

NAME OF PROPERTY RUTH, VERMONT

OBJECT LOCATED - #9, Map 82 K/NE (MI).
 UNCERTAINTY IN METRES 400. Lat. 50°56'50" Long. 116°58'50"
 Mining Division Golden District Kootenay
 County Township or Parish
 Lot Concession or Range
 Sec Tp. R.

OWNER OR OPERATOR AND ADDRESS

DESCRIPTION OF DEPOSIT

Rocks in the Vermont Creek area are slates, quartzites, conglomerate, and minor limestone belonging to the Late Precambrian Horsethief Creek Group. In the mine area a bed of limestone 30 to 50 feet thick lies between two thick slate formations. A major anticline trending northwest crosses Vermont Creek near the property. The Charlotte anticline to the north-east, the Sheba to the southwest, and between them the Ruth syncline are local folds in the hinge zone of the major anticline. The Ruth synclinal axis plunges 5° towards a azimuth of 135° and the axial plane dips 75°NE. The limestone on the southwest limb has an average strike of 140° and dip of 30°NE. This southwest limb contains the Nelson orebody. Quartz veins occur in well-defined sets of fractures. The veins containing most of the sulphides trend 110 to 115° and dip at moderate to steep angles to the south. Three veins, the Pinetree, Blacksmith and Nelson were partially developed in early work on the property. The veins occur in the Ruth limestone and in the slate above and below it. They contain galena, sphalerite, see Card 2
 Associated minerals or products of value - Silver, zinc, gold, tungsten.

HISTORY OF EXPLORATION AND DEVELOPMENT
 The property is located at the 6,000 foot elevation on the south side of Vermont Creek, some 22 miles south of Golden.
 A group of claims was reported located on the south side of the creek in the summer of 1889 and 35 tons of ore packed out. Further work was reported in 1890-91; the adit by this time had been driven 320 ft. Messrs. Osler & Hammond of Toronto acquired a bond on the property in 1891 but released it the following year. The Ruth, Minnie, and Charlotte claims were reported located in 1893 for a Captain Armstrong. Also in 1893, claims on the south side of the creek were reportedly owned by Messrs. Wells and Pollock. About 100 tons of what was considered to be ore grade material was shipped during the year. Further development work and shipping of ore was reported in 1895. Much of the "ore" shipped during this early period was left on the bank of the Columbia river at Wells Landing as being too low grade. The Ruth, Minnie and Charlotte claims (Lots 418, 419 and 405 respectively) were Crown-granted in 1904 to W.G. Carlin.

No further activity was reported until 1926 when the Galena Syndicate, Limited of London, England, which was represented locally by G.W. Edwards, acquired the property. The Cleopatra, Vermont, Sheba, and Ruth Fraction claims (Lots 8122-8125) were staked at that time and Crown-granted to the Syndicate in 1932. Intermittent development work was carried on until about 1930 but operations were restricted due to the inaccessibility of the area. Most of the development work was carried out on the Ruth claim, on three veins, the Blacksmith, Pine Tree, and Nelson. Development work included about 10 short adits on the Ruth claim, 2 short adits on the Charlotte claim, and 3 adits totalling more than 230 feet on the Blacksmith vein.

Rio Canadian Exploration Ltd. optioned the 13 claim property in 1956 and located an additional 15 claims. Mapping and prospecting was carried out on the surface and underground. From the underground workings 1,780 feet of diamond drilling was done. During 1957 additional diamond drilling and a geochemical survey was carried out.

In 1964 the old Crown-grants which had reverted were taken up by Mel Pardek, of Vancouver, as mineral lease M 16, and about 40 claims surrounding the lease were located. Columbia River Mines Ltd. optioned the property in April see Card 2

HISTORY OF PRODUCTION

Thirty-five tons of ore were reported shipped from this property in 1889 for which there is no record.

From 1892-1930, 62 tons of ore were shipped. From this ore 5 ounces of gold, 5,821 ounces of silver, 61,898 pounds of lead, and 8,200 pounds of zinc were recovered.

In 1965, 17 tons of sorted ore were shipped. From this ore 1 ounce of gold, 1,056 ounces of silver, 10,335 pounds of lead, and 6,425 pounds of zinc were recovered.

Production during 1970, 1971, and 1973 totalled 101,536 tons milled. From this ore 190 ounces of gold, 292,019 ounces of silver, 68,210 pounds of copper, 3,850,083 pounds of lead, 9,296,419 pounds of zinc, and 24,745 pounds of cadmium were recovered.

Production for Oct.-Nov. 75 and the latter half of 1976 (in part estimated), and small shipments of clean up ore in 1978-79 totalled 71,081 tonnes. From this ore 3 309 g Au, 6 231 425 g Ag, 18 233 kg Cu, 1 176 859 mg Pb, 1 520 813 kg Zn, and 10 554 kg Cd were recovered.

