2698

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 2698 MAP .....

GEOCHEMICAL REPORT

CANADIAN SUPERIOR EXPLORATION LIMITED

Claims LOU 163 to LOU 172 inclusive.

20 miles WNW of SMITHERS

54°, 127° SE.

93L/13E

September 15, 1970

R.J. Overstall
J.D. Murphy

TABLE OF CONTENTS

MAP IN POCKET: #1

SOIL GEOCHEMISTRY 1 inch = 800 feet.

INTRODUCTION

The Lou group consists of 170 claims located approximately 20 miles west-northwest of Smithers and 28 miles south of Hazelton in the Omenica Mining Division. The present report deals with a geochemical survey on part of the group, Lou 163 to 172 inclusive (10)claims. The property is owned by Leitch Mines Limited and under option to Canadian Superior Exploration Limited.

The claims are situated on the south side of the group on an elevated plateau to the west of Bud Lake and one mile south of Louise Lake.

A logging road from Smithers comes to within 8 miles of Louise Lake with a winter cat road branching off to the property itself. Air access is either by fixed or rotary wing aircraft to Louise Lake.

The purpose of the work was to follow up anomalous soil geochemical values obtained from an earlier reconnaissance survey. Using the claim-line as a base-line four lines, 400 feet apart and running north-south were sampled at 100 foot stations. The work was performed between August 9 and August 12, 1970 by B.D. Willis and W.H. Thompson supervised by R.J. Overstall.

RECOMMENDATIONS

This survey failed to duplicate the high analysis of the reconnaissance work and no further action can be recommended on the basis of the geochemical results.

GEOCHEMICAL METHODS

1. The soil samples were taken with the aid of a steel-auger or hammer-mattock (grub-hoe). Most of the samples were collected at fairly shallow depths

of 6 to 12 inches so that in most cases the grub-hoe was all that was necessary to clear away the superficial humus material ("A" Horizon) and expose the reddish brown sandy loam and clay comprising the "B" Horizon which was the horizon sampled.

2. The samples were packaged in soil sample envelopes supplied by Canada Envelope Company of Montreal and made of "High Wet Strength, Kraft" brown paper with a wet strength of 32 lbs., measuring 3½ inches by 8½ inches when the flap of the envelope is folded.

3. The samples were partially dried in the field by suspending them in the bags under the roof of a tent. The bags have holes pierced in them for this purpose. In the laboratory, the samples were dried in a warm oven while still in the bags. The samples were screened through an 80 mesh nylon screen, the fines being used for analysis.

4. The tests for total copper and total molybdenum were all carried out in the laboratory of Falconbridge Nickel Mines in Vancouver. No field tests were carried out.

5. The tests were performed as follows:

(a) Total Copper

A sample of the fines from screening the dried sample was digested with fuming perchloric acid for four hours in a pyrex beaker. The siliceous sediment was allowed to settle and the solution diluted to a measured volume with distilled and de-metallised water. An aliquot of the test solution was then taken and analysed for copper using an atomic absorption spectrophotometer manufactured by Perkins-Elmer. Carefully prepared standards were used for control.

(b) Total Molybdenum

A ¼ gram sample of the fines was fused in a nickel crucible with 1 gram of a fusion mixture made up of 5 parts anydrous sodium carbonate, 4 parts

sodium chloride and 1 part potassium nitrate. The mixture was fused until frothing ceased and allowed to cool, then 2 millilitres of water added. After standing for several hours, the solution and melt were transferred to a calibrated test tube and adjusted to 5 millilitres with water. The solution was then boiled until the melt disintegrated. A 2 millilitre aliquot of the resulting solution was pipetted into 2 millilitres of 2½% hydroxylamine hydrochloride solution contained in a test tube. The tube was shaken to liberate carbon dioxide and left to cool below 30°C. Half a millilitre of 1% dithiol solution (hydrochloric acid) was then added and the mixture shaken gently at intervals over a period of 20 minutes. The resulting green colour developed was compared with a series of similarly prepared standards containing differing amounts of molybdenum. The standard matching the colour of the sample solution was found and knowing the amount of molybdenum therein the amount of the unknown was found via the formula:

$$\text{Molybdenum in ppm} = \frac{10 \times \text{micrograms of Molybdenum in the matching standard.}}{}$$

RESULTS

Aside from one isolated analysis 140 ppm copper obtained from organic swampy material the highest copper content found was 48 ppm and the highest molybdenum 5 ppm. Since the sampling was initiated to follow up reconnaissance copper analysis of up to 70 ppm and molybdenum up to 150 ppm it can be assumed the earlier results were in error and no further geochemical work is recommended.

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Smithers, B.C.
September 15, 1970