

GEOLOGICAL & GEOCHEMICAL REPORT

on the

TIL 1-24 MINERAL CLAIMS  
WATSON LAKE MINING DISTRICT  
YUKON

61°42'N 130°05'W

N.T.S. 106-G - ~~16~~ q

for

MOUNTAINEER MINES LTD.

by

Charles K. Ikona, P.Eng.

December, 1976

070165



FEB - 1 1977

WHITEHORSE

Yukon Territory

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 \$ 2400<sup>00</sup>

*W. P. Sinclair*

~~Resident Geologist or  
Resident Mining Engineer~~

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

*B.R. Baxter*

B.R. BAXTER  
Supervising Mining Recorder

Commissioner of Yukon Territory

W.P. /

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION.....	1
CLAIMS .....	1
LOCATION AND ACCESS .....	1
AREA LOCATION MAP .....	after page 1
CLAIM MAP .....	after page 1
TOPOGRAPHY AND VEGETATION .....	2
HISTORY .....	2
GEOLOGY	
REGIONAL .....	3
PROPERTY .....	3
MINERALIZATION .....	4
GEOCHEMISTRY .....	4
GEOLOGY NORTHERN TIL CLAIMS .....	after page 4
GEOCHEMICAL RESULTS - PB & ZN .....	after page 4
DISCUSSION AND CONCLUSIONS .....	5
RECOMMENDATIONS .....	6
APPENDIX I     -     LIST OF PERSONNEL	
APPENDIX II    -     STATEMENT OF EXPENDITURES	
APPENDIX III   -     AFFIDAVIT OF EXPENDITURES	
APPENDIX IV    -     GEOCHEM ASSAY CERTIFICATE	
APPENDIX V     -     ENGINEERS CERTIFICATE	

## INTRODUCTION

Mountaineer Mines Ltd. is the beneficial owner of the TIL 1-24 Mineral Claims in the Watson Lake Mining District of the Yukon Territories. These claims were located to cover an area from which anomalous values in Cu, Pb & Zn had been located in stream sediment samples.

A limited program of geologic mapping and geochemical soil sampling was conducted on the group in September, 1976 to more closely define the source of these anomalous values.

This report is intended to summarize this program and recommend additional work based on these results.

## CLAIMS

<u>Claim Name</u>	<u>Grant No.'s</u>	<u>Expiry Date</u>
TIL 1-24	Y-84019-Y-84042 incl.	March 13, 1977

Claim posts examined by the author appear to conform with the Yukon Quartz Mining Act regulations.

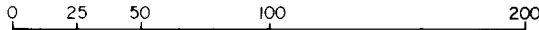
## LOCATION AND ACCESS

The TIL group is located 8 miles south of McEvoy Lake and 6 miles north of the Campbell Highway in the southeast portion of the Yukon. The property is 80 air miles southeast of Ross River and 125 miles northwest of Watson Lake. Approximate co-ordinates of the claim group

