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BRALORNE PIONEER MINES LIMITED INSPECTOR OF MINES

(NON-PERSONAL LIABILITY)

355 BURRARD STREET
VANCOUVER 1, B. C.

RECEIVED

FEB 25 1964

PRINCE RUPERT, B. C.

24th February, 1964.

Mr. Harry Bapty,
Inspector of Mines,
Department of Mines,
Court House,
Prince Rupert, B.C.

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Dear Harry;

The enclosed copies of reports should supply what you require on the Northwest Group and on the Snowbird Group which also comes in your area as you described it.

We also worked on the Lustdust Group with a crew of 4 men for 6 weeks cleaning out old trenches for a re-evaluation. I expect this property has been described in previous years as it was drilled in 1963.

Yours truly,
BRALORNE PIONEER MINES LIMITED



D. H. James
Chief Geologist

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Report on the Northwest Group
Zymoetz River, B.C.

Introduction

The Northwest Group is a restaking of an old group of the same name located in the right-angle bend of the Zymoetz River. It is some 30 miles east of Terrace, B.C. from which point it can easily be reached by helicopter or by road and five miles of trail.

The property was acquired by option from Cariboo Gold Quartz Mining Co. Ltd., who in turn have an option from Mr. Len Beliveau and Associates.

Work Summary

The Bralorne Pioneer Mines Limited crew of four men moved to the property on June 22nd and came out on September 2nd. Mr. George Gilbert on loan from Cariboo Gold Quartz directed the crew for ten days to provide continuity of effort. Further work was directed by Mr. Trevor Bell under the supervision of the writer who spent a total of seven days on the ground.

The crew excavated ten additional trenches in overburden and rock on the original showing, blasting all smooth rock surfaces to obtain fresh surfaces. They prospected the entire property and much of the area lying north towards Treasure Mountain. This work turned up a new showing on which eleven trenches were excavated.

The writer re-examined all core from previous drilling, and was able to locate, sort out, and relog AX holes 2 - 9, 3A and 3B. There was no core from hole 1 to be found and the core from the X-ray holes was badly mixed and scattered.

General Geology

The claims are underlain by volcanics of the Hazelton series. These are flows, tuffs and possibly sills of considerable variety. They strike north to northwest and dip northeast at angles of 30 - 60°. North of the claims there is a localized abrupt change in strike. The linear depression along which this change occurs was prospected closely but no mineralization of any sort was found.

North of the property one felsite dyke occurs but no other intrusive rocks of any sort were found.

The higher parts of the claim group are typical rounded alpine mountain tops. The volcanics form conspicuous linear ridges. Depressions are eroded along softer tuffs and flow tops, leaving the flows (possibly some sills) on the crests. Linear depressions cross the regional strike, indicating cross-faults. Most of these appear to have only minor fault movement. They were given close attention in prospecting.

Main Showing

The main showing is located below the plateau-like portion of the

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claims and the vicinity is more heavily timbered and overburdened. Its relative position is indicated on the accompanying 1" = 500' print. Details of trench locations and drill holes are shown on the 1" = 20' print.

Due to the overburden the attitude of volcanics near the main showing is not certain, but indications are that they strike north and dip northeast.

Mineralization in the main showing consists of chalcocite, bornite and some chalcopyrite. The copper minerals are in reddish siliceous tuffs or flow breccia, apparently confined to the matrix. Chalcopyrite is fairly rare, occurring as small disseminated grains. Bornite occurs mostly in irregular veinlets and masses. Chalcocite is the most common mineral and occurs very finely disseminated in the rock, although there are a few larger spots. A few grains of pyrite can be found and a very little calcite. Smooth glaciated surfaces must be blasted to discover sulfides which are leached for 1 - 6 inches without any indication of oxidation. Fractured surfaces when picked show malachite and occasionally rusty material.

The main showing begins at a bluff face in which an old short adit was driven and extends northerly for 300 feet. In this distance it diminishes in width and apparently peters out. To the south it cannot be found at all.

A short parallel zone 200 feet west can be followed for about 100 feet on strike. It occurs in a similar rock, separated from the main showing by an unmineralized grey feldspar porphyry.

Except for the elongation within the siliceous host rock, the mineralization exhibits no controlling structure. There is some evidence, however, of control by fractures. The bluff appears to have developed by erosion on a set of east-west cross fractures and this type of fracture may have introduced mineralization into certain favourable beds. If this be the case, it is possible the zone may continue down dip east along the intersection of fractures and beds.

The diamond drilling done has not exhaustively tested this possibility, but does indicate a shorter length and lower grade immediately below the outcrop, as well as somewhat erratic structural position. Core recovery in the mineralized rock was good. The decline in values may be explained if some of the chalcocite is secondary, but a mineralogist's opinion to the contrary was obtained before the option was entered into.

New Showing

The new showing is slightly more than a mile north northwest of the main showing. Similar mineralization occurs in a grey flow characterized by platy pinkish feldspar phenocrysts. This flow strikes north northwest and dips about 40° northeast. It was traced on surface for about 2,000 feet, but no mineralization was found, other than in the area shown on the 1" = 20' plan.

