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PRELIMINARY GEOLOGICAL REPORT

on

CERTAIN MINING CLAIMS

STUMP LAKE AREA, B.C.

by

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INTRODUCTION

Acting under instruction from Mr. V.N. Briggs, President of Oremont Mines Ltd. (N.P.L.), I have carried out geological reconnaissance work on a group of claims located in an area that represents the northerly portion of the Highland Valley region of British Columbia. Present at various stages of successive visits to the property were Messrs. Briggs, Wing, West and Smith. Numerous visits were made to the property in the interval from October 10th, 1966 to the present date of this report.

LOCATION AND ACCESSIBILITY

The claim group is located about five miles due west of Stump Lake, which in turn is about 30 miles south of Kamloops, British Columbia. The area can be reached either from Kamloops or from Merritt which lies to the south. Highway connections and access are quite good to Stump Lake and, from this point, ranching and logging roads must be used. The nearest railway connections are at Merritt and Kamloops. Limited power resources would be available at Stump Lake. Water resources would be limited on the claims and any amount of consequence would have to come from Stump Lake. The area has been logged but some timber is still available; the type, however, is not particularly suitable for mine timber purposes. Roads can be readily and cheaply built in most parts of the area.

CLAIMS

There are 72 claims in a solid block and these are designated as follows:

Pack	1 to 22 inclusive	GOR	1 to 6 inclusive
Clan	1 to 8 inclusive	MAR	1 to 10 inclusive
Vic	1 to 8 inclusive	Ron	1 to 8 inclusive
PUZ	1 to 6 inclusive	Oremont	1 to 4 inclusive

Initially 6 claims were staked in November 1965, a further 12 in September 1966, and the balance were added at a later date.

ACREAGE

There are 3600 acres, more or less, in the claim block.

TITLES

The claims are recorded in the Nicola Mining Division and are held under the Mining Act of British Columbia. Oremont Mines Ltd. is the holder of the claims. The titles are free and clear of any encumbrance.

TOPOGRAPHY

The area forms a part of the Interior Plateau area of British Columbia. Broad upland areas are cut by deeply incised valleys. Elevations are not severe and the low mountainous areas are well rounded and generally quite heavily covered with glacial moraine deposits. Tree growth is not prolific and large open areas exist. Water resources are sparse and drainage courses are quite subject to seasonal variation. Annual precipitation is low and semi-arid conditions are the rule. Sparse pine and spruce forest growth is present on the claim group.

HISTORY

Reports indicate that substantial work was done on the claim group in the 1930's at which time the minerals sought were gold and silver. A vertical shaft with dimensions about 6' x 8' was sunk to a depth of 25 feet and a round or two was taken in an easterly direction from the bottom of the shaft. The shaft was sunk on a 5.0' wide quartz vein which occurs in a dioritic body. Heavy pyrite, sparse chalcopyrite and good concentrations of molybdenite were noted on the walls of the shaft. The dump also indicated good quantities of the same mineralization. About 200 feet west and 100 feet vertically below the shaft collar, an adit was driven 30 feet into the hillside. Granitic and dioritic phases, with occasional narrow quartz stringers are present in the adit. Mineralization was sparse in this tunnel.

The claims have been re-staked and, worked intermittently since the 1930's but no constructive efforts at development had been made prior to the Oremont Mines tenure of the property.

AREAL GEOLOGY

The claim area is slightly west of what could be considered the northerly portion of Highland Valley. In general, there is a north to northeasterly trend to the geological formations which is persistent over a long distance. Anticlines and synclines follow the prevailing trend direction and a volcanic and sedimentary band exists between flanking igneous intrusive masses. The intrusives in question are thought to be Jurassic-Creataceous age while the sediments, metamorphics and volcanic rocks range from Palaeozoic (Pre-Carboniferous) to Tertiary in age. Geological mapping has been

largely of a reconnaissance nature due to the predominance of overburden.

The development of granite gneiss is quite pronounced in some areas.

STRUCTURAL GEOLOGY

The main controlling feature of the Highland Valley area is the northerly trending series of anticlines and synclines. These have probably resulted from the pronounced igneous intrusions that lie in an easterly and westerly direction from the trend area. There has been considerable folding and faulting as a result of this activity which ranges from quite strong to weak and local in nature. The igneous intrusions have given rise to numerous gradational contacts and metamorphic effects are quite pronounced over most of the area. There are numerous occurrences of quartz filled tension fractures in existence near the intrusive bodies and adjoining what may be strong fault zones.

CLAIM GEOLOGY

All trends on the claims are from true north to N30^{o} E. Dips are variable but are predominantly easterly and range from 45^{o} to vertical.

There appears to be two strong fault zones that, in effect, divide the property into three zones. The faults strike north - south and there is no visible evidence on which to base any displacement. Vein material is post-fault since it occurs in different media in the two easterly zones.

