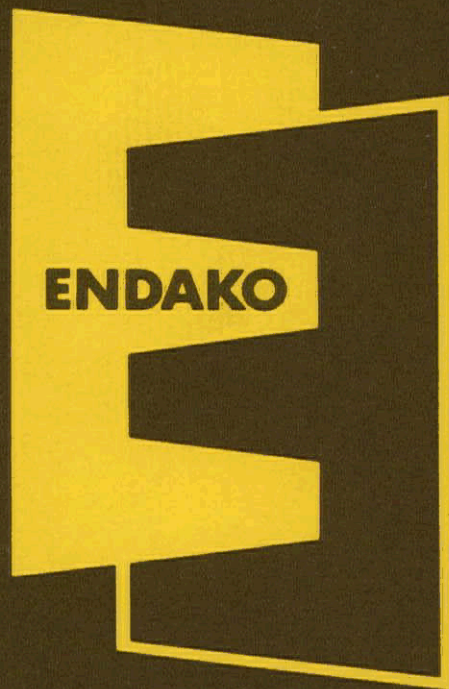


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ENDAKO MINES LTD. (NPL)
SOUVENIR PROGRAM, OFFICIAL OPENING, JUNE 8th, 1965



ANDREW ROBERTSON

Andrew Robertson was born and received his early education in British Columbia and later moved east to McGill University to complete his formal education as a mining engineer. In entering this field he chose one where foresight, perseverance and above all optimism pay off. He was trained to develop these characteristics and became a leader in the industry through his experience in exploration, construction and finally production. In the process he was to gain much from his association with such prominent men in mining as Fraser D. Reid, General Manager of Coniagas Mines and Edward Futterer of the Howey Mine, and with companies such as Noranda Mines, Ltd., British Metal, Nichols Engineering Ltd., Howey Mines Ltd., and Manitou Barvue Mines.

In 1959 while on visit to his native province he became interested in the new look of mining in British Columbia. The Omineca District, in particular the Endako district, drew Mr. Robertson's attention. During the 1920's much time and effort had been spent on prospecting the area. Other individuals and companies had examined the molybdenite claims originally staked by Charles H. Foote and Alf Langley, but molybdenum was not popular in this era and values were low. Andrew Robertson joined perseverance and foresight with a lifetime of experience in electing to develop the potential of the molybdenum site.

He chose to disregard the warning "it has been tried before", and labored to answer his own question "why didn't it succeed?" Because of this forthright philosophy, Endako has come into its own.

DIRECTORS:

Ross G. Duthie, Vancouver, B.C.
J. Douglas Little, Vancouver, B.C.
Thomas H. McClelland, Vancouver, B.C.
Andrew Robertson, Vancouver, B.C.
Edgar A. Scholz, Vancouver, B.C.
Isaac Shulman, Vancouver, B.C.

OFFICERS:

Thomas H. McClelland, *President*
Edgar A. Scholz, *Vice-President*
James C. Tarbuck, *Comptroller*
James L. McPherson, *Secretary*
John R. Croll, *Treasurer*
Garth S. Jones, *Asst. Treasurer*
John M. McConville, *Asst. Secretary*

HISTORY

In 1927 two residents of the community of Fraser Lake, Charles H. Foote and Alf Langley, found many fragments of mineralized float scattered along a ridge five miles southwest of the village of Endako. The two men had come to hunt — they stayed to stake claims. Later they sank a 27 foot shaft in a quartz molybdenum vein, and drove a short adit below the shaft.

In following years the Stella Mine property was examined by various individuals and companies. After the original claims lapsed in 1959, they were restaked by Dr. C. Riley and Dr. H. T. James. In July, 1961, Andrew Robertson signed an examining option with the owners.

The stripping, blasting, trenching and drilling that followed, while not conclusive, yielded evidence of a major ore body, prompting Robertson to negotiate a purchase agreement, and stake open ground to the south and east, adjoining the 26 original Stella Mine claims. However, his faith in the enterprise was not supported by his eastern associates and he was obliged to proceed, through his own company, to finalize a new agreement for the purchase of the Stella claims, in January 1962.

