

NAME OF PROPERTY

COPPER CROWN, RUBY

OBJECT LOCATED - Ruby zone.

UNCERTAINTY IN METRES 100. Lat. 54°33'30" Long. 126°43'42"

Mining Division Omineca District Coast, Range 5

County Township or Parish

Lot Concession or Range

Sec Tp. R.

OWNER OR OPERATOR AND ADDRESS

DESCRIPTION OF DEPOSIT

The rocks underlying the map-area belong mainly to the Hazelton Group. They consist of an assemblage of gently dipping resistant lavas and pyroclastic rocks exposed on the summit and north slope of Grouse Mountain plus scattered weaker sedimentary units found mainly near Coppermine Lake on the plateau area and locally west of McQuarrie Lake on the northeast slope. These beds are cut by a system of subparallel dykes representing a variety of compositions and possible ages. The Hazelton volcanic rocks are undivided in the map-area. They consist primarily of massive maroon and grey breccia and tuff deposits interspersed with a few greenish lava flows. A composition breakdown of the rocks based on arc fusion analysis shows 38 per cent basalt, 44 per cent andesite, 15 per cent dacite, and 3 per cent rhyolite. The rocks are never entirely free from the effects of cataclasis or alteration of some type. The most competent units are normally well jointed or cleaved and often display tectonic breccias of varying development in the vicinity of faults. The less competent facies are commonly foliated. The products of partial or complete degeneration of the primary mineral component of these rocks (mainly feldspar, ferromagnesian minerals, and glass) are mica and clay minerals, chlorite, and fine iron oxide dust, carbonates, and less commonly epidote.

The sedimentary rocks comprise an assortment of grey and light brown volcanic wackes and siltstones with some intercal-

see Card 2

Associated minerals or products of value - Copper, silver.

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located on Grouse Mountain, 16 miles southeast of Telkwa.

The showings were discovered and staked in 1914 by S. Bush, Joe Bussinger, and Louis Schorn; exploration work was done in open cuts and a shallow shaft. Later that same year the claims were optioned to Messrs. Trimble and Anderson, of Portland, Oregon, who formed the Cassiar Crown Copper Co., with head office in Tacoma, Washington. A shaft was sunk 56 feet on the Copper Crown zone. In 1916 a crosscut adit (No. 2 or 4450) was begun 850 feet to the west to explore the mineralized zone some 250 feet below the shaft. About 1,000 feet of crosscut and drifting failed to locate mineralization similar to the surface showings. Subsequent work was done in crosscutting from No. 2 adit to the Ruby zone and drifting on the zone. A second crosscut adit (No. 1 or 4540) was driven several hundred feet to explore beneath the main Ruby showing. Six claims, the Mayflower, Copper Crown, Eureka, Ruby, Grand View, and Caribou (Lots 6471-6476, respectively) were Crown-granted to the company in 1920. Work on the property ceased prior to 1923.

The company was apparently re-organized in 1926 under the name Cassiar Crown Mining Co. and work resumed in August of that year. A raise was driven from No. 2 to No. 1 level, and considerable drifting and crosscutting carried out before work was suspended in the summer of 1927. The workings to that date totalled 3,700 feet of drifts and crosscuts, and 160 feet of shaft and raise.

The Crown-granted claims subsequently reverted to the Crown and were leased by A.B. Goodridge, Frank Cooke, and associates, who, in February 1951, incorporated Copper Ridge Silver Zinc Mines Limited. During 1951, 4,557 feet of diamond drilling in 31 holes was done on the Ruby zone, 2,134 feet in 12 holes on the Copper Crown zone, and 187 feet in 2 holes on the Caribou claim. Transcontinental Resources Limited acquired a financial interest in, and took over management of, the company late in 1951. During 1952, 4,557 feet of diamond drilling was carried out, including 438 feet from No. 2 level and 3,200 feet from surface to outline the Ruby zone. Work was suspended in August 1952. Reserves in the Ruby zone were subsequently estimated at 232,900 tons (indicated) at 0.73 oz/ton silver, 0.31% copper, and 4.25% zinc (NM 4/11/65). see Card 2,

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

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HISTORY OF PRODUCTION

During the period 1915 to 1917, 53 tons of ore were shipped from the Copper Crown claim. From this ore 261 ounces of silver, and 26,447 pounds of copper were recovered.

MAP REFERENCES

- #Geology of the Grouse Mountain Area, Sc. 1":1,800 ft., Fig. 49, Geology, Exploration, and Mining, 1972, British Columbia Dept. of Mines.
- Geology of the Copper Crown, Ruby and Schorn zones, Sc. 1":200 ft., Fig. 52, Geology, Exploration, and Mining, 1972, British Columbia Dept. of Mines.
- Diagram of Copper Crown Group, (Geol.), Sc. 1":1/5 miles, Map 1608, Summary Report 1915, Geol. Surv. of Canada.
- Map 69-1, Smithers, Hazelton, and Terrace Areas, (Geological compilation), Sc. 1":4 miles, British Columbia Dept. of Mines.
- Map 671 A, Houston, (Geol.), Sc. 1":4 miles (1942).
- Map 5311 G, Quick, (Aeromag.), Sc. 1":1 mile.
- *Map 93 L/10, Quick, (Topo.), Sc. 1:50,000.