In 1981, 12 839 mt were milled. From this ore 1 g Au, 1 720 000 g Ag, 6 521 kg Cu, 297 874 kg Pb, 203 214 kg Zn and 1 359 kg Cd were recovered.

MAP REFERENCES

Map 12-1957, Lardeau, (Geol.), Sc. 1":4 miles, Geol. Surv. of Canada.

*Map 82 K/15, Bugaboo Creek, (Topo.), Sc. 1:50,000.

#Map 82 K/NE (MI), Invermere, (Mineral Inventory), Sc. 1":2 miles, British Columbia Dept. of Mines.

REFERENCES

Reports of Minister of Mines, British Columbia:

1890, p. 374; 1891, p. 568; 1892, p. 536; 1893, p. 1064; 1895, p. 672; 1896, p. 530; 1898, p. 1048; 1904, p. 295; 1926, p. 237; 1927, p. 263; 1929, p. 291; 1930, p. 234; 1936, pp. E-37, E-41 ++ ; 1946, p. 174; 1956, p. 112; 1957, p. 65; 1966, pp. 230-235 + ; 1967, p. 265.

Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1969, p. 342; 1970, p. 467; 1971, p. 430; 1973, p. 96; 1974, p. 84.

Mineral Policy Sector; Corporation Files: "Copperline Mines Ltd."; "Ruth Vermont Mine Ltd."; "Invermay Resources Inc.".

George Cross News Letters: 1982, No. 182; 1984, No. 209.

REMARKS

Comp./Rev. By	DMacR	DMacR	DMacR				
Date	3-78	01-82	02-86				

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DESCRIPTION OF DEPOSIT (continued)

pyrite, and arsenopyrite, and small amounts of chalcopyrite, boulangerite, argentiferous tetrahedrite, scheelite, and carbonates. Within the limestone sulphides occur in fractures ranging from a fraction of an inch up to 5 feet in thickness. Fine-grained sulphides, formed by replacement, are disseminated (Nelson orebody) in the limestone adjacent to the fractures.

Sampling of 115 feet of quartz vein along the footwall of the ore zone returned an average of 3.12% WO_3 over an average width of 1.18 feet.

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

1965 and began exploration work in an old adit at the 6,000 foot level. This adit was driven from the footwall to the hangingwall of the mineralized zone and extended along the hangingwall for 1,200 feet. A new level was opened at the 5,750 foot level and extended 650 feet. Diamond drilling totalled 23,417 feet underground and 631 feet from surface. All work ceased in October 1967.

Copperline Mines Ltd. optioned the property in June 1969. A 500 ton per day mill was installed and production began on a continuous basis on September 25, 1970. The mine closed on June 25, 1971, due to failure to meet the mortgage terms.

By an agreement of March 1972 between Columbia River Mines, Copperline Mines, and Muva Management & Development Corporation of Canada Ltd., Columbia River Mines assumed the indebtedness of Copperline and took over operational control of the mine. Under the agreement the property was owned 55% by Columbia, 30% by Muva, and 15% by Copperline.

The company name (Columbia) was changed in June 1973 to Consolidated Columbia River Mines Ltd. Production began in the first week of October 1973 but was suspended in December due to lack of water. A snowslide later in the winter caused considerable damage to surface installations. Underground diamond drilling resumed in April 1975 and rehabilitation of the power facilities began in August. The mill operated from Oct. 2nd to Nov. 26th, 1975, when operations closed for the winter. Proven reserves as of August 1975 were reported at 310,950 tons with a weighted average of 5.95 ounces silver per ton, 5.03% lead, and 5.53% zinc. Total proven, probable, and inferred reserves were estimated at 1,467,750 tons, no grade given (Consolidated Columbia River Mines 1974-75 Annual Report). The mine was put back into operation in mid June 1976 on a seasonal basis, and closed in December, the mine being placed in receivership.

The company name (Consolidated Columbia) was changed in December 1977 to Ruth Vermont Mine Ltd. Trusteeship of the company was released on May 1, 1980. In April 1981 the company acquired \$4 million from the Royal Bank of Canada to finance the re-opening of the mine at about 350 tons per day. Reserves were estimated at 214,300 tons at 6.2 oz/t Ag, 4.2% Pb, 5.2% Zn (Northern Miner, 7/05/81). Milling began on a test basis in September 1981; milling was

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

suspended on December 15, 1981. Ground on strike to the southeast was explored in 1982 under a joint venture agreement with BlueSky Oil & Gas Ltd and Cochrane Oil & Gas Ltd (see Atlas, 82 K/15, PB 4).

Invermay Resources Inc. purchased the property in late 1984.