

A CONCISE GUIDE TO WYOMING COAL 2008

An industry overview produced by the
**WYOMING COAL INFORMATION
COMMITTEE**

Wyoming Mining Association

www.wma-minelife.com

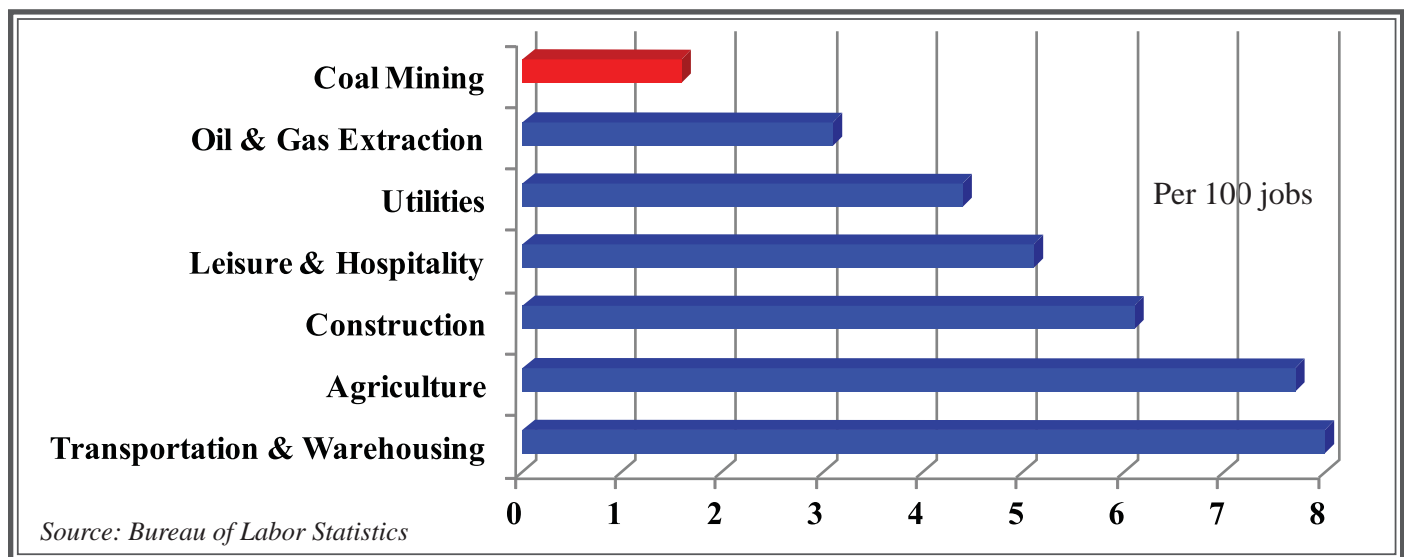
Safety First

Safety always comes first in the mining industry, and Wyoming coal mines have been recognized as some of the safest operations in the United States. In fact, information from the Bureau of Labor Statistics shows that coal mining in Wyoming is safer than a number of more common occupations (see table). This is due to a culture of safety that exists in the mining industry. Each miner must attend 40 hours of safety training before their first day of work, and every shift starts with a walk around safety inspection. The Mine Safety and Health Administration

The Energy Information Administration estimates that Wyoming's recoverable reserves, in seams thicker than 5 feet and less than 1,000 feet deep, total more than 40 billion tons. The total amount of coal within the state is more than 1.4 trillion tons. In some areas of Wyoming, coal can be found at more than 12,000 feet in depth.

Electric power generation is by far the largest consumer of coal in the United States, using about 91 percent of all coal mined. Coal provides approximately 50 percent of the fuel needs for electrical

Rate of non-fatal occupational injuries, selected industries, Wyoming 2006.



(MSHA) and the National Mining Association recognize the safest surface coal mine in the nation each year with the "Sentinel of Safety" award. A Wyoming mine has won this award 12 times in the last 26 years.

The Role of Coal

Wyoming is the nation's preeminent coal producer, providing a secure source of fuel for America's electrical power generators. The top ten producing mines in the country are all located in Wyoming's Powder River Basin, and Wyoming led the nation in coal production for the 21st consecutive year in 2007, producing 452 million tons. Wyoming coal production increased 1.6 percent or 7.3 million tons from 2006 to 2007.

generation. Wyoming coal accounted for 39 percent of the nation's coal production in 2007.