REMARKS

Comp./Rev. By	DMacR	DMacR	DMacR	DMacR	DMacR		
Date	12-75	1-79	03-82	05-84	05-87		

REFERENCES

- +Church, B.N.; Geology of the Grouse Mountain Area; Geology, Exploration, and Mining, 1972, pp. 397-417, British Columbia Dept. of Mines.
- ++Black, J.M.; Cassiar Crown, Lakeview; Report of Minister of Mines, British Columbia, 1951, pp. 113-117.
- MacKenzie, J.D.; Telkwa Valley & Vicinity; Summary Report, 1915, pp. 65-67, Geol. Surv. of Canada.
- Reports of Minister of Mines, British Columbia: 1914, p. 227; 1915, p. 78; 1916, p. 126; 1917, p. 111; 1920, pp. 90, 260, 349; 1923, p. 113; 1924, p. 97; 1925, p. 140; 1926, p. 135; 1927, p. 138; 1952, p. 94; 1965, p. 74.
- Mineral Policy Sector; Corporation Files: "Cassiar Crown Copper Co."; "Copper Ridge Mines Ltd."; "Transcontinental Resources Limited"; "Principal Exploration & Mining Ltd."; "Ramm Ventures Corporation".
- Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1977, p. E 196.
- Borovic, I.; Report on Grouse Mountain-Coppermine Lake property, August 1979, in Ramm Ventures Corporation Statement of Material Facts, Sept. 8, 1980.
- George Cross News Letters: 7/12/83; 19/03/84; 1984, No. 55, 120, 173, 182.
- Exploration in British Columbia; BCDM: 1983, p. 444.

NAME OF PROPERTY

COPPER CROWN, RUBY

DESCRIPTION OF DEPOSIT (continued)

ated tuff and breccia lenses. Conglomerates are less common as are shales and argillites; quartzites, cherts, and limy beds are scarce. The main panel of sedimentary rocks, near Coppermine Lake, dips gently to the south and appears to pass laterally into massive volcanic formations from which the clastics were probably originally eroded.

The intrusions on Grouse Mountain are essentially dyke-like bodies which strike north or northwest and dip westerly. Four possibly related varieties have been identified and mapped. These include two types of feldspar porphyry, a feldspar biotite porphyry and aphanitic basic dykes.

A large dyke found on the west side of the mountain is the most conspicuous. This is a bladed feldspar porphyry with exceptionally large plagioclase phenocrysts - some measuring as much as 4 centimetres long and one-half centimetre thick. A second large dyke parallels and locally cuts across the bladed feldspar porphyry. This younger intrusion is typically charged with randomly oriented tablet-shaped plagioclase phenocrysts averaging between 3 and 8 millimetres in diameter. A number of large dykes partially exposed in the central and northeast parts of the map-area are possibly kindred to the bladed and tablet feldspar porphyries. These are fresh rocks composed largely of carrying mixtures of fine-grained alkali feldspar, plagioclase and biotite hosting very large poikilitic biotite plates, as much as 1 centimetre in diameter, and scattered smaller plagioclase phenocrysts. In addition to these intrusions, the area is traversed by numerous narrow aphanitic basic dykes. These are light grey in colour, granular in texture, and seldom more than 15 feet wide.

The Copper Crown zone is a dilated segment, about 400 feet long, of a more extensive system of sulphide-bearing gash fractures which includes the Ruby zone 1,200 feet to the southwest. Mineralization consists of subparallel lenses and joint fillings cutting sharply across bedding and distributed in varying concentrations over a maximum width of about 50 feet.

MacKenzie (1915, p. 66) describes the mineralization in detail:

"At the initial post of the Copper Crown claim a sheeted zone 12 feet wide is made of closely spaced joints from $\frac{1}{2}$ to 4 inches apart, most of which can be traced on the

see reverse Card 2

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

The company name, Copper Ridge Silver, was changed in 1962 to Copper Ridge Mines Ltd. Principal Exploration & Mining Ltd. held an option on 60 claims during 1964. An induced polarization survey and bulldozer stripping were apparently carried out. An electromagnetic survey, carried out in 1965, was apparently confined to the Len group of adjacent located claims.

The CM located claim (12 units), apparently located adjacent to the Crown-grants, was under option in 1977 to Canadian Superior Exploration Limited; a geochemical soil survey (256 samples) was carried out.

