

GEOCHEMICAL REPORT

LLOD Group 116I - 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.

Report Written by - Paul Maingot, B.Sc. P.Eng.
Regional Geologist
Amoco Canada Petroleum Company Ltd.
Mining Division
Toronto, Ontario

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

\$ 3200.00

Resident Geologist or
~~Resident Mining Engineer~~

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

D.R. BAXTER
Supervising Mining Recorder

Commissioner of Yukon Territory



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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.



| | | | |
|--------|--------|--------|--------|
| 15 | 16 | 31 | 32 |
| Y90125 | Y90126 | Y99689 | Y99690 |
| 13 | 14 | 29 | 30 |
| Y90123 | Y90124 | Y99687 | Y99688 |
| 11 | 12 | 27 | 28 |
| Y90121 | Y90122 | Y99685 | Y99686 |
| 9 | 10 | 25 | 26 |
| Y90119 | Y90120 | Y99683 | Y99684 |
| 7 | 8 | 23 | 24 |
| Y90117 | Y90118 | Y99681 | Y99682 |
| 5 | 6 | 21 | 22 |
| Y90115 | Y90116 | Y99679 | Y99680 |
| 3 | 4 | 19 | 20 |
| Y90113 | Y90114 | Y99677 | Y99678 |
| 1 | 2 | 17 | 18 |
| Y90111 | Y90112 | Y99675 | Y99670 |

Claim prefixed LLOD
 NTS: 116 I-1
 106 L-4

AMOCO CANADA PETROLEUM CO. LTD.
 MINING DIVISION

LLOD CLAIM GROUP
 RICHARDSON MOUNTAINS - YUKON

Drawn. mjj

Scale 1 in to 1/2 mile

GEOCHEMICAL SURVEY

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° 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.

LLOD GROUP

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 | 2,916.00 |
| 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) | 7,355.00 |
| per claim - \$229.84 | |

| | | |
|---------|-------------------|----------------|
| Group 1 | Assay costs/claim | \$ 61.85 |
| | other/claim | 229.84 |
| | | <hr/> |
| | Total | \$291.69/claim |

| | | |
|---------|-------------------|----------------|
| Group 2 | Assay costs/claim | \$ 53.24 |
| | other/claim | 229.84 |
| | | <hr/> |
| | Total | \$283.08/claim |

LLOD GROUP

| LLOD | ROCK | SOIL | GROUP 1 SOILS | GROUP 2 SOILS |
|------|------|------|---------------|---------------|
| 1 | 36 | 70 | | |
| 2 | 20 | 37 | | |
| 3 | 39 | 78 | | |
| 4 | 28 | 53 | | |
| 5 | 47 | 93 | | |
| 6 | 24 | 45 | | |
| 7 | 47 | 91 | | |
| 8 | 31 | 59 | 526 | |
| 9 | 55 | 106 | | |
| 10 | 32 | 60 | | |
| 11 | 53 | 105 | | |
| 12 | 28 | 52 | | |
| 13 | 40 | 79 | | |
| 14 | 21 | 42 | | 444 |
| 17 | 18 | 36 | | |
| 18 | 3 | 6 | | |
| 19 | 24 | 48 | | |
| 20 | 3 | 5 | | |
| 21 | 24 | 49 | | |
| 22 | 3 | 6 | | |
| 23 | 24 | 49 | | |
| 24 | 5 | 8 | 207 | |
| 25 | 28 | 56 | | |
| 26 | 4 | 8 | | |
| 27 | 25 | 50 | | |
| 28 | 3 | 6 | | |
| 29 | 26 | 54 | | |
| 30 | 8 | 13 | | 187 |
| | | 1364 | 733 | 631 |

Group 1 733 soils @ 1.35 = 989.55 ÷ 16 = 61.85/claim
Group 2 631 soils @ 1.35 - 851.85 ÷ 16 - 53.24/claim

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 |
| Llod 12 | Y99670 |
| Llod 13 | Y99671 |
| Llod 14 | Y99672 |
| Llod 15 | Y99673 |
| Llod 16 | Y99674 |
| Llod 17 | Y99675 |
| Llod 18 | Y99676 |
| Llod 19 | Y99677 |
| Llod 20 | Y99678 |
| Llod 21 | Y99679 |
| 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

