# ROSEBUD MINE

## WESTERN ENERGY COMPANY
## A Westmoreland Mining LLC Company

## Tour Fact Sheet - 2007

Western Energy, a subsidiary of Westmoreland Mining LLC owns and operates the Rosebud Mine located in Colstrip, MT. In thirty-eight years of production more than 383 million tons have been produced. Approximately 12 million tons of coal is produced annually with a workforce of 400 employees.

Westmoreland Mining purchased Western Energy in 2001 in addition to other mining operations owned by The Montana Power Company and the Knife River Corporation. Westmoreland Mining and its affiliate Westmoreland Resources, Inc together own five surface and coal or lignite mines in the United States. These mines make their parent company Westmoreland Coal Company one of the top ten coal producers in the U.S.

Colstrip was founded in 1923, mining started in 1924. The coal was used to fuel steam locomotive boilers on the Northern Pacific Railway. 44 million tons of coal was mined during the 34 years of operation. Mining ceased in 1958 when diesel replaced the coal-fired steam locomotives.

Colstrip is a community of approximately 3,000 people. There are 3 schools, 1 elementary, a middle school, and a Class B High School. The Yellowstone River supplies water to the city of Colstrip and the power plants. It travels the 30 miles through a 26" pipe and is stored in the 150 acre Castle Rock Lake (45' maximum depth). Construction was completed in 1974.

Coal is transported to the Colstrip 750 megawatt Units 3 & 4 by the 4.2-mile long overland conveyor belt at a rate of 1,550 tons per hour. This provides the plants with approximately 36,000 tons per day. It takes the coal approximately 32 minutes to reach the plant from start to finish. The small buildings along the conveyor belt are called "transfer houses". Since the conveyor belt cannot manage corners, coal drops from one belt, through the 'toilet seat', and onto the next belt.

Energy & Telecommunications
Interim Committee Meeting
October 4 & 5, 2007 (Colstrip)

Exhibit #2

## Area A

The Area A mine is currently inactive. Portions are being reclaimed.

The following facilities are located in Area A/B Complex:

- Administration office
- Maintenance Shops
- Warehouse
- Welding Bucket Shop
- Steam Bay
- Tire Shop (tires for loader can cost as much as $8,000)
- Gear Storage
- Lube Storage Building

## Areas B, C, & D

- Haul trucks dump coal in stockpiles for 330 megawatt Units 1 & 2 (Area D). Coal is transported on conveyor belt system to crushers for Area C coal (Units 3 & 4). Over 10,000,000 tons per year are delivered to the Colstrip Units.
- WECo has one outside contract for coal of approximately 2,500,000 tons per year. A small amount is shipped (300,000 tons) to upper Midwest Municipalities and Universities.
- The tipple loads coal onto trains for shipment. A standard railcar holds 120 ton and trains are usually 115 cars long.
- Colstrip coal is sub-bituminous. It has a heating value of approximately 8,500 Btu. It is used primarily for electricity generation and space heating. Its content is approximately;
  - Carbon: 35 - 45%
  - Moisture: 20 - 30%
  - Ash: 8 - 10%
  - Sulfur: 0.6 - 0.9%
- Overburden averages approximately 100 feet deep at the Rosebud Mine. The Rosebud coal seam is 24 feet thick.
- The first one-foot layer of coal is unusable by the Colstrip Plant due to the high sulfur content and low calorific value. Rosebud Power, 6 miles north of Colstrip,

has contracted to purchase that coal. Theirs is a 35-megawatt generating plan that uses a process that can separate the waste of that coal.

- No dinosaur fossils have been found in the Fort Union Formation. They are generally found in the Hell Creek Formation, which is much lower and surfaces in the Makoshika State Park.