Wyoming supplies 39 percent of the nation's coal production.

Wyoming Coal Trends

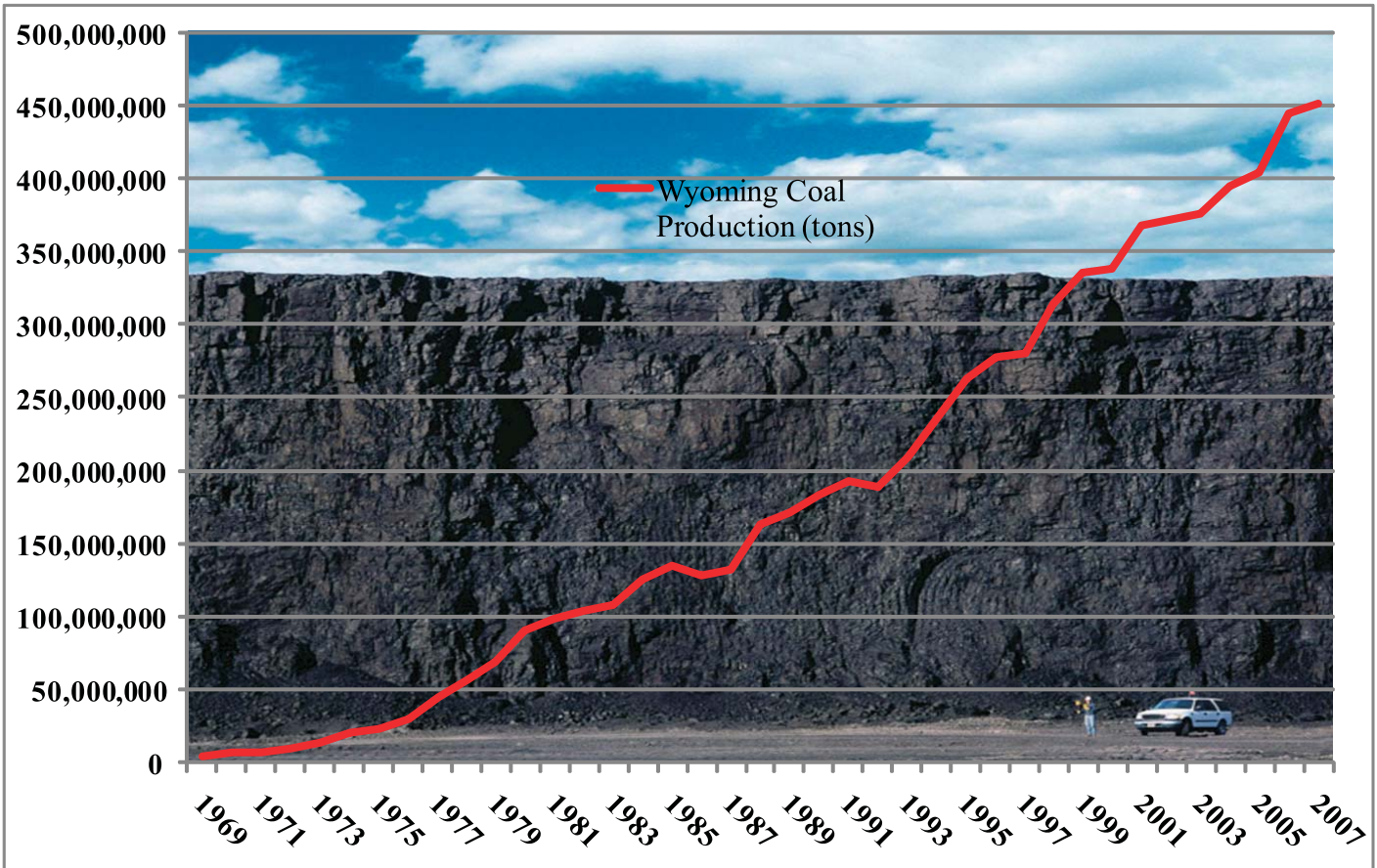
The electrical power industry has increasingly trended toward western coals and particularly

