

FORDING RIVER

Fording River Operations is located approximately 29 kilometres Northeast of Elkford, British Columbia. Fording River's primary product is high-quality metallurgical coal used to produce coke for the international steel industry. The mine also produces and sells thermal coal for use by power utilities and associated industries. Fording River is capable of producing more than 7.5 million tonnes of consistent high-quality coal per year.

click to expand 

"Location."



Fording River, Fording Coal Limited's largest metallurgical/thermal coal mine, began production in 1971 and made its first shipment of metallurgical coal in April 1972. Fording's initial contract was for 2.7 million tonnes per year of Fording standard coal to a single customer. Today, Fording River ships well over 7 million tonnes per year of Fording standard, medium volatile, high voltage and thermal coal to customers in 19 countries worldwide.

"11400 tonnes of cleaned coal leaves on its 1175km trip from Fording River Operations to deep sea port of Roberts Bank."

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Fording River produces Canada's widest range of bituminous coals from a single site. This flexibility in product type allows Fording to respond to changing customer needs and market conditions. The mine's reserves consist of more than 515 million tonnes of cleaned coal in 20 different seams.

A detailed mine plan spanning more than 20 years has been developed which focuses on consolidating the majority of the truck/shovel fleet in one area: Eagle Mountain. This vast coal reserve provides Fording River with several advantages relative to international competitors: assured coal supply; flexibility among product types; large, integrated mining areas capable of supporting economies of scale; efficient waste hauls; and an improving strip ratio over the life of the mine plan.

STATE-OF-THE-ART EQUIPMENT

High-capacity, state-of-the-art equipment is used to mine more than 60 million banked cubic metres of waste rock and raw coal per year - an amount equivalent to 150 million tonnes. With a solid foundation of large 218-tonne HaulPak trucks and a Marion 301-m electric shovel with a 44 cubic metre capacity bucket, Fording River has advanced to the next generation of large-scale mining equipment.

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"Electric shovel and truck in operation."



It has since acquired a Marion 351-M shovel with a 44 cubic metre capacity bucket, and has field tested a Komatsu Haulpak 930E Haul Truck with a capacity of 281 tonnes.

MINE OPERATIONS

The mine operations are supported by skilled maintenance and trades personnel working to maximise the availability of the large equipment. The coal preparation plant used to process raw coal to a cleaned product is among the most efficient in the world, capable of producing more than 7.5 million tonnes of high-quality coal annually.

click to expand 

"The coal preparation plant."



With a proven track record as an efficient, reliable producer, and with strong direction for the future, Fording River Operations will continue to be one of the industry's most stable suppliers of quality coal.

Fording River's dragline efficiently removes waste rock overlying coal in areas of the mine other than Eagle Mountain. As illustrated in this mining sequence, the waste rock is drilled [1] and blasted in advance of the dragline. The dragline then lifts out the waste rock [2] and places it in spoil piles [3]. With the seam exposed, the dragline lifts out the coal [4] and stockpiles it where a loader puts it in 155 tonne coal trucks [5] (see schematic below).

click to expand 

"Dragline mining schematic."



Open-pit mines are normally developed from top to bottom in a series of horizontal cuts known as benches. Fording River's typical benches are 15 metres high, matching the vertical reach of the loading equipment.

[1] Waste rock is drilled and blasted on each bench so it can be removed to expose the coal seam. [2] A large electric shovel and a small capacity shovel [3] load the waste rock into 218 tonne and 155 tonne trucks for removal to a spoil in mined areas or another area of the mine which does not contain coal. [4] While dozers "clean" the coal seam and push the exposed coal down to the bench floor, a loader [5] places the coal into trucks equipped with specially designed coal boxes for transport to the rotary breaker. The mining sequence starts again as each bench level is completed (see schematic below).

click to expand 

"Open-pit coal mining schematic."



PROCESSING

Before coal is shipped, it passes through a series of stages where it is cleaned of impurities and then dried. In a typical coal-mining operation, the raw coal is transported to a stockpile or fed directly into the hopper [1]. It then moves to the breaker [2] where the coal is broken into small pieces and large rocks are removed. The coal is conveyed to the washplant [3] where it is screened into separate sizes before it is washed using gravity, cyclones or flotation.

Once cleaned, it passes through the coal-fired dryer [4] where moisture is removed in the form of steam. The cleaned coal is then conveyed to storage facilities or coal silos [5]. Fording River's silo sits directly over the rail line, allowing unit trains to pass through it and load without stopping. Each rail car is sprayed with latex to prevent dust from blowing off as the train travels to Westshore Terminals at Roberts Bank, B.C., south of Vancouver (see schematic below).

"Washing and drying process schematic."

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Fording River's coal preparation plant is one of the most efficient in the world and is capable of producing over 7 million tonnes of cleaned coal annually. The highly-trained and experienced employees who operate the processing plant's automated equipment make certain that the coal processed in the plant meets the strict quality standards of Fording's international customers.

Once washed, the coal is then dried in an automated thermal dryer to remove unwanted moisture. The dryer uses coal as its primary source of fuel.