Ramm Venture Corporation in August 1979 acquired an option to purchase 9 Crown-grants and one located claim from Copper Ridge Mines Ltd., subject to a royalty of 20%; the company name was changed in June 1980 to Northern Copper Ridge Mines Ltd. and in July 1982 to Ventec Resources Inc. The Copper Crown zone (northeast extension of the Ruby zone) is estimated to contain 720,000 tons grading 0.42% Cu, 0.3% Zn and 0.4 oz/t Ag (Northern Miner, March 29, 1984, p. 17; Ruby zone, some 350,000 tons at 0.38% Cu, 4.23% Zn, 0.88 oz/t Ag. Ramm Venture in 1983 carried out a geophysical survey which indicated three strong subparallel anomalies. Teck Corporation optioned a 50% interest in the property in March 1984. Work that year by the joint venture included an electromagnetic survey and 1 896 m of diamond drilling in 19 holes, which indicated nine zones of mineralization. The Ruby zone, which saw the most drilling, contains probable reserves of 5,000,000 tons grading 0.32% Cu, 4.35% Zn, 0.75 oz/t Ag (Northern Miner, 17/11/86, p.13).

DESCRIPTION OF DEPOSIT (continued)

surface for 10 feet, and in some cases two or three times that far. Chalcopyrite occurs in the fissures in this zone, forming lenticular and irregular veinlets of the solid mineral, the largest seen being 3 inches thick, by 16 inches long. A shoot in the zone, 3 feet thick and 10 feet long, contained about 20 per cent chalcopyrite, and other, less rich shoots also occurred. Twenty-two feet east of the place just described, a 2-foot pit shows a shoot 4 feet thick, visible for 10 feet, which contains about 25 per cent chalcopyrite, and a 10-inch vein in the middle of the shoot, exposed for 5 feet, is nearly pure chalcopyrite. At a distance of 190 feet from the initial post mentioned, the continuation of the same zone is 35 feet wide, prospected by a shaft on the south side of the zone and a trench on the north side. The shaft is 5 by 6 by 8 feet deep, and exposes a 5-foot shoot that may run 20 per cent chalcopyrite. The rest of the 35 feet is lower grade ore, except for one or two small shoots, up to 18 inches thick.

"Eastward from here a distance of about 100 feet are many short veinlets of chalcopyrite from $\frac{1}{2}$ inch to 4 inches thick."

Average of assays of two grab samples containing 15 to 20 per cent sulphides was copper, 3.22 per cent; silver, 3.2 ounces per ton; and very low gold, lead, and zinc values.

The Ruby zone, which continues to the southwest more or less from where the Copper Crown zone ends, dips steeply to the northwest and is divided into three southwesterly raking shoots over a strike length of roughly 1,100 feet. The shoot furthest to the southwest appears to be best mineralized. It is terminated against the large bladed feldspar porphyry dyke, described earlier, and is cut by the younger tablet feldspar porphyry. Five samples of this shoot, taken by Black from the No. 1 level, show the following average composition: (width, 59 inches) gold, trace; silver, 2.3 ounces per ton; copper, 1.0 per cent; zinc, 12.1 per cent. A surface sample across a width of 66 inches in a trench 100 feet northeast of the tablet feldspar porphyry assayed: gold, trace; silver, 4.3 ounces per ton; copper, 1.80 per cent; lead, 0.03 per cent; zinc, 9.20 per cent; iron, 8.80 per cent. The sampled section is clearly banded displaying a layer adjacent the footwall composed mainly of quartz with scattered blebs of pyrite and chalcopyrite and toward the hangingwall masses of pyrite, chalcopyrite, and sphalerite alternating with solid and brecciated screens of country rock.

continued above .

DESCRIPTION OF DEPOSIT (continued)

To the northeast the zone widens considerably into a multi-vein system. This is evident from Black's description of core from a drill hole recording an intersection through the central shoot of 23 feet.

"This length of core contains a vein 6 inches wide, a vein 2 inches wide, twenty-four veins about 1 inch wide, about twenty narrower veins in a 1-foot length of ore, and 1 foot of disseminated mineralization, largely sphalerite."

It appears that the veins and veinlets are concentrated toward the axial plane of the shoot. Nevertheless, the sulphides are relatively dispersed resulting in low metal values. An assay of a 36-inch-wide sample section provided by Black shows: gold, nil; silver, 0.5 ounce per ton; copper, 0.2 per cent; zinc, 7.0 per cent. The northeasterly shoot is mostly obscured at surface by glacial cover. A sample obtained by Black from the underground workings assayed: (width, 18 inches) gold, trace; silver, 1.7 ounces per ton; copper, 0.9 per cent; zinc, 13.1 per cent. This compares favourably with a grab sample collected by the writer from a small surface showing: gold, trace; silver, 1.7 ounces per ton; copper, 1.05 per cent; lead, nil; zinc, 8.00 per cent; iron, 7.07 per cent.