Robertson renewed the diamond drilling program and by June the encouraging results of the program had been reported across Canada. Endako Mines Ltd. (N.P.L.) was incorporated as a private company in the same month, and became a public company in August. Trimart Investments, Toronto, underwrote funds for continuing development.

Following examination of the mineral showings on August 22, Canadian Exploration Limited entered into an option agreement with Endako Mines and a vigorous program of exploration was started. Diamond drilling continued until the end of February, 1964, at which time 190 drill holes had been cut — for a total of 82,902 feet. 2,755 feet of underground crosscutting, drifting, shaft sinking and raises had been completed.

On the 15th of March 1964 a decision was announced to equip the mine for production; the clearing of the plant site and open pit was started immediately, and the construction of the plant followed as soon as weather permitted. By scheduling building completion first it was possible to continue machinery installation all winter and by mid-May the project was completed, at an expenditure of some \$22,000,000. The mine had progressed from its first drill hole to commencement of mill production in slightly more than three years.



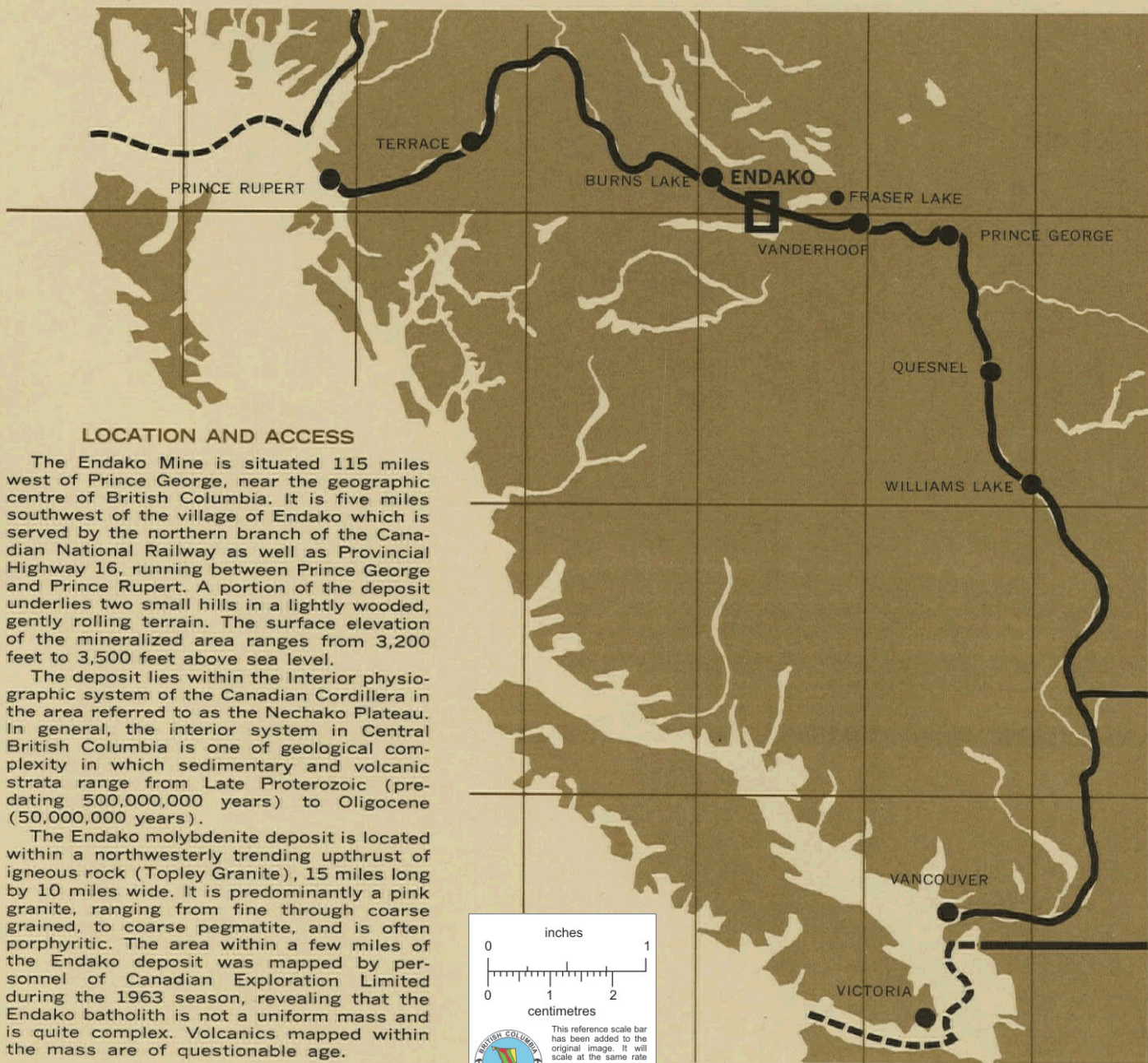
Aerial view of Endako Mines: plant site, center; open pit, upper center; tailing line and main access road, lower center

