

REPORT ON GEOLOGICAL, GEOCHEMICAL,
AND CLAIM SURVEY CONDUCTED ON
LIZ 9-16 and 25-32 CLAIMS
FOR
ACHERON MINES LTD. (NPL).

This report has been examined by the
Geological Evaluation Unit and is recom-
mended to the Council to be consider-
ed as representation work to the amount of
\$ 3200.00

3200

A.B. Craig

District Engineer or
Regional Mining Engineer

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

[Signature]

Commissioner of Yukon Territory

Vancouver, B.C.
September 31, 1974.

F. Holcapek, P. Eng.

*This report also
submitted for
NMEAP*

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Geology and Claim Map.

REPORT ON GEOLOGICAL, GEOCHEMICAL
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FOR
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INTRODUCTION

The Liz 9-16 and 25-32 mineral claims are located approx. 5.5 miles east of a major zinc discovery made by Barrier Reef Resources Ltd. during the summer of 1973 in the Bonnet Plume River area, Northwest Yukon.

This report is based on field work conducted by Agilis Engineering Ltd., on behalf of Acheron Mines Ltd. (NPL)

Work consisted of claim survey, geological mapping, gridding, 800 foot lines and 200 foot stations, and soil sampling.

The geological mapping was completed by J. Deighton, Geologist. The program was supervised by the writer.

GEOGRAPHY

Location and Access

The Liz mineral claims are located approximately 125 miles northeast of Mayo, Y.T. on Duo Creek, a tributary of the Bonnet Plume River.

Coordinates of the property are $64^{\circ} 24'$ North latitude and $132^{\circ} 26'$ West Longitude.

The property lies within map sheet 106C of the National Topographic series.

Access to the property from Vancouver is either by motor vehicle to Mayo, Y.T and from there by helicopter to the property, or by Canadian Pacific Airlines to Whitehorse, via North Air to Mayo and hence via helicopter to the property.

A small lake, Porters Puddle, on Duo Creek is accessible by fixed wing planes. Barrier Reef Resources Ltd. is constructing a winter airstrip on Goz Creek and a winter tote road is planned from Mayo.

TOPOGRAPHY

The Liz 9-16 and 25-32 Mineral claims occupy the south slope of a steep mountain just north of Duo Creek. Topography is rugged and limestone cliffs traverse the property easterly. Outcrop is plentiful, comprising nearly 60% of the area of the northern part of the claims.

The southern portion lies partially within the valley of Duo Creek and hence is mainly overburden covered.

PROPERTY

The Liz mineral claims were acquired by Acheron Mines Ltd., from Mr. Andy Harman, prospector and consists of the following contiguous mineral claims.

<u>Name</u>	<u>Record Number</u>	<u>Record date</u>
Liz 9-16	Y69694-701	Aug. 21, 1973.
Liz 25-32	Y69710-17	Aug. 21, 1973.

HISTORY

The area was mapped by Dr. J.O. Wheeler, Geological Survey of Canada, in 1952 and the information was published as Preliminary Map 53-7, at a scale of 1" = 4 miles. The area was remapped in more detail by S.L. Blusson, Geological Survey of Canada.

The first lead-zinc discoveries, associated with brecciated dolomites, were made in the early 1950's by the K.J. Springer interests. These showings were followed up in recent years by Gordon Dickson, prospector.

Further exploration along the belt of Palaeozoic sedimentary units lead to the discovery of the Tom deposit of Hudson Bay Mining and Smelting at McMillan Pass, the strati-form lead-zinc deposits of the Vangorda Area, of which the Anvil Mines with 60 million tons grading 10% lead-zinc combined is producing at a rate of 7,500 tons per day.

From 1965 to 1973 exploration in the area, because of low metal prices and high exploration costs, was discontinued.

In 1972, the discovery of the Summit Lake deposit by Canex Placer Ltd., along a 25 mile long belt of Ordovician graptolitic shales, resulted in renewed exploration.

During 1972, important base metal discoveries were made in the Godlin Lake area in the Northwest Territories, 100 miles north of Summit Lake. The mineralization occurs within a belt of open-folded and faulted Lower Palaeozoic carbonate rocks, the Mackenzie fold belt.

Exploration concentrated along this fold belt resulted in the discovery of the Bonnet Plume mineralization of Barrier Reef Resources Ltd and the discoveries by Cypress Resources Ltd., 10 miles to the west of the first.