GEOLOGY AND RESOURCE MANAGEMENT

Over 65% of Fording River Operations' proven reserves are currently contained within Eagle Mountain. Approximately 15 seams ranging in thickness from one to 15 metres are being mined; a number of thinner seams are also mined where conditions allow.

"Typical Eagle Mountain cross section at Fording River Operations."

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The low-sulphur seams grade from medium to high volatile, with volatile content increasing upwards in the stratigraphic section. The gradation provides a range of coal seams which comprise the three distinct product types of Fording standard, medium volatile and high volatile. Product release to meet customer needs is managed by allocating mining equipment to the appropriate stratigraphic horizon.

An experienced team of engineering and geology personnel is dedicated to defining the reserve and generating mine plans which make the most efficient use of the geology.

Interpretation of exploration and production drilling information is used to define the structure, reserve and quality of the coal resource. A comprehensive geologic database is supplemented by cleaned-coal quality data collected during the processing and shipping of the coal.

EAGLE MOUNTAIN

Exploration and mining of peripheral areas on Eagle Mountain was undertaken in the early 1970s, but it was not until 1981 that a commitment was made to develop the entire reserve using open-pit methods. Initial development, including access and infrastructure, commenced in 1982 with the first coal release occurring in 1984.

click to expand 

"Landscape of Eagle Mountain."



A detailed mine plan for Eagle Mountain has been developed to provide cost-efficient production for more than 20 years. Our engineering resources are dedicated to the ongoing task of refining and optimising the plan. At the same time, a long-term reclamation program has been developed to complement mining on Eagle Mountain.

The commitment to develop this extensive reserve ensures a reliable, long-term supply of quality coking coal for world markets. Additional reserves outside the planned mining areas will support mining and expansion at Fording River well into the 21st Century.

Fording River relies on its engineering expertise, sophisticated computer-based mine planning and scheduling systems, and satellite-based surveying and drilling systems to ensure the effective handling of our customers' specific needs.

Mining plans ensure long-term development objectives are met during the mining process to satisfy sales commitments and quality objectives. Blending of the resource to meet customer standards relies on a detailed historical quality database and the experience of a team dedicated to quality management.

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FORDING RIVER
OPERATIONS IS
LOCATED 29 KILOMETRES
NORTHEAST OF
ELKFORD, BRITISH COLUMBIA

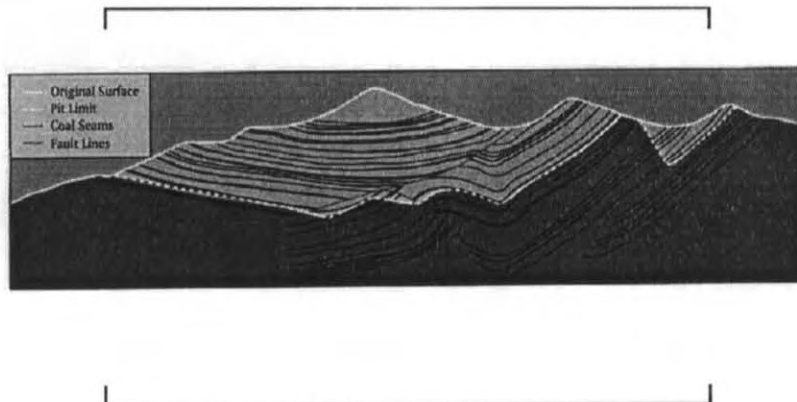
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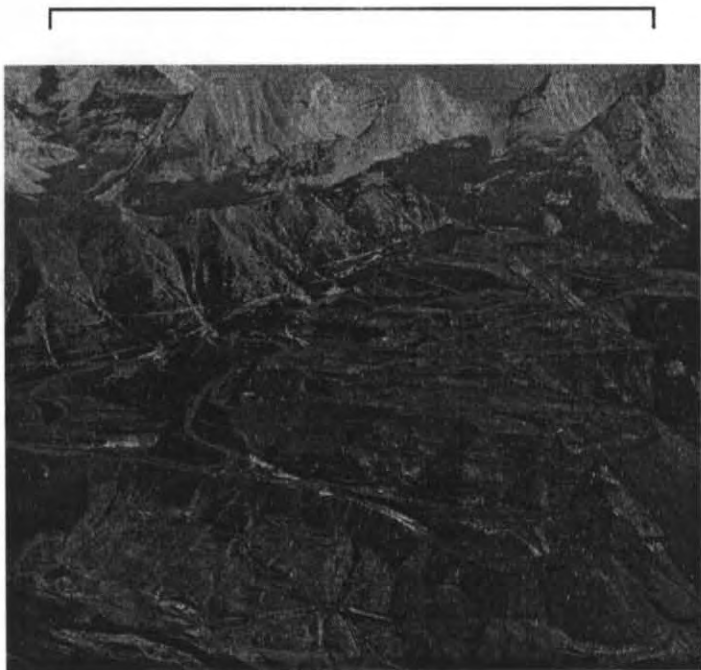
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