INTRODUCTION

Endako Mines Ltd. is the second largest mine in British Columbia, in terms of daily concentrate or throughput, and the largest producer of molybdenum in Canada. The mine opening comes at a time when the use of molybdenum in industry has attained a position of great importance and demand. Since the turn of the century when molybdenum was first used in the production of improved quality steels it has found widespread use in the iron and steel industry. Today it is estimated that between 80% and 90% of the molybdenum consumption is in iron and steel alloying. Added in varying amounts from 0.10% to 0.90% molybdenum imparts the following properties to steel; increased strength, uniform hardness, creep resistance at high temperatures, reduction of brittleness after tempering, retardation of brittleness at high temperatures, corrosion resistance, and retention of strength at high temperatures. Added to cast iron, molybdenum increases tensile strength and resistance to chipping and improves hardenability.

Molybdenum compounds are used in increasing amounts in insecticides, fertilizers, pigments, catalysts, ceramics and lubricants for high temperature application.

As a result of its multiplicity of uses, molybdenum is in short supply today and a large part of the production from Endako has been committed under long-term contracts to satisfy the requirements of industry in Europe and Japan. Endako will export both an oxide and a sulphide product and it is expected that limited Canadian markets will be found for both products.

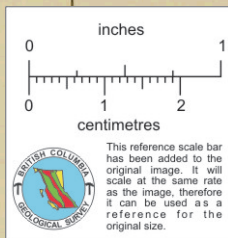


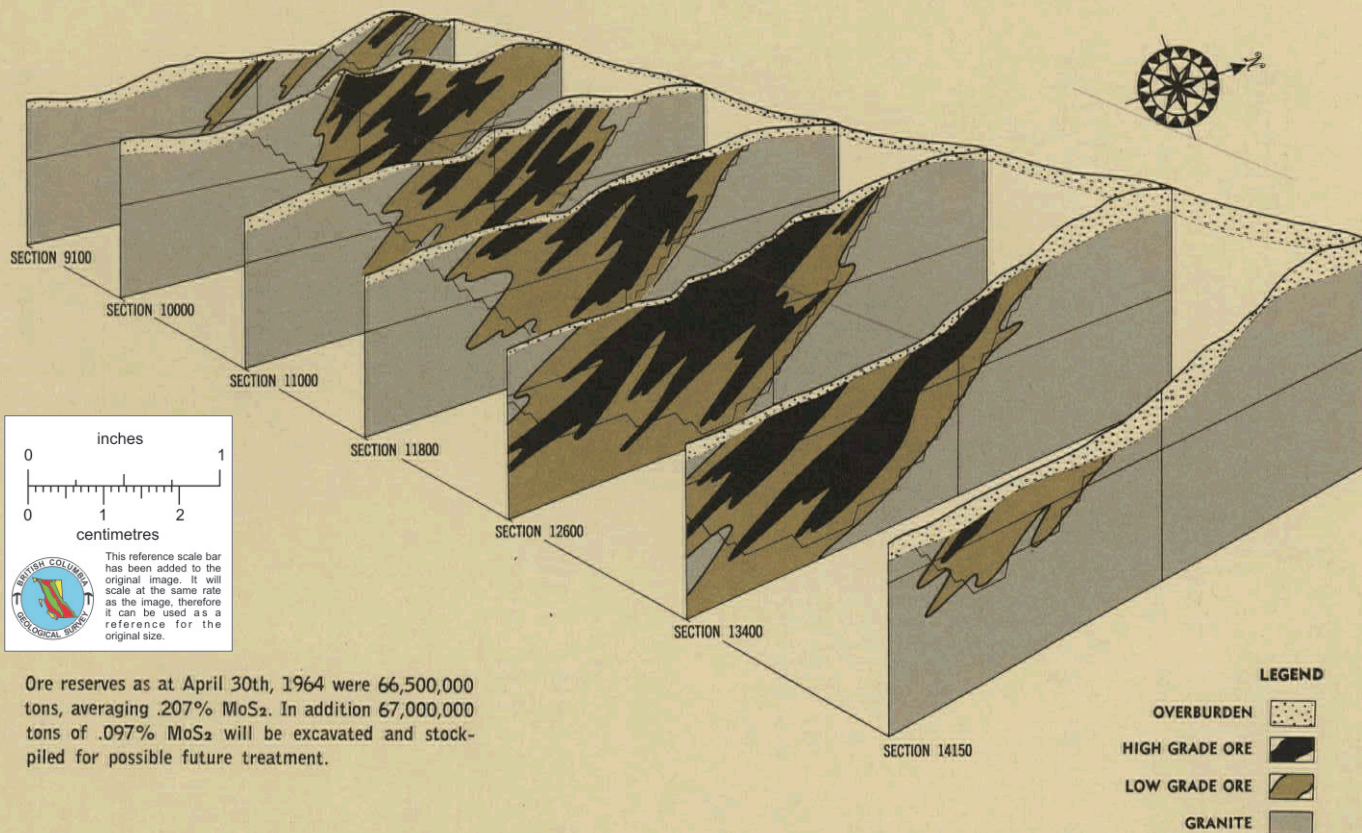
