GEOCHEMICAL REPORT

LLOD Group 1161 - 1  Southern Richardson Mountains

Latitude 66° 03' N   Longitude 136° 00' W

Work Period June 30 - July 23, 1975

Field Supervisor – Walter Melnyk, Geol. Eng.

Regional Geologist
Amoco Canada Petroleum Company Ltd.
Mining Division
Toronto, Ontario

This report has been examined by the
Geological Evaluation Unit and is recom-
manded to the Commissioner to be consid-
ered as representation work in the amount of
$32,000.00

[Signature]

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

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Commissioner of Yukon Territory

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# TABLE OF CONTENTS

## INTRODUCTION  
1

## PROPERTY MAP  
3

## GEOCHEMICAL SURVEY  
4
- Discussion of Results  
5
- Summary and Conclusions  
6

## LLOD GROUP  
8
- Survey Costs  
9
- Distribution of Soil Sampling  
10
- List of Claim Names and Numbers  
11

## REFERENCES  
12

## LIST OF QUALIFICATIONS  
13

Pocket 1 - Sample Location Map

Pocket 2 - Soil Geochemistry Results
INTRODUCTION

During the 1974 field season, the Mining Division of Amoco Canada Petroleum Company Limited, with offices located in Suite 2010, 65 Queen Street West, Toronto, Ontario carried out a reconnaissance stream silt sampling and general prospecting program in the Richardson Mountains.

The object of the project was to locate economic lead-zinc mineralization thought to be associated with and located mainly within the Road River formation.

When anomalous stream geochem values were obtained, a program of soil sampling and prospecting/mapping was instituted to define the cause and source area of the anomalous values.

As a result of this program, several claim groups were staked for Amoco Canada during 1974, one of which was the LLOD group of eight claims.

The group was extended in size by staking an additional 24 claims during May, 1975.
The soil sampling survey, upon which this report is submitted, was carried out during the month of July, 1975 by a four-man party camped on the property and serviced by helicopter.
Claim prefixed LLOD
NTS: 116 I-1
106 L-4
A picket line base line was established at 340° centered on the common claim line of LLOD 1 and 2 and LLOD 15 and 16 for a distance of 9200 feet. Cross lines were turned off at 400 foot intervals along the base line and run by chain and compass for a distance of 2600 feet west of the base line and 3000 feet east of the base line.

Soil samples were collected at 100 foot intervals along these cross lines, with a total of 1364 samples being collected.

Where possible, the soil samples were collected from the 'B' horizon, and all noteworthy characteristics of the sample and location were recorded.

Analysis was carried out by Whitehorse Assay, 1156 First Avenue, Whitehorse, Yukon.

The samples were dried, crushed and sieved. The -80 mesh fraction was analysed by digestion in concentrated aqua regia, diluting with de-ionized water, and reading by atomic absorption.
Discussion of Results

According to the preliminary results obtained in the 1974 field work, and confirmed in this season's more detailed survey, the area east of the base line from cross line 120S to 164S produced the most impressive soil anomalies for lead and zinc.

The anomalous lead zones as outlined on the enclosed map are expressed in >500 ppm Pb and >1000 ppm Pb intensities and are fairly sharp and clean-cut. These zones correspond with occurrences of limestone breccia locally dolomitized. Sulphide mineralization is not common, as only one observation was noted, on line 128S at 58+00E.

The limestone breccia is very similar in appearance to the breccia of our DOLL group containing vugs some of which are bitumen filled. The main difference is the lack of sulphide mineralization.

Geologically, the LLOD group is underlain by limey sediments which are generally thinly interbedded and made up of limestone breccia sequences, chert horizons, and minor thin
shale beds. The structural trend of these sequences is $340^\circ$ and gently folded.

