

NAME OF PROPERTY

DOLLY VARDEN, SILVER TIP

OBJECT LOCATED - Workings, on Dolly Varden No. 1 (Lot 3192).

UNCERTAINTY IN METRES 300. Lat. 55°40'55" Long. 129°30'30"

Mining Division Skeena District

County Township or Parish

Lot Concession or Range

Sec Tp. R.

OWNER OR OPERATOR

Dolly Varden Minerals Inc.

DESCRIPTION OF DEPOSIT

The property is underlain by Jurassic massive and fragmental volcanics of the Hazelton group, cut by numerous northward striking lamprophyre dykes. The mineralization occurs in a vein-like deposit that has an arcuate outline, striking southeasterly, easterly, and northeasterly, and dipping northerly at about 70 degrees.

The zone is exposed by open cuts and natural exposures for an outcrop length of about 1,050 feet. The zone has been cut into at least thirteen main and several minor faulted blocks from about 30 to 170 feet long on the surface. The faults appear to be both normal and reverse, striking generally between north and northwesterly and dipping from about 50 to 60 degrees southwesterly. The horizontal offset along the faults varies from about 15 to 150 feet and the vertical displacement does not appear to have been very great. Flatly-dipping to nearly horizontal faults were noted in some of the underground workings.

The mineralized zone is in the form of a vein, of which only one wall, the hanging, is free. The footwall is gradational,

see Card 2

Associated minerals or products - Lead, zinc, copper.

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located between elevations of 1,000 and 2,100 feet on the west side of the Kitsault River, 14 miles north of the community of Alice Arm. The Silver Tip group lies west of and adjoining the Dolly Varden. The North Star property (103 P/12, AG 12) adjoins the Dolly Varden on the north. Properties containing silver reserves that have been held by the Dolly Varden company include, in addition to the North Star, the Toric (103 P/12, AG 11) $\frac{1}{2}$ mile to the north, and the Wolf (103 P/12, AG 7) $1\frac{1}{2}$ miles to the north.

Prospectors Gus Pearson and associates of Alice Arm discovered the showing in 1910 and staked the Dolly Varden claim, the first claim located on the upper Kitsault River. The property was subsequently expanded to a total of 7 claims, the Dolly Varden Nos. 1 & 2, Dolly Varden, and Dolly Varden Nos. 4-7 (Lots 3192-3198 respectively). These claims were Crown-granted to O. Evindsen, Chas. Swanson, E. Carlsen, K.L. Eik, and O. Pearson in 1916.

The Silver Tip Nos. 1 and 2 claims were owned by Chas. Swanson in 1916 and some open cutting was reported at that time. The claims (Lots 3823-3824) were Crown-granted to the Swanson estate in 1920. The Silver Cliff Group Mining Company, Limited, which was organized in 1920, is reported to have done some exploration work on the Silver Tip claims.

The Dolly Varden Mines Company of Chicago was organized in 1915 to acquire the Dolly Varden property, and at the same time purchased the nearby Wolf property; the company was controlled by interests closely allied with George Wingfield of the Goldfield Consolidated Development Company, of Nevada. During 1915 and 1916 development work on the Dolly Varden property was carried out on 4 levels. In 1917 a contract was let, on a cost plus 10% basis, to the Taylor Engineering Company, of Vancouver, for the construction of a narrow-gauge railway from Alice Arm to the mine, a distance of 18 miles. The cost so exceeded the original estimate that before the railway was completed in 1919 the property had been acquired by the construction company. In May 1919 Taylor Engineering incorporated Taylor Mining Company, Limited to operate the mine. A tramline was built from the workings to the railway. Mining of known ore for quick profit at the expense of forward development was carried on to 1921, when lack of definite ore reserves and further legal entanglements caused cessation of operations.

see Card 2

HISTORY OF PRODUCTION

From 1919 to 1940 inclusive, 36,854 tons of ore were shipped from this property. From this ore 1 ounce of gold, 1,364,847 ounces of silver, 2,047 pounds of lead and 420 pounds of copper were recovered. The bulk of the production (36,609 tons) was during the period 1919-1921.

