trucks. The trucks then deposit the material in areas that have been mined or require contouring for reclamation purposes. The material is spread using Caterpillar D10 dozers. The end dump trucks are capable of hauling 165 to 200 tons of material per load. Caterpillar D11 dozers uncover the second, third, and fourth seams of lignite by dozing the interburden material into the mined out pit. These units have 850 horsepower engines and are capable of pushing 45 cubic yards per pass. A Marion 8200, 82 cubic yard dragline uncovers the fifth and sixth seams of lignite. The machine operates on 23,000 volts of electricity, weighs 8 million pounds, and has a boom that is 325 feet long and 175 feet high. Its base measures 65 feet in diameter, moves via walking shoes that are 13X65 feet, and walks 7 feet per step or 1/8th mile per hour. The dragline completes a digging cycle in one minute and has 7,500 horsepower. A Huron Easi-Miner and the CAT 5230 excavators are used to load the lignite into end dump trucks. Lignite is then delivered to a 400 ton capacity hopper. A crusher and conveyor crushes and transports the lignite to the power plant.

