

NAME OF PROPERTY

J.A.

OBJECT LOCATED - Deposit.

UNCERTAINTY IN METRES 300.

Lat. 50°28'35" Long. 120°58'30"

Mining Division Kamloops

District

County

Township or Parish

Lot

Concession or Range

Sec

Tp.

R.

OWNER OR OPERATOR

Cominco Ltd.

DESCRIPTION OF DEPOSIT

The deposit straddles the north-striking contact between granodiorites of the Guichon variety and the younger Bethlehem phase of the Upper Triassic Guichon Creek batholith. A small elliptical stock with a long axis subparallel to that of the ore lies along its southern contact. The stock cuts the Guichon/Bethlehem contact. It has a carapace of quartz-plagioclase aplite which grades inward to porphyritic biotite-quartz monzonite. This carapace is mineralized, and weakly disseminated sulphides occur throughout the stock.

Regional geology and bedrock geometry suggest that a series of steeply dipping northward- and northwestward-striking faults comprise the framework of the deposit.

Mineralization occurs primarily in fractures, veins and their alteration envelopes. The predominant economic mineral is chalcopyrite, with lesser bornite. Sulphide zoning is apparent as follows: a core zone in which bornite equals or exceeds chalcopyrite grades outward through a zone with chalcopyrite in

p.t.o.

Associated minerals or products - Molybdenum.

HISTORY OF EXPLORATION AND DEVELOPMENT

The J.A. deposit is located at approximately 4,000 feet elevation in the Highland Valley, at the west edge of Indian Reserve 14, 1½ miles southeast of the Bethlehem concentrator.

The mineralized zone was discovered by Bethlehem Copper Corporation Ltd. in July 1971 during routine drilling of geological contacts on Bethlehem ground. Drilling during 1972 totalled 148,000 feet in 111 vertical holes. Based on this work proven reserves were estimated at 286,280,000 tons averaging 0.43% copper and .017% molybdenum (Bethlehem 1973 Annual Report).

A preliminary open pit described in the company's 1972 annual report has been designed to extract 125 to 150 million tons of ore. Deep overburden renders the deposit uneconomic as an open pit operation under normal commodity prices. If underground block caving methods were used a reserve of approximately 130,000,000 tons at 0.51% copper and 0.027% molybdenum would be mineable (Bethlehem 1976 Annual Report).

Cominco Ltd during the period 1977-81 increased its interest in Bethlehem Copper from 12 to 100%. Bethlehem Copper were amalgamated with Cominco Ltd as of December 31, 1982 under the name Cominco Ltd.

DESCRIPTION OF DEPOSIT (continued)

excess of bornite to a zone with chalcopyrite in excess of pyrite and, finally, to a zone with pyrite in excess of chalcopyrite. Pyrite in the "halo" averages less than 2 per cent by volume. The orebody is predominantly within the chalcopyrite and chalcopyrite + pyrite zones; the pyrite and much of the bornite zone have subeconomic grades.

Molybdenite is common in small amounts throughout the bornite, chalcopyrite and chalcopyrite-pyrite zones. In general, the best molybdenum values appear to coincide with the best copper grades.

MAP REFERENCES

- Geology of the Guichon Creek Batholith, Sc. 1":2 miles - accomp. B.C. Dept. of Mines Bulletin No. 56, (1969).
- Map 886 A, Nicola, (Geol.), Sc. 1":4 miles - accomp. Memoir 249, Geol. Survey of Canada (1947).
- #Inferred Bedrock Geology of the J-A Mineral Deposit, Sc. 1":1,100 ft. (approx.), Fig. 15, Geology, Exploration and Mining, 1972, p. 174, British Columbia Dept. of Mines.
- Map 5212 G, Mamit Lake, (Aeromag.), Sc. 1":1 mile (1968).
- *Map 92 I/7, Mamit Lake, (Topo.), Sc. 1:50,000.

REMARKS

Comp./Rev. By	DMacR	DMacR					
Date	9-78	12-83					

REFERENCES

- +McMillan, W.J.; J.A.; Porphyry Deposits of the Canadian Cordillera, The Canadian Institute of Mining and Metallurgy Special Volume 15, pp. 144-162, 1976.
- Ewanchuk, H.G., and Anderson, R.E.; The Exploration and Current Development of the J.A. Orebody; Paper given at the Prospectors and Developers Annual Meeting, Toronto, March 1972.
- Mineral Policy Sector; Corporation File: "Bethlehem Copper Corporation".
- Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1972, pp. 171-179 ++ .