

THE WEBSITE FOR THE MINING INDUSTRY

CURRENT PROJECTS

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GREENHILLS

Greenhills Operations is Forcing's second largest metallurgical/thermal coal mine, located eight kilometres Northeast of Elkford, British Columbia. Greenhills' primary products are medium volatile and standard metallurgical coal used to make coke for the international steel industry. The mine also produces and sells thermal coke for use by power utilities and associated industries. Greenhills has an annual production capacity of over 4.5 million tonnes of cleaned coal.

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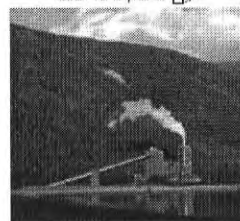


Location.

In December 1992, Forcing purchased an 80% interest in the Greenhills coal mine in the Elk Valley of Southeast British Columbia. The remaining 20% is owned by Pohang Steel Canada Limited, a subsidiary of Pohang Iron and Steel Company Limited of Korea.

Since the acquisition, Forcing and Pohang have invested over \$100 million in capital and development to strengthen Greenhills' competitiveness in the international marketplace.

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Landscape of Greenhills.

Today, Greenhills has the capacity to ship more than 4.5 million tonnes of bituminous coal annually to a variety of customers around the world.

HIGH-QUALITY, LOW-SULPHUR BITUMINOUS COALS

The Greenhills mine produces a range of high-quality, low sulphur bituminous coals from a single site. This product flexibility allows Forcing to effectively respond to changing customer needs and market conditions.

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Typical cross section at Greenhills Operations.

The mine's reserves consist of approximately 128 million tonnes of cleaned coal in 13 different seams. Of this total, 90 percent of the reserves are contained within the Cougar North, South, Main and Raven pits of the Greenhills range. The seams that are currently being mined range in thickness from one metre to 10 metres.

Reserves in other areas of the Greenhills mine are contained with 15 recoverable coal seams. These areas are scheduled for mining at a future date.

GLOBAL POSITIONING SYSTEM (GPS)

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In 1994, Greenhills Operations introduced a computerised dispatch system to optimise the productivities of its large-scale mining equipment. This system incorporates real-time satellite technology to effectively monitor and dispatch trucks to shovels and loaders to ensure the mining fleet is used in the most productive manner possible.



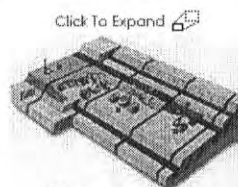
GPS Technology in surveying and drilling applications.

The system also enhances our production reporting activities by tracking and relaying technical information to the production, maintenance and engineering departments on a regular basis. This ensures all departments have an accurate and real-time record of the present mining configuration, which is used in planning future mining activities.

OPEN-PIT COAL MINING AT GREENHILLS

Open-pit mines are normally developed from top to bottom in a series of horizontal cuts known as benches. Greenhills' 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 smaller capacity shovel [3] load the waste rock into 218 tonne and 155 tonne trucks for removal to areas of the mine which do not contain coal. [4] While dozers and a backhoe "clean" the coal seam and push the exposed coal down to the bench floor, an excavator [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 nears completion (see open-pit coal mining schematic).

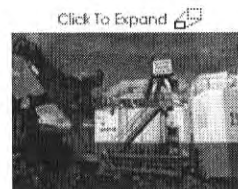


Open-pit coal mining at Greenhills schematic.

LOADING AND HAULING

At Greenhills, electric shovels load waste into the operations' fleet of haul trucks that are capable of holding 218 tonnes of rock and soil. The largest of the shovels is a Marion 301-M with a 45 cubic metre capacity bucket.

A hydraulic shovel, an excavator with a 31 cubic metre capacity bucket, electric shovels with 20 cubic metre capacity



A Marion 301-M with a 45 cubic metre capacity bucket.