At the south end the mineralization is all low grade. Trench 1-S contains by far the best-looking material and runs 4.36% Cu in the highest assay. Trench 2N was conspicuously better than any of the others, and returned an assay of 1.55% Cu. The other trenches exposed only small widths of slightly stained rock which might run 0.1% Cu.

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In this showing also, save for the restriction of copper minerals to one rock-type, there is no structure. Trench 2-N crosses at a small angle some east northeast trending slips which may be cross-fracturing exerting some control over the mineralization.

Conclusions

Discovery of one additional showing and two other minor occurrences indicates a fair job of prospecting was done.

The new showing lacks structure and a size-grade combination of enough interest to justify further work.

The main showing has been proven continuous for 300 feet, although of mineable width for only 200 feet. The nine AX holes drilled under the showing indicate, however, that the mineralization is more restricted in width, grade, and length below the surface. It is a deposit worth hanging on to for the owner, in view of the good chance that B.C. Telephone will build a road into the area and expose a lot of rock in the process. It is not, however, worth our continued effort as required by the option agreement.

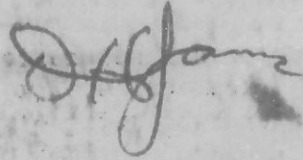
Recommendations

It is recommended we surrender the option.

Remarks

George Gilbert staked six additional claims in July and Bell staked two in August.

We have spent up to August 30th \$6,641 on this project of which roughly one third each are attributable to the main showing, the new showing, and to prospecting. We have recorded no assessment work and I suggest this be left to the discretion of Cariboo Gold Quartz. We carried out our commitment to offer \$5,000 towards a road, but B.C. Telephone decided to do no more than put in a bridge this year.



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WEATHER

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BRALORNE PIONEER MINES LIMITED (N.P.L.)

To: D. H. James 5th October, 1963.
From: T. Bell
Subject: Northwest Project, Terrace, B.C.

The property is situated at approximately 54°30' N, 128°0' W to the east of Salmon Run Creek, a tributary of the Zymoetz River which flows into the Skeena River 7 miles north of Terrace B.C. The distance from Terrace to the property is approximately 25 miles due east. The topography of the area in which the claims are situated is quite rugged, with elevations ranging from 3000 to 5000 feet. Timber line occurs at about 4200. Below this elevation the slopes are thickly wooded with balsam and hemlock. Above timber line the slopes are often covered with thick brush, but bare rock outcrop and heather covered slopes are more common.

Access to the property is by a private logging road (from near the confluence of the Zymoetz and Skeena Rivers) to the new bridge across the Zymoetz River (east of the confluence of Salmon Run Creek with the Zymoetz River.) Then by an old trappers' trail, which is often ill-defined and easily lost in the numerous windfalls, to the camp.

The property is made up of 54 mineral claims, as shown in figure 1 (claim map.) Copper mineralization was initially found in the Northwest group of claims. The first reference to this mineralization is in the Minister of Mines Report 1914. During the nine weeks spent on the property during the summer of 1963, a further showing was discovered on the south west borders of Sid #5 and #7 mineral claims and it was necessary to stake 2 further claims, Keeler #1 and #2, to include any possible extension, thus bringing the total number of claims up to 56.

The geology of the area has been described by Hanson (1) and Kindle (2) of the Canadian Geological Survey, and to a lesser degree by Brewer (3) and Galloway (4) of the B.C. Department of Mines.

- (1) Hansen, G. Geological Survey of Canada Summary Reports 1925.
- (2) Kindle, E.D. Geological Survey of Canada Memoir 212.
- (3) Brewer, W.H. Minister of Mines Report 1914.
- (4) Galloway, J.D. Minister of Mines Report 1917, 1920.

Locally the area is underlain by a series of Volcanic flows, tuffs and breccias (Hazelton Series) of Lower Jurassic age, into which has been intruded rocks related to the Coast Range Batholith. However, the latter do not outcrop within the boundaries of the property examined. The rock type predominant in the area examined is andesite, with minor outcrops of breccia and tuff, and one isolated flow of feldspar porphyry. Locally, the flows have been folded and faulted and in places metamorphosed. The average strike of these rocks is from N10° E to N30° W with an easterly dip. At the extreme north end of the property, the strike suddenly swings around to almost east-west, with the dip towards the south.

Description of Showings.

1. Northwest Group The mineralisation here is exposed in a bluff which is approximately 30 feet high and 100 feet long, in an east-west direction, near

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C.C. Map 19

the intersection of Northwest mineral claims #1, #2, #3 and #4. The outcrop is composed of grey and purple andesite, which is in places stained with copper carbonates, striking N10°W and dipping steeply to the east. The mineralization consists of chalcocite, bornite, azurite, malachite and a little chalcopyrite. The face of the bluff has been quarried back for several feet and there is a considerable ore dump at the base of the bluff, estimated to contain about 250 tons of material. A short adit, 16 feet long, has been driven into the face of the bluffs. Seven samples taken across 75½ feet of the bluffs for assay, averaged 2.16% copper.