LOCATION AND ACCESS

The Endako Mine is situated 115 miles west of Prince George, near the geographic centre of British Columbia. It is five miles southwest of the village of Endako which is served by the northern branch of the Canadian National Railway as well as Provincial Highway 16, running between Prince George and Prince Rupert. A portion of the deposit underlies two small hills in a lightly wooded, gently rolling terrain. The surface elevation of the mineralized area ranges from 3,200 feet to 3,500 feet above sea level.

The deposit lies within the Interior physiographic system of the Canadian Cordillera in the area referred to as the Nechako Plateau. In general, the interior system in Central British Columbia is one of geological complexity in which sedimentary and volcanic strata range from Late Proterozoic (pre-dating 500,000,000 years) to Oligocene (50,000,000 years).

The Endako molybdenite deposit is located within a northwesterly trending upthrust of igneous rock (Topley Granite), 15 miles long by 10 miles wide. It is predominantly a pink granite, ranging from fine through coarse grained, to coarse pegmatite, and is often porphyritic. The area within a few miles of the Endako deposit was mapped by personnel of Canadian Exploration Limited during the 1963 season, revealing that the Endako batholith is not a uniform mass and is quite complex. Volcanics mapped within the mass are of questionable age.





Ore reserves as at April 30th, 1964 were 66,500,000 tons, averaging .207% MoS₂. In addition 67,000,000 tons of .097% MoS₂ will be excavated and stock-piled for possible future treatment.

