

# A CONCISE GUIDE TO WYOMING COAL 2006

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

Wyoming Mining Association

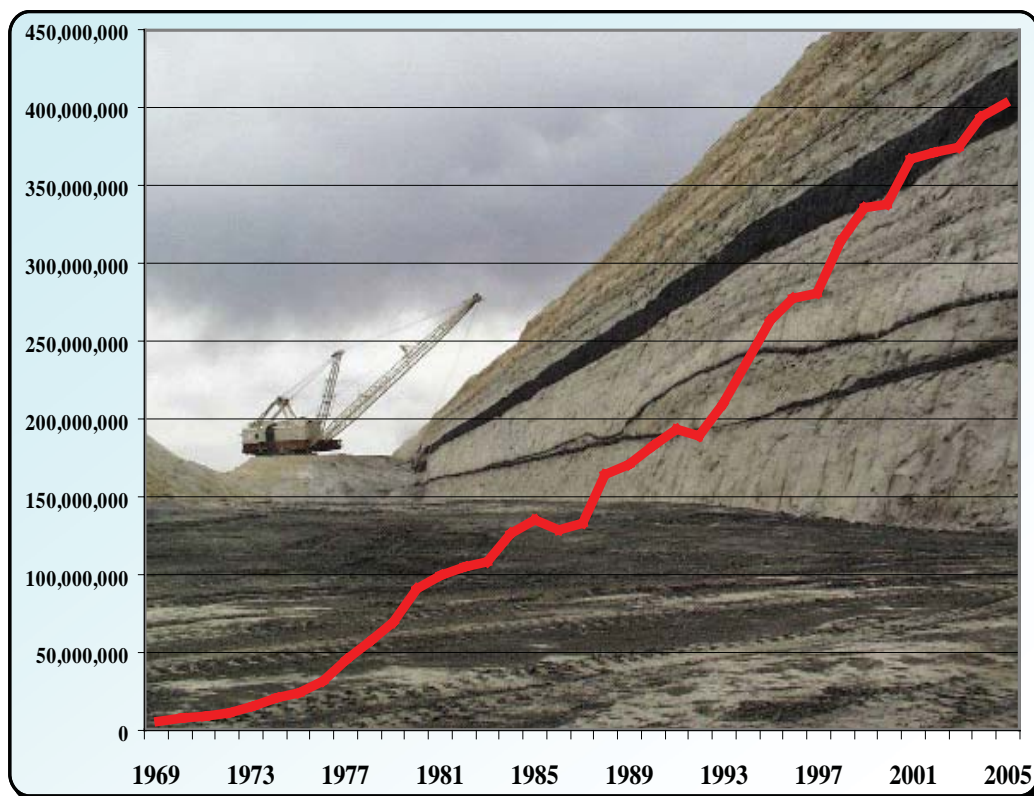
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## Wyoming Coal Trends

Growing energy needs continue to stimulate Wyoming coal production. In the United States, coal provides approximately 51 percent of the fuel needs for electric power generation. In 2005, Wyoming coal mines led the nation for the 19<sup>th</sup> consecutive year, producing 404 million tons of coal. Wyoming also passed the 400 million tons per year production milestone for the first time in 2005.

Tonnage increases were particularly pronounced in the Powder River Basin (PRB) for several reasons: World-class coal seams (some more than 80 feet thick), proximity of coal to the surface, and a desirable low-sulfur composition. During 2005, more than 390 million tons were shipped out of the PRB on unit trains. Unit trains are made up of 120 to 150 cars, each carrying between 100 and 115 tons. An average of 70 to 80 unit trains leave the PRB every day for energy markets throughout North America.

### Wyoming coal production (tons), 1969-2005



Source: Wyoming State Geological Survey

Recent advances in clean coal technology are making it possible for utilities to meet increasingly stringent air quality emission standards. Commercial processes are available that significantly reduce sulfur dioxide and nitrogen oxide emissions. Current research is focused on eliminating carbon dioxide and mercury emissions, and on increasing fuel efficiencies. It is worth noting that, although U.S. coal consumption tripled since 1970, coal emissions have dropped below historic levels during that same period. Examples of these reductions include a 35 percent reduction in sulfur emissions, a slight reduction in NO<sub>x</sub> and an 87 percent reduction in fine particles released in the air (PM<sub>10</sub>).

## Production and Prices

Wyoming coal production increased 2.2 percent from 2004 to 2005.