The Liz mineral claims lie approximately 5 miles east of the main Barrier Reef discovery and approximately 2 miles east of a zinc discovery along the eastern boundary of Barrier Reef Resources Ltd. property.

REGIONAL GEOLOGY

The Liz 9-16 and 25-32 claims owned by Acheron Mines Ltd., are underlain by Lower Cambrian Strata of the Backbone Range Formation. This unit is composed of the varied colored shales, argillites, quartzites, grits and minor limestone and dolomites. The western portion of the claim group may be underlain by a sub division of the Backbone Range Formation, - buff grey weathering poorly bedded and in part pistolitic dolomite. This sub division is the unit in which lead-zinc mineralization occurs on the adjacent ground of Barrier Reef.

DETAILED GEOLOGY

Nearly the entire property is underlain by grey weathering limestone 20-30 ft. thick and dark slates and argillite. Both rock types appears to belong to the Sheepbed Formation.

Grey massive limestone, Backbone Formation, crops out along the southwest boundary of the claim group.

Intensive and numerous northwest trending fault and shear zones appear to be the main structural feature on the claims.

At line 120E 24N evidence of folding has been observed. The folds have an amplitude of 20 to 25 feet with easterly trending and plunging axis.

Smithsonite float has been found on line 116E 34N, as the only evidence of mineralization on the property.

GEOCHEMISTRY

Field Method

The Liz mineral claims were soil sampled on a grid system. The grid consists of North-South compass lines, 800 feet apart with sample stations every 200 feet along the lines marked by flagging. East-West tie lines were established for control.

Samples were collected by mattock from the "B" horizon where ever possible. Soils were packed in kraft paper envelopes and shipped to Chemex Labs Ltd., 212 Brooksbank Ave., North Vancouver, B.C. for preparation and analysis for total lead and zinc.

Lab Technique

All samples were analysed by Chemex Labs Ltd.

A minus 80 mesh fraction was taken from each sample, digested for 2 1/2 hours in hot nitric acid. A second minus 80 mesh fraction was digested for 4 hours in hot perchloric-nitric acid.

Quantitative analysis for lead and zinc content was performed by atomic absorption methods.

RESULTS

The results were grouped; the percent frequency and accumulated percent were calculated and plotted on arithmetic probability paper.

	<u>Range ppm</u>	<u># of sample</u>	<u>Background ppm</u>	<u>%</u>	<u>Anomalous ppm</u>	<u>%</u>
Zinc	10 to 4000	984	140	73.99	280	9.23
Lead	10 to 700	984	40	70.81	140	3.56

INTERPRETATION

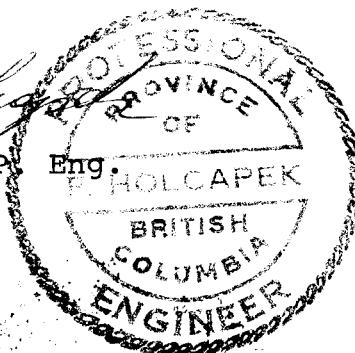
The geochemical survey did not outline any significant anomalous zinc - lead areas. Although several spot highs have been indicated, the limited lateral extent and the known geological setting, limestone or dolomitic limestone carrying minor spalerite and galena in brecciated area, explain these spot highs.

RECOMMENDATIONS.

In view of the negative results of the geochemical survey and the absence of the favourable Backbone Range Limestone host, as indicated by geological mapping, no further work program is recommended.

Respectfully submitted,

F. Holcapek
 F. Holcapek, P. Eng.


 A circular professional seal for F. Holcapek, a Professional Engineer in the Province of British Columbia. The seal contains the text: "PROFESSIONAL ENGINEER OF THE PROVINCE OF BRITISH COLUMBIA" around the perimeter and "F. HOLCAPEK" in the center.

Vancouver, B.C.
 September 31, 1974.

