REPORT ON GEOCHEMICAL SURVEY, MENNIN LAKE PROJECT, ONTARIO 52-F



BACKGROUND

Mr. Alan Sanderson, while prospecting for pome Exploration (Canada) Limited in 1965, discovered molybdenum mineralization in a number of narrow scattered quartz voing in a granite mass between Mennin Lake and Kawasheramuk Lake approximately 12 miles south of Dyment on the C.P.R. This discovery is situated in the Kenora Mining Division on N.T.S. map reference 52-F-8.

As a result of his discovery, Sanderson staked, on behalf of Dome Exploration (Canada) Limited, a group of 57 claims.

On completion of his staking, Sanderson carried out certain trenching in the vicinity of some of his molybdenite discoveries and late in 1965 employed a billdozer to remove the overburden from certain areas in the vicinity. of his showings. These phases of the exploration of the property are covered in another report.

A programme of exploration was carried out on the property in 1966. The first phase of this was geochemical soil sampling on that portion of the property covering the greatest known concentration of molybdenite occurrences. The area covered by this geochemical survey is shown as a red outline on the attached 1" to 1/2 mile property plan.

After the soil sampling had been completed and assays had been received, another programme of trenching was carried out in mid-summer 1966. In the fall of 1966, a programme of diamond drilling was carried out on the property. The latter is described fully in a separate meport entitled "Assessment Report, Mennin Lake Claims, Kenora Mining Division 52-F-8, Ontario", Uy G.S.W., Bruce, and dated November 24, 1966.

As a result of the Mennin Lake drilling programme mentioned above an assessment work submission was made on 23 claims of the original 57-claim property. This assessment submission was confirmed by the Ontario Department of Mines on November 28th, 1966.

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PROPERTY

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The Mennin Lake property is located at approximately latitude 49° 27' north, longtitude 92° 15' west. The property may be reached either by a Dryden Paper Company road from Dyment as shown on the Key Map accompanying this report, or by aeroplane from Sioux Lookout, Dryden, etc., to Mennin Lake.

At the time of writing this report the property consisted of the following 23 claims: K36104, K36105, K36106, K36108, K36109, K36116, K36117, K36122, K36123, K36124, K36125, K36126, K36127, K36128, K36129, K36136, K36138, K36140, K36110, K36111, K36118, K36119, K36142. These claims are registered in the name of Dome Exploration (Canada) Limited of Suite 702, 360 Bay Street, Toronto 1, Ontario.

GEOLOGICAL SETTING

The property more or less straddles the north-northwesterly trending basalt-granite contact as shown on O.D.M. Map No. 42C. This contact is such that greenstones lie to the west of the contact and granite to the east of the contact. On the portion of the property on which the soil sampling was done there is generally an interval of approximately 1000 feet in width along the volcanic-granite contact in which there is very little outcrop. Further to the east of this overburdencovered interval there is reasonably abundant outcrop. It is in this area of fairly abundant outcrop between the overburdencovered contact area and Mennin Lake that Sanderson made his molybdenite discoveries.

REASON FOR GEOCHEMICAL SURVEY

Work carried out by Sanderson demonstrated there was an abnormal abundance of molybdenite-bearing quartz veins, of varying widths, in the portion of the property adjacent to Oldberg Lake. Within this area there is insufficient outcrop to properly evaluate the molybdenum potential. By inspection it seemed quite clear that no geophysical method would be at all helpful in outlining target areas beneath the overburden. Therefore, it was decided that a geochemical approach should be attempted in order to try to outline target areas of abnormal molybdenum content on which to lay out a meaningful drilling programme.

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SOIL SAMPLING

It was decided, in the first stage of the programme, to sample the "B" soil horizon on lines previously cut. For the preliminary survey it was decided, as far as possible, to take the required samples at intervals of approximately 100 feet along lines approximately 400 feet apart.

The soil sampling was carried out by Alan Sanderson with two helpers. At each sample location a round hole approximately 12 inches in diameter was dug to expose the soil profile. From this, a sample of the "B" zone was selected. It was decided in advance that, besides sampling the "B" horizon, certain samples would be taken also in the "C" horizon, particularly in the vicinity of mineralized showings which had previously been found by Sanderson. In some cases samples were taken of the "B" horizon and the "C" horizon at the same sampling point.

An additional precaution was taken because of the difficult nature of molybdenum soil determinations. At approximately every tenth sample position a larger sample was taken and it was divided into two samples, one to be included in the regular run of samples and the other as a duplicate to be sent to a second laboratory for check purposes.

As a result of this programme some 236 samples were sent to X-Ray Assay Laboratories. The 26 duplicate samples were taken, as described above, and were sent to other laboratories, also known to be well experienced in molybdenum determinations. The soil analyses from the various laboratories coincided very well. The results of the soil analyses are shown on the accompanying 1" to 200-foot plan entitled "Surface Plan Showing Soil Geochemistry, Mennin Lake Project, Ontario."

RESULTS

It will be seen from an inspection of the accompanying map that the soil survey outlined a broad northerly-trending area of moderate molybdenum soil anomalies. As it happens this geochemically-anomalous area coincides; in a gross way, with

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the broad area of moderately abundant outcrop in which the original molybdenite-bearing quartz veins were found. To this extent the survey was quite successful, i.e. it confirmed that the broad area of already known mineralization formed a distinctly anomalous area. However, within the area of generally anomalous geochemical values no strikingtargets were presented for diamond drilling.

It is believed that soil sampling in the overburdencovered interval between the cutcropping volcanics to the west and the granite to the east may not have been particularly definitive because of depth and character of the overburden.

liowever, it is believed that in the upland area between Oldberg Lake and Mennin Lake, where the overburden is generally light and outcrop reasonably abundant, the method probably worked as well as could be expected.

Buce S. W. Bruce

Toronto, Ontario, December 30, 1966.

GEOCHEMICAL ANALYSES RE MENNIN LAKE GEOCHEMICAL SURVEY

In reply to a query by the Director of the Mining Lands Branch, the following data pertains to the analyses of soil samples for molybdenum.

Samples are dried at $70^{\circ} - 75^{\circ}$ C and seived through 80 mesh cloth screens. The oversize is discarded and the screened fraction is analyzed by standard X-ray fluorescence analysis. These determinations were made at X-Ray Assay Laboratories Ltd., 45 Lesmill Road, Don Mills, Ontario.

Bruce

GSWB/im February 24, 1967

G. S. W. Bruce

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