## Wyoming supplies 36 percent of the nation's coal production.

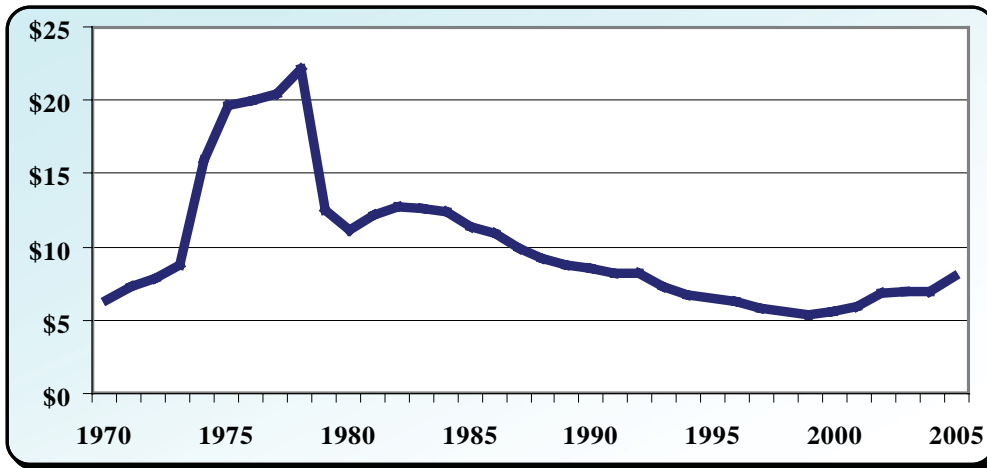
### Markets

The market for Wyoming coal continues to expand. Wyoming coal was shipped to 28 states in 2005 and accounted for 36 percent of the coal mined in the United States. Closer to home, several coal-fired power plants are under construction or have been announced. There are also several coal conversion, coal enhancement and co-generation projects in various phases of permitting and construction.

### Constantly Cleaner Coal

*Wyoming*  
**COAL**

## Average statewide price per ton, Wyoming coal



Source: Wyoming State Geological Survey

of Wyoming. Between 1990 and 2004, the average annual variation in employment in the coal sector was less than three percent. In 2005, Wyoming coal mines added jobs at a higher rate and increased employment more than eight percent to 5,330 people. It is estimated that each coal-mining job supports three related jobs in other sectors for a total of more than 18,700 coal related jobs statewide.

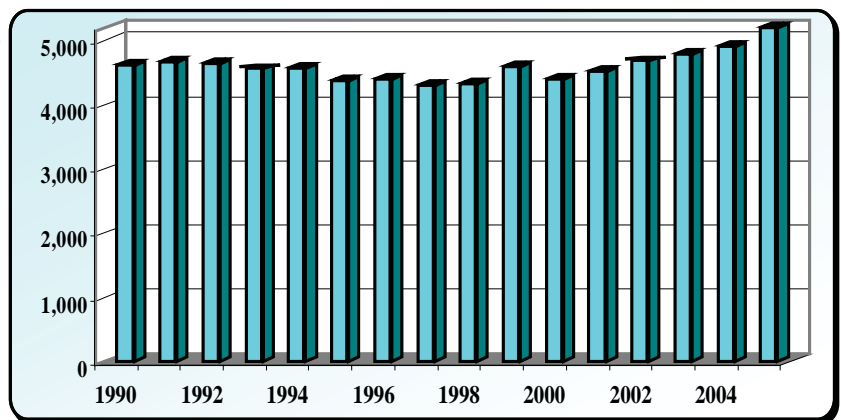
Coal industry jobs are among the best paying in the Wyoming. According to a Wyoming Mining Association survey, total labor earnings in the state were \$440 million (including benefits). The average income in Wyoming coal industry in 2004 was \$64,000 in wages and an additional \$18,000 in benefits. This wage level is twice the state average of \$32,000 per job. The combination of both direct and secondary employment—or jobs created by the coal industry—results in significant benefits for the state.

## The Role of Coal

The importance of coal as a domestic fuel resource cannot be overstated and Wyoming's position in the U.S. coal market is unique. The top ten producing mines in the country are all located in the PRB which makes Wyoming the nation's prime source of domestic coal production. 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 companies have shown interest in building an integrated gasification combined cycle (IGCC) plant in Wyoming. Three coal-fired plants that will use the latest technology are either under construction or in the permitting phase. Black Hills Power is building a 90 MW coal-fired power plant at the Neil Simpson Complex east of Gillette. Basin Electric is permitting a 422 MW power plant north of Gillette and North American Power Group is planning a 310 MW plant southeast of Wright.

