

NAME OF PROPERTY

BRITANNIA

LOCATION - of Bluff Orebody, Center of Jane claim (Lot 1892).

Lat. 49°36'40" Long. 123°08'30"

Radius of uncertainty - 100 metres.

Mining Division Vancouver District New Westminster

County Township or Parish

Lot Concession or Range

Sec. Tp. R.

OWNER OR OPERATOR AND ADDRESS

Anaconda Canada Limited.

DESCRIPTION OF DEPOSIT

The rocks in the vicinity of the mine are metamorphosed slaty tuffs overlain by greenstone. They are part of a roof pendant, about 7 miles long and 2 miles wide, that rests on granitoid intrusives of the Coast batholith. The bedded rocks strike north-west and dip about 70 degrees southwest. They are cut by many sills and dykes of feldspar porphyry. Movement along the contact between the slaty tuffs and relatively competent greenstones has resulted in a zone of shearing about 5 miles long accompanied by a number of drag-folds that plunge northwest. Adjacent to these folds the greenstones were silicified, brecciated, fissured, and mineralized. Pyrite is the most abundant mineral, with less chalcopyrite and sphalerite and minor erratically distributed galena, tennantite or tetrahedrite. The main nonmetallic minerals include quartz and muscovite (chlorite), anhydrite, and siderite. The Fairview, Empress, and Victoria orebodies are stringer lodes and veins composed of thin sheet-like masses of chalcopyrite and pyrite with some quartz. The main massive orebodies, Bluff, East see Card 2 ....

Associated minerals or products of value - Zinc, silver, lead, cadmium, pyrite.

HISTORY OF EXPLORATION AND DEVELOPMENT

The Britannia property is located on the east side of Howe Sound, about 20 air miles north of Vancouver.

The original mineral discovery was made by Dr. A.A. Forbes and a fisherman named Granger, in 1888; the doctor later bought the fisherman's share in the discovery in exchange for a small boat. He returned to his discovery the following summers, prospected, did a small amount of development work and tried to interest capital. Five years later he moved up the coast and made another discovery on Texada Island. While showing this to Thomas T. Turner of Vancouver in 1897 he described his Britannia discovery. This led to the staking of 5 claims by Turner and Oliver Furry late in 1898. Turner then made a deal with Boscowitz & Sons, Victoria fur dealers, and sold a half interest for \$10,000. In 1899 these claims were surveyed with two fractions added to make a solid group. A camp was established on Jane Flats and a 150 foot adit driven. Turner and Boscowitz now managed to sell a 7/10 interest in the property for \$35,000 to Walters of Libby, Montana. In February 1900 the Britannia Copper Syndicate, Limited, was formed and during the year the 7 claims, Fairview, Edith Fraction, Jane, Clifton, Mineral Creek, William, and Heather Fraction (Lots 1890-1896, respectively) were Crown-granted. Turner and Boscowitz sold the balance of their interest to G. Robinson of Butte, Montana, for \$53,000. Robinson subsequently bought out Walters share to gain control of the Syndicate. Robinson now interested a New York banker, Grant B. Schley, in the venture. He organized the Howe Sound Company in 1903, under the laws of the State of Maine, and it became the holding company for the Britannia Copper Syndicate. By 1905 the mine and mill were operating and in May of that year The Britannia Smelting Company, Limited, was formed to lease the Crofton smelter on Vancouver Island; this company was merged in December 1908 with the Britannia Copper Syndicate to form The Britannia Mining and Smelting Co., Limited.

The company staked and bought claims until 1915. With few exceptions they owned or had mineral rights on solid blocks of claims from tide water to east of Indian River, comprising some 485 Crown-granted claims, 17 Beach lots, and timber licenses; the additions included the Goldsmith, Empress, South Valley, Red Mountain, and Bank of Vancouver groups. The Goldsmith group, which extended from the Britannia group to tide water, was held by the Goldsmith Copper Company, Limited, which was incorporated in 1900.

Mineral Resources Branch, Department of Energy, Mines and Resources, Ottawa. see Card 2 ....

