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Ormsby Mines Limited

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NO. 666

VANCOUVER STATIONERS

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ORMSBY MINES LIMITED
LAFORMA PROPERTY

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LOCATION AND SIZE

The LaForma property is situated at 3500 to 4000 feet above sea level on the southwest slope of Mount Freegold, latitude 62° 20 min. north, longitude 37° 00 min. west, 40 miles west of Carmacks, Yukon Territory. The property is composed of the original 19 claim LaForma group and the 14 claim Fairclough group.

GENERAL GEOLOGY

Mt. Freegold is an easterly outlier of the Dawson Range, a northwest-trending upland rising above the general level of the Yukon Plateau, and consisting largely of intrusive rocks of Coast Range and later age, flanked by intruded rocks of Precambrian to Tertiary age. Both geological reconnaissance and limited prospecting along the range indicate that it is a belt of widespread mineralization. The geology and mineral deposits of Mt. Freegold area are described in the following reports of the Geological Survey of Canada.

Carmacks District, Yukon, Memoir 189
by H. S. Bostock, 1936 (Map 340A, Carmacks
Sheet, 1 inch = 4 miles).

Geology and Mineral Deposits of Freegold Mt.,
Carmacks District, Yukon. Memoir 214
by J. R. Johnston, 1937. (Map 450A, Freegold
Mt. Area, 1 inch = 1000 ft.).

As Map 450A shows, country rock in the mine area is medium to coarse grained grey granodiorite cut by dikes of andesite porphyry and of rhyolite or quartz porphyry. These dikes have irregular major northwest and minor northeast trends, and dips of 40 degrees to 90 degrees northeast and northwest respectively. Exploration at the property shows many smaller dikes in addition to those on the map. The rhyolite dikes cut the andesite porphyry and both types commonly show chilled borders and follow curving courses.

Later than all the rocks are shear zones, fractures, quartz veins and faults which, like the dikes, fall into two major sets striking north 20° to 50° east (Dip steep N.W.) and north 40° to 80° west (Dip N.E.) These structures include the gold bearing veins and shears.

DESCRIPTION OF VEINS

At least 9 separate veins have been recognized on the property and are quartz veins in shear zones of varying width and intensity, from veins occupying fracture planes between hard, competent wall rocks, to those in or adjacent to zones of soft pale-grey gouge and highly altered wall rocks. The main exploration effort to date has been carried out on the G-3 and Pal veins, and minor exploration completed on the Alpha and Rambler veins. To date, the northeasterly striking veins appear to contain the economic gold deposits.

MINERALIZATION

The quartz veins and gougy shears contain the metallic minerals pyrite, chalcopyrite, arsenopyrite, sphalerite, galena and native gold, with quartz tourmaline and altered wall rock or gouge as gangue. In the quartz, which is dull white to grey-blue in color, sulfides (predominantly pyrite) occur in fine grained streaks and seams. In the gouge zones, seams of solid friable pyrite up to 15 inches wide are seen. These show irregular to contorted shapes, obviously a result of crushing and movement on the gouge zones. Free gold was seen only in quartz, but sampling indicates that pyrite in both quartz and gouge zones is rich in gold. The gold-silver ratio is approximately 2 to 1.

Although abundant pyrite appears to be a prerequisite for high gold content, pyrite alone, as in the Pal zone, has not been productive in many locations. Highest assays have been obtained from portions of quartz veins carrying abundant pyrite. Arsenopyrite-tourmaline mineralization is probably not a prerequisite for ore, but rather an indication of strong hydrothermal activity in the mesothermal range.

WALL ROCK ALTERATION

Study of thin sections of granodiorite, quartz porphyry and andesite shows that all rocks are strongly altered, but that in most sections the original texture of the rock is preserved and not intensely sheared or brecciated. This confirms that the structure is a fissure system in which failure occurred on a number of discrete slips and fractures, rather than a shear zone in which schistosity or foliation was developed. This type of vein structure is consistent with the idea that the structure mineralization formed at shallow to medium depth and medium pressure.

The principal alteration product seen in thin section is probably sericite, with minor carbonate. Some of the widespread alteration may consist of a clay mineral such as kaoline and it is certain that clay minerals are developed in the form of fault gouge.

Oxidation of the veins and wall rocks is strongest where gouge seams, vein fractures or simply joining are most strongly developed in the granodiorite. It is likely that the oxidation or staining is largely an effect of downward percolating ground water, rather than evidence of actual strong oxidation at depth. Rusty zones intersected in drilling may therefore give a clue to the position of vein or fracture zones.

HISTORY AND DEVELOPMENT

The property was staked in 1930 and developed under options by N. A. Timmins Corporation in 1934-35, Yukon Consolidated Gold Corporation in 1935-36 and T. C. Richards of Whitehorse in 1939-40. From May 1940 to June 1962 work on the property was limited to yearly assessment requirements on surface only.

The above optioners carried out 1,650 feet of drifting and cross-cutting and 250 feet of raising on the G-3 and Pal veins, principally on the 2nd and 3rd levels to about 300 feet vertically below surface. During the Richards operation, 1,418 tons of ore were mined from 7 small stopes on the 2nd level, producing a reported 1,414 ounces of gold. Mill capacity was 10 tons per day and heads averaged 1.5 ounces per ton.

A 221 foot crosscut adit was driven beneath the Alpha vein, but results did not clearly indicate that the vein had been reached. Surface trenching in varying amounts has exposed at least 6 other veins.

Ormsby operations commenced in June 1962 and the 4th adit level was established 190 feet vertically below the 3rd level. The G-3 - Pal vein junction was reached after driving the adit 1,175 feet. The G-3 has been explored by drifting, crosscutting and diamond drilling for a length of 1,000 feet, of which 444 feet of drift were in ore. The Pal vein has been drifted for 85 feet with only low gold values obtained.

The ore shoots on the G-3 vein on the 4th level are as follows.

<u>Length Ft.</u>	<u>Width Ft.</u>	<u>Assay Oz Gold/Ton</u>
42	4.0	1.06
30	6.2	0.48
372	4.0	1.29

There is an additional length of 87 feet in two shoots averaging 0.27 and 0.38 ounces per ton over a width of 4.2 feet, which may make ore above or below the 4th level.

A 600 foot length of the Rambler vein has been explored by 10 surface diamond drill holes to a depth of 100 feet below surface. Total footage drilling was 2,077 feet. No ore was encountered but surface trenching to the north indicates continued strong vein structure.

METALLURGY


Mill tests on a small batch of ore by the Mines Branch, Ottawa, in 1951, showed that there are no particular problems in ore recovery. Over 75 per cent of the gold is free milling and a flow sheet including cyanidation should result in a minimum recovery of 95 per cent gold and 85 per cent silver.

FUTURE DEVELOPMENT

A greatly expanded development program is planned to commence in April 1964, which will include continued drifting north on the 4th level and extending drifts on the upper levels to reach and explore the main ore shoot. When work was suspended in December, the main 372 foot ore shoot had not been delimited, and the last drift face, more than 100 feet north of development on the upper levels, was in ounce ore over a width of 3.5 feet. Raising and diamond drilling will be carried out between the 4th level and surface. It is anticipated that results from this work will lead to the driving of a new low level production adit at an elevation 500 feet below the 4th level, where an excellent plant and camp site adjacent to a year round water supply on Seymour Creek has already been located.

GENERAL

The above information is from reports by Dr. A. P. Beavan and W. E. Clarke.


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Toronto, Ontario
February 6, 1964