## Wyoming coal mining employment, 1990-2005



Source: State Inspector of Mines of Wyoming

Output grew from 395.7 million tons to 404.5 million tons, an increase of 8.7 million tons.

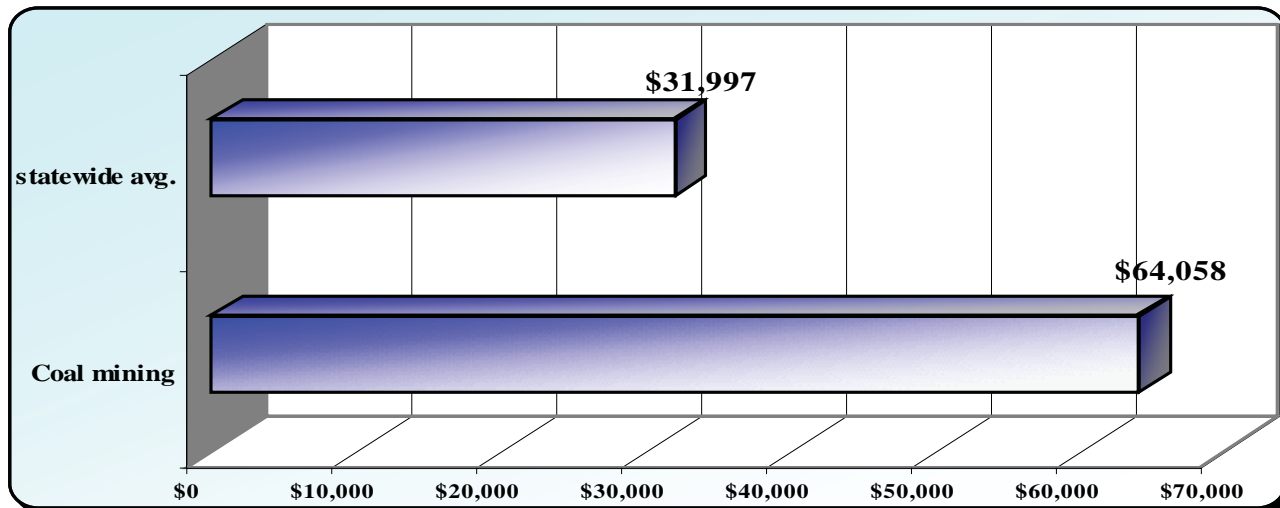
The average price for Wyoming coal rose 14.5 percent from 2004 to 2005—from \$6.88 to \$7.88 per ton.

## Employment

The coal industry continues to be a stable source of employment for the people

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

## Wyoming average earnings per job, 2005.



Source: U.S. Department of Labor, Bureau of Labor Statistics

## Local Impact

Coal is also an important source of revenue for Wyoming's state and local governments. It is estimated that in 2005 coal contributed \$734 million to state and local governments (Page 5). This is a \$218 million increase over 2004 due mainly to an increase in bonus bid monies (Note: not included in this analysis are black-lung taxes, AML fees and the federal portion of mineral royalties).