coal from Wyoming's Powder River Basin (PRB). There are several reasons for this shift: World-class coal seams (some more than 80 feet thick); low production costs due to proximity of coal to the surface; and a desirable low-sulfur composition. During 2007, more than 437 million tons were shipped out of the PRB (Wyoming's premier coal field) on unit trains. Unit trains are now averaging 130 cars. Seventy to 80 unit trains leave the PRB every day

for energy markets throughout North America. The average price for Wyoming coal barely increased in 2007 due to the fact that most utilities use long-term contracts to lock in lower prices. State-

latest emission controls to meet increasingly stringent air quality standards. New technologies such as integrated gasification combined cycle (IGCC) and advanced Fisher-Tropsch coal-to-liquids processes

Wyoming coal production (tons), 1969-2007



Source: State Inspector of Mines of Wyoming

wide, average prices rose from \$9.82 per ton in 2006 to \$9.84 per ton in 2007.

It is estimated that each coal-mining job supports three related jobs.

are being studied as ways add value to the state's coal reserves while being more environmentally responsible. All these new technologies allow for greenhouse gases to be separated during processing for sequestration to avoid contributing to global warming.

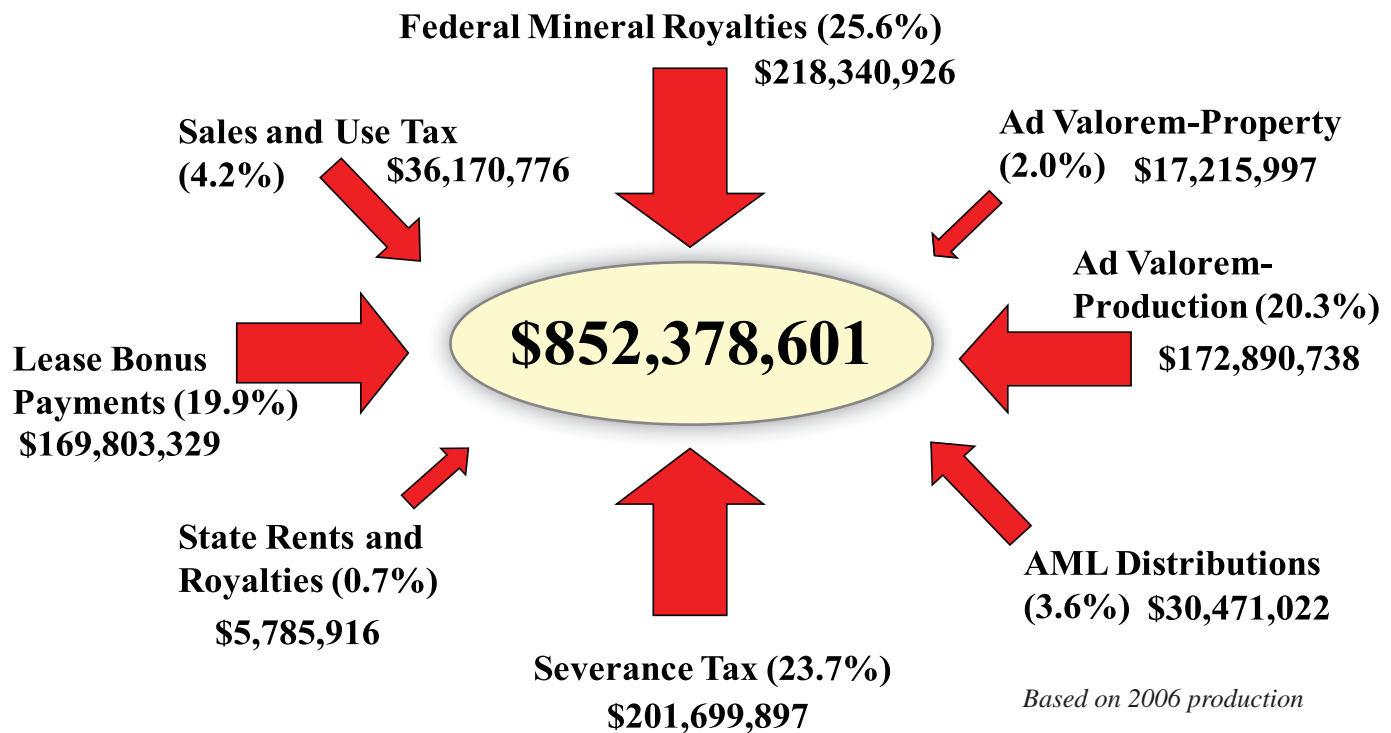
A Cleaner, Brighter Future for Coal

Recent high petroleum and natural gas prices have renewed the emphasis on finding ways to use our nation's coal reserves in a cleaner, more environmentally sound way. Mining companies and the State of Wyoming are actively seeking and supporting projects to enhance the state's economic position and leverage our coal resources for the future. Several coal-fired power plants are in the planning stages or under construction in the PRB that will use the