MAP REFERENCES

Map 307 A, Portland Canal Area, (Geol.), Sc. 1":4 miles - accomp. Memoir 175.
 Geology of Upper Kitsault Valley Area, Sc. 1":2,250 feet, Fig. 1, Report of Minister of Mines, British Columbia, 1951, p. 79.
 Plan of surface geology and main underground workings, Sc. 1":80 ft., Report of Minister of Mines, British Columbia, 1936, p. B 34.
 Dolly Varden mine workings, Sc. 1":140 ft., Fig. 6, Report of Minister of Mines, British Columbia, 1951, p. 105).
 #Map 103 P/12, Hastings Arm, (Topo.), Sc. 1:50,000.
 Geology of the Dolly Varden property, Fig. 50-1, Geological Fieldwork 1985, p. 328.

REMARKS

Comp./Rev. By	DMacR	JL	DMacR	DMacR			
Date	3-79	09-82	05-83	08-86			

REFERENCES

- Reports of Minister of Mines, British Columbia:
 1913, p. 83; 1915, p. 70; 1916, pp. 52, 75, 78, 435; 1917, p. 45; 1918, p. 57; 1919, p. 53; 1920, pp. 50, 349; 1921, pp. 50, 272; 1922, p. 59; 1928, p. 85; 1929, p. 95; 1935, p. B 29; 1936, pp. B 33-B 39 + ; 1940, p. 78; 1947, p. 203; 1951, pp. 105-107 +++ ; 1961, p. 10; 1964, p. 43; 1966, p. 42; 1967, p. 41.
- ++ Hanson, George; Portland Canal Area, British Columbia; Memoir 175, pp. 60-62, 79, Geol. Surv. of Canada, 1935.
- Hanson, George; The Dolly Varden Mine; The Canadian Institute of Mining and Metallurgy, Transactions, Vol. 25, pp. 212-220, 1922.
- Warren, H.V. and Brown, C.E Gordon; The Dolly Varden Mineralization: Hypogene or Supergene?; The Canadian Institute of Mining and Metallurgy, Transactions, Vol. 45, pp. 401-414, 1942.
- Eardley-Wilmot, V.L.; Silver Producing Mines in British Columbia; Mineral Resources Division, File MR-AG-301.00, British Columbia.
- Mines Branch, Ottawa; Investigations in Ore Dressing and Metallurgy; 1969, IR 69-67.
- Mineral Policy Sector; Corporation Files: "Dolly Varden Resources Limited".
- Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1969, p. 60; 1972, p. 507; 1978, p. E 238.
- Exploration in British Columbia; BCDM: 1980, p. 409.
- Dawson, G.L. and Alldrick, D.J.; Geology and Mineral Deposits of the Kitsault Valley; Geological Fieldwork 1985, p. 219, BCDM.
- Devlin, B.D. and Godwin, C.I.; Geology of the Dolly Varden Camp Alice Arm Area; Geological Fieldwork 1985, p. 327, BCDM.

NAME OF PROPERTY

DOLLY VARDEN, SILVER TIP

DESCRIPTION OF DEPOSIT (continued)

ore merging gradually into country rock thoroughly impregnated with pyrite. In every place where ore has been extracted, the hanging wall consists of purple breccia and the footwall of green or grey breccia. The ore zone does not seem to be a pre-mineral fault, and consequently the vein is probably a bed vein. The ore material has formed along this contact, chiefly by replacement of the footwall rock. The hanging wall shows no replacement whatever.

The siliceous replacement zone is from 8 to 25 feet wide. Quartz constitutes about 70 per cent of the zone-filling and is generally best developed on the hanging-wall. Calcite and jasper occur locally but are uncommon, while barite sometimes occurs, more frequently in the deeper horizons, but is generally rare. The mineralization consists mainly of argentite, ruby silver, and native silver, generally accompanied by appreciable quantities of pyrite. Grey copper (probably tetrahedrite) sometimes occurs but is not common. Sphalerite, galena, and chalcopryrite are rare in surface outcrops and in the upper levels of the underground workings, but show a decided tendency to increase in the deeper horizons, with an accompanying decrease of the high-grade silver minerals. Throughout much of its length the replacement zone contains very small amounts of ore minerals, if any, and only the central section has been mined in four main faulted blocks for a total strike length of about 320 feet and a vertical depth of 237 feet.

