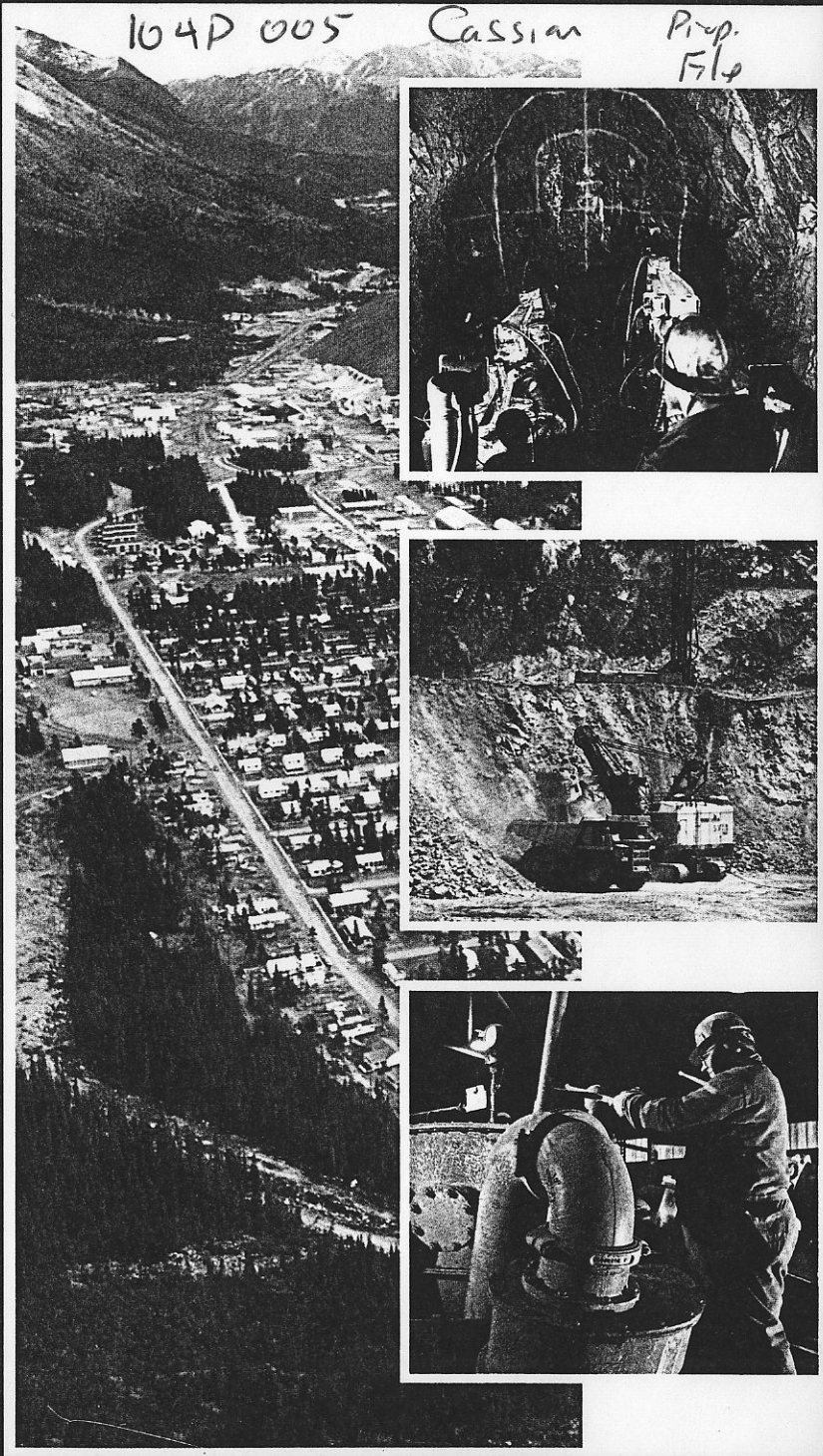
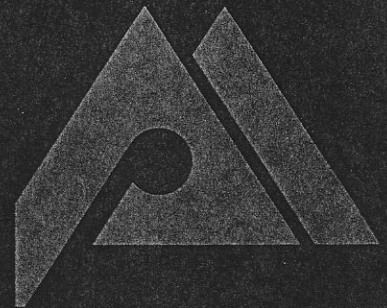


