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Molybdenum-ore prospects within the Bell claim Group area  
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Location of the area

The Bell claims numbered 1-19 and a No. 20 fraction of a claim are located to the north of François Lake within the Omineca Mining Division of British Columbia. The claims are outlined on the enclosed map and as shown to the west they border onto the Endako Mines Ltd property and where the Endako open pit mining takes place. The area is partly swampy, covered by pinewood and shrubbery and sloping from the highest point of some 3200 ft in the NW towards south and east to an elevation of below 3000 ft above sea level. A little to the north of the central part of the area there is a steep creek running in from the west and opening up towards the east.

Previous exploration works

In 1961 prospecting, which commenced with a magnetometer survey, was started on the claims as well as some adjoining areas. In 1963 a grid-type sampling of top-soil was carried out and in 1964 an I.P. survey was conducted, followed by a 10-hole BX core-drilling program.

No outcrops were found but a train of float carrying molybdenite was traced traversing the northern border of the claims.

The drill-holes were located in order to test anomalies resulting from the I.P. and the geochemical surveys and the drillings were conducted on a reconnaissance basis with vertical holes driven to depths of some 100 to 300 ft.

In most of the holes very heavy overburden was encountered. In fact one of the holes, No. 4, was stopped at 110 ft without reaching the bedrock. Depths of overburden are marked on the map and recorded on the enclosed copies of core-logs.

According to the logs, apart from in hole No. 1, no ore-grade mineralizations were found in the holes. However MoS<sub>2</sub>-bearing quartz veinlets or stringers were cut in several cores. Of interest to note is also that often the most fresh or only slightly altered granite is intersected by aplitic dykes.

In this connection it should be pointed out that when drilling, only the cores were recovered but no samples taken of the sludge. Therefore, although the average core-recovery in any single hole may be high within limited, altered or fractured sections, such as occurred in hole No. 1, core-losses may be over 50%.

Geological setting

Since the drillings were carried out in 1964, much new information has been gathered, especially from studies in the Endako open pit, but also through results of exploration drillings

carried out in 1967 to the west of the Endako Mines area.

Thus, in the following relevant geological features, and especially the structures controlling the ore-mineralizations, are summarized.

A series of granitic and granodioritic rocks, believed to be of silurian age, have been fractured and in the fractures molybdenite-bearing quartz veins have been introduced. The main veins of up till 3 ft width strike more or less east to west dipping by varying degrees towards the south. In between the major veins there occur a network of quartz stringers also associated with molybdenite. A series of crosscutting granite porphyry and also lamprophyric and basaltic dykes are connected with a north-southerly fault-system so that the mineralized zone is striking in about a  $N70^{\circ}W$  direction.

Around especially the bigger quartz veins but all throughout the mineralized area the granite is altered and transformed into a greenish grey soft and clayey rock, mainly due to kaolinisation of the feldspars. In connection with the tectonic movements the mineralized quartz veins further have been fractured and the original molybdenite crystals have been crushed, in many places appearing as a black powder in the clayey material. The alterations thus described are limited to the ore-bearing zone proper which in the west dips steeply towards the south but in the eastern end of the Endako mine dips about  $40^{\circ}$  in a southerly direction.

Further definition of the hanging wall is the occurrence of pyrite-impregnations in the for the rest unaltered granite, whereas in the footwall there occur rather abundant reddish aplite dykes intersecting the granite.

#### Discussion of results

From our present knowledge it seems likely that the drillings carried out in 1964 were placed too far to the north to evaluate the possibility of the Endako ore-bearing zone continuing within the Boll-claim area. The geochemical anomalies found within the drilled area can well be explained by float in the top-soil from outcrops at Endako as the ice movements have come from the west.

Further, considering the heavy overburden, too much emphasis should not be placed on results of an I.P. survey.

In most of the holes drilled, the cores show a great similarity to the typical footwall assemblage at Endako, with occasional  $MoS_2$ -mineralizations, aplitic dykes but no conspicuous kaolinisation. Such alteration of the granite is, however, recorded in the two southernmost holes viz., No. 1 and No. 8. In hole No. 1 further several mineralized sections were encountered. Although most sections are very lowgrade the interval between 262 and 272 ft assayed 1.01%  $MoS_2$ .



This hole can well have been placed not far south of the footwall of the continuation of the Endako ore zone. Considering the known structural features at Endako a projected easterly extension of the ore zone would fall within the Bell claims No. 1 and No. 3 extending southwards in No. 10, 12 and 13. Nothing further is known that contradicts the possibility of ores continuing further towards the southeast into the Bell claims No. 14-19.

#### Recommendations

It is recommended that further drillings be carried out within the southern part of the Bell claim area.

A first program of 15 holes is proposed. The holes would be placed along three profiles with 5 holes in each profile and as outlined in red on the accompanying map. Because the dips of structures are believed to be  $40^{\circ}$  or less to the south the holes may be drilled vertically or inclined  $60^{\circ}$ - $70^{\circ}$  to the north along profiles. As heavy overburden is expected the holes should each be drilled to a depth of 400 ft.

The spacing chosen between profiles, 1000 ft, and between holes, 500 ft, should be considered as a reconnaissance grid. This spacing should, however, suffice to indicate the presence of important mineralizations. To fully evaluate the possible ore potential of any such mineralizations it will be necessary to carry out additional drilling. Most probably in such a case holes drilled have to be placed at half the distances of the present spacing.

Considering the drilling technique it was found when drilling the 1967 program that wire-line drilling using heavy mud gave excellent core recovery and thus reliable results. Should any other method be used it will be necessary to recover and sample the sludge.

It is estimated that with the use of wire-line equipment a program of 15 holes totalling 6000 ft could be completed within 2 months time.

A conservative estimate of the costs, based on the experience of the 1967 drillings, amounts to a total of around \$ 84.000.

WENNER-GREN B. C. DEVELOPMENT CO. LTD.

Stockholm, May 29, 1968