

# ATLAS EXPLORATIONS LIMITED

(N.P.L.)

330 MARINE BUILDING  
355 BURRARD STREET  
VANCOUVER 1, B.C.

## GEOCHEMICAL SOIL SAMPLING SURVEY PHIL MINERAL CLAIM GROUP NTS 105 G15

61° 55' north  
130° 31' west

July 12 - July 18, 1968

by:

John S. Brock

GEOLOGICAL SURVEY  
NOV 27 1968  
Resident Geologist  
Whitehorse, Y. T.

2231

This report has been examined by  
the Geological Evaluation Unit.  
Approved as to technical work by:  
Ol. Findlay  
RESIDENT GEOLOGIST  
Approved as to cost in the amount  
of \$ 2731.00  
H. P. Dabson  
MANAGER  
Approved as to presentation work  
of the Geological Survey  
by:  
[Signature]  
COMMISSIONER OF YUKON

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## Geochemical Soil Sampling Survey

### Phil Mineral Claim Group

#### INTRODUCTION

In August, 1967, an independent prospector, G. Lishy, discovered sphalerite mineralization in an exposure about one half mile south of the PAY Mineral Claims. Lishy staked the ZN 1 and ZN 2 Mineral Claims over this area which was subsequently optioned by Atlas Explorations. In order to cover adjoining ground as well as to tie the ZN Claims to the PAY Property, the Phil 1 to Phil 42 Mineral Claims were staked in early September, 1967.

During August, 1967 a bulldozer trench exposed part of the Lishy showing as well as a related zone of alteration, access routes for travel to the Zn and Phil properties were also established from PAY camp on Fortin Lake.

A further exploration program of the PHIL Group was planned for the 1968 field season to fully evaluate the area by geochemical soil sampling, magnetic and electromagnetic surveys. It was hoped that the known zone of mineralization could be extended and that diamond drill targets be outlined for testing at the same time as drilling was to be carried out on the adjacent PAY Property. As outcrop on the PHIL Group is limited to one main drainage system cutting through the claims, geologic mapping was made difficult and emphasis had to be put on geochemical and geophysical methods for exploration.

#### LOCATION AND ACCESS

The PHIL 1 to 42 Mineral Claims are located near the southeast end of Fortin Lake (NTS 105 G) and are adjacent to the south boundary of the PAY Group.

Access to the property was gained by aircraft equipped with floats based at Ross River, some 64 miles west of Fortin Lake. Landing facilities were made available at a base camp on the PAY Claims about 3 miles north

of the PHIL Claims on the east shore of Fortin Lake. Access to the PHIL Camp was provided by bombardier from the RAY Camp.

## GEOLOGY

See Appendix

## SURVEY METHOD

Soil samples were collected at 100 foot stations on all grid lines cut over the PHIL Group, the same grid was used for the magnetic and electromagnetic surveys<sup>1</sup>. A total of 750 samples were collected.

Soils were collected with the aid of a prospector's grub hoe, samples were taken from the 'B' soil horizon, usually about one to two feet below the organic surface horizon. Approximately four tablespoons of soil from each sample location were placed in a brown Kraft paper bag, each of which was numbered with the sample site station location.

All soils were tested for copper lead and zinc trace element content at Atlas Explorations Laboratory in Ross River.

Samples received from the field were dried and sifted to -80 mesh. To 0.2 grams of - 80 mesh sample, 0.5 ml of concentrated HCL and 1.5 ml of concentrated nitric acid were added. The solution was allowed to stand for 1 hour to decompose organics and then the solution was heated for 2 hours to complete digestion of the sample. Solution was then diluted to 10 ml with water and tested by atomic absorption photospectroscopy for copper, lead and zinc content in parts per million.

## GEOCHEMICAL RESULTS AND INTERPRETATION

Zinc Zinc results have been presented on a grid plan ( 1:400), in profile form, values are given on a separate map showing all values for copper, lead and zinc as derived from each site sampled. A background of 200 ppm was chosen for zinc and a threshold value of 250 ppm determined.

The grid area shows only a few random highs that cannot be correlated with any known geology, it is interesting to note that no zinc highs were found either over or in close proximity to the Lishy showing. A localized northwest trending zinc anomaly has been interpreted between line 16N and line 40N with the exception of line 24N, this anomaly consists only of single station highs.

No anomalous zinc results were found near either electromagnetic or magnetic anomalies with the exception of zinc coincidence on line 32N - 6E and line 40N - 3E, with fairly pronounced negative resultant dip angles obtained from the EM survey.<sup>1</sup> The northwest trending zinc response coupled with the presence of a conductor in this region could suggest an underlying graphitic shear zone such as found on the PAY property.

Zinc anomalies are found to coincide with high lead results on:

Line 8N - 10W  
and Line 24S - 20W where downslope migration could exist from high lead at 8W on the same line.

A single station coincidence between zinc and lead is also found at line 40S - 19W.

Zinc correlates with copper highs at line 16N - 12E and line 8N - 10W.

No significance has been attributed to coincidence between copper, lead and zinc over the Phil Grid.

