

NAME OF PROPERTY

BIG LEDGE

OBJECT LOCATED - Showing, Fig. 2, Bull. 195.

UNCERTAINTY IN METRES 300. Lat. 50°28'20" Long. 118°05'05"

Mining Division Slokan District Kootenay

County Township or Parish

Lot Concession or Range

Sec Tp. R.

OWNER OR OPERATOR

Cominco Ltd.

DESCRIPTION OF DEPOSIT

The property lies near the eastern boundary of the Shuswap metamorphic complex. In the vicinity of the Big Ledge this complex consists of sillimanite grade marble, quartzites, and gneisses belonging to the Monashee Group. These rocks are of Lower Palaeozoic (Cambrian (?)) age, metamorphosed in Upper Cretaceous time. The rocks form an east trending synform, which has been modified by two later stages of deformation. The sulphide deposit occurs in the Ledge Unit, a highly folded assemblage of marble and diopsidic quartzite. Thickness variations in the Unit are extreme due to folding; in general, the exposed part is less than 50 feet thick. Sulphide intersections vary from 2 to 50 feet thick. The deposit was formed by replacement, deposition in fractures, and to some extent, by deposition in breccia zones. The sulphide minerals are sphalerite, pyrite, pyrrhotite, galena, chalcopyrite and marcasite. The gangue consists of the host rock and minor amounts of quartz and calcite. Zinc is by far the most valuable metal in the deposit, since the Pb/Zn ratio is about 0.005 and silver values are very low.

Associated minerals or products

HISTORY OF EXPLORATION AND DEVELOPMENT

The Big Ledge extends from the west shore of Upper Arrow Lake westward across Pingston Creek to Mount Symons, a distance of about 6 miles. The Crown-granted claims are located in the vicinity of Empress Lake, near the western end of the ledge, at elevations of 4,000 to 7,500 feet.

The showing was staked in 1892 by A. Symons, who was directed to the area by an Indian who noticed the gossan zone of the Ledge deposit. Subsequent staking by other parties on either side of Symons' holdings brought the total to about 35 claims in two main groups, the Monarch and Adventurer. Three of these claims, the Adventurer (Lot 1067), Outlook (Lot 2476), and Sunshine (Lot 2477) were Crown-granted to Thomas Abriel and Elizabeth Scott in 1907. An amalgamation of several properties took place in 1925. Included were five claims owned by A. Symons, four by Messrs. Randall and Scott, two claims owned by Messrs. Fowler and Waldon, one claim owned by T. Abriel and eighteen owned by Messrs. Trites and Brindle. Exploration and development work to that date included about 700 feet of underground work in 4 adits on the Bonanza, Sunshine, Sky-line and Adventurer claims. In 1926 the property was optioned to the Butler interests of Los Angeles and Duluth. Early in 1927 diamond drilling was carried out in 16 holes totalling 3,400 feet.

The Consolidated Mining and Smelting Company of Canada Limited acquired the property in 1946. During the period 1947-1953 exploration work included 6,100 metres of diamond drilling. The ground was restaked as the BL group of claims, which were Crown-granted (Lots 16071-16114) to the company in 1960; an exception was the Venturer claim (Lot 1067), one of the originals which was not cancelled. Further exploration work during the period 1964-1966 included geochemical and magnetometer surveys, and 13,217 feet of diamond drilling in 29 holes. Dithozone geochemical tests show that zinc is present almost continuously along the ledge and have enabled it to be traced eastward as far as Upper Arrow Lake despite heavy overburden in the eastern section. The company name was changed in 1960 to Cominco Ltd.

The property is estimated to contain from 500 to 1,000 million pounds of zinc plus lead, grading less than six per

p.t.o.

Mineral Policy Sector, Department of Energy, Mines and Resources, Ottawa

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

cent combined (Lead Zinc Deposits of British Columbia and neighboring Parts of the United States, Fig. 14-1, Canadian Institute of Mining & Metallurgy, Special Volume No. 8, 1966).

HISTORY OF PRODUCTION

Reserves are reported as 6 500 000 mt at 4% Zn (CIM Bulletin, April 1982, p. 119).

MAP REFERENCES

- Map 1059 A, Vernon, (Geol.), Sc. 1":4 miles - accomp. Memoir 296.
- #Geology of the Thor-Odin Gneiss Dome, Sc. 1:50,000, Fig. 2, Bulletin 195, Geol. Surv. of Canada, 1971.
- Geology of the western part of the Big Ledge Area, Sc. 1 cm: 0.13 km (approx.), Fig. G-8, Geology, Exploration and Mining 1976, British Columbia Dept. of Mines.
- Map 8492 G, Mount Fosthall, (Aeromag.), Sc. 1":1 mile.
- *Map 82 L/8, Mount Fosthall, (Topo.), Sc. 1:50,000.
- Sketch plan of Big Ledge claims, Fig. 6, Summary Report 1928, Pt. A.

REMARKS

Comp./Rev. By	DMacR	DMacR					
Date	10-78	02-86					

REFERENCES

- Raham, Gerald O.; Geology of the Big Ledge Zinc Deposit, British Columbia; A Thesis Submitted to the Faculty of Graduate Studies, The University of Calgary, April 1967.
- Jones, A.G.; Vernon Map-Area, B.C.; Memoir 296, p. 152, Geol. Surv. of Canada, 1959.
- ††Cairnes, C.E. and Gunning, H.C.; Big Ledge (Consolidated) Property, Upper Arrow Lakes, Kootenay District, B.C.; Summary Report 1928, Pt. A, pp. 109-118, Geol. Surv. of Canada.
- Mineral Policy Sector; Resource File: MR-ZN-301.00 - British Columbia.
- Report of the Commission on the Investigation of the Zinc Resources of British Columbia, pp. 330-334, Mines Branch, Ottawa, 1906.
- Fyles, J.T.; Lead-Zinc Deposits in British Columbia; in Tectonic History and Mineral Deposits of the Western Cordillera, The Canadian Institute of Mining and Metallurgy, Special Volume No. 8, p. 235, 1966.
- Reports of Minister of Mines, British Columbia: 1901, p. 1036; 1902, p. 164; 1903, p. 150; 1904, p. 146; 1905, p. 170; 1906, p. 151; 1907, pp. 105, 219; 1908, p. 111; 1909, p. 127; 1910, p. 114; 1922, p. 218; 1923, p. 235; 1926, p. 288; 1927, p. 330; 1947, p. 174; 1948, p. 149; 1949, p. 193; 1950, p. 151; 1952, p. 181; 1958, p. 66; 1964, p. 130 + ; 1965, p. 196; 1966, p. 218.
- Geology, Exploration and Mining; British Columbia Dept. of Mines: 1975, pp. G-12-G-18 + .
- Dawson, G.M.; Annual Report, 1898, Vol. XI, Pt. A, p. 70, Geol. Surv. of Canada.
- Geological Fieldwork, British Columbia Dept. of Mines: 1975, p. 7; 1977, p. 80.