502209\*

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BRITANNIA

## DESCRIPTION OF DEPOSIT (continued)

Bluff, No. 5, No. 8, and O40 (No. 10) all show a marked zonal structure in which they have one or more high-grade cores enveloped successfully by a lower-grade zone and overlapping pyrite and siliceous zones. Zinc rich ore tends to occur in the upper central parts of massive bodies and as almost separate sheet-like masses like the Fairview zinc vein.

The O40 zone is located about 2,500 feet west of the west edge of No. 8 orebody and some 800 feet farther in the hanging-wall. It tops out a short distance above the 4,100 level and continues below the 6,300 level. It has an average grade better than 1.5% copper and contains some silver, but no zinc or gold.

## HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

The first mill was constructed in 1904, with a capacity of 200 tons per day. This was increased to 600 tons by 1916, 2,000 tons by 1920, 2,500 tons in 1923, and 6,000 tons by 1931. To the early 1960's the mine operated continuously except for 3 interruptions totalling 3.2 years. Mining had been carried out in 9 orebodies, of which the Fairview and Bluff were the largest. Development to that date amounted to 140 miles, including 10 shafts with a total depth of some 12,000 feet.

The Britannia Mining and Smelting Co. continued to operate until March 1958 when low copper prices forced a shutdown. On August 8, 1958, the company went into voluntary liquidation and its assets transferred to the parent company, the Howe Sound Company. The mine was reopened in January 1959.

Negotiations were started in 1962 with The Anaconda Company (Canada) Ltd., a wholly owned subsidiary of Anaconda American Brass Limited, and in January 1963 the property was sold to Anaconda. Exploration work by the company led to the discovery in September 1964 of a new orebody (O40) nearly a half mile west of any previously known ore occurrence. Exploration of this new zone continued during the following years. The property was transferred to a new operating company, Anaconda Britannia Mines Ltd., which was incorporated in Nov. 1968. Development work on the O40 orebody began in March 1969 when a new shaft (No. 10) was collared on the main haulage (4,100 foot) level. Production from the O40 orebody began in October 1970. The property was subsequently transferred to the parent company, Anaconda American Brass Limited; the company name was changed in June 1972 to Anaconda Canada Limited.

The No. 10 (O40) orebody is located under the following Crown-granted claims: Mineral Creek (Lot 1894), Daisy (Lot 1899), Newcastle (Lot 1936), and Nancy Fr. (Lot 1997) (Lat.: 49°36'50", Long.: 123°10'). The No. 10 shaft was completed in 1970 to a depth of 1,914 feet, 113 feet below the 5,700 level. The orebody was developed by a trackless ramp system between 4,950 and 5,900 levels. The No. 11 winze was begun in 1972 from the 5,500 level to give access to the mineralized zone below the bottom of the shaft. The winze was completed and put into operation in 1974. Mining and milling ceased on November 1, 1974.

Measured and drill indicated reserves in place were reported at 1,570,000 tons averaging 1.9% copper. (Geology, Exploration, and Mining, British Columbia Dept. of Mines, 1974, p. 196).

continued reverse Card 1 ....

## HISTORY OF PRODUCTION

From 1905 to 1970, inclusive, 50,273,816 tons of ore were milled at this property. From this ore 422,421 ounces of gold, 5,421,833 ounces of silver, 1,073,911,911 pounds of copper, 34,282,027 pounds of lead, 274,708,033 pounds of zinc and 987,994 pounds of cadmium were recovered. Pyrite concentrate sales from the company stockpile up to 1970 was more than 700,000 tons.

Production for the years 1971-1974, inclusive, totalled 2,434,446 tons. From this ore 699 ounces of gold, 380,228 ounces of silver, and 62,190,366 pounds of copper were recovered.

## MAP REFERENCES

- Map 42-1963, Squamish, (Geol.), Sc. 1":4 miles.  
#Geology of Britannia Shear Zone - Jane Basin to Barbara Pit, Sc. 1":200 ft., Fig. 25, Brown & Robinson, 1970.  
Map 199 A, Britannia Beach, (Geol.), Sc. 1":1 mile - accomp. Memoir 158.  
Map 749 G, (Aeromag.), Sc. 1":4 miles.  
\*Map 92 G/11 E, Squamish, (Topo.), Sc. 1:50,000.