Brewer (1914) reports that the copper mineralization occurs "in an intrusive andesitic dyke, some 120 feet in width" and that "the outcroppings on the top of the bluff were followed for some considerable distance until the snow-line was reached; where the rocks were bare, the same conditions with regard to structure and width, apparently prevailed... the dip at the contact between the andesitic dyke and a soft rock, resembling a black ferruginous sandstone is at an angle of 75°. The dyke cuts the strata of the slate almost at right angles, the strike of the slate being N70°E, with the dip of the strata at an angle of 75° towards N20°W". No signs of Brewer's "black ferruginous sandstone" or "slate" was seen. The "andesitic dyke" is one of a series of andesite flows which are common throughout the whole of the area.

Several pits and trenches were dug and blasted to the north of the bluffs in an effort to trace the mineralization. At a distance of 300 feet north, the mineralization appeared to have pinched out completely. In trench #2, approximately 50 feet north of the bluffs, samples taken across a width of 33 feet assayed 1.66% copper; across 53 feet the amount of copper fell to 1.16%. In trench #3, 120 feet north of the bluffs, the assays across 25 feet ran 4.04% copper; across 43 feet, 2.76% copper. 70 feet further north, the total width of mineralization exposed in trench #4 was 12 feet, and in trench #5, 50 feet north of trench #4 only 1 foot of mineralization was uncovered. North of trench #5 no trace of copper mineralization could be found, despite Brewer's report of tracing this showing uphill "for some considerable distance" to snowline.

Trenches to the south and east of the bluffs have failed to locate any further copper mineralization, nor could any trace of mineralization be found in the outcrops of this area. It would appear that the mineralization is probably cut off by a fault which runs approximately east-west, just to the south of the bluffs.

About 250 feet north-west of the adit there is a further showing of copper mineralization in the bluffs. The minerals found here are bornite, with some chalcocite, malachite and azurite. A 17 foot sample across this showing assayed 4.15% copper. No extension of this showing was proved in pits and trenches to the north, west and south, nor could any trace of mineralization be seen in the bluffs which run parallel to the above showing, and about 200 feet west of it.

2. Sid-Keeler Group This showing is located approximately 1 mile N25°W of the Northwest showings at an elevation of 5,000 feet. It occurs at the top of a line of high and very steep bluffs which are covered with thick brush. The mineralization occurs in a feldspar porphyry flow which is quite distinctive and acts as a well defined marker bed within the andesite flows. The porphyry consists of a light grey matrix which contains large phenocrysts (up to 1 inches in diameter) of pink orthoclase feldspar. The chief copper mineral is chalcocite, but bornite, native copper and the copper carbonates azurite and malachite, are also present. The

D. H. James

5th October, 1963.

mineralization occurs in veinlets in fractures in the rock and also disseminated throughout the groundmass. Copper mineralization occurs over a distance of 600(600) feet but it is not continuous, as is proved by trenches. Approximately 450' north of the Keeler #2 and #1 initial posts there is a fault trending N55°E which off-sets the porphyry to the west. North of this fault no copper has been seen in the porphyry. Instead of copper, haematite, occurs and it is often found included in the feldspar phenocrysts. Similar conditions are found between areas of copper mineralization and it appears that chalcocite has replaced haematite, or vice versa. It is not known whether the copper mineralization extends to any great depth - this could only be proved by drilling.

Assays from the trench immediately south of the Keeler #1 and #2 claim posts ran as follows:

<u>Sample No.</u>	<u>Width</u>	<u>% Cu</u>	<u>Oz. Ag/ton</u>	<u>Oz. Au/ton</u>
3957	7'	0.11	-	-
3958	13'	0.27	0.10	trace
3959	10'	0.36	-	-

Assays from Trench #2-N, which cuts obliquely across the strike of the porphyry, ran as follows:

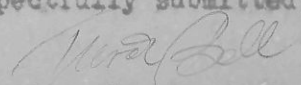
<u>Sample No.</u>	<u>Width</u>	<u>% Cu</u>	<u>Oz. Ag/ton</u>	<u>Oz. Au/ton</u>
3960	35'	1.55	0.36	-
3961	31'	0.89	-	-

The rest of the claims were prospected in detail without finding any further mineralization. The Wells and Montana mineral claims which were thought to be included in the Northwest group of claims, are located on Treasure Mountain, some three miles north of the campsite. The reported molybdenum showing near the B.C. Telephone cairn could not be found.

Conclusions Copper mineralization has been exposed over a length of approximately 300 feet in the Northwest group of mineral claims. The maximum width of mineralization which is exposed in the bluffs, is 75 feet. However, this pinches out completely 300 feet north, and appears to be cut-off by a fault just south of the bluffs.

In the Sid-Keeler group of claims, copper has been found in patches over a distance of 600 feet. Samples taken for assay from trench #2-N, which appeared to be the most heavily mineralized section, averaged 1.24% copper over a length of 60 feet. Unless mineralization increased with depth, this deposit would appear to be unsuitable for any further work.

The Northwest showings also appear to be too small and sporadic to warrant any further work on them.

Respectfully submitted,

 Signed: Trevor Bell.