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

The mineralized zone was developed by six adits between elevations of 1,810 and 1,410 feet. Three fault-blocks were stoped through to the surface in Nos. 1-3 glory-holes. Ore was mined down to the fifth adit level at the 1,638 foot elevation.

Early in 1922 the property reverted to George Wingfield and associates on the foreclosure of a first mortgage. Mr. Wingfield with other creditors formed Northern Mining Properties, Limited in April 1922; no work was reported by the company. From the information available it appears as though V. Spencer and associates of Vancouver, secured a lease and bond on the property from Mr. Wingfield and subsequently transferred the property to Dolly Varden Properties, Limited which was incorporated in April 1923. In November 1929 the Britannia Mining and Smelting Co., Limited optioned the Dolly Varden and Wolf properties from V. Spencer and associates. Some open cutting was done on the west end of the vein on the Dolly Varden No. 2 claim in 1930; the option was relinquished later in the year because of a severe drop in the price of silver. Dolly Varden Properties, Limited leased the property to T.W. Falconer of Alice Arm for the period 1935 to 1940 inclusive, during which time small scale high-grading operations were carried out. By a special Act of the Legislature in 1935 and agreement with the company regarding non-removal of rails, the Government assumed the maintenance of the railway.

Dolly Varden Mines Ltd., which was incorporated in October 1960, optioned the Dolly Varden property from the Victor Spencer estate, and also acquired the North Star, Wolf, and Toric properties. The Sunshine Mining Company, of Spokane held an option on the Dolly Varden Mines property from January 1964 to September 1965; no work was reported on the Dolly Varden claims during that period.

Newmont Mining Corporation of Canada Limited optioned the Dolly Varden Mines holdings in February 1967. Work during the year included geological mapping, and airborne and ground magnetic surveys over the main claims; the option was dropped at the end of the year. Work by Dolly Varden Mines during 1968 and 1969 was largely confined to the Wolf property. In October 1969 Bralorne Can-Fer Resources Limited obtained an option and carried out work on the Wolf property; the option expired on April 30, 1970.

continued reverse Card 2 ..

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

New Jersey Zinc Exploration Company (Canada) Ltd optioned the property in March 1972. Work included surface geological mapping, underground geological mapping on the 1,638 level, and 1,772 feet of surface diamond drilling in 5 holes on Dolly Varden 1 and 2. The holes were drilled from an area west of and above the glory holes. No new ore shoots were found. The option expired in December 1972.

Dolly Varden Mines reported reserves on the Dolly Varden claims as 47,443 tons at 16.0 ozs silver per ton. Combined reserves for the company properties (Dolly Varden, North Star, Toric, and Wolf) were reported as proven, probable, and possible 1,712,444 tons at 9.52 ozs silver per ton, 0.53% lead, and 0.82% zinc (Dolly Varden Ms L, AR's 1971 & 1973).

Johns-Manville Corporation early in 1974 signed a letter of intent whereby the company could earn a 53-1/3% interest in Dolly Varden Mines by bringing the property into production. Negotiations on financing were unsuccessful and the agreement was terminated in May 1974.

Control of Dolly Varden Mines Ltd. was purchased by Royal Agassiz Mines Ltd in 1975. Control of Royal Agassiz was in turn acquired by Bulora Corporation Limited. Dolly Varden was re-organized and the name changed to Silver Dolly Resources Ltd in November 1975. The company failed to meet a debenture payment, was placed in receivership and put up for sale in 1976. The company name was changed in October 1976 to Dolly Resources Ltd, and in April 1977 to Dolly Varden Resources Limited, 95% owned by Yorkshire Resources Limited. A geochemical survey was carried out over the property in 1978.

Yorkshire Resources Limited in December 1979 amalgamated with Dolly Varden Resources Limited, Yorkshire Copper Mines Limited, Kitsault Silver Mines Ltd and Copper Cliff Mines Ltd under the name Dolly Varden Minerals Inc. New Jersey Zinc, a wholly owned subsidiary of Gulf and Western Industries Inc, retains an interest in 231 acres, probably relating to the 1972 option agreement. Work during 1980-81 included diamond drilling and a feasibility study.