

NAME OF PROPERTY

H.B.

LOCATION—of southwest corner of H.B. claim (Lot 12672).

Radius of uncertainty - 100 metres. Lat. 49°09'10" Long. 117°11'50"

Mining Division Nelson

District Kootenay

County

Township or Parish

Lot

Concession or Range

Sec.

Tp.

R.

OWNER OR OPERATOR AND ADDRESS

DESCRIPTION OF DEPOSIT

The country rock is a band of Lower Cambrian limestone, called the Reeves member, of the Lower Laib Formation. In the vicinity of the mine the limestone has been thickened to several times its original width by folding to a syncline with both limbs dipping at 50° to 70° east. A large part of this limestone has been dolomitized and all orebodies occur within the dolomite. In plan, the largest orebodies, designated No. 1 and No. 2 zones, are roughly parallel to each other, about 150 feet apart, and have a rake to the south of about 20 degrees. In cross-section they are lenticular with nearly vertical sides. The No. 1, or eastern orebody, extends from the oxidized area at least 2,000 feet south. It has a maximum height of about 450 feet and a maximum width of 100 feet. The No. 2, or western orebody, is smaller and appears to be less persistent. It lenses out before reaching surface to the north up the plunge. It is of the order of 150 to 200 feet high and 50 feet wide. To the south, and between the two zones, a mineralized zone similar to the No. 2 but dipping 50 to 60 degrees east has been

see Card 2

Associated minerals or products of value - Lead, silver, cadmium.

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located on Aspen Creek, a tributary of Sheep Creek, 5 miles southeast of Salmo. The north end of the No. 1 orebody outcropped at an elevation of 4,000 feet, west of Aspen Creek and almost a mile north of Sheep Creek.

The heavily oxidized outcrop was staked in 1907 by P.F. Horton, H.M. Billings, J.A. Benson, and S.N. Ross; the property and one of the claims was called the H.B. The Consolidated Mining and Smelting Company of Canada (Limited) optioned the claims in 1911. The No. 2 level crosscut was driven during the winter but results were disappointing and the option was dropped in 1912. W.R. Salisbury & associates, of Salmo, in 1913 lease the area containing the workings and small amounts of carbonate ore were mined until the lease expired in August 1915. During this period the owners, Horton & Billings, drove the Zincton crosscut to explore the adjacent Zincton claim. On the expiry of the above lease the entire property was optioned to a Spoka syndicate operating under the name Hudson Bay Zinc Company. A low level No. 7 crosscut (3,100 level) was started in 1915 and reached a length of 1,900 feet on completion in 1916. Diamond drilling (1,553 feet) from the crosscut failed to find ore and the option was given up in 1917.

Crown-grants were issued to P.F. Horton and Agnes Billings on the Garnet (Lot 10809) and Zincton (Lot 10810) claims in 1919 and on the H.B. (Lot 12672) and 10 other claims and fractions (Lots 12668-12671 and 12673-12678) in 1921.

The Victoria Syndicate, Limited, optioned the property in 1925 and began driving the No. 4 level (3,500 level) crosscut. This was completed at a length of 1,100 feet and from it drift ing north and south in the orebody continued into 1926. The option was subsequently given up and P.F. Horton, one of the owners, carried out some work on the property in 1927. Exploration work to that date was all done in the heavily oxidized zone at the north end of No. 1 orebody where the flat-plunging ore was exposed on surface. Oxidation here extended to the full depth of the ore zone, about 300 feet below surface.

The Consolidated Mining and Smelting Company returned in 1927 to purchase the 18 Crown-granted claims and fractions, but the property remained idle until 1948. Starting about 1946, the company began geological investigations that led to an intensive diamond drilling program beginning in 1948. Large bodies of low-grade disseminated sulphides plunging gently south from the

see Card 2

Mineral Resources Branch, Department of Energy, Mines and Resources, Ottawa.