ENDAKO MINES LTD., PLAN OF MOLYBDENUM RESERVES

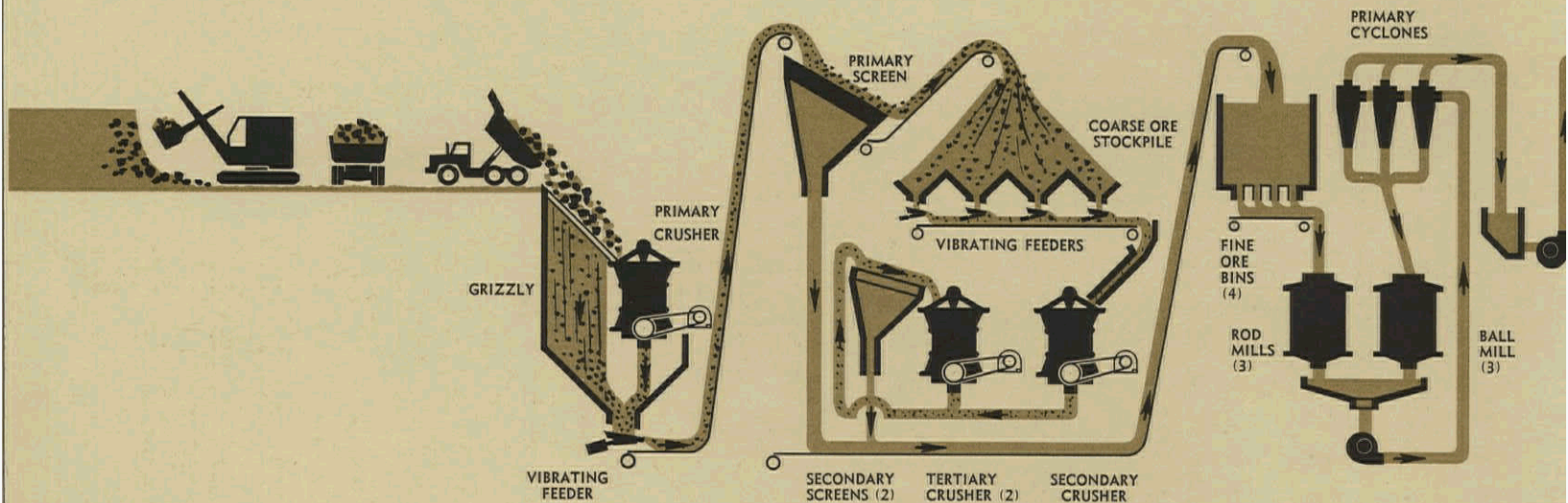
Early diamond drill holes revealed molybdenite mineralization the full length of every core. This necessitated the splitting of each core from top to bottom in order to obtain accurate assays.

There are essentially two main structural types of mineralization within the Endako deposit:

The dominant type of the western portion is that of the "vein zones". By this is meant a zone of mineralization which is parallel to and including one or more of the larger quartz veins. Normally there is an increase in the frequency of the smaller mineralized veins, although their attitude may differ greatly. The majority of the vein zones dip to the south at approximately 45 to 50 degrees.

The second type of mineralization, characteristic of the eastern part of the deposit, consists almost entirely of veinlets that may average 1/4" or less in width. In some sections they are not much more than a hairline in size. These smaller veins are characteristically flat in shape. This type of mineralization is more uniform in grade than the "vein zone" type.

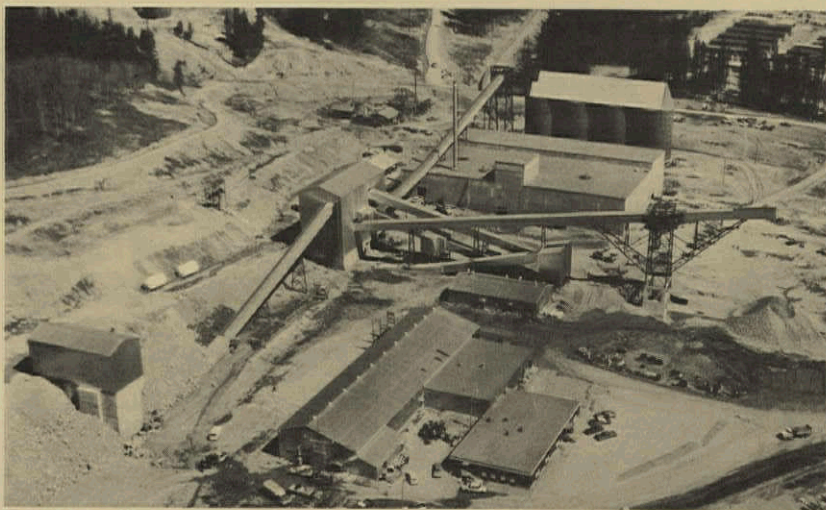
The Endako mill has been designed to treat 10,000 tons of ore per day, from which 20 tons of molybdenite concentrate will be produced. Anticipated final concentrate grade is 54% molybdenum (90% MoS₂) or better with an overall recovery of 90%.



