

BRENDA MINES LTD.

(Latitude 49° 52'30" N, Longitude 120° 00' W, Elevation 4,800')

LOCATION, ACCESS AND CLIMATE

The Brenda deposit is 140 miles east-northeast of Vancouver and 14 miles northwest of Peachland in the southern interior of British Columbia. The area around the deposit is typified by gentle rolling, tree-covered upland with scattered glacially rounded outcrops.

Fourteen miles of paved and 4 miles of gravel road connects the property to Highway 97N at Peachland.

Temperatures at the mine site reach a maximum of 30°C in the summer months and a minimum of -30°C in the winter. Mean daily temperatures approximate 15°C during July and August and -8°C during December and January. Freezing conditions are experienced from mid-September to mid-April. Annual precipitation is in the order of 18 inches, of which 90%+ is in the form of snow.

HISTORY AND OWNERSHIP

During the late 1930's and early 1940's, the Sandbergs of Kelowna worked on their "Copper King" property exploring a 12 inch chalcopryrite-molybdenite bearing quartz vein. They abandoned their claims in the early 1940's and the property lay dormant until it was re-discovered in 1954 by Bob Bechtel, a weekend prospector from Penticton. Between 1954 and 1964, several examinations and test drillings of the property were conducted but the low copper and molybdenum grades and lack of demand for molybdenum discouraged the investigators. During this period, Mr. Bechtel was encouraged and assisted by Messrs. B.O. Brynelsen and M.W. Menzies, then manager and assistant manager, respectively, of the Noranda Exploration Co. Ltd. offices in Vancouver. Brenda Mines Ltd. was formed in 1964 under the guidance of Brynelsen and Menzies. With funds obtained from Nippon Mining Company and private individuals, a detailed exploration and feasibility program was initiated in 1965. Noranda Mines Limited began providing major financing for the feasibility project in June 1966 and, in the spring of 1967, formalized later by agreement dated 4 January, 1968, management control was assumed by Noranda. Today Noranda holds 50% of the issued common shares.

At start-up in early 1970, the Brenda orebody had proven reserves of 177,000,000 tons grading 0.183% Cu and 0.049% Mo at a cut-off of 0.300% equivalent Cu (eCu) where $eCu = \% Cu + (5.45 \times \% Mo)$. As of 1 January, 1974, reserves were 136,637,000 tons at 0.179% cu and 0.046% Mo.

A total capital outlay of some \$63.5 million was required to bring the Brenda property to production.

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GEOLOGY

The Brenda orebody is located within the Brenda Stock, a quartz diorite of Jurassic age which intrudes the stratified tuffs, tuff breccias, argillites, and limestones of the Nicola Group (Upper Triassic).

Mineralization of economic grade occurs in a strongly fractured area 2,600 feet long and 1,500 feet wide near the west margin of the Brenda Stock, approximately 800 to 1,000 feet from the contact with the Nicola Group. (Figure 1). Ore grade mineralization extends to depths exceeding 900 feet. A belt of much lower grade non-economic mineralization up to 2,000 feet wide extends north-northeasterly almost to Long Lake.

The ore minerals, chalcopyrite and molybdenite, along with minor pyrite and occasional magnetite, occur as fillings within fractures. Disseminations are rare except in areas of intense hydrothermal alteration. The grade of the orebody is a function of fracture density and of mineralogy of the filling material. Filling material, in addition to the sulphides, may be either biotite, quartz + potash feldspar, or quartz.

PROPERTY OPERATIONS

Under a resident General Manager - Vice-President, the operating crew is divided into three departments: Mine Operating, Mill Operating and Plant. Administrative services are provided by the Accounting, Personnel and Purchasing Departments.

As of 28 February 1974, the employees were distributed as follows:

	<u>Hourly Rate</u>	<u>Staff</u>	<u>Total</u>
Mine Operating	84	19	103
Mill Operating	76	29	105
Plant, including all Maintenance	149	31	180
Administration	—	<u>28</u>	<u>28</u>
Total	<u>309</u>	<u>107</u>	<u>416</u>

During 1973, a total of 8,867,800 short tons of ore grading 0.203% Cu and 0.058% Mo were treated in the Brenda concentrator. The concentrates produced contained 16,200 tons of copper and 4,122 tons of molybdenum. Operating costs were distributed as follows:

	<u>% Per Short Ton Milled</u>
Mining	31
Milling	51
Plant	4
Administration	<u>14</u>
	<u>100%</u>

Figure 2 depicts the general arrangement of the Brenda Mine.