- KUNST, H., 1973. The Peel Plateau. In: Future Petroleum Provinces of Canada. R. G. McCrossam (Ed.). Can. Soc. Petr. Geol. Mem. 1, 245-274.
- LENZ, A. C., 1972. Ordovician to Devonian History of Northern Yukon and adjacent district of Mackenzie. Can. Petr. Geol. Bull. 20, 321-361.
- MARTIN, H. L., 1973. Eagle Plain Basin In: Future Petroleum Provinces of Canada. R.G. McCrossan (Ed.). Can. Soc. Petr. Geol. Mem. 1. 275-306.
- NORFORD, B. S., 1964. Reconnaissance of the Ordovician and Silurian Rocks of Northern Yukon Territory. GSC Paper 63-69, 139 pp.

INTERNAL SOURCES

- Beales, F.W. and Lozej, G.P. - 1975 Report on Visit to Amoco S. Richardson Mountains properties.
- 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

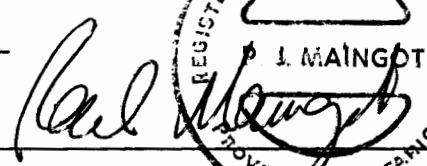
I hereby swear that the expenses incurred on this work
as outlined in the report are accurate to the best of my
knowledge.