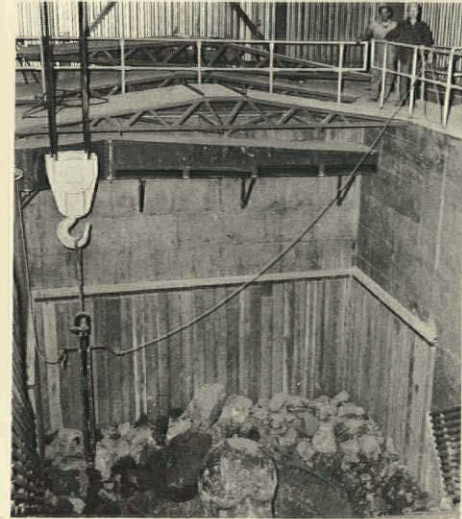
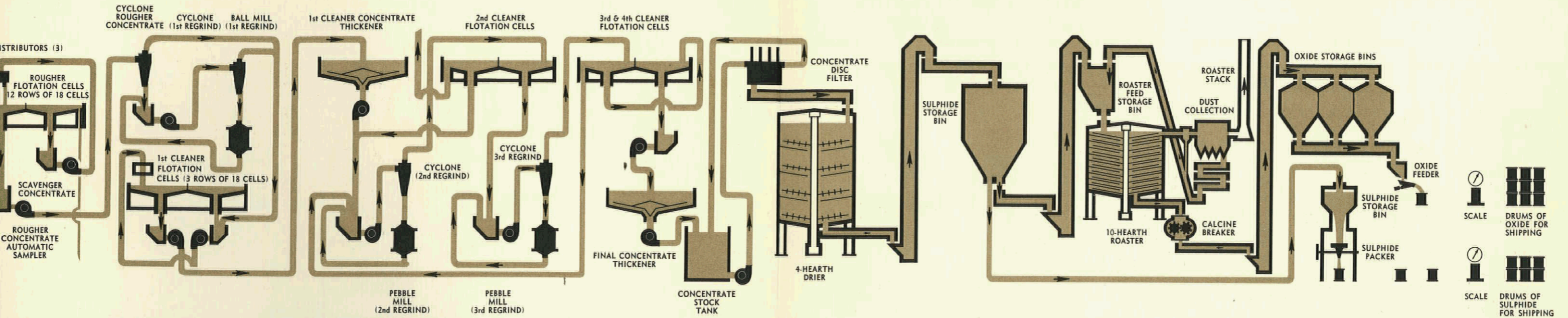
The open pit area with waste dumps and stockpile areas lower center and to left. Mining area, center.



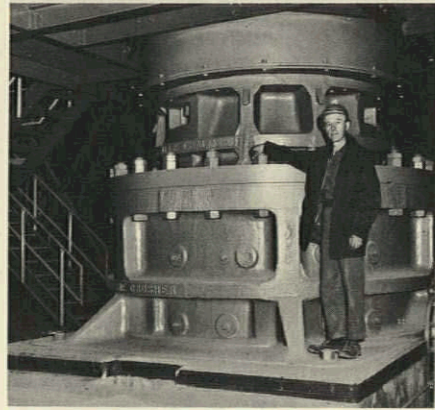
An electric shovel in the open pit loads 5 cubic yards of ore into a 35 ton truck. Behind is the mast of a 9" rotary drill.



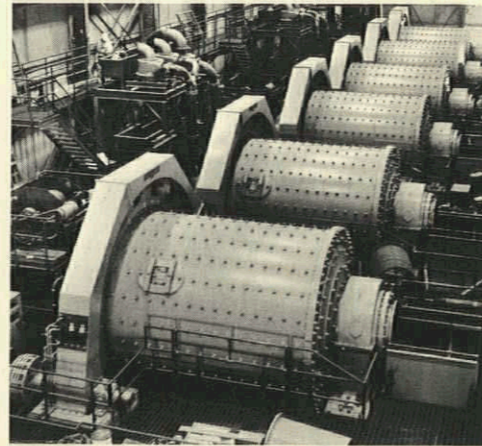
Endako Mine, showing the plant area. Shop, warehouse and office are lower center; primary crushing plant, lower left; secondary and tertiary crushing plants, middle left; primary stockpile, middle right; concentrator with fine ore bins, upper center; auxiliary power plant and British Columbia Hydro sub-station, upper left. The construction camp is upper right.