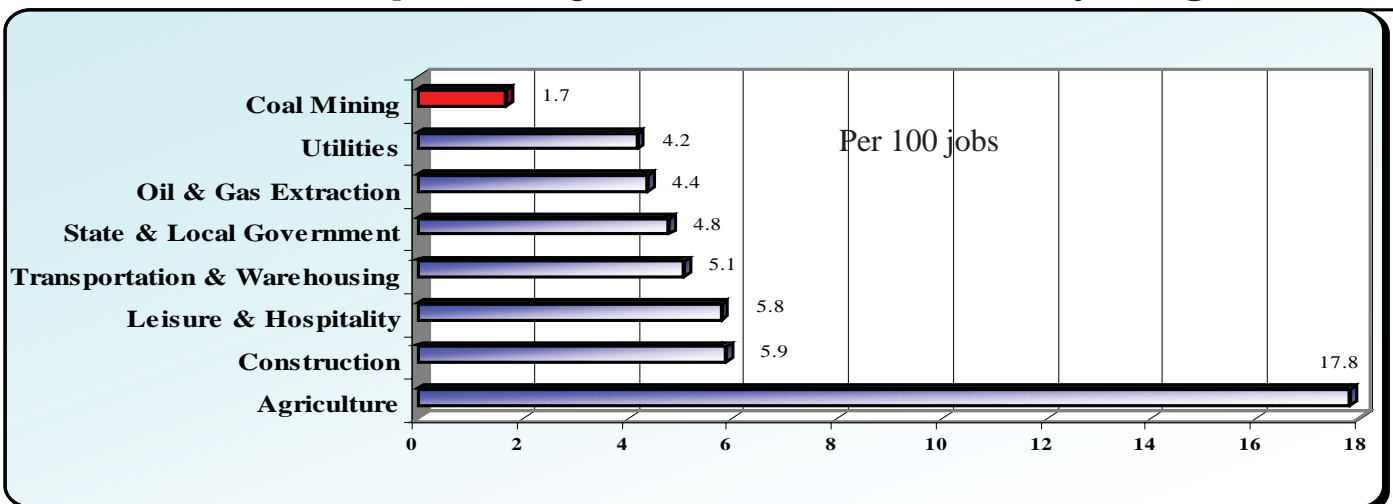


Naughton power plant near Kemmerer

## Safety

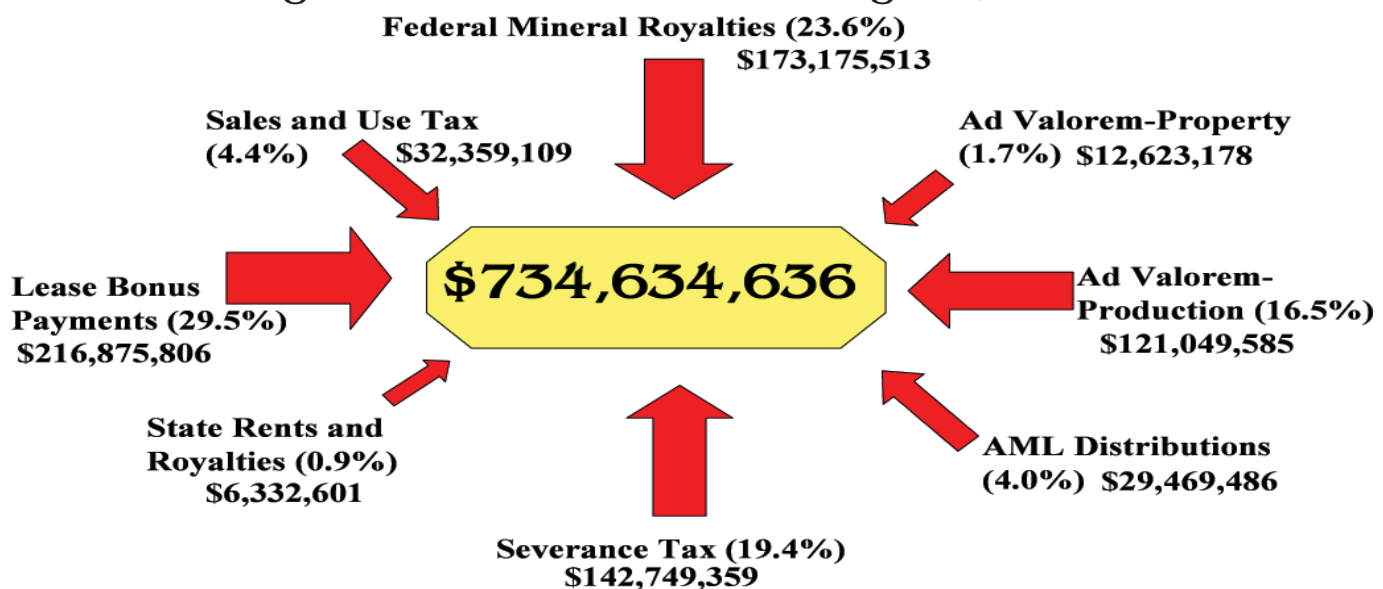
Safety is paramount in the mining industry. Wyoming coal mines have been recognized as some of the safest operations in the United States. Twelve different mines operated all of 2004 without a lost-time-accident (LTA). That same year, all 20 coal mine facilities worked a combined total of 9.5 million man-hours. The graph below shows occupational injuries in selected Wyoming industries

## Rate of non-fatal occupational injuries, selected industries, Wyoming 2004.



Data source: Bureau of Labor Statistics

State and local government revenue from Wyoming coal, 2005.



**Federal Mineral Royalties:** Payments by coal producers to the U. S. government for coal mined on federal leases (about 90 percent of Wyoming production). Wyoming receives half of federal mineral royalties, less and administrative fee assessed by the U.S. Minerals Management Service. Rate: 12.5 percent of sales value.