Sworn before me at Toronto

this 18th day of September 1975



Notary Public

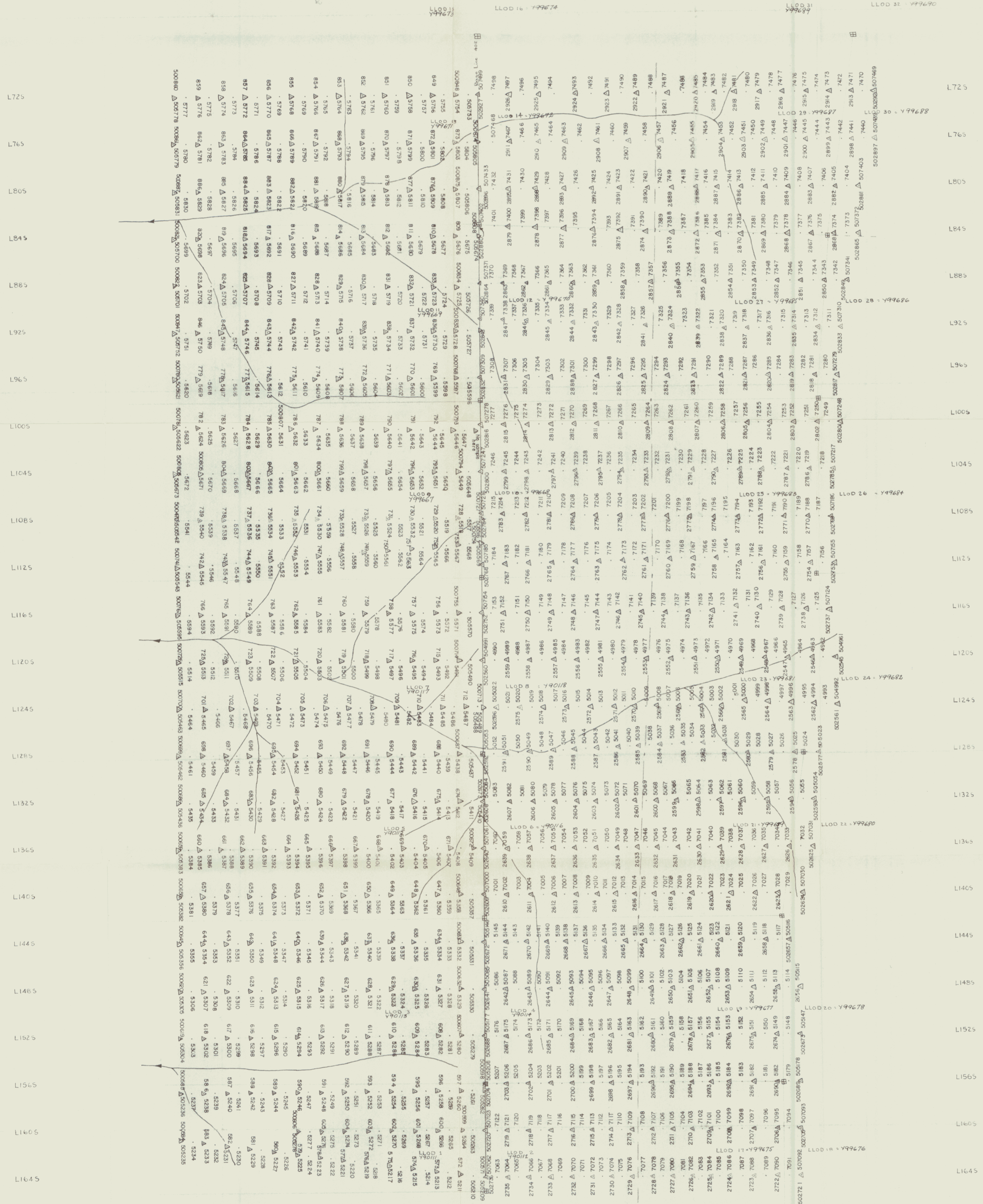


Paul Maingot
Regional Geologist
Amoco Canada Petroleum Co. Ltd.



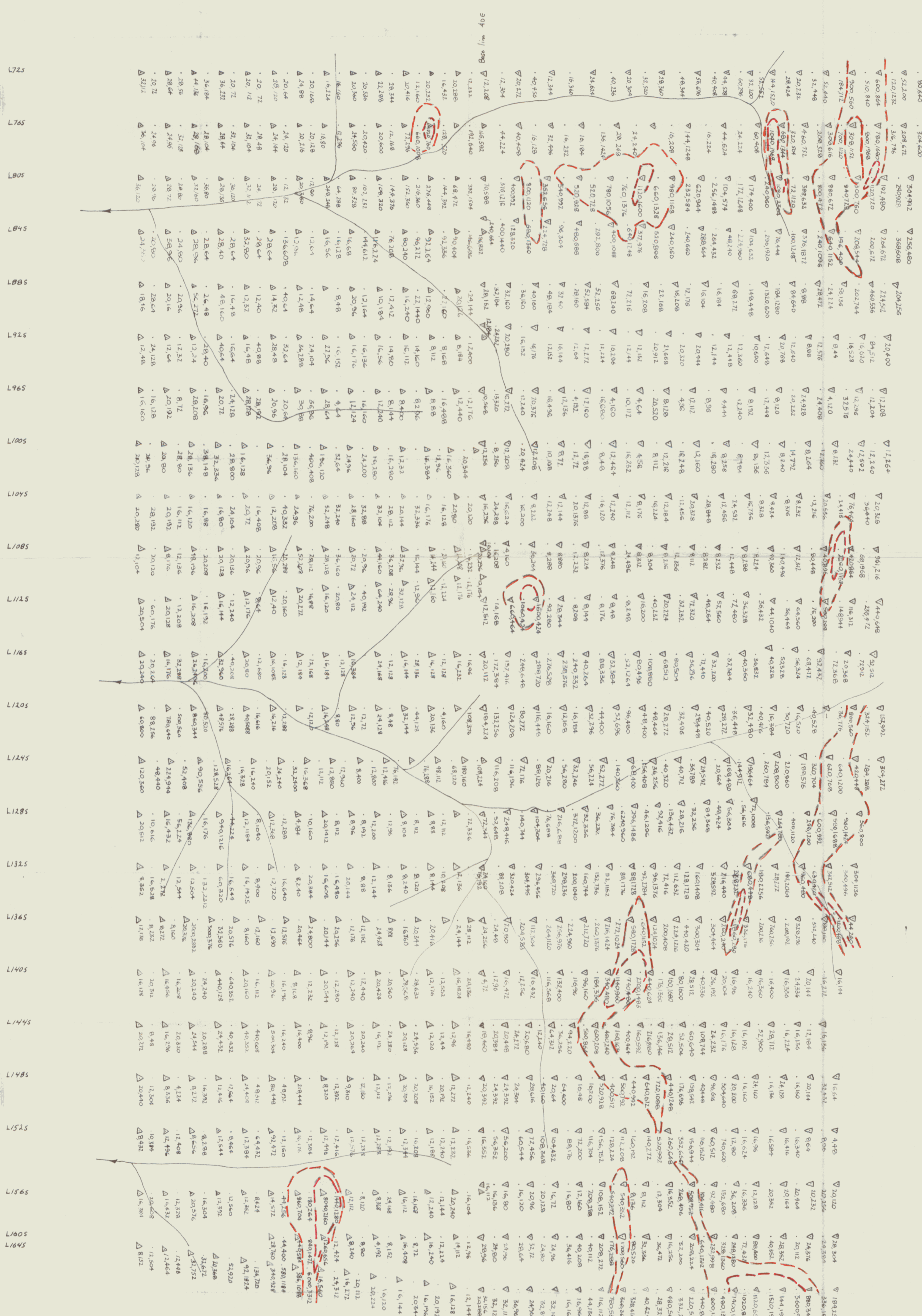
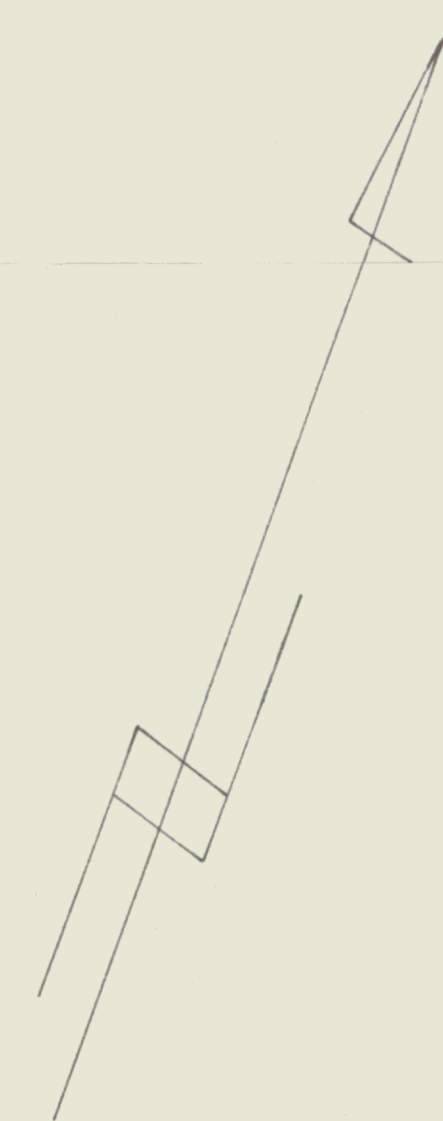
SOIL-ROCK SAMPLES LOCATION MAP
40E BASELINE SOIL GRID
LLOD CLAIMS 75C-006