Indications are that the mineralized areas of interest on the claims occur in rock that is pre-Carboniferous in age.

What appears to be a volcanic plug exists in the south-westerly portion of the claim block. This material stands up well above the balance of the area and is from ultrabasic to basic in nature. There is evidence of scoraceous lava on the shoulders and local occurrences of pumice are quite evident. The area reacts very strongly when tested with a magnetometer.

The easterly portion of the property ranges from a gneissic lava to a peridotite in composition and contains numerous narrow zones of sulphide mineralization.

The central portion of the claim block is predominantly a granite gneiss and numerous evidences of extensive metamorphism exist. It is in this area that numerous quartz-filled fissure veins exist. These range from stringers to veins with a 15 foot width. The majority of these veins show occurrence of molybdenite but little or no sulphides of other minerals. The area appears to be bounded on the east and west by fault action and on the north by massive granite.

ECONOMIC GEOLOGY

Work carried out on the property to date has revealed the presence of interesting volumes of molybdenite and copper bearing sulphides. An economic concentration has not been established to date but the occurrences revealed by surface trenching and diamond drilling warrant follow-up work being carried out.

There are three objectives on the claims, each one being in a different geological environment:

1. Molybdenite Zone.

This zone is a metamorphozed granite gneiss that contains a number of quartz, fissure veins. Molybdenite is present in most of the veins and it can be said that the incidence of molybdenite is high in the area. Assay values to the extent of 0.90 percent have been obtained but these have been over sub-commercial widths. Some cross-sectional and deep diamond drilling should ultimately be done on this zone.

2. Copper Bearing Lava.

This area contains lava and intrusive formations that carry a fair content of pyrite, chalcopyrite and some molybdenite, occurring as mineralized zones within the formation. The mineral occurrences are fairly wide spread and show concentrations of commercial importance in narrow zones. Sampling of diamond drill core must be enlarged to embrace some of the areas between the better assay results. A diamond drill hole was run across a portion of this zone and numerous narrow mineralized zones returned values ranging from 0.10 to 1.05 percent copper accompanied by low molybdenite values.

3. Volcanic Plug Zone.

This area has had only a limited amount of exploratory work and its true character cannot be defined at this time. A series of magnetometer lines have been run across the ultrabasic exposure and readings have reached 101,600 gammas, in an area where 30,000 gammas is a common occurrence. A strong magnetite deposit is suspected but is not evident on the surface. Diamond drill sampling will be necessary here. Low copper and nickel values were obtained by surface sampling.

EXPLORATORY WORK TO DATE

Initially a limited amount of surface trenching was carried out on the "Molybdenite Zone" and results indicated that more adequate sampling and evaluation could be done by means of short diamond drill holes. As a result 3 short holes ranging to 111.0 feet were drilled. These returned a number of narrow quartz veins carrying molybdenite, but no ore intersections. Hole No. 4 also drilled into the "Molybdenite Zone" at a level approximately 100 feet in elevation below the shorter holes, was carried to a depth of 356.0 feet. Again a number of copper and molybdenite bearing dykes and veins were cut and while some individual values were good they did not extend over mineable widths.

Diamond drill Hole No. 6 was drilled at a flat angle as a cross-sectional hole in the "Copper Bearing Lava". The hole was carried to an ultimate depth of 495 feet. A total of 11 narrow mineralized zones were cut in this hole and all returned copper values. The better section of the cores existed between depths of 250 and 370 feet. A 30 foot section from 252 to 282 showed values of 0.77 percent and 1.05 percent in copper at each respective end of the interval over 3.0 foot widths, therefore the intervening zones must be sampled.

CONCLUSIONS

1. Sub-commercial values in copper and molybdenite have been indicated on the property.

2. These values warrant further investigations by further diamond drilling.

3. The volcanic plug shows abnormally high magnetometer readings.

4. The molybdenite appears to be confined to fissure veins but its high incidence may lead to an area where it occurs in the country rock.

5. A fault zone creates a definite line of demarcation between the "Molybdenite Zone" and the "Copper Bearing Lava", consequently it would appear that mineralization is post fault in age with the copper bearing sulphides essentially occurring in lava.

RECOMMENDATIONS

1. A diamond drill program of at least 3000 feet should be carried out. This to be confined to the copper bearing lava zone and the volcanic plug area.

2. A comprehensive magnetometer survey should be run over the volcanic plug area.

3. Soil sampling of the "Molybdenite Zone" to be carried out during the coming summer.

The cost of the above recommended program would approximate the following:

Diamond Drilling 3000 feet @ $10.00 per foot	$ 30,000
Magnetometer Survey	3,000
Soil sampling	2,000
Camp maintenance, roads etc.	3,000
Supervision and engineering	3,000
	$ 41,000

Respectfully submitted,

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