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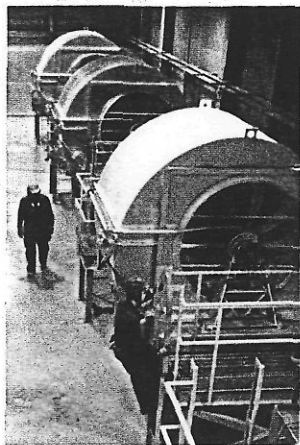


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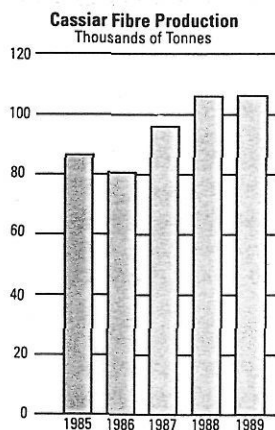


**PRINCETON
MINING
CORPORATION**

Cassiar Operation



The air filtration system in the Cassiar mill and the continuous environmental monitoring program ensure a high standard of air quality.



The year 1989 saw a new production record established at Cassiar with total production of 106,090 tonnes of fibre. Marketing also established a new record with sales of 109,396 tonnes of fibre.

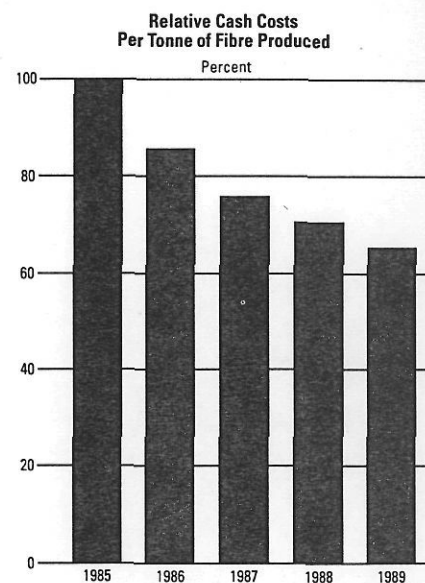
Following 37 years of continuous operations, open pit mining activities at Cassiar were substantially completed. The accelerated mining plan initiated in late 1988 established an ore stockpile to provide feed for the mill during the transition from open pit to underground mining. During the first half of 1990, the remaining ore from the pit bottom will be mined and added to the existing stockpile.

The mining operation at Cassiar achieved low cash operating costs per tonne of fibre even with the additional costs of the accelerated mining program. The accompanying graph compares the relative unit production costs. The low cash costs, coupled with increased sales prices resulted in repayment of the balance of the long term debt and also provided some funding for the McDame development. In 1990 the lower operating cost will continue while ore is being milled from the stockpile.

Wet Milling Pilot Plant

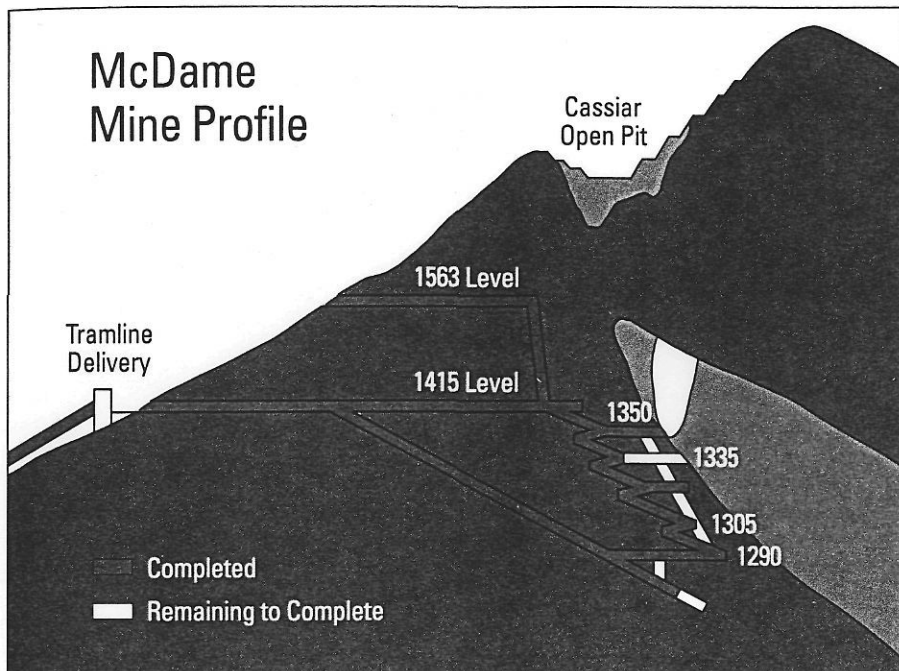
Testing continued throughout the year to evaluate the optimal design for a wet milling

production plant. Operation of the test facility was limited to the summer months because of operating difficulties encountered with the existing conveyor equipment during freezing temperatures. Fibre produced from the plant was of marketable quality and received favourable customer acceptance. A study to evaluate the feasibility of a production plant to treat the mill tailings will be conducted in 1990.