## Mining and Reclamation Process

- Premining environmental surveys are conducted to gather information on hydrology, soils, vegetation, wildlife, and archeology. This information helps to formulate a mine reclamation plan. WECo has spent over $2 million on reclamation research, including studies conducted by students from MSU Bozeman and U of M Missoula. The Rosebud mine is setting the standard for other mines to follow.
- The first mining activity consists of soil salvage. Two (2) feet of soil is salvaged and is stockpiled or hauled for direct laydown.
- A dragline removes overburden to expose the Rosebud Coal Seam.
- Coal is removed by the coal shovel or front-end loader, loaded into trucks, and hauled to the tipple. From there it is transported by the conveyor to the plant or loaded into train cars for shipment. (the Colstrip plants can produce up to 2,100 megawatts of electrical power, which means they consume between 9 and 10 million tons of coal per year.)
- Bulldozers regrade the disturbed surface to the approximate original contour.
- Redistributed topsoil is prepared for planting. Standard farming procedures, such as discing, chisel plowing and packing are followed in order to prepare a proper seedbed. All native species are seeded using four separate seed mixes (certified weed free). Cool season grasses are drill seeded. Warm season grasses and forbs are broadcast seeded using a TRUX seeder which can do both types of seedings. Shrubs and trees are planted using bare root or containerized stock.
- Some alternate reclamation is allowed. Fields are established for growing grains and alfalfa. Local farmers are allowed to lease the reclaimed land.
- Permanent vegetation is established after as few as three (3) years. Cattle are used to manipulate the new plant communities toward the desired result of regulatory bond release.
- New water wells drilled in reclamation; some powered by windmills provide water for the livestock.

- The mine is required to keep reclamation contemporaneous with mining. WECo disturbs approximately 250-350 acres annually for mining purposes. WECo also reclaims and revegetates 250-350 acres annually. An average of 20,000 trees and shrubs are planted each year.
- Over $2 million was spent initially on reclamation research in order to meet regulatory requirements.
- WECo has reclaimed and revegetated about 7,400 acres to date.

## Draglines

- 3 – Marion 8050 (weight 6.5 million lbs.) with 60 cubic yard buckets (90 tons of dirt or about the size of a single car garage). The buckets weigh 45 tons and cost $350,000. Buckets are replaced for refurbishing ($60,000) every 6 months. Draglines are electric and are fed with a 12,500-volt trailing cable. 8050's originally cost approximately $12.5 million.
- 1 – Marion 8200 (weights 8.5 million lbs.) with an 80 cubic yard bucket (105 tons of dirt). The cost was about $21 million. This dragline was built on-site and took $1\frac{1}{2}$ years to complete. The following are specs for this dragline:
    - 325' Boom (a little larger that a football field).
    - Walking units take 6' steps in about $1\frac{1}{2}$ - 3 minutes.
    - Dumps overburden into "spoil piles"
    - Optimum digging height is 90' above the coal top
    - Maintenance problems and threat of lightning storms are generally the only reason for shutting down
    - 14 motors. 4 lift (1,045 hp); 4 drag (1,045 hp); 4 swing (800 hp); 2 walk (1,045 hp); Total is approximately 4,000 horsepower. Each motor has its own generator.

## Trucks

- 7 – 120 Ton Euclid (green)
- 1 – 150 Ton Caterpiller (yellow)
- 4 – 160 Ton Dart (red/orange stripe)
- 3- 100 Ton Terex end dump (white)
- 3 – 200 Ton Kress

## Colstrip Energy Limited Project (CELP)

Rosebud Power - 6 miles north of Colstrip, contracted with WECo to receive "waste" coal not suitable for use at the Colstrip power plants due to the high sulfur content and low calorific value. The first foot of the coal seam is cleaned/ground. The ground coal is loaded into over-the-road trucks and transported to Rosebud Power.

## Air Quality

The plants are regulated under Class I air quality, which is the same as that governing national parks. The Northern Cheyenne Tribe was responsible for attaining this classification. Colstrip is in the "Clean Air corridor" that extends from Canada to Texas.

- $SO_2$ - 20 times below the national level
- $NO_2$ - 5 times below (red/brown haze created from burning coal)

## Other Interesting Facts

- 1 ton of coal to 3.8 barrels of oil - produces the same energy
- The plants can burn (when all 4 units are on line), the equivalent of 3-100 car train loads per day.
- WECo's used tires are returned to tire vendors for recycling or appropriate disposal.

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# June 2007

## Contributions to Montana's Progress

| | | |
|---|---|---|
| Total Current Number of Employees (June 2007): | | 438 |
| Union | 342 | |
| Salaried | 84 | |
| Part Time | 12 | |
| Total 2006 Payroll | | $23,692,235 |
| Total 2006 Payroll Taxes | | $ 1,189,954 |
| Production Taxes Paid to State of Montana for 2006 Mining | | $22,662,000 |
| Severance Taxes | | $17,232,000 |
| Resource Indemnity Trust Taxes | | $ 417,000 |
| Gross Proceeds Taxes | | $ 5,013,000 |
| Total Taxes Paid to State of Montana in 2006 | | $21,511,822 |
| Property Taxes Paid to Rosebud County for 2006 | | $ 542,581 |
| Tons of Coal Sold in 2006 | | 12,732,000 |