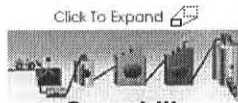
buckets, and front-end loaders are used to load the mined coal into specially designed 155-tonne capacity coal trucks for transport to the processing plant.

PROCESSING

Before coal is shipped, it passes through a series of stages where it is cleaned of impurities and then dried. In this operation, the coal is fed by a loader into a hopper [1]. It moves to the breaker [2] where it is broken into small pieces and large rocks are removed. The coal then travels along an overland conveyor to the raw coal storage silos [3]. From here, it is conveyed to the wash-plant [4] where it is screened into separate sizes before it is washed using gravity, cyclones or flotation. Next, the coal travels to the coal-fired dryer [5] where moisture is removed in the form of steam. The cleaned coal is then conveyed to the load-out facility. Greenhills' two coal silos [6] sit directly over the rail line, allowing unit trains to pass through and load without stopping. Rail cars are sprayed with latex to prevent dust from blowing off as the train travels to Westshore Terminals south of Vancouver, B.C. (see washing and drying process schematic).



Truck and loader.



Greenhills washing and drying process schematic.

ENGINEERING EXPERTISE

Sophisticated computer-based mine-planning and scheduling systems, and the use of GPS Technology in surveying and drilling applications, help ensure we are able to meet our customers' specific needs in a timely and effective manner.

Our team of experienced employees has a proven record of quality management that emphasises a safe and productive work environment. The combination of these strengths ensures that the products produced at Greenhills meet our customers' exacting standards.

SPECIFICATION

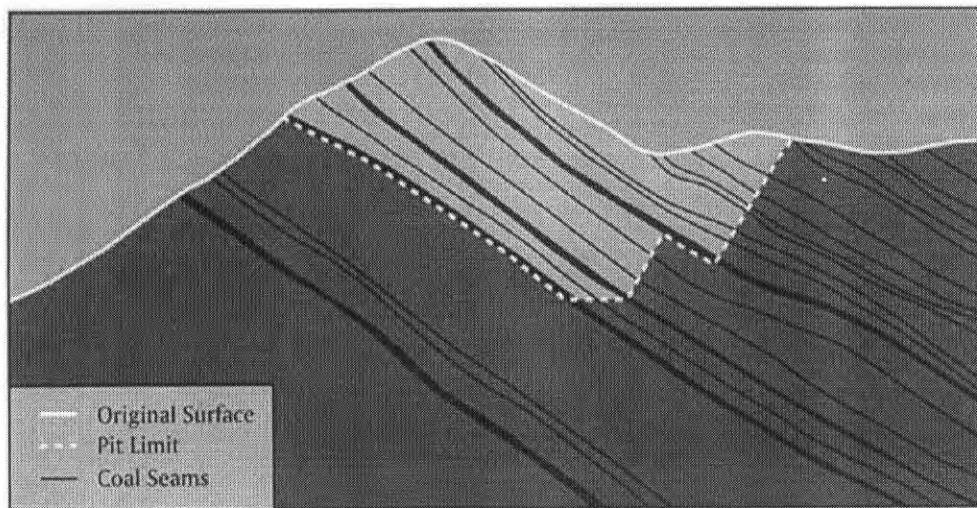
CONTRACTORS

- » [Caterpillar, Inc - Mining Trucks, Excavators, Tractors and Loaders](#)
- » [Komatsu Mining Systems, Inc - Surface Mining Heavy Equipment](#)
- » [Modular Mining Systems - Mine Management and Truck Dispatch Systems](#)
- » [Shaw-Almex Industries Ltd - Conveyor Belt Vulcanizing](#)
- » [Tamrock Driltech - Top Drive Rotary Drills](#)

CURRENT PROJECTS	EQUIPMENT CATALOGUE	A-Z COMPANY INDEX	EXHIBITIONS & CONFERENCES	INDUSTRY ORGANISATIONS	HOME
Site Navigator					

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[Return to main profile](#)



[Return to main profile](#)