509824*

HISTORY OF PRODUCTION

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

David Minerals Ltd. by an agreement dated May 8, 1981 purchased the mine, mill and adjacent properties from Cominco Ltd. for \$750,000; a 20 acre parcel was subsequently sold to Goldbelt Mines Inc. for a millsite. Renovation of the H.B. mill was carried out to prepare a flotation circuit to custom mill gold-bearing sulphide ores, and a second circuit to treat molybdenite-gold ore from the company's Rossland properties (82 F/4, Mo 2 and 3). The gold circuit was put into operation on ore from the Gold Belt property in December 1981.

MAP REFERENCES

REMARKS

NAME OF PROPERTY

H.B.

DESCRIPTION OF DEPOSIT (continued)

discovered. The principal sulphides in these orebodies are pyrite and sphalerite occurring in narrow bands, irregular lenses, or disseminated crystals in dolomite. They are associated with minor galena and rare pyrrhotite. In addition to the lenticular orebodies, three flat dipping breccia zones are known, the upper one being called X-1, the center one No. 4, and the lower one X-2. The X-1, lying near the top and on the west side of No. 1 orebody, dips gently east, plunges gently south, has a maximum thickness of about 15 feet, a width of more than 100 feet, and is known to extend for more than 300 feet along the plunge. The X-2 zone, located below the No. 1 and No. 2 orebodies, is somewhat thicker and wider than the X-1 zone and dips south essentially parallel to the plunge of the other orebodies. These cross zones contain fine-grained massive sulphides, commonly as a matrix in a coarse breccia; the breccia zones are related to thrust faults and are considered to be secondary structures.

In the Garnet zone, fine-grained sphalerite, pyrite, and very minor amounts of galena occur in scattered lenses and as disseminations in dolomite. Lenses of sulphide are parallel to the margins of the zone, which strikes north and dips steeply with the formational trend.

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

oxidized orebody were indicated by this drilling. In June 19 an underground program began to investigate the drill results. The No. 4 level was rehabilitated and from the face the adit was extended south for nearly 1,500 feet. A parallel drive was subsequently made about 230 feet to the west and connected to the main drive by 3 crosscuts at 200 foot intervals. Diamond drilling from these two drives and from exploration raises in 1950 partly delimited two orebodies - the No. 1 and No. 2 - as work until 1953 was aimed at developing these orebodies for production. In 1951 construction of a 1,000 ton per day concentrator began and a new adit level (No. 8) was driven 2,700 feet north from the Sheep Creek valley millsite to the ore zone. The concentrator was completed early in 1953 but due to low lead and zinc prices, was not put into operation. All work ceased on March 31 and was not resumed until April 1955; milling began in May.

The Garnet zone outcrops on the Garnet and Legal Tender claims between elevations of 3,500 and 3,800 feet on the Sheep Creek slope about $\frac{1}{4}$ mile north of the concentrator. The Legal Tender claim (Lot 10823) was staked on this showing in about 1899. In 1912 the claim was Crown-granted to George Klavano. Development work at that time apparently consisted of a few short adits. In 1926 the claim was part of the Black Jack group of 4 claims. This group was optioned by P.F. Horton & associates in 1926 and late in the year exploration work was done in about a dozen trenches crosscutting the zone. The Legal Tender was part of the group sold to Cominco in 1927; the Black Jack claims, lying to the west of the Legal Tender, were apparently abandoned. Diamond drilling by the company in 1948-49 in more than 30 holes delimited a more or less continuous mineralized zone 50 feet wide lying 150 to 200 feet west of the Garnet fault. Mining of the Garnet zone began in 1965 as an open pit operation and was later incorporated with the underground operation. The mine and mill closed on November 1, 1966. The company name was changed in 1966 to Cominco Ltd. Plans to reopen the mine were announced late in 1972. The mill and underground workings were rehabilitated and production resumed in February 1973. Mining and milling operations continued until August 1978 when the mine closed. Measured and indicated reserves, as of December 31, 1978, were reported at 40,000 tons at 0.1% lead and 4.1% zinc (Canadian Pacific Limited, Form 10-K, December 31, 1978).