CERTIFICATION

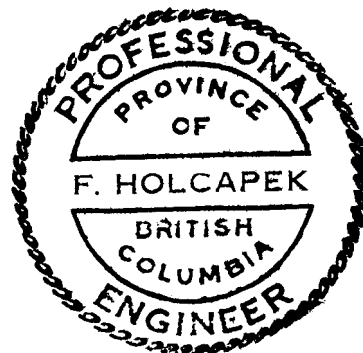
I, FERDINAND HOLCAPEK of 92 - 10842 152nd Street,
Surrey, British Columbia, do hereby certify that:

1. I am a graduate of the University of British Columbia,
with a Bacheolor of Science Degree in Geology, 1969.
2. Since graduation I have been engaged in mining exploration
in British Columbia, Yukon Territory, Northwest Territories,
Quebec, Nevada, Arizona, Mexico and Australia.
3. I am a registered member, in good standing, of the
Association of Professional Engineers of British Columbia,
the Geological Association of Canada and the Society of
Exploration Geophysists.
4. I am a consulting geologist.
5. This report is based on field work conducted under my
supervision, during the period of June 15 to July 31, 1974.
6. That the cost statement attached outlines expenditures
incurred to complete the work program.



F. Holcapek, P. Eng.

Vancouver, B.C.
September 31, 1974.

