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REPORT
on the
SUNSET'S CREEK PROPERTY
OMINECA M.D.

for
PETER KIEWIT SONS COMPANY OF CANADA LTD.

by
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Vancouver, B.C.

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ILLUSTRATION

(in envelope at back)

MAP showing all known technical data,
Whitesail Mines Ltd. 1" = 400'

REPORT ON THE
SUNSETS CREEK PROPERTY
OMINECA M.D.

INTRODUCTION

The Sunsets Creek property is at the head of that creek, 19 miles south of Smithers in central B.C.

This report is an appraisal of the property and the possibilities of the widespread copper-molybdenum mineralization.

Although geological, geochemical, geophysical and diamond drilling work have been carried out, in each case the work was insufficient or improperly done.

PROPERTY

The 64 claims that comprise the Sunsets Creek property are held by Whitesail Mines Ltd. They cover an area of approximately 3 miles (E-W) by one mile (N-S).

LOCATION AND ACCESS

The property is in the Telkwa range at an elevation of 5000-7000'. Topography is rugged and ground access difficult. The nearest road is about three miles away. Access is by helicopter from Smithers.

The showings are largely above timberline and ample water is available in Sunsets Creek for diamond drilling.

HISTORY

In 1966 reconnaissance silt sampling by Noranda Mines Ltd. led to the discovery of copper and molybdenum mineralization. During the summers of 1967 and 1968, EM survey work and soil sampling were carried out. While the soil sampling was being done, two short diamond drill holes were put down to investigate depth possibilities of some molybdenite mineralization exposed in a test pit.

Apparently the results obtained did not justify Noranda's retaining the claims and, in late 1968, Whitesail Mines Ltd. acquired the property.

GEOLOGY

The Telkwa Range, in which the property lies, is composed mainly of pyroclastic and flow rocks of the Hazelton group with minor patches of overlying Bowser sediments. Several plutons are known.

The Sunsets Creek quartz monzonite porphyry pluton, in which the showings under discussion are located, is two miles wide and 2½ miles long in a northerly direction. The pluton has domed the surrounding tuffs which also have been intruded by dikes and sills of porphyritic pyroxene andesite and diabase. The composition of the pluton appears to be homogeneous and entirely quartz monzonite, grey with granitic texture. Potassium-argon dating has determined that the Sunsets Creek pluton is similar in age (68 million years) to the molybdenum-bearing pluton of Hudson Bay Mountain and dissimilar in age to the Babine Lake intrusives which contain chalcopyrite but no molybdenum.

Surrounding the stock is a gossanous zone that roughly corresponds to the development of hornfels. Pyrite is sparse yet the tuffs weather an intense rusty colour, probably due to the presence of magnetite.

The original geological mapping was carried out by A. Sutherland Brown of the B.C. Department of Mines and Petroleum Resources during four days in 1967. The limits of the southern part of the quartz monzonite porphyry were mapped as were four pyritic zones within the plug.

Additional geological mapping was done by Ivor Saunders of Noranda Explorations Ltd. in 1967 or 1968 (map undated).

The two maps of the same area do not correspond well and, for a thorough appraisal of the property, detailed geological mapping of the entire plug must be undertaken.

MINERALIZATION (see accompanying map)

In 1967 A. Sutherland Brown observed that the periphery of the stock contains minor sulphide mineralization. He also noted that this mineralization occurs as 1" quartz veins that contain pyrite, chalcopyrite and minor molybdenite and that it is probably most strongly developed along the southwestern contact. Within the intrusive are two altered zones that consist of sulphides, chloritization and lesser sericitization.

The largest zone of pyritization is in the west central part of the intrusive and contains a core of more strongly altered rocks.

Minor molybdenite mineralization was observed by Sutherland Brown in the southern arm of the west (#1) zone.

The mineralization is, in part, disseminated and also occurs as coatings on joints and irregular fractures. The best mineralized joints are fairly flat but little molybdenite is seen except where trenching has been carried out.

Two drill holes were put down immediately downslope from the molybdenite showing mentioned above. No records of any sampling were kept but reports are that "small amounts of chalcopyrite and molybdenite occur with quartz and pyrite in fractures throughout the length of both holes. Moderate chloritic and minor sericitic alteration is present."

As far as is known, no samples have been taken from the property for assay purposes. At present there are no known showings of economic interest on the property.

GEOPHYSICAL

In 1967 Noranda Explorations Ltd. carried out an electromagnetic (EM-16) survey using a Crone dual frequency unit. J.T. Walker, writing on the survey for Noranda, states that two moderate to strong anomalous responses were obtained.

The long narrow response in the east part of the plug coincides with the #2 pyritic zone over which a copper-molybdenum geochemical anomaly was discovered the following year. Walker states that this is probably a structural expression but the soil work done later suggests that it may be due to associated mineralization.

A more complex conductor pattern is located in the central part of the intrusive and Walker feels that this warrants further investigation. There is little outcrop in this area, and no visible pyritic zone. However, both copper and molybdenum geochemical anomalies were subsequently discovered over this conductor axis.

With widespread disseminated mineralization indicated in the pyritic zones, an induced polarization survey should be a more effective exploration method than an EM survey.

GEOCHEMICAL

About 15 miles of grid lines were laid out and samples taken at 200' intervals. Background was determined as 225 ppm Cu and 17 ppm Mo.

The west pyritic zone was only partially covered by soil sampling and results were negative over the best mineralized part. An anomalous area was found 1000' southwest of the highly altered core but values in copper only were found.

The central area was found to contain small anomalies in both copper and molybdenum which coincided with EM conductors.

The east pyritic zone did not show anomalous soil readings, either on the zone or downslope therefrom.

Copper and molybdenum anomalies were found in the eastern part of the stock but they appear to be related more to a strong linear structural feature than to the pyritic zone itself. Probably there is a relationship between the soil anomalies, the pyritic zone and the structure.

Reconnaissance stream sediment geochemical work originally directed interest to the Sunsets Creek region. Numerous readings of 1000-3000 ppm Cu were recorded.

In the Webster Creek watershed, 8000' to the north, anomalous readings in copper were also recorded in stream sediments. These samples were taken from within the intrusive and indicate that this area also warrants some attention.

CONCLUSIONS

It appears obvious that the field work carried out to date was limited to too small an area. Sutherland Brown states "The periphery of the stock contains minor sulphide mineralization (it) is probably most strongly developed along the southwestern contact." These areas were not covered by either soil sampling or EM survey. It seems that the pyritic zones in the interior of the stock attracted most attention but these were not the areas in which most mineralization was observed.

The grid should be extended outwards to and beyond the limits of the contacts in the southern half of the intrusive.

Geological mapping with grid line control should be done in the south and less intense geological mapping should cover the entire intrusive.

The type of mineralization involved suggests that an induced polarization survey would be much more suitable than an EM survey.

To summarize, the prospect has merit and warrants additional exploration work. Possibilities of finding a large low-grade molybdenite deposit are present.

Respectfully submitted,
BACON & CROWHURST LTD.



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