### Lead

Lead values are found with copper and zinc values on a grid plan showing values for all three elements as derived from soils at each sample station. Lead values have been profiled and are presented on a separate map of the grid plan.

Lead values were determined as having a background of 40 ppm and a threshold value of 60 ppm. Anomalous results are generally scattered over the grid. Irregular and discontinuous profiles of above threshold values were found east of the baseline between lines 8N and 24S, as well as on lines 24N and 32N west of the baseline and between lines 8N and 24S west of the baseline.

There is no relationship between lead results and any known geology, except that lead highs were obtained to the east of the Lishy showing and bulldozer trench on lines 4 and 8S stations 4W. There is no coincidence between lead geochemistry and electromagnetic results.<sup>1</sup>

Lead and zinc correspondence has been discussed under 'Zinc' in the previous section.

1. Geophysical Survey, Phil Mineral Claims, J Brock, Sept, 1968

Lead and copper coincidence was obtained at the following locations:

Line 32N, stations 4 to 20W over random highs on irregular profiles

Line 24N, stations 8 to 24E over random highs on irregular profiles.

Line 24S - 7W, strong spot high coincidence ( 360 ppm Pb and 164 ppm Cu )

Because of the random distribution of the lead results and the lack of coincidence of definite nature with other survey results, no accurate interpretation has been attempted.

### Copper

Copper results have been presented in the same fashion as have those for lead and zinc. A separate map for copper profiles is also included with this report. Background for copper is 30 ppm and threshold is 40 ppm.

Anomalous copper has been found only as random highs over the survey area with the exception of line 24S, stations 12W to 24E, no explanation can be given for these single line highs and it is recommended that the line be resampled.

### CONCLUSIONS AND RECOMMENDATIONS

Zinc geochemistry did not reflect the Lishy showing and trench area, high lead values occur over a limited area a few hundred feet to the east of the trench.

A zinc and electromagnetic conductor coincidence located on lines 32 and 40N could represent a graphitic shear such as found through similar surveys on the PAY Property. It is possible for these shears to contain zinc sulphides.

It is recommended that drilling of the Lishy showing include the anomalous lead geochemistry to the east.

Respectfully submitted,



John S. Brock  
Operations Manager, Yukon

Appendix (i)

SUMMARY OF COSTS

Phil Mineral Claim Group  
Geochemical Soil Sampling Survey

Period July 12 - July 18th, 1968  
total survey time, 7 days  
Crew 2 men, J. Harper, N. Newsom

Wages	@ \$ 20.00/day	280.00
Camp Cost	@ \$ 10.00/man/day	140.00
Mob and demob, Ross River		106.00
Travel, bombardier, 2 days camp support		100.00
Soils analysis, 750 samples at \$2/sample for 3 determinations		1500.00
Preparation of maps and report		150.00
Field Supervision		100.00
Overhead and administration at 15%		355.00

TOTAL COST

\$ 2731.00

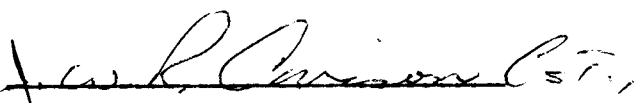
2500 4/18 2 July

AFFIDAVIT SUPPORTING SUMMARY OF COSTS

I, John S. Brock, Operations Manager, Atlas Explorations Limited, do hereby swear that to the best of my knowledge and belief, the statement 'Summary of Costs', Appendix (i) as presented in this report, 'GEOCHEMICAL SOIL SAMPLING SURVEYS, PHIL MINERAL CLAIMS GROUP', is both correct and true.

  
John S. Brock

Dated this 16 day of SEPT. 1968  
at Ross River, Yukon

  
A Commissioner of Oaths in and  
for the Yukon Territory



Appendix (iii)

PERSONNEL

John S. Brock	Operations Manager	Ross River, Yukon
Robert Darney	Geologist - Party Chief	Box 3050. Whitehorse, Yukon
Norman Newsom	Field Assisstant	201, 1666 W 12th Vancouver, B.C.
Jon Harper	Field Assisstant	C/O Box 250, Squamish, B.C.

Appendix (iv)

GEOLOGY OF PHIL MINERAL CLAIMS

Overburden on the Phil Claims is extensive thus limiting the possibilities of any detailed geologic mapping.

The only exposures occurred in a major creek which crosses the grid area and passes close to the main showing. Of all outcrops mapped the most abundant rock type is a dark gray, finely foliated phyllite. Some outcrops were composed of lighter gray more sericitic phyllite. These rocks are very similar to those mapped southwest of Pay Mountain ( 6 miles east of Phil Group) and are considered to be middle-upper Cambrian in age.

The phyllites on the Phil Group have an average attitude of 120° and are dipping moderately to the southwest. No mineralisation was found in any of the phyllite outcrop.

The main showing consists of a 2 to 3 foot wide quartz-sphalerite vein which appears to lie along a conformable shear forming the contact between an underlying dark grey phyllite and overlying quartz sericite schist. The vein is composed mainly of sphalerite ( 40 to 50%) and of quartz with minor amounts of galena and brecciated fragments of the underlying phyllite. An occasional quartz vein with minor amounts of sphalerite can be found cutting the underlying schist.

The schist, light creamy yellow to brown in colour, contains a high percentage of quartz. The quartz occurs mainly as narrow lenses 1 to 6 inches in width and less commonly as veins. In most instances, these lenses and veins are slightly mineralized with chalcopyrite, galena and sphalerite.

From an examination report by:

R. Darney, Atlas Explorations Limited,  
August, 1968

FORTIN  
LAKE

PAY  
PAL

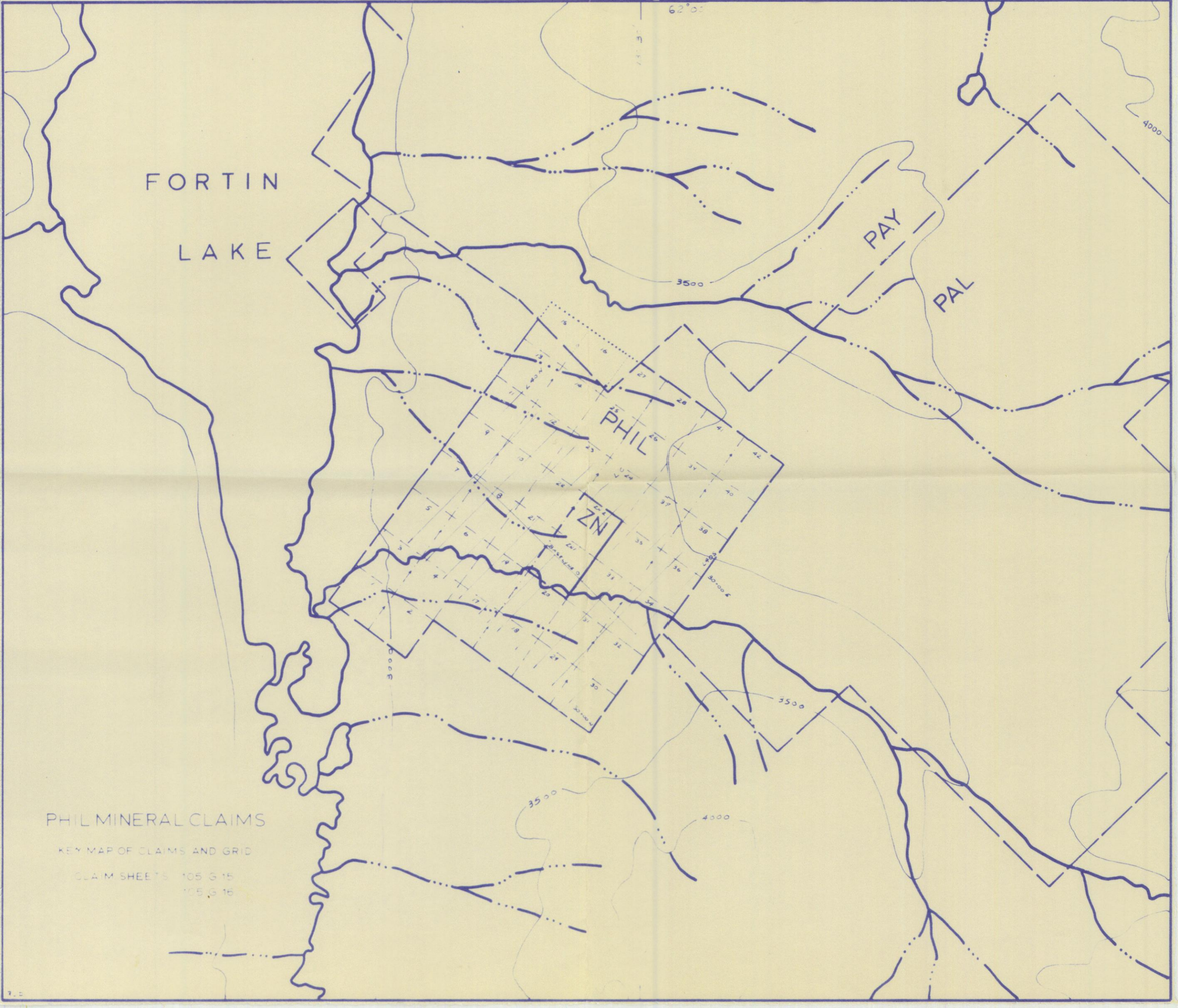
PHIL

ZN

PHIL MINERAL CLAIMS

KEY MAP OF CLAIMS AND GRID

CLAIM SHEETS 105 G 15  
105 G 16



62°05'

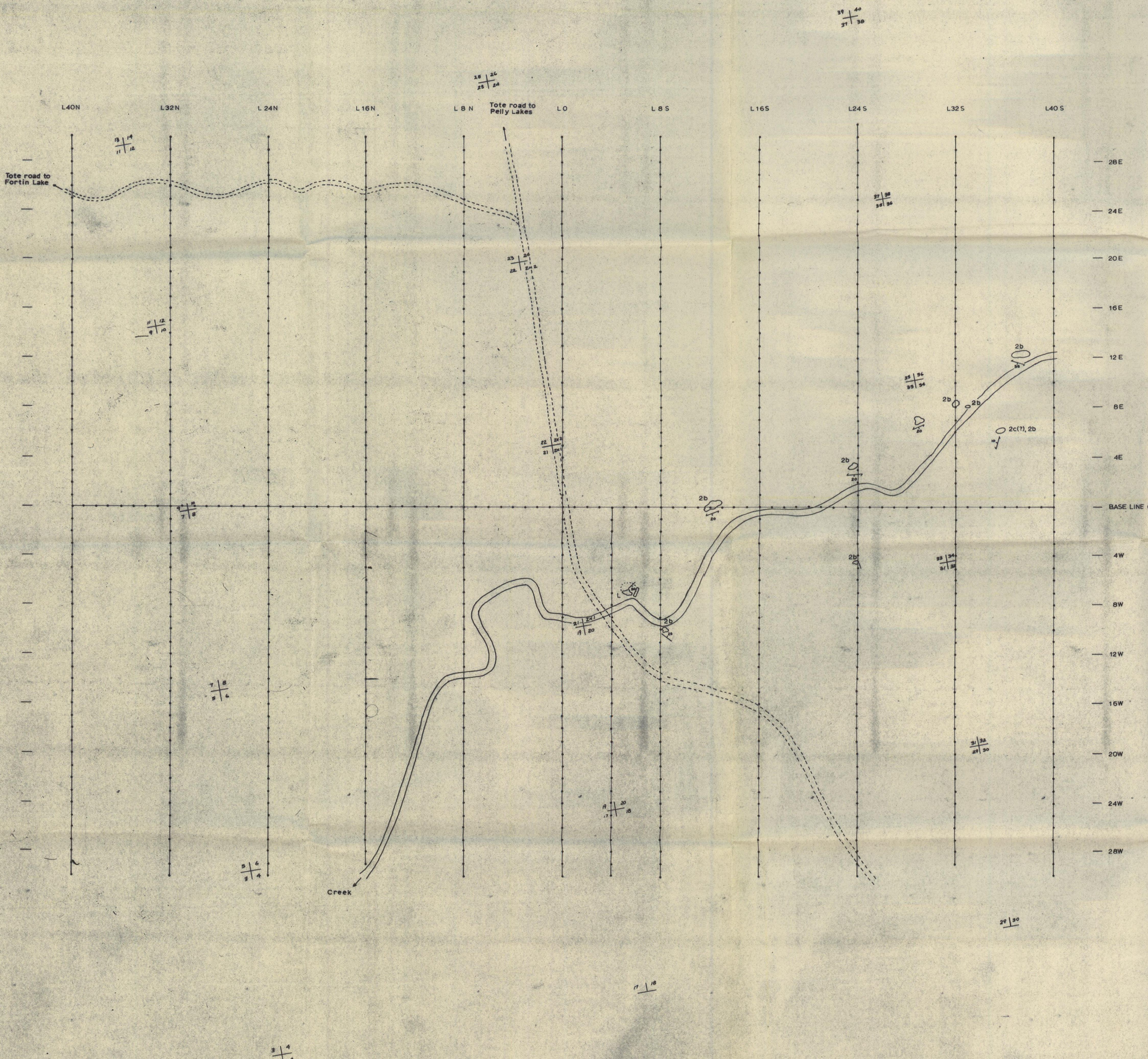
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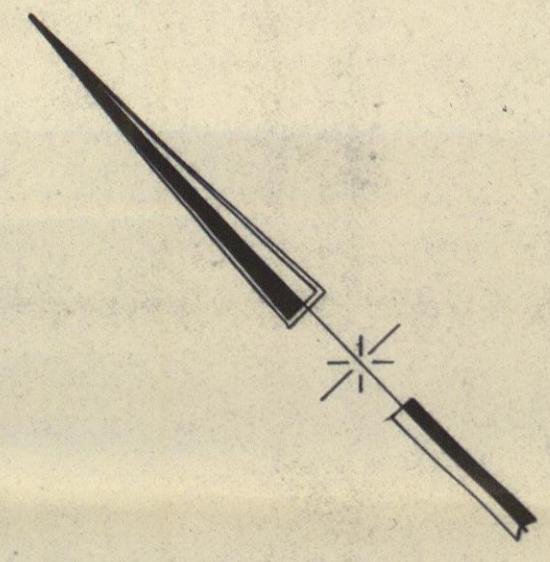
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ATLAS EXPLORATIONS LTD.  
 ROSS RIVER Y.T.  
 PHIL MINERAL CLAIMS  
 GEOLOGY MAP  
 SCALE 1"=400'

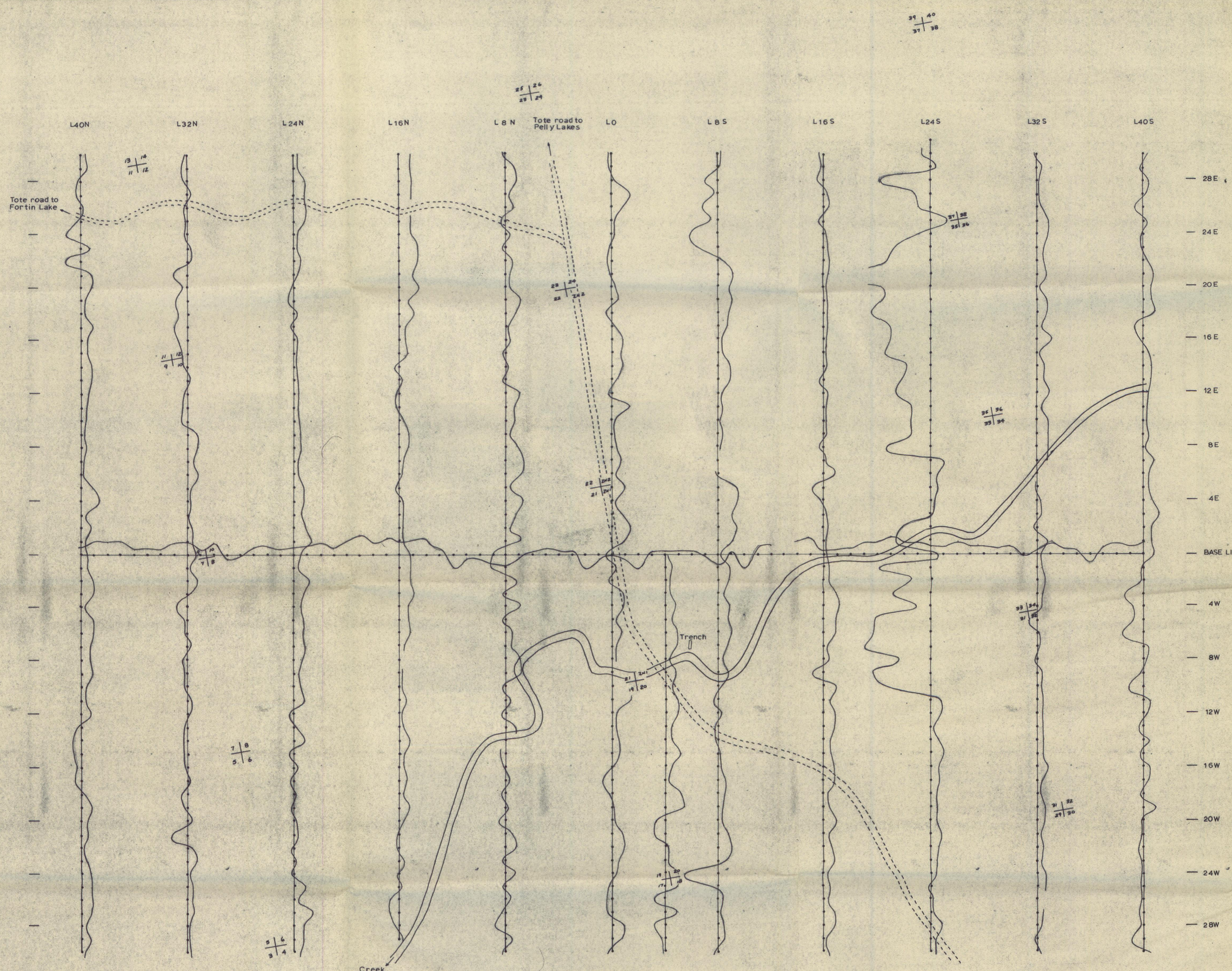


LEGEND

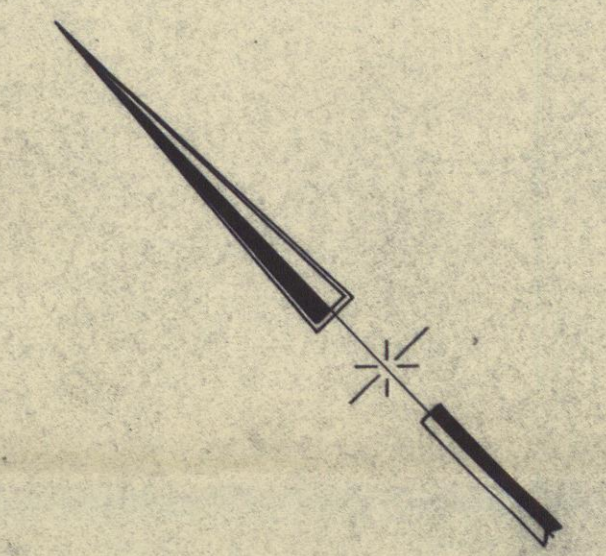
- |                         |    |  |
|-------------------------|----|--|
| Middle - Upper Cambrian | 2c | SERICITIC PHYLLITE - light-medium grey, fine grained with well developed foliation. Up to 15% segregated quartz. |
|                         | 2b | PHYLLITE - dark grey, fine grained, foliated. Up to 50% segregated quartz, both interbedded and cross cutting    |
|                         | L  | Altered sericitic schistose rock with quartz veining controlling mineralization.                                 |

SYMBOLS

- |  |                         |
|--|-------------------------|
|  | Bedding                 |
|  | Foliation               |
|  | Cat Trench              |
|  | Outcrop                 |
|  | Outline of outcrop area |



- 28 E
- 24 E
- 20 E
- 16 E
- 12 E
- 8 E
- 4 E
- BASE LINE 0
- 4 W
- 8 W
- 12 W
- 16 W
- 20 W
- 24 W
- 28 W



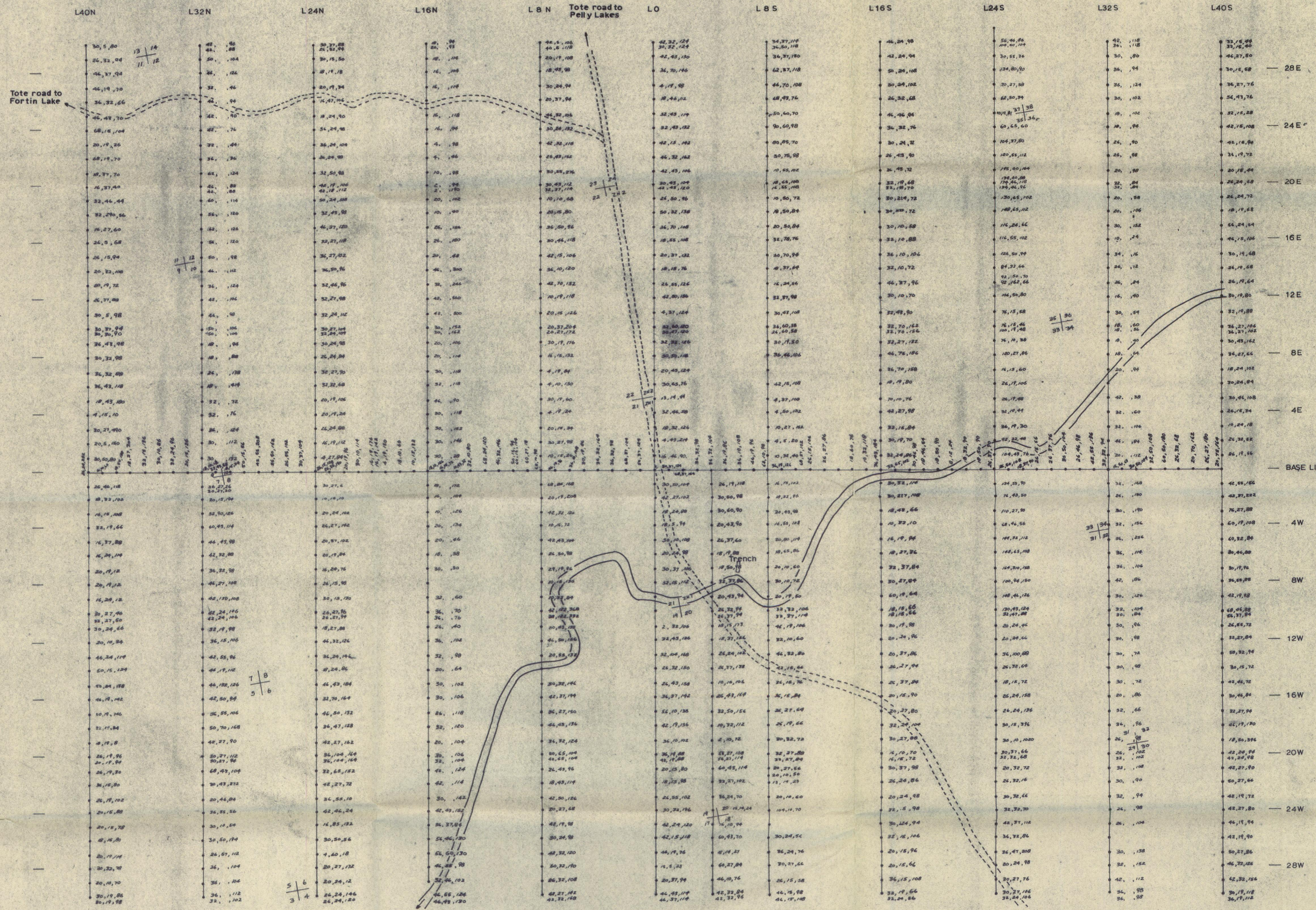
**ATLAS EXPLORATIONS LIMITED**  
 ROSS RIVER (Y.T.)  
 SHELDON REGION  
 PHIL MINERAL CLAIMS  
**GEOCHEMICAL SOIL SAMPLING SURVEY**  
Cu PROFILE MAP

SOIL SAMPLERS - J. HARPER & N. NEWSOM  
 DRAWN BY - R. DARNEY  
 DATE - SEPT. 3, 1968

1/10" = 10 ppm  
 scale in feet

39 40  
37 38

25 26  
23 24



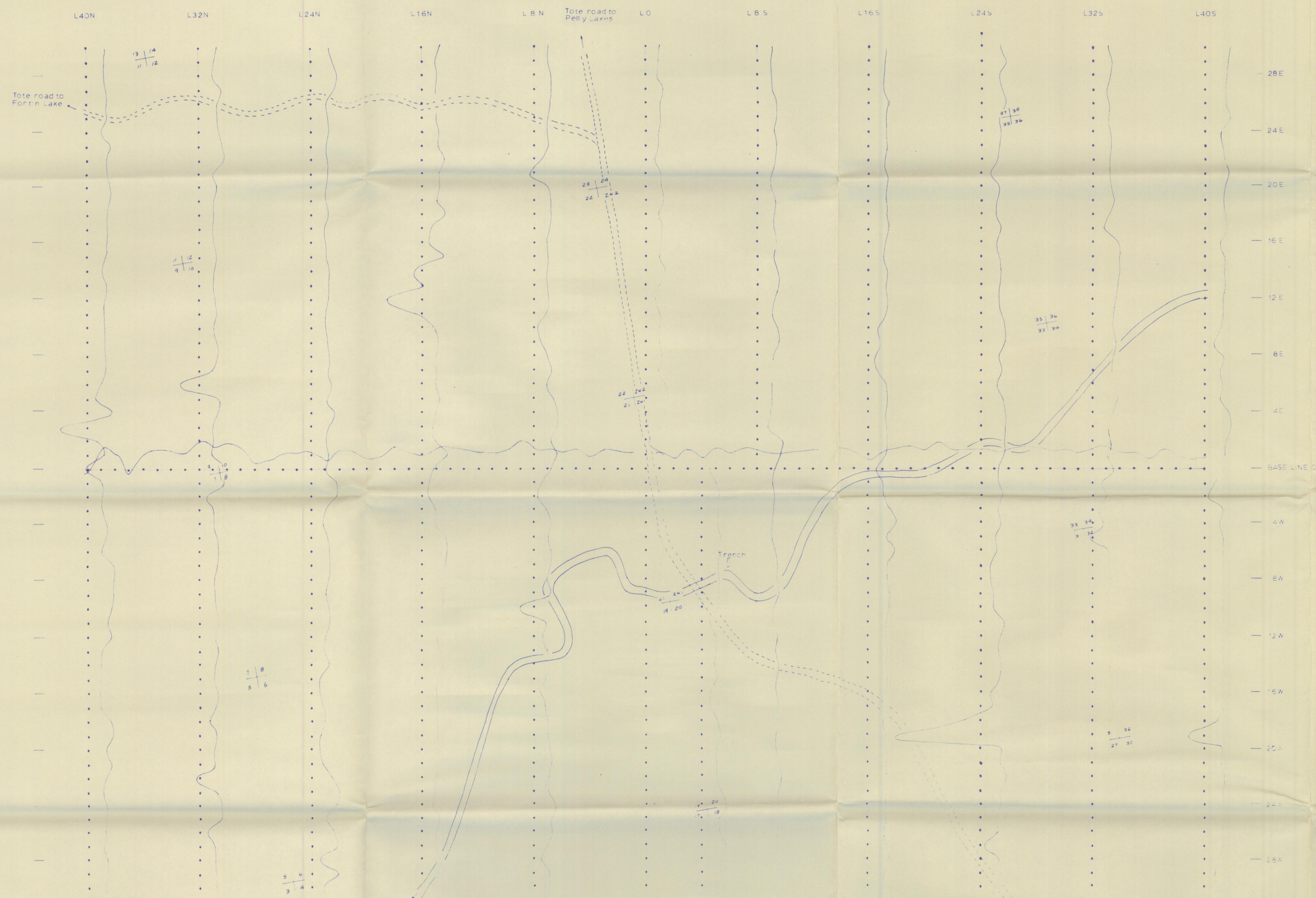
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 SHELDON REGION  
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 GEOCHEMICAL SOIL SAMPLING SURVEY COPPER LEAD & ZINC  
 RESULTS BY ATOMIC ABSORPTION  
 SPECTROPHOTOMETER ANALYSIS  
**VALUES**

SOIL SAMPLERS : J. HARPER & N. NEWSOM  
 400 0 400 800  
 scale in feet

DRAWN BY : R. DARNEY  
 DATE : SEPT. 3, 1968

39 40  
37 38

25 26  
23 24

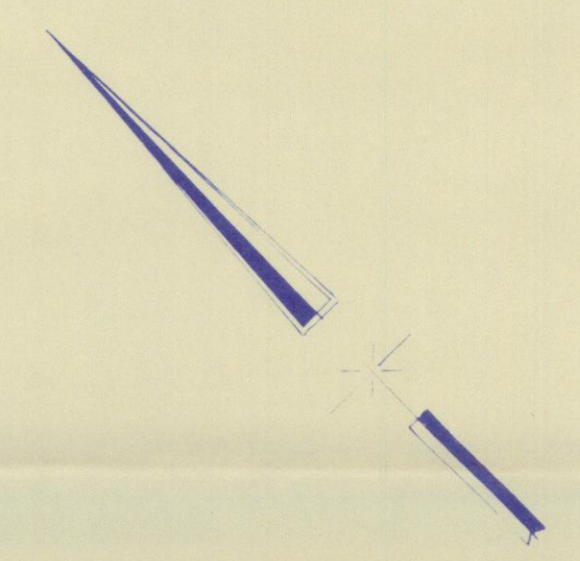
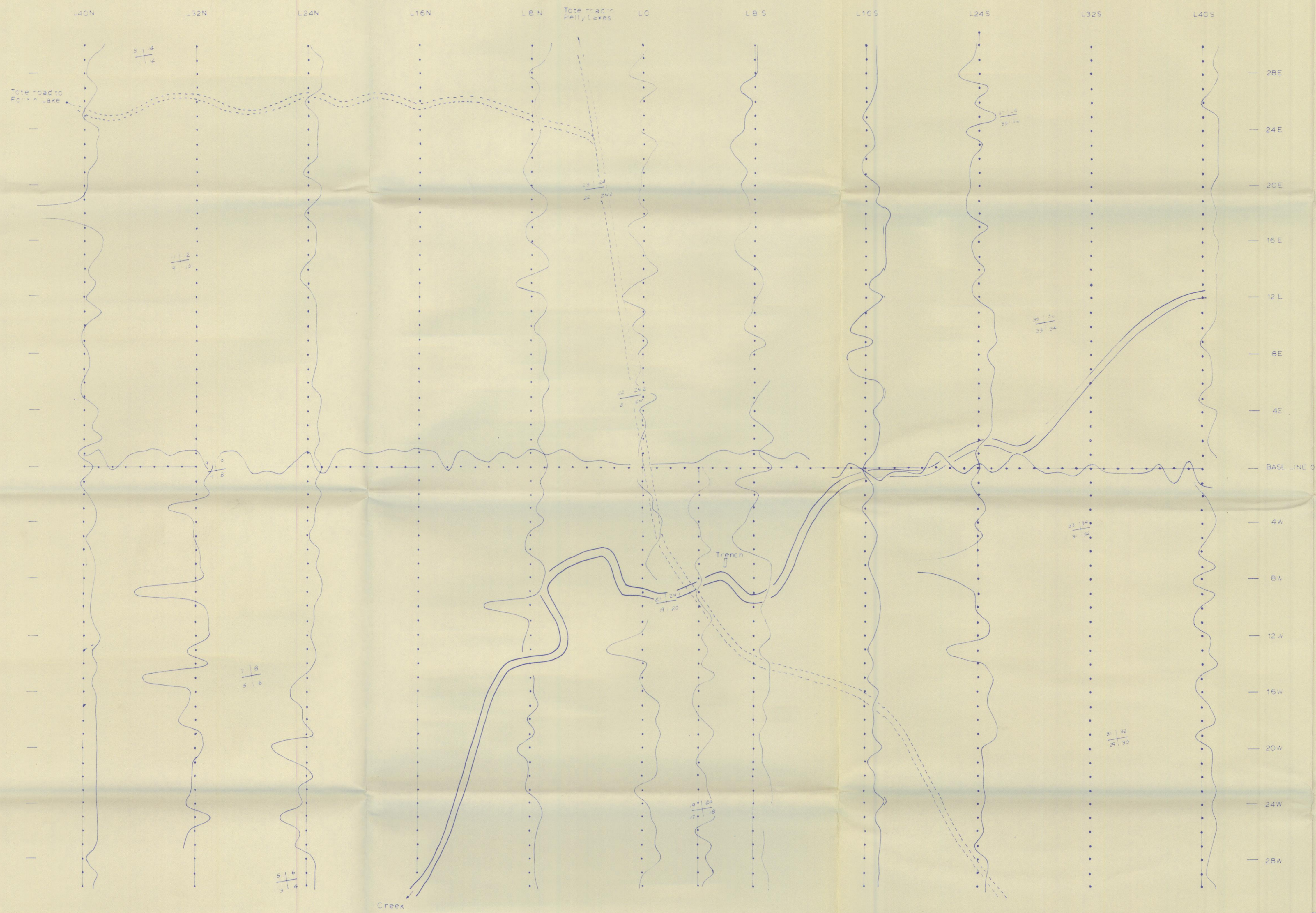


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 PHEMINERAL CLAIMS

GEOCHEMICAL SOIL SAMPLING SURVEY  
 Z<sub>n</sub> PROFILE MAP

SOIL SAMPLERS: J. HAPPER & NEWTON  
 DRAWING: R. BOARNEY  
 DATE: SEPT. 1968

1:5000



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GEOCHEMICAL SOIL SAMPLING SURVEY  
 Pb PROFILE MAP

SOIL SAMPLERS: J HARPER & N NEWSOM  
 400 0 400 800  
 1/10" = 10 ppm  
 scale in feet

DRAWN BY: R DARNEY  
 DATE: SEPT. 3 1968