CASSIAR	1989	1988	1987
Fibre Production (tonnes)	106,090	106,085	96,014
Ore Mined (tonnes × 1000)	1,764	1,865	1,100
Waste Removed (bank cubic metres × 1000)	364	1,561	1,416
Ore Reserves – Open Pit (tonnes)	932,279		
– McDame Deposit (tonnes)	16,000,000		

McDame Project



During the latter part of 1990 the McDame underground operation will become the primary ore source into the next century. Mining of approximately 1.6 million tonnes per annum of ore grading 5.6 percent recoverable fibre is planned from this deposit. Fibre production is forecast to average 90,000 tonnes per year.

The 1989 diamond drilling program has outlined an additional 5 million tonnes of reserves at the south-east end of the McDame deposit. The zone remains open to the south along strike and down dip.

The total cost of bringing the new mine into production is estimated at \$53.6 million. Expenditures incurred to December 1989 were \$31.6 million and represented 59 percent completion. The project is being financed in part by a \$20 million loan from the British Columbia Government which is anticipated

to be fully drawn down by the end of the first quarter of 1990. The balance of funding will be provided from internally generated funds from open pit fibre sales. A project loan of \$9.6 million has been arranged with a bank and is available if required.

McDame Progress

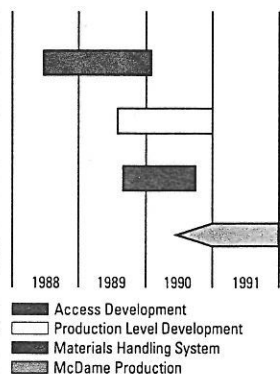
The status of the development is shown on the accompanying mine profile. Slashing of the two main access adits and the ventilation raise connecting the two adits was completed during the year.

The conveyor decline, the main exhaust and access ramps, and the north section of the first production level (1350 level) were also completed. In total, the excavation work consisted of slashing 419 metres of headings and driving 1983 metres of ramps, drifts, and crosscuts. The installation of the ore extrac-



*Continuous monitoring
ensures a quality product
for our customers.*

**McDame Project
Pre-Production Schedule**



McDame underground production is scheduled for late 1990.

tion conveyors commenced in late December and is estimated to be completed and commissioned for operation in March 1990.

The surface work consisted of the construction of the crusher building, including installation of the major operating components, the foundations for the tramline loading terminal, the conveyor transfer tower, and an ore reclaim station. A warehouse was erected near the portal and the installation of three main ventilation fans was completed. All major underground mining equipment has been delivered to the site. Experienced supervisory and technical personnel were recruited and as of January 1990, the underground development has been conducted under Cassiar supervision.

