ASSESSMENT REPORT
GEOCHEMICAL SOIL SURVEY
ON THE
REIN 7-50 MINERAL CLAIMS
(Record Nos. YA5731-YA5774)
Mayo Mining District, Yukon
N.T.S. 116B/9
Latitude 64°43'N
Longitude 138°11'W

by
Colin V. Dyson, P.Eng.

Work Done: August 22 to August 29, 1976
Date: April, 1977
Owner: Union Miniere Explorations and Mining Corporation Limited
This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of $44,000.00

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

B. R. BAXTER
Supervising Mining Recorder

Commissioner of Yukon Territory
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## APPENDICES

**APPENDIX I** - Statement of Costs

**APPENDIX II** - Statement of Personnel
INTRODUCTION

During the period August 22 to August 29, 1976, a geochemical soil survey was completed over the REIN 7-50 mineral claims in the Mayo Mining District, Yukon. The claims are located approximately six miles south of Lomond Lake and five miles east of the Dempster Highway at latitude 64°43'N and longitude 138°11'W (Figure 1) and are accessible via helicopter.

The geochemical soil survey was completed in the field by Mr. A. Gourlay, Mr. F. Thrane, and Mr. D. Perkins under the supervision of Mr. D. Sketchley, B.Sc., geologist, who in turn was under the supervision of Mr. C.V. Dyson, P.Eng., who was on the property on August 22 to organize the survey and to study the general claim geology.

PROPERTY

Relevant details of the claim status is as follows:

<table>
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<th>Claim Name</th>
<th>Grant Numbers</th>
<th>Expiry Date</th>
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<tr>
<td>REIN 7-50</td>
<td>YA5731-YA5774</td>
<td>July 14, 1977</td>
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The claims are owned by Union Miniere Explorations and Mining Corporation Limited for whom the surveys were performed.

GENERAL GEOLOGY

The claims are entirely underlain by a thick, folded sequence of Middle Palaeozoic shales and argillites (G.S.C. Units 9 and 13)¹ which are described as consisting of Unit 9 Road River Formation (Ordovician and Silurian) interbedded black chert and black argillite, grey-green, olive green, and grey chert and grey-green argillite; minor quartzite, and chert-pebble conglomerate; and Unit 13 Middle Devonian to Carboniferous black shale, argillite, and slate, black platy limestone, chert; minor chert-pebble conglomerate and quartzite. The regional strike is east-west with medium to steep southerly dips. Regional

FIGURE 1
LOCATION MAP
REIN 7-50 CLAIMS
1/250,000
east-west folding is predominant and expressed by a series of anticlinal and synclinal structures.

The Ordovician to Silurian sediments (G.S.C. Unit 9) are mapped as over-thrust onto the Devonian to Carboniferous sediments (G.S.C. Unit 13).

GEOCHEMICAL SOIL SURVEY

Methods

A total of 432 soil samples were collected over 16.36 miles of line and subsequently analysed for total lead. At each sample site a hole was dug with a mattock and 4-6 oz of "B" horizon soil, where available, was collected and placed in an appropriately labelled high wet-strength Kraft sample bags.

Grid Control

An east-west base line was established on the claims with north-south cross lines run at 1500 foot spacings along the base line. Sample site stations were marked by coloured flagging at 200 foot spacings along the cross lines, with a picket station every 600 feet or third sample site on the lines. Sample sites were similarly spaced and marked along the base line. Sample site coordinates were marked on the appropriate flag or picket by felt marker pen. A topofoil chain\(^2\) and compass were used to control distances, directions and to tie-in the grid with existing claim posts and obvious topographic features.

Analytical Treatment of Soil Samples

The samples were freighted to Dawson City, Yukon, and analysed at a mobile laboratory of Acme Analytical Laboratories Ltd. The samples were dried in their respective sample bags at a temperature of 60°C, then sieved to -80 mesh through a nylon or stainless steel screen, digested for 1-1\(\frac{1}{2}\) hours in aqua regia, bulked with deionized water, and analysed by atomic absorption.

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\(^2\) The topofoil chain is a "lost" thread measuring device in which a counter accurately records in feet from 0 to 15,000 feet the length of thread unreeling from the unit when measuring a length or distance covered. The operator attaches the end of the thread to a fixed point, the counter is set at zero and the operator moves on foot carrying the topofoil chain. As the thread unwinds, the counter records the length. The counter readout is accurate to ±0.2%; on completion of a measurement the counter is reset at zero. The bio-degradeable thread is cut and abandoned.
Results

Statistical analysis of the lead results (Figure 2) defines at least three populations of 5-20 ppm, 30-60 ppm, and +70 ppm Pb, the 20-30 ppm and 60-70 ppm ranges are zones of overlap. The +70 ppm lead population is interpreted to be anomalous, and the 30-70 ppm lead population possibly anomalous.

Contouring of the lead values defines five single small anomalies or single sample spot high values (Figure 3).

Anomalies 1, 2, and 3 occur in one area over two adjacent lines in the northwestern part of the claim area. All are elongated down moderate to steep westerly or northwesterly facing slopes.

Anomalies 4 and 5 consist of scattered spot high values of modest intensity in the eastern and central portions of the claim area.

CONCLUSIONS AND RECOMMENDATIONS

1) A geochemical soil survey completed on the REIN 7-50 mineral claims outlined five small areas of anomalous lead values.

2) Fill-in soil sampling is recommended to better define and "close off" these anomalies.

3) Detailed geological mapping and prospecting is recommended in the anomalous areas to identify or define a potential source or explanation for the anomalous values.

4) A 1" to 1000 foot contoured topographic base was constructed by Pacific Survey Corporation Ltd. to assist in these recommended surveys.

Respectfully submitted,

Colin V. Dyson, P.Eng.
Rein Claims
Cumulative Frequency versus Lead Content in Soils
(488 samples)

Anomalous Population 3
Overlap

Possibly Anomalous Population 2
Overlap

Background Population 1

Figure 2