**Severance Tax:** Levied by the State of Wyoming on mining activities in the state. Effective rate: seven percent of taxable valuation (surface).

**Ad Valorem—Production:** Levied by the counties on value of production at the mine mouth. Average rate: 60 mills (six percent).

**Lease Bonus Payments:** Fee paid by bidders for the right to purchase leases to mine federal coal (“Bonus payments” are in effect signing bonuses). Similar to production royalties, 50 percent is returned to the State of Wyoming. Rates: Average bid price: reference BLM coal website, [http://www.wy.blm.gov/minerals/coal/prb/LBA\\_title.htm](http://www.wy.blm.gov/minerals/coal/prb/LBA_title.htm).

**Sales and Use Taxes:** Levied by state and local government on purchases of goods and services. Rate: four to six percent depending on county.

**Abandoned Mine Lands:** Fee of \$0.35/ton assessed by the U.S. government to pay for cleanup of abandoned mine lands (AML). Although Wyoming’s reclamation has long since been completed, the fees continue. Originally, AML fees were designed to be split evenly between the federal government and the individual states where the money was generated. In practice, Wyoming receives only about half of its share. In 2005, Wyoming coal producers paid \$133 million in AML fees but the state only received \$29.5 million in AML funds (22 percent). As of July, 2006, Wyoming’s undistributed balance in the AML fund is \$467 million.

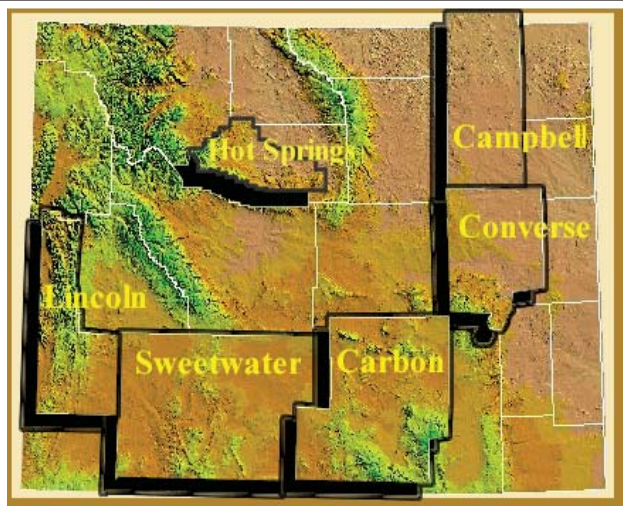
**Ad Valorem—Property:** Levied by counties on assessed valuation of physical property, such as mining facilities and equipment. Average rate: 60 mills (six percent).

**State Royalties and Rents:** Similar to federal royalties, but for coal mined on state leases. Rates: Royalties, 16.67 percent and rents, \$1 to \$4 per acre.

Note: Based on 2004 production. Percentages are percent of total mineral revenue attributable to coal industry in Wyoming.

Sources: WY Dept. of Revenue, U.S. Minerals Management Service, Equality State Almanac, WY Office of State Lands and Investment, Office of Surface Mining, Bureau of Land Management, Consensus Revenue Estimating Group, WY State Treasurer.

# Wyoming Coal Production by County, 2005



## Notes:

1. In 2005, the Black Thunder mine became the first mine in the United States to mine more than one billion tons.
2. Thunder Basin Coal Company is also restarting its Coal Creek Mine.
3. Powder River Coal Company is permitting the new School Creek Mine.
4. Rio Tinto Energy America mined one billion tons of coal over the life of its mines.