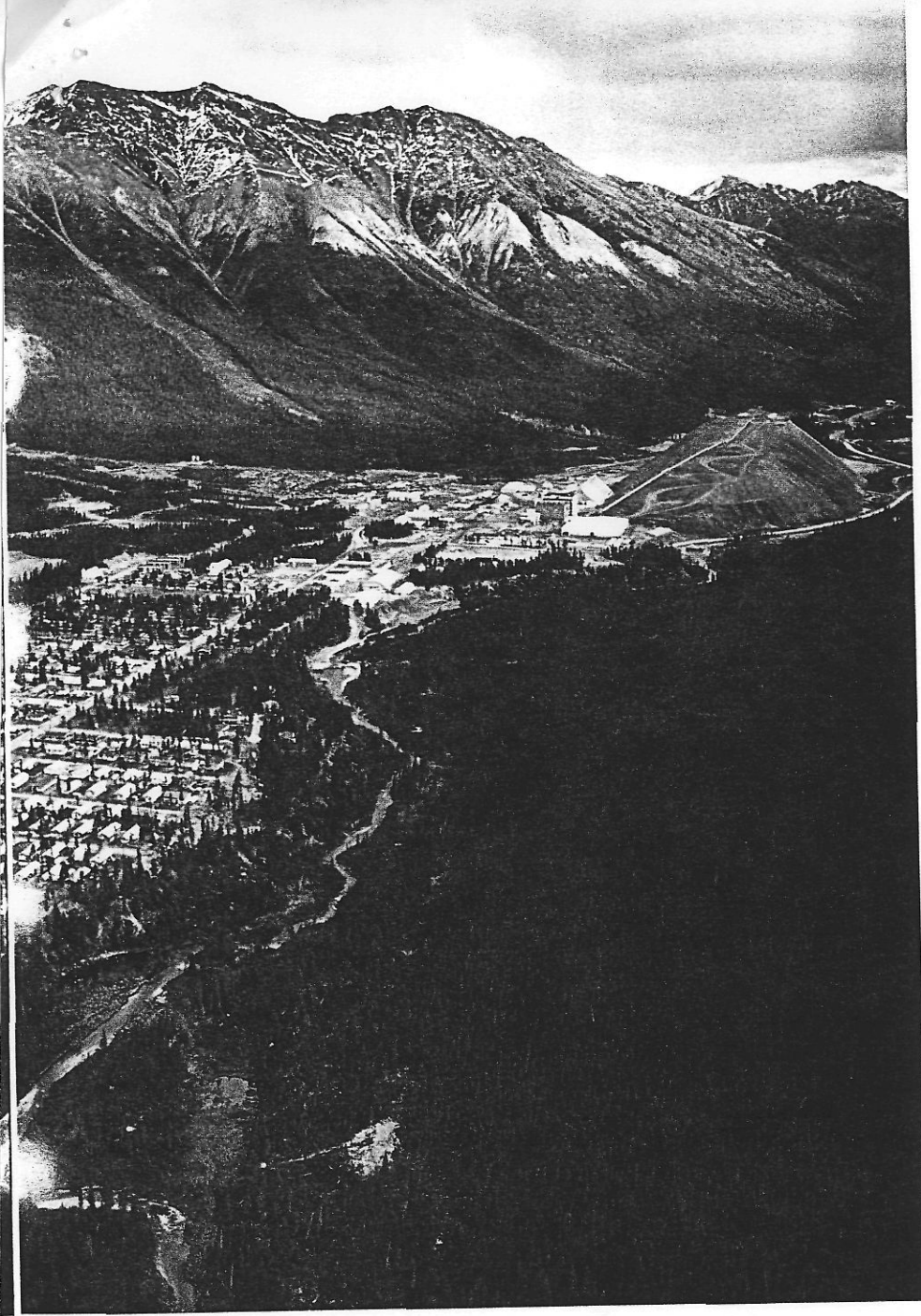
It is planned to begin commissioning of the ore drawpoints and start low volume production in mid 1990. Production will be increased gradually by commissioning additional drawpoints, with full production expected late in 1990.

Mining Method

The McDame ore body is a massive, asbestos deposit, located in highly fractured and sheared serpentinite and is ideally suited to the block caving method of mining. Block caving provides the opportunity for high production capacity and is one of the lower cost underground mining methods. This method requires heavily supported drawpoints and undercutting of the ore by blasting openings at the base of the ore columns. The broken ore is then extracted from the drawpoints at a controlled rate,



allowing the overlying ore to cave and flow to the drawpoints below. Production levels are spaced at an interval of 15 metres vertically and 20 metres horizontally with drawpoints spaced at 10 metre intervals along the length, or strike, of the orebody. Up to 26 drawpoints on each level are required to cover the full width of the orebody. The height of ore over the drawpoints varies from 65 to 70 metres for the first level, to over 120 metres for the lower levels.



All ore is dried prior to milling, using waste heat from the diesel power plant.

Undercut blasting can begin once the required number of drawpoints have been developed and supported. Short extensions of the drawpoint crosscuts are developed, drilled, and undercut blasting is conducted to initiate the caving process. Broken ore is then loaded by rubber tired "load-haul-dump" machines at the drawpoints and transported to a centrally located orepass. The ore flows down the orepass to a feeder-breaker, which crushes any oversize material

prior to transfer onto the main haulage conveyors. These conveyors transport the ore from the bottom of the orepass to the portal crusher where it is then transferred to the tramline for delivery to the mill. Designed for an optimum output of 5,300 tonnes per day, the mine will be deepened at the rate of approximately one level per year, requiring simultaneous work on at least two successive levels.