## REMARKS

## REFERENCES

- Brown, A. Sutherland and Robinson, J.W.; Britannia Mine; Geology, Exploration and Mining, British Columbia Dept. of Mines, 1970, pp. 233-246.
- A Brief History of the Britannia Mine and its Several Communities; and The New '040' Orebody; Western Miner, May 1970, pp. 33-39.
- Waterman, Glen C.; An Old Mine Breathes New Life; Western Miner, June 1970, pp. 62-65.
- McCutcheon, A.D.; Britannia Operations of Howe Sound Company; Western Miner & Oil Review, Vol. 34, November 1961, pp. 37-40.
- James, H .T.; Britannia Beach Map-Area; Memoir 158, pp. 93-110, Geol. Surv. of Canada, 1929.
- Geology & Economic Minerals of Canada, Economic Geology Series No. 1, 3rd Edition, pp. 278, 281, Geol. Surv. of Canada, 1947.
- Reports of Minister of Mines, British Columbia; 1899, p. 940; 1900, pp. 930, 934, 994; 1901, p. 1120; 1903, p. 212; 1904, pp. 261, 265, 268; 1905, p. 220; 1906, p. 216; 1907, p. 158; 1911, p. 202; 1912, p. 200; 1913, p. 303; 1914, p. 511; 1915, p. 293; 1916, p. 431; 1917, pp. 271-275, 297; 1918, p. 291; 1919, pp. 225-229; 1920, pp. 217, 256; 1921, pp. 225, 269; 1922, p. 245; 1923, p. 264; 1924, p. 229; 1925, pp. 294, 361; 1926, p. 328; 1927, p. 362; 1928, p. 386; 1929, p. 396; 1930, p. 308; 1931, p. 174; 1932, p. 209; 1933, pp. 258, 304; 1935, p. F-57; 1937, p. F-35; 1938, p. F-69; 1939, p. 98; 1940, p. 84; 1941, p. 78; 1942, p. 69; 1943, p. 68; 1944, p. 65; 1945, p. 112; 1946, p. 175; 1947, p. 177; 1948, p. 153; 1949, p. 216; 1950, p. 168; 1951, p. 195; 1952, p. 208; 1953, p. 158; 1954, p. 163; 1955, p. 163; 1956, p. 115; 1957, p. 67; 1958, p. 56; 1959, p. 127; 1960, p. 89; 1961, p. 89; 1962, p. 93; 1963, p. 92; 1964, p. 144; 1965, p. 220; 1966, p. 57; 1967, p. 61; 1968, p. 75.
- Geology, Exploration and Mining; British Columbia: Dept. of Mines: 1969, p. 193; 1971, p. 255; 1972, p. 275; 1973, p. 239; 1974, p. 196.

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

The property was acquired by Copper Beach Estates Ltd in the late 1970's and subsequently optioned to Cominco Ltd. In 1984 Cominco carried out detailed mapping and re-examination of the former mine workings.

REFERENCES (continued)

- Mineral Policy Sector; Corporation Files: "Anaconda Canada Limited"; "Anaconda Britannia Mines Ltd."; "Howmet Corporation"; "The Britannia Mining & Smelting Co., Limited".
- Schofield, S.J.; Britannia Map-Area, British Columbia; Summary Report 1918, Pt. B, pp. 56-59, Geol. Surv. of Canada.
- McConnell, R.G.; Britannia Mine, Howe Sound; Summary Report 1913, pp. 76-69, Geol. Surv. of Canada.
- Investigation No. 725; Microscopic Examination of Ore and Concentrate From Britannia Mining & Smelting Co. Ltd.; Report No. 788, July-Dec. 1937, Mines Branch, Ottawa.
- Irvine, W.T.; Britannia Mine; Structural Geology of Canadian Ore Deposits; The Canadian Institute of Mining and Metallurgy, pp. 105-109, (1948).
- International Geological Congress, Canada, 1972, Field Excursion A09-C09, pp. 7-14.
- British Columbia Mineral Exploration Review: 1984, p. 32.
- George Cross News Letter: 15/03/82.

MAP REFERENCES

REMARKS

BCI 92 G/NW - 3, 36

FEB 1973  
 APR 1978  
 DMacR MAR 1986