| | | | |
|----------|--------------------|-------------|--|
| DRAWN BY | W.D.M. | CHECKED BY | |
| SCALE | 1 inch to 400 feet | APPROVED BY | |
| DATE | AUG. 1975 | DRAWING NO. | |



L72.5
L76.5
L80.5
L84.5
L88.5
L92.5
L96.5
L100.5
L104.5
L108.5
L112.5
L116.5
L120.5
L124.5
L128.5
L132.5
L136.5
L140.5
L144.5
L148.5
L152.5
L156.5
L160.5
L164.5

50288.7
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50296.7
50297.7
50298.7
50299.7
50300.7
50301.7
50302.7
50303.7
50304.5



LEGEND
 ▲ Pb, Zn (ppm)
 — 500 ppm Pb
 — 1000 ppm Pb

090038

| | | | |
|--|--------------------|-------------|--|
| AMOCO CANADA PETROLEUM CO. LTD. | | | |
| MINING DIVISION | | | |
| SOIL GEOCHEMISTRY RESULTS (ppm Pb, Zn) | | | |
| 40E BASELINE SOIL GRID | | | |
| LLOD CLAIMS | | 75C-006 | |
| DRAWN BY | W.D.H. | CHECKED BY | |
| SCALE | 1 inch to 1/4 mile | APPROVED BY | |
| DATE | Aug. 1975 | DRAWING NO. | |