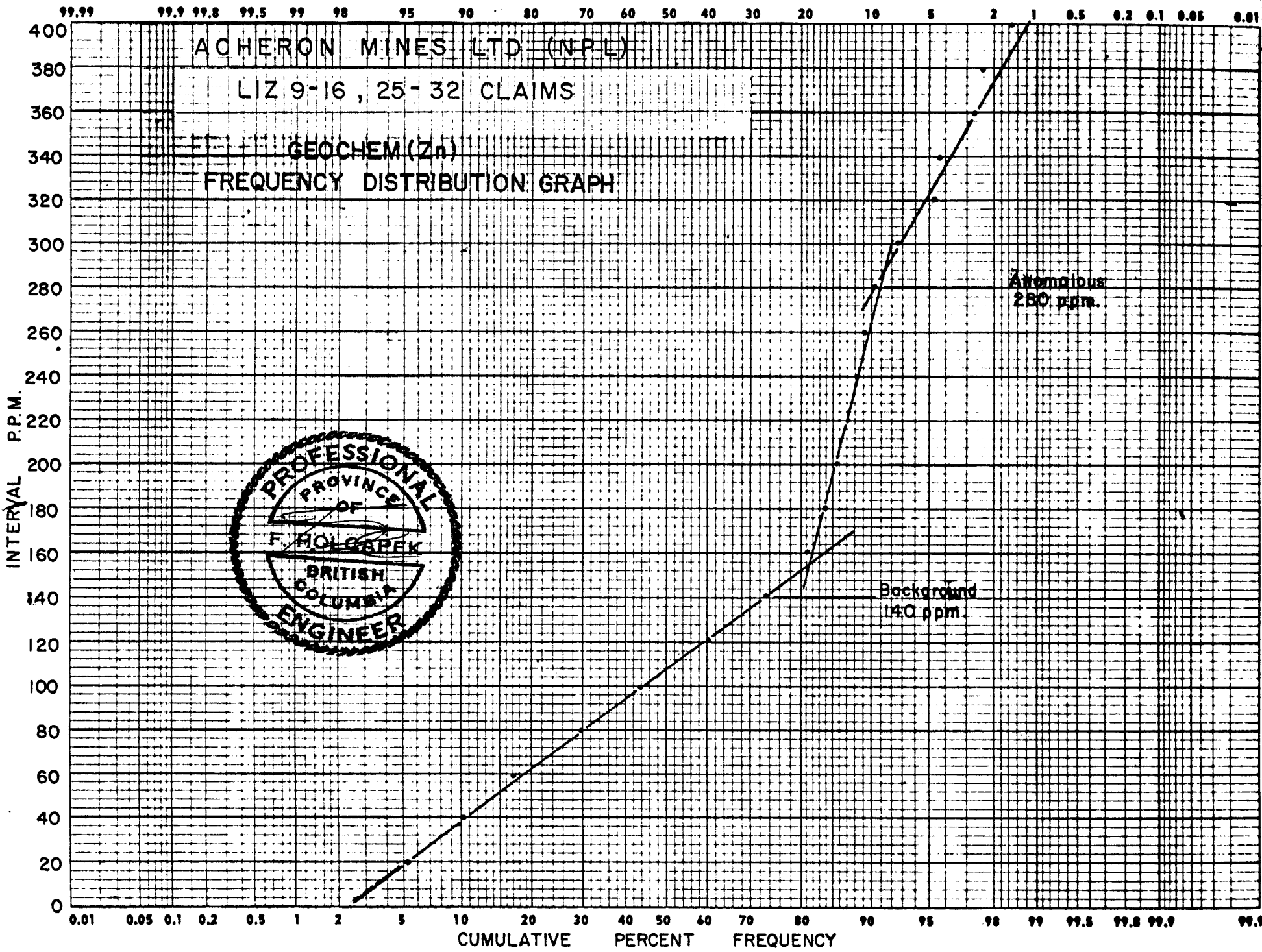


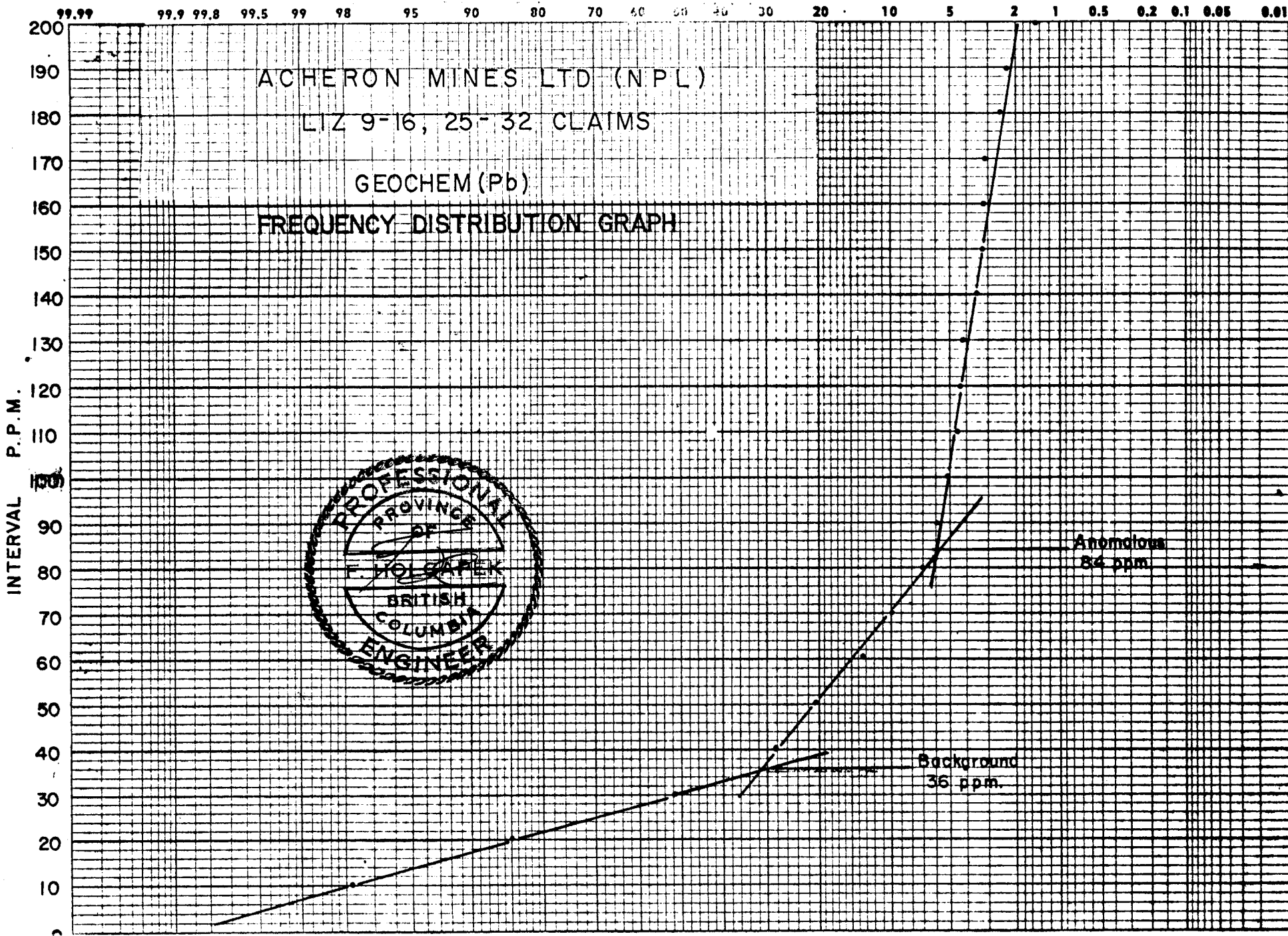
ZINC - ppm

<u>Interval</u>	<u>No. of samples</u>	<u>%</u>	<u>Accumulative %</u>
0-20	51	5.18	5.18
21-40	49	4.98	10.16
41-60	68	6.91	17.07
61-80	134	13.62	30.69
81-100	134	13.62	44.31
101-120	176	17.89	62.20
121-140	116	11.79	73.99
141-160	69	6.01	80.00
161-180	31	3.15	83.15
181-200	24	2.44	85.59
201-220	13	1.32	86.91
221-240	12	1.22	88.13
241-260	12	1.22	89.35