Mineral Resources Branch, Department of Energy, Mines and Resources, Ottawa.

continued-see reverse Card 1.

HISTORY OF PRODUCTION

From 1912 to 1966, inclusive, 5,248,487 tons of ore were mined from this property, including production listed under section for the period 1913-1919. From this ore 6 ounces of gold, 813,924 ounces of silver, 86,413,432 pounds of lead, 5,885,082 pounds of zinc, and 3,755,651 pounds of cadmium were recovered.

During 1973-64, 607,803 tons of ore were milled. From this ore 44 ounces of gold, 75,118 ounces silver, 10,793,000 pounds of lead, 43,817,400 pounds of zinc, and 337,022 pounds of cadmium were recovered.

During 1975-78 inclusive 1,343,391 tonnes of ore were milled. From this ore 1.206 kg gold, 3 891.794 kg silver, 9 kg copper, 7 086 433 kg lead, 46 251 853 kg zinc, and 4 039 kg cadmium were recovered.

MAP REFERENCES

Surface Geology, H.B. Mine Area, Sc. 1":400 ft. - Accompanying Bulletin 41, B.C. Dept. of Mines.

Map 1145 A, Salmo, (Geol.), Sc. 1":1 mile (1965).

*Map 82 F/3 E, Salmo, (Topo.), Sc. 1:50,000.

REMARKS

REFERENCES

Fyles, T.J., & Hewlett, C.G.; Stratigraphy & Structure of the Salmo Lead-Zinc Area; Bulletin 41, pp. 101-103, B.C. Dept. of Mines, 1959.

Warning, G.F.; Geology of the H.B. Mine; Canadian Institute of Mining and Metallurgy, Transactions, Vol. 63, 1960, pp. 520-523.

Irvine, W.T.; The H.B. Mine; Structural Geology of Canadian Ore Deposits, Vol. 2, pp. 124-131, Canadian Institute of Mining and Metallurgy, 1957.

The Operations and Plants of Cominco Ltd., by The Management and Staff; Canadian Mining Journal, Vol. 75, May 1954, pp. 202-205 (in Cominco File).

Green, L.H.; Wall-Rock Alteration at Certain Lead-Zinc Replacement Deposits in Limestone, Salmo Map-Area, B.C.; Bulletin 29, pp. 21-23 & Fig. 6, Geol. Surv. of Canada, 1954.

Walker, J.F.; Geology and Mineral Deposits of Salmo Map-Area, B.C.; Memoir 172, pp. 47-52, Geol. Surv. of Canada, 1934.

Little, H.W.; Salmo Map-Area, B.C.; Paper 50-19, p. 39, Geol. Surv. of Canada.

Reports of Minister of Mines, British Columbia; 1911, p. 161; 1912, pp. 155, 325; 1913, p. 131; 1914, pp. 327, 329; 1915, pp. 135, 136, 160; 1916, p. 205; 1917, p. 195; 1919, p. 370; 1921, p. 347; 1925, p. 248; 1926, p. 278; 1927, p. 309; 1948, p. 134; 1949, p. 168; 1950, pp. 124-126; 1951, p. 139; 1952, p. 147; 1953, p. 117; 1955, p. 52; 1956, p. 83; 1957, p. 46; 1958, p. 39; 1959, p. 61; 1960, p. 68; 1961, p. 68; 1962, p. 74; 1963, p. 70; 1964, p. 116; 1965, p. 181; 1966, p. 213.

Mineral Policy Sector; Corporation Files: "Cominco, Ltd."; "Canadian Pacific Limited"; "David Minerals Ltd.". Mines Branch, Ottawa; Summary Report, 1913, Investigations in Ore Dressing and Metallurgy, Rept. No. 285, pp. 77-80 (No. 19); 1914, Rept. 346, pp. 80-85 (No. 22).

Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1972, p. 48; 1973, p. 57; 1974, p. 67.

FEB 1973
JUNE 1980 DM
FEB 1982 DM