Summary and Conclusions

Though outcrop and mineralization are scarce on the property, our experience on our neighbouring DOLL claim group shows that "stream and soil geochemical anomalies are all related to either breccia or calcite-healed veinlets carrying sphalerite or galena. The breccias are of proximal turbidite type in a deep water, cherty limestone facies. No major lead-zinc mines presently operating or described in the literature are associated with this type of lithology. None of the anomalies are associated with quiet water shales of euxinic type and, in consequence, there is no indication of a tonnage potential from an ore setting of this type." (from a private report for Amoco by Dr. F. W. Beales and G. P. Lozej)

A gravity survey carried out over the geochem anomalies on the neighbouring DOLL group is presently being processed and interpreted. Unless it shows a coincidence of a gravity
anomaly with a geochemical anomaly, we would have to conclude that the LLOD geochem anomalies are not caused by economic concentrations of lead and zinc mineralization, and further work on the LLOD property is not warranted.
The soil sampling and compilation were carried out by the following people:

Walter Melnyk  
Suite 2010, 65 Queen St. West, Toronto, Ontario

Mike Gill  
Apt. 204 - 8231 Elbow Drive, Calgary, Alberta

Bruce Sheppard  
316 Sunset Road, Winnetka, Illinois, U.S.A. 60093

Rick Black  
4404 Coronation Drive S.W., Calgary, Alberta

The field work was carried out during the period June 30, 1975 to July 23, 1975, under the supervision of Walter Melnyk.

The report was written by Paul Maingot, P. Eng., Regional Geologist, Amoco Canada Petroleum Company Ltd., Mining Division, 65 Queen St. West, Suite 2010, Toronto, Ontario, M5H 2M5.
Survey Costs - LLOD Group

Geochem Analysis - 1364 soil samples @ $1.35/ = $1,841.40

Aircraft - helicopter 11.1 hrs. @ $300/ = 3,330.00

Fuel - 11.1 x \( \frac{55}{3} \) gal. @ 80¢/gal. = 163.00

Groceries = 946.00

Wages - W. Melnyk \( \frac{24}{30} \) x 1300 = 1,040
M. Gill \( \frac{24}{30} \) x 835 = 668
B. Shepard \( \frac{24}{30} \) x 660 = 528
R. Black \( \frac{24}{39} \) x 850 = 680

Total Applicable Costs - (non-assay) per claim = $229.84

Group 1 Assay costs/claim $ 61.85
other/claim 229.84

Total $291.69/claim

Group 2 Assay costs/claim $ 53.24
other/claim 229.84

Total $283.08/claim
# LLOD GROUP

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<td>$\frac{989.55}{16} = 61.85$/claim</td>
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<td>Group 2</td>
<td>631 soils @ 1.35</td>
<td>$\frac{851.85}{16} = 53.24$/claim</td>
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LLOD GROUP - DOLL LAKE AREA

116 I-1; 106 L-4 Dawson Mining District

Llod 1 Y90111
Llod 2 Y90112
Llod 3 Y90113
Llod 4 Y90114
Llod 5 Y90115
Llod 6 Y90116
Llod 7 Y90117
Llod 8 Y90118
Llod 9 Y99667
Llod 10 Y99668
Llod 11 Y99669
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Llod 14 Y99672
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Llod 17 Y99675
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Llod 22 Y99680
Llod 23 Y99681
Llod 24 Y99682
Llod 25 Y99683
Llod 26 Y99684
Llod 27 Y99685
Llod 28 Y99686
Llod 29 Y99687
Llod 30 Y99688
Llod 31 Y99689
Llod 32 Y99690

Group 1  Llod 1 to 8 inclusive; Llod 17 to 24 inclusive.
Group 2  Llod 9 to 16 inclusive; Llod 25 to 32 inclusive.
References


INTERNAL SOURCES


Melnyk, W., 1975 - Amoco Progress Reports
LIST OF QUALIFICATIONS

NAME:        Paul Maingot

EDUCATION:   B.Sc. (Engineering) in Geological Sciences, 1955,
             Queen's University, Kingston, Ontario

ORGANIZATIONS: Member of C.I.M.
                Member of A.P.E.O.

EXPERIENCE:  1956 - 1960 Orchan Mines Ltd.
             Exploration Geologist
             1960 - 1964 Patino Mines Ltd.
             Mine Geologist
             1964 - 1971 Upper Canada Mines
             Upper Beaver Mines
             Chief Geologist
             1972 - present Amoco Canada Petroleum Company Ltd.
             Mining Division
             Regional Geologist

I hereby swear that the expenses incurred on this work
as outlined in the report are accurate to the best of my
knowledge.

Sworn before me at Toronto
this 18th day of September 1975

Paul Maingot
Regional Geologist
Amoco Canada Petroleum Co. Ltd.

Notary Public