Local Benefits

Coal is an important source of revenue for Wyoming's state and local governments. Coal mining companies pay taxes and royalties that are distributed among federal, state and local governments. The chart on page 4 shows that in 2007 coal contributed an estimated \$852 million to Wyoming state and local government. This is a \$107 million or 14.5 per-

State and local government revenue from Wyoming coal, 2007.



cent increase over 2006. (Not included in this analysis are the federal portion of fees and taxes, including black-lung taxes, AML fees and the federal portion of mineral royalties).

Employment

The coal industry continues to be a stable source of employment for the people of Wyoming. Between 2000 and 2007, employment in Wyoming's coal sector increased more than 46 percent. In 2007, Wyoming coal mines added jobs that increased employment more than 7 percent from 2006 to 6,463 people.

It is estimated that each coal-mining job supports three related jobs in other business sectors for a total of more than 19,000 coal-related jobs statewide.

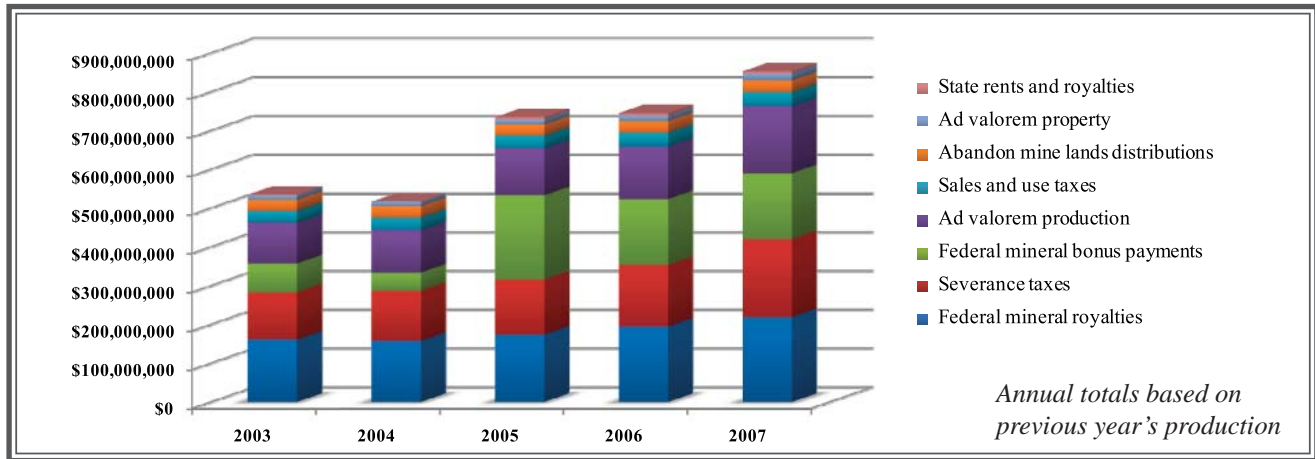
The trend in government revenue from coal has also been increasing over the last few years. The chart on page 5 shows a significant increase in revenue from 2004 to 2007, driven mainly by federal mineral bonus payments (see text box, below). Other sources of revenue have increased as well, but not at the rate of bonus payments. The continuation of revenue at this level depends on the industry's need to lease coal. As long as Wyoming coal remains in demand, mining

Bonus bids and coal leasing

Before a mining company can obtain new coal reserves on federal lands, the company must nominate the lands for lease. The Bureau of Land Management (BLM) then reviews the proposed tract to determine the market value of the coal. It also requires completion of a detailed environmental assessment or an environmental impact statement, and then schedules a competitive lease sale. The process is known as Lease By Application or LBA.

To obtain the lease, the company must submit a sealed bid for the coal. The money is paid over and above any production taxes or royalties that must be paid when the coal is mined. The successful bidding company must pay one-fifth of the total bonus bid at the time of the sale and then pay another fifth every year for the next four years. The federal government keeps one-half of this money and the State of Wyoming gets the other half. Between 1992 and 2005, the BLM leased more than 5 billion tons of coal and Wyoming received more than \$1.5 billion for its share of the bonus bid money. Currently, the BLM has 4.5 billion tons of coal nominated for lease. These coal sales will occur upon the completion of the LBA process.

Trend in coal revenue to Wyoming state and local government, 2003 to 2007.



companies will continue to submit bids for the coal leases that generate these payments. Longer term, changes in demand for coal could create variability in the level of revenue generated for state and local governments.

Coal industry jobs are among the best paying in Wyoming. The average income in the Wyoming coal industry in 2007 was \$75,977 (not including benefits). This wage level is twice the state average of \$39,245 per job. The combination of both direct and secondary employment—or jobs in other business sectors created by the coal industry—has resulted in significant benefits for the state.

New Developments in Revenue-Sharing

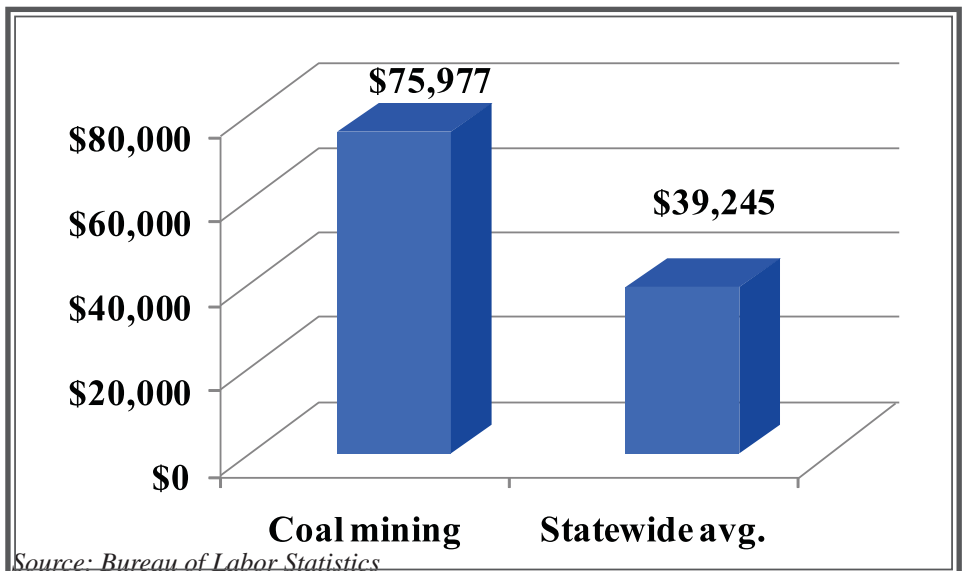
New legislation from the federal government will cost Wyoming state and local government millions of dollars in the coming years. Late in 2007, Congress passed new rules whereby Wyoming's share of federal mineral royalties were reduced from 50 percent to 48 percent. Two percent may not seem like very much, but as a portion of the \$925 million that Wyoming received in 2007, that would have amounted to more than \$18 million. Under this rule,

Wyoming stands to lose more than any other state since it receives the most mineral royalty money. Some worry that once this precedent is set, the federal government will try to take a larger share by increasing this amount over time.

In another development, a settlement has been reached between coal producing states and the federal government over Abandoned Mine Lands (AML) funds. The government has been collecting AML taxes but not distributing them to states. This new settlement allows Western states, like Wyoming, to receive a larger share of AML monies. Wyoming is set to receive lump sum payments of approximately \$80 million per year over the next seven years. The money will be used for clean coal research and carbon sequestration projects, among other uses.

Wyoming COAL

Average earning per job, Wyoming 2007.



Wyoming Coal Production by County, 2007



Location/operator	Mine	Employees	Production
Campbell County			
Buckskin Mining Co.	Buckskin Mine	262	25,268,145
Evergreen Energy	KFX Plant/Fort Union Mine	82	131,674
Foundation Coal West	Belle Ayre Mine	280	26,608,765
Foundation Coal West	Eagle Butte Mine	275	25,010,089
Powder River Coal Co.	Caballo Mine	407	31,172,396
Powder River Coal Co	N. Antelope/Rochelle Complex	935	91,523,280
Powder River Coal Co	Rawhide Mine	234	17,155,361
Rio Tinto Energy America	Cordero Rojo Complex	589	40,467,627
Rio Tinto Energy America	Jacobs Ranch Mine	620	38,101,021
Thunder Basin Coal Co. LLC	Black Thunder Mine	1,057	86,196,275
Thunder Basin Coal Co. LLC	Coal Creek Mine	148	10,216,193
Western Fuels of Wyoming, Inc.	Dry Fork Mine	70	5,310,716
Wyodak Resources Develop. Corp.	Wyodak Mine	109	5,049,232
Campbell County Total		5,068	402,210,774
Carbon County			
Arch of Wyoming, LLC	Elk Mountain Mine	12	134,207
Converse County			
Rio Tinto Energy America	Antelope Coal Mine	465	34,465,047
Hot Springs County			
Grass Creek Coal Co.	Grass Creek Mine	3	443
Lincoln County			
Chevron Mining, Inc.	Kemmerer Mine	293	5,190,147
Sweetwater County			
Black Butte Coal Co.	Black Butte and Lucite Hills	162	3,657,726
Bridger Coal Co.	Surface operations	217	3,651,975
Bridger Coal Co.	Underground operations	229	2,821,835
New Stansbury Coal Co. LLC	Stansbury Mine	1	2,550
Sweetwater County Total		6,433	10,131,537
Employees at mines in reclamation		13	
Wyoming Total		6,463	452,134,704

Source: State Inspector of Mines of Wyoming, 2007

Reclamation

Reclaimed mining lands represent sustainable development in action. Once the recoverable coal is removed, the reclamation process begins. The reclamation process includes several stages and is overseen by highly trained specialists employed by the mines as well as state and federal personnel to ensure compliance with all applicable laws. Reclamation stages include:

- Backfilling the void with overburden
- Contouring the final filled surface
- Replacing topsoil and preparing the surface
- Preparing the seedbed and sowing approved seed mixtures
- Monitoring plant growth and fauna populations.

Approved seed mixtures promote higher vegetative output than on pre-mined land. This in turn attracts species to re-establish themselves and promotes a sustainable ecosystem on the once mined land. An example is a reclaimed area on the Jacobs Ranch Mine in the Powder River Basin that now provides

Acres of disturbed land, Wyoming*

	Acres	Percent
Disturbed by coal mines	134,711	100%
Reclaimed land	68,330	47%
Active mining sites	31,588	23%
Facilities	39,793	30%
*as of August 9, 2007		

crucial winter habitat for elk. This reclaimed site is now part of a conservation easement through the Rocky Mountain Elk Foundation.

While facilities areas such as mine shops, coal plants and long-term roads and ponds cannot be reclaimed until long-term use is completed, the focus on all other areas in reclamation is demonstrated by comparison of current disturbance and reclamation acres as shown in the table.



Mule deer bucks and habitat features created on reclaimed highwall mining land

Reclamation goes beyond just restoring contours and reseeding native plant species. Rebuilding sustainable natural ecosystems is the goal and innovative methods are constantly being developed to further enhance reclaimed areas. Some examples include:

- Re-establishing water features and storage in reclaimed streams, stock ponds and wetlands
- Replacing sage grouse leks (breeding grounds)
- Establishing mosaic patterns of grassland and shrubland reclamation
- Replacing rock outcrops and providing prey base habitats for eagles and other predators
- Reconstructing prairie dog towns and reclaiming mountain plover habitat.

Minequest

The Wyoming Mining Association has created Minequest, an educational website for young people, covering mining topics. Minequest satisfies Wyoming Teaching Standards for teachers in grades 4 through 12 in the areas of Math, Science, Social Studies, Language Arts, Career/Vocational and Technology.

An example activity for younger students is finding items around a classroom and determining if those items are made from an animal, vegetable or mineral. Older students can calculate the monthly costs of living and then find employment that will support their intended lifestyle. The Minequest website can be accessed at www.minequest.org.

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Computerized dispatch system used at the Black Thunder mine