Location/operator	Mine	Employees	Production
<b>Campbell County</b>			
Buckskin Mining Co.	Buckskin Mine	202	19,568,058
Foundation Coal West	Belle Ayr Mine	259	19,469,814
Foundation Coal West	Eagle Butte Mine	242	24,137,448
Rio Tinto Energy America	Cordero Rojo Complex	527	37,836,811
Rio Tinto Energy America	Jacobs Ranch Mine	546	37,277,824
KFx Operations	KFX Mine	31	14
Powder River Coal Co.	N. Antelope/Rochelle Complex	825	82,688,918
Powder River Coal Co.	Caballo Mine	304	30,500,000
Powder River Coal Co.	Rawhide Mine	131	12,430,351
Thunder Basin Coal Co. LLC	Black Thunder Mine	948	87,585,845
Thunder Basin Coal Co. LLC	Coal Creek Mine	24	Starting up
Western Fuels of Wyoming, Inc.	Dry Fork Mine	61	4,093,611
Wyodak Resources Develop. Corp.	Wyodak Mine	68	4,701,625
<b>Campbell County Total</b>		<b>4,168</b>	<b>360,290,319</b>
<b>Converse County</b>			
Rio Tinto Energy America	Antelope Coal Mine	337	30,000,000
<b>Converse County Total</b>		<b>337</b>	<b>30,000,000</b>
<b>Hot Springs County</b>			
Grass Creek Coal Co.	Grass Creek Mine	4	6,206
<b>Hot Springs County Total</b>		<b>4</b>	<b>6,206</b>
<b>Lincoln County</b>			
The Pittsburg & Midway Coal Mining Co.	Kemmerer Mine	270	4,616,597
<b>Lincoln County Total</b>		<b>270</b>	<b>4,616,597</b>
<b>Sweetwater County</b>			
Black Butte Coal Co.	Black Butte and Lucite Hills	176	3,773,760
Bridger Coal Co.	Surface operations	243	5,391,902
Bridger Coal Co.	underground operations	62	410,065
New Stansbury Coal Co. LLC	Stansbury Mine	5	Starting up
<b>Sweetwater County Total</b>		<b>486</b>	<b>9,575,727</b>
<b>Employees at mines in reclamation</b>		<b>65</b>	
<b>Wyoming Total</b>		<b>5,330</b>	<b>404,488,849</b>

per 100 employees. Compared to other major industries in the state, coal mining was significantly safer in 2004. The mines credit this to a culture of safety, which starts with each miner attending 40 hours of safety training before their first day of work. Miners must also attend an 8-hour annual refresher on safety training.

## Bonus Bids

Before a mining company can obtain new coal reserves on federal land, the company must nominate lands for lease. The Bureau of Land Management then reviews the proposed tract to ensure maximum coal recovery. 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 are paid when the coal is mined. The successful bidding company pays one-fifth of the total bonus bid at the time of the sale and then pays 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 over 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 3.4 billion tons of coal nominated for lease.

## Reserves

Wyoming is truly blessed with world-class coal resources. The Energy Information Administration estimates that recoverable reserves, in seams thicker than 60 inches and less than 1,000 feet deep, total more than 41 billion tons. Demonstrated reserves, those considered technologically minable, total more than 64 billion tons. Total recoverable and demonstrated reserves amount to more than a trillion tons. Beyond this number are some 400 billion tons, some located at depths of up to 12,000 feet.

## Reclamation

Reclamation signals the end of mining and the return of the land to livestock grazing and wildlife habitat or other industrial uses. Wyoming coal mines collectively disturb about 5,000 new acres each year. Federal and state laws are strictly enforced to ensure that all disturbed land is reclaimed. Specialists supervise reclamation and ensure compliance with all applicable laws. The mines have to follow pre-approved reclamation plans that maintain and even improve land quality, water quality and wildlife habitat.

Reclamation goes beyond just restoring contours and reseeding native plant species. Some of the extraordinary steps taken by mining companies during reclamation include: reclaiming wetlands, replacing rock outcroppings for raptor habitat, creating waterways, replacing sage grouse leks (mating grounds) and even reconstructing prairie dog towns.



Mule deer on reclaimed mine land with mining operations in background

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## Selected References

- Foulke, Thomas, Roger Coupal and David Taylor. *Economic Trends in Wyoming's Mineral Sector: Coal*. University of Wyoming Cooperative Extension Service Bulletin B-1116. Laramie, Wyoming. January 2002.
- Freme, Fred. *U.S. Coal Supply and Demand: 2005 Review*. U.S. Department of Energy. Energy Information Administration. <http://www.eia.doe.gov/fuelcoal.html>. April, 2006.
- United States Department of Energy, Energy Information Administration. *Annual Coal Report: 2004*. DOE/EIA-0584 (2004). <http://www.eia.doe.gov/cneaf/coal/acr/acr.pdf>. November, 2005.
- United States Department of Labor, Bureau of Labor Statistics. *Quarterly Census of Employment and Wages*. Online at: <http://data.bls.gov/>. Accessed July, 2006.
- Wyoming, State of. Department of Employment. Office of Mine Inspector. *Annual Report of the State Inspector of Mines, 2005*. Rock Springs Wyoming. 2005.



Unit train loading from a Powder River basin mine