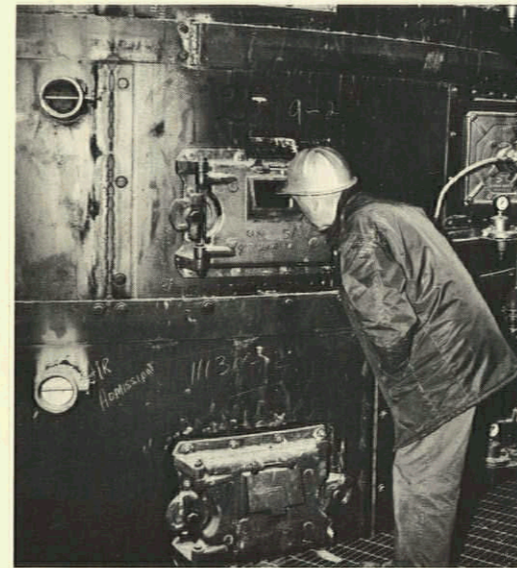
Primary crusher seen from the top. Ore is dumped from trucks into the crusher.



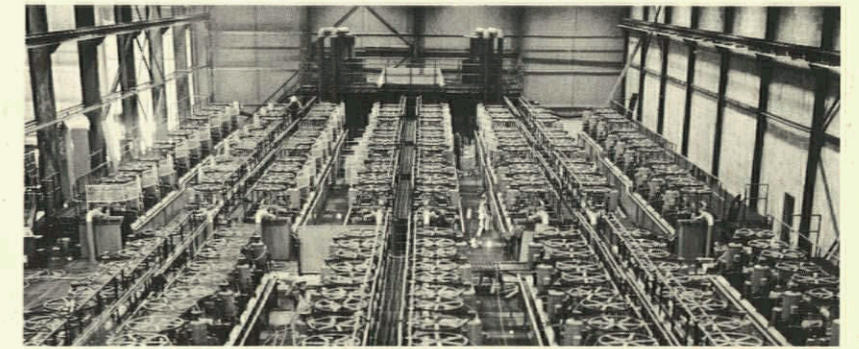
One of the three crushers in the secondary — tertiary crushing plant.



The grinding bay houses 6 main grinding units, each powered by 1,250 h.p. motors and cyclone classifiers.



External view of the Herreshoff multiple-hearth concentrate roaster.



The mill concentrator, showing flotation cells where primary separation of mineral from waste takes place.



The tailing disposal area showing disposal line on dam at lower side of lake. Floating pumphouse and return water line, upper left side of lake.



Some of the eighty-one modern homes at the Fraser Lake Townsite.

FRASER LAKE TOWNSITE

Officials of Endako Mines selected the existing community of Fraser Lake as the most suitable place for the establishment of a housing development to accommodate the mine's employees and their families.

Located twelve miles from the mine site, on the south side of the large and scenic Fraser Lake, the community is named after the explorer, Simon Fraser, who explored the area in 1807 and established a trading post on the eastern end of the lake.

The present development is on the western end of the lake, 100 miles west of Prince George on the B.C. Northern Trans Provincial Highway No. 16, which connects Prince George and Prince Rupert. The Canadian National Railway line passes through

Fraser Lake, linking Jasper, Alberta, and Prince Rupert.

The new development has been laid out by a town planner with the view to establishing Fraser Lake as an incorporated village. Sufficient land has been allocated to accommodate a future population of 2,500 with parks, schools, and churches projected in the plan. To date modern sewer and water services have been installed, 125 lots prepared, and 81 modern, bungalow-type, two and three bedroom homes constructed. A modern, pleasantly situated motel has been erected to accommodate 96 single men.

Medical services are readily available in hospitals located in the towns of Burns Lake and Vanderhoof.



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