261-280	14	1.42	90.77
281-300	20	2.03	92.80
301-320	22	2.23	95.03
321-340	6	.60	95.63
341-360	15	1.59	96.92
361-380	3	.30	97.22
381-400	9	.91	98.13
401-420	3	.30	98.43
421-440	0		
441-460	1	.11	98.54
461-480	1	.11	98.55
481-500+	11	1.12	99.67

LEAD - ppm

<u>Interval</u>	<u>No. of samples</u>	<u>%</u>	<u>Accumulative %</u>
0-10	21	2.13	2.13
11-20	131	13.31	15.44
21-30	330	33.54	48.97
31-40	215	21.84	70.81
41-50	80	8.13	78.94
51-60	85	8.63	86.57
61-70	35	3.55	90.12
71-80	29	2.94	93.06
81-90	9	.91	93.97
91-100	10	1.01	94.98
101-110	6	.6	95.59
111-120	5	.5	95.64
121-130	2	.2	95.84
131-140	6	.6	96.44
141-150	4	.4	96.84
151-160	0		
161-170	1	.1	96.94
171-180	4	.4	97.34
181-190	0		
191-200	2	.2	97.54
200+	9	.9	98.44





YUKON TERRITORY

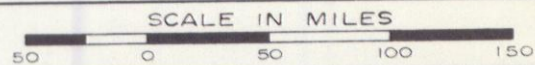
ACHERON MINES LTD.(NPL)

DUO CREEK AREA

Liz 9-16, 25-32 Claims

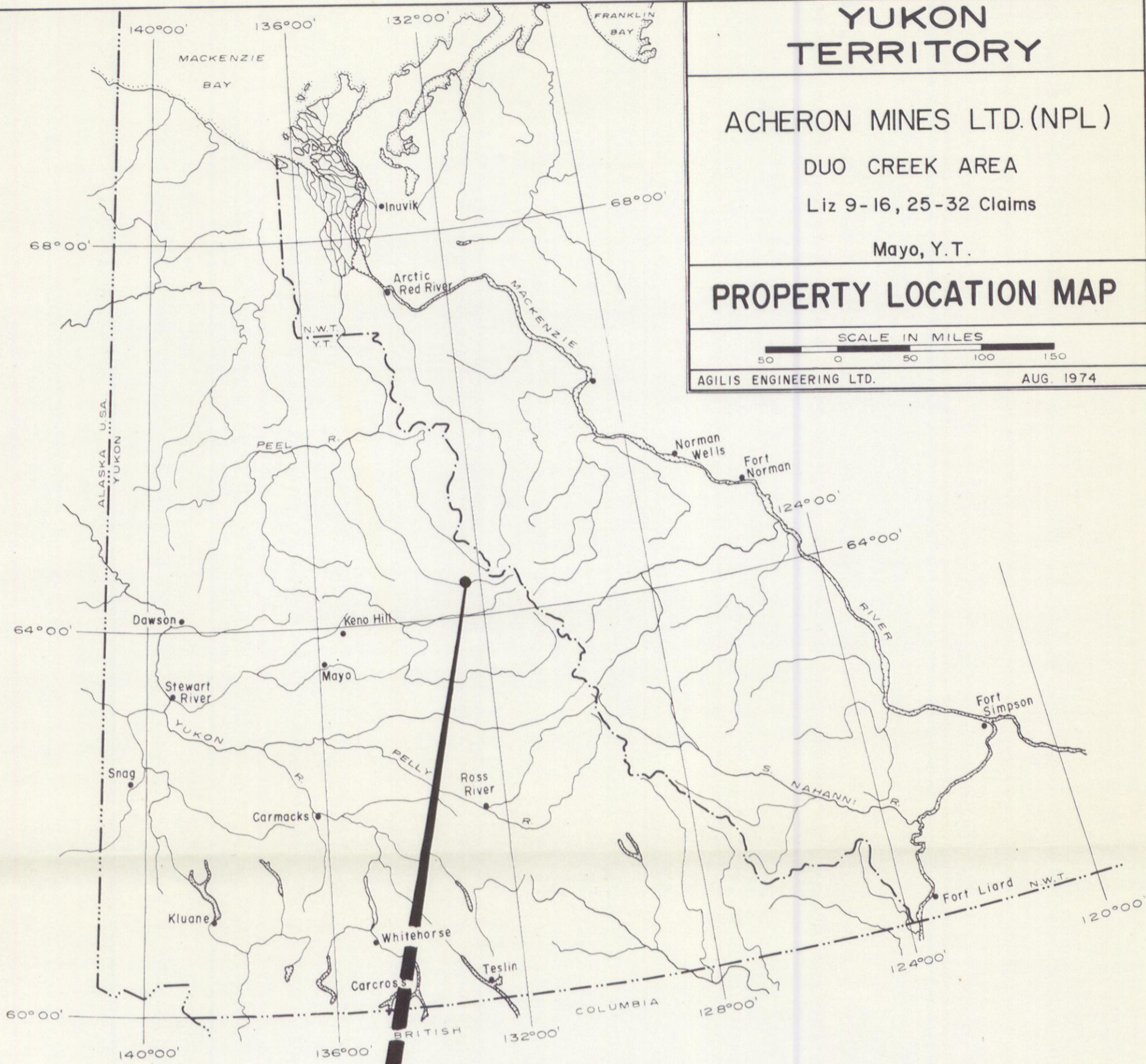
Mayo, Y.T.

PROPERTY LOCATION MAP



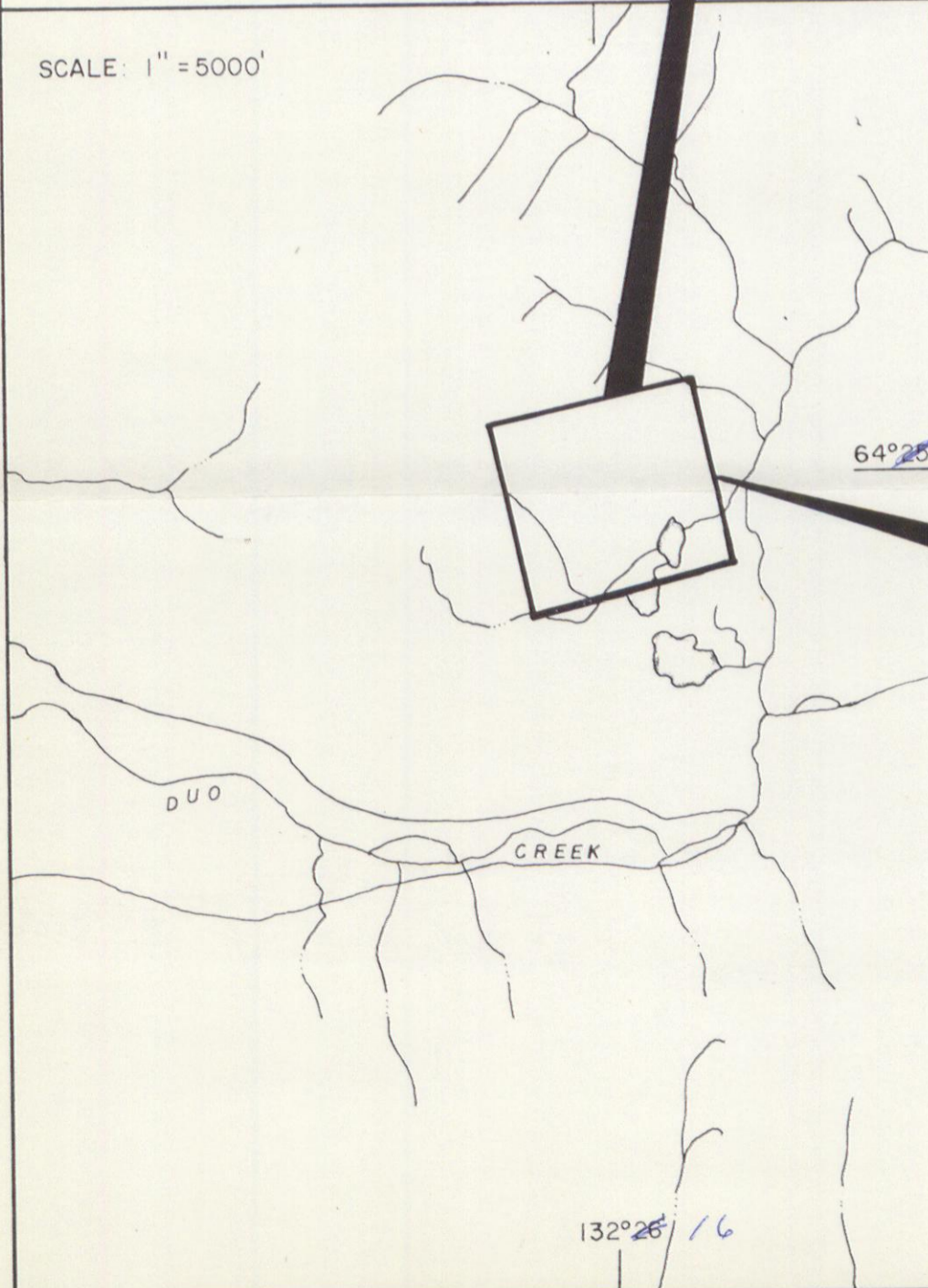
AGILIS ENGINEERING LTD.

AUG. 1974



SCALE: 1" = 5000'

SCALE: 1" = 2640'



Liz 9	Liz 11	Liz 13	Liz 15
Liz 10	Liz 12	Liz 14	Liz 16
Liz 25	Liz 27	Liz 29	Liz 31
Liz 26	Liz 28	Liz 30	Liz 32

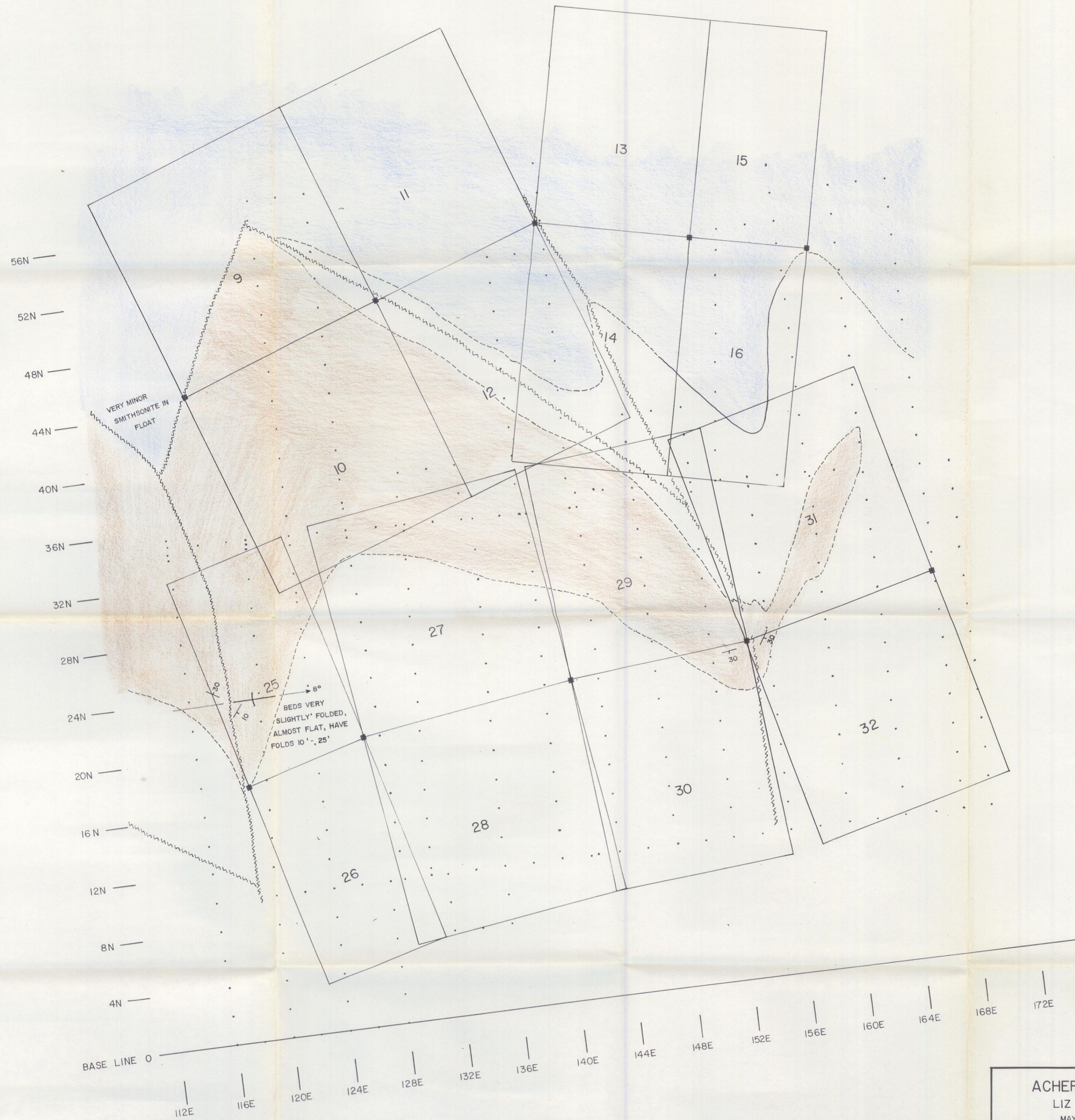
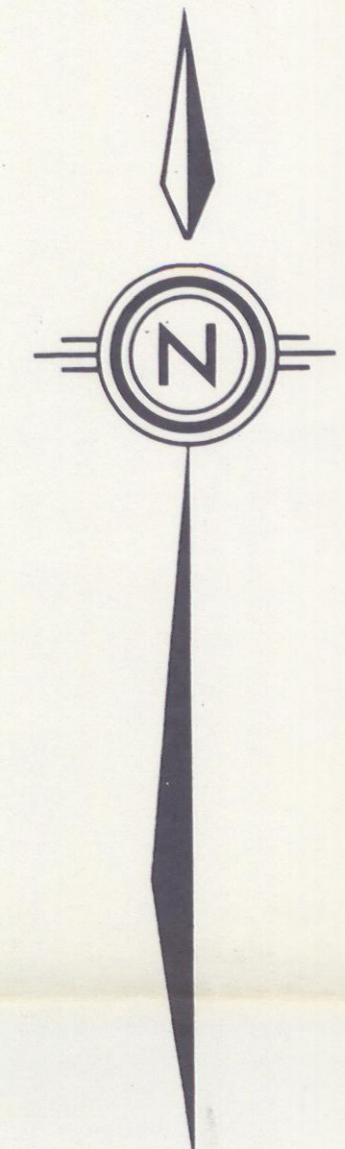
64°25' 26

64°25'

26
64°25'

132°26' 16

132°26' 16



LEGEND

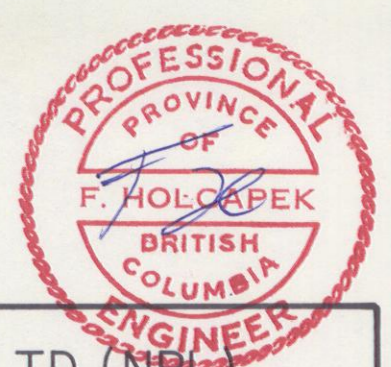
- Claim post and line
- Geochemical survey station
- Fault
- Outcrop
- Bedding, inclined
- Plunge of fold

LOWER CAMBRIAN

- Backbone Ranges Formation**
 - Pale buff weathering, grey, poorly bedded and in part ~~pistolitic~~ dolomite and sandstone *siliceous*

CAMBRIAN AND HADYNIAN

- Sheepbed Formation**
 - Dark slate and argillite, minor fine-grained quartzites, some slates, siliceous



ACHERON MINES LTD. (NPL)
LIZ 9-16, 25-32 CLAIMS
MAYO MINING DISTRICT, Y.T.

**GEOLOGY &
CLAIM MAP**

SCALE IN FEET
400 0 400 800 1200

AGILIS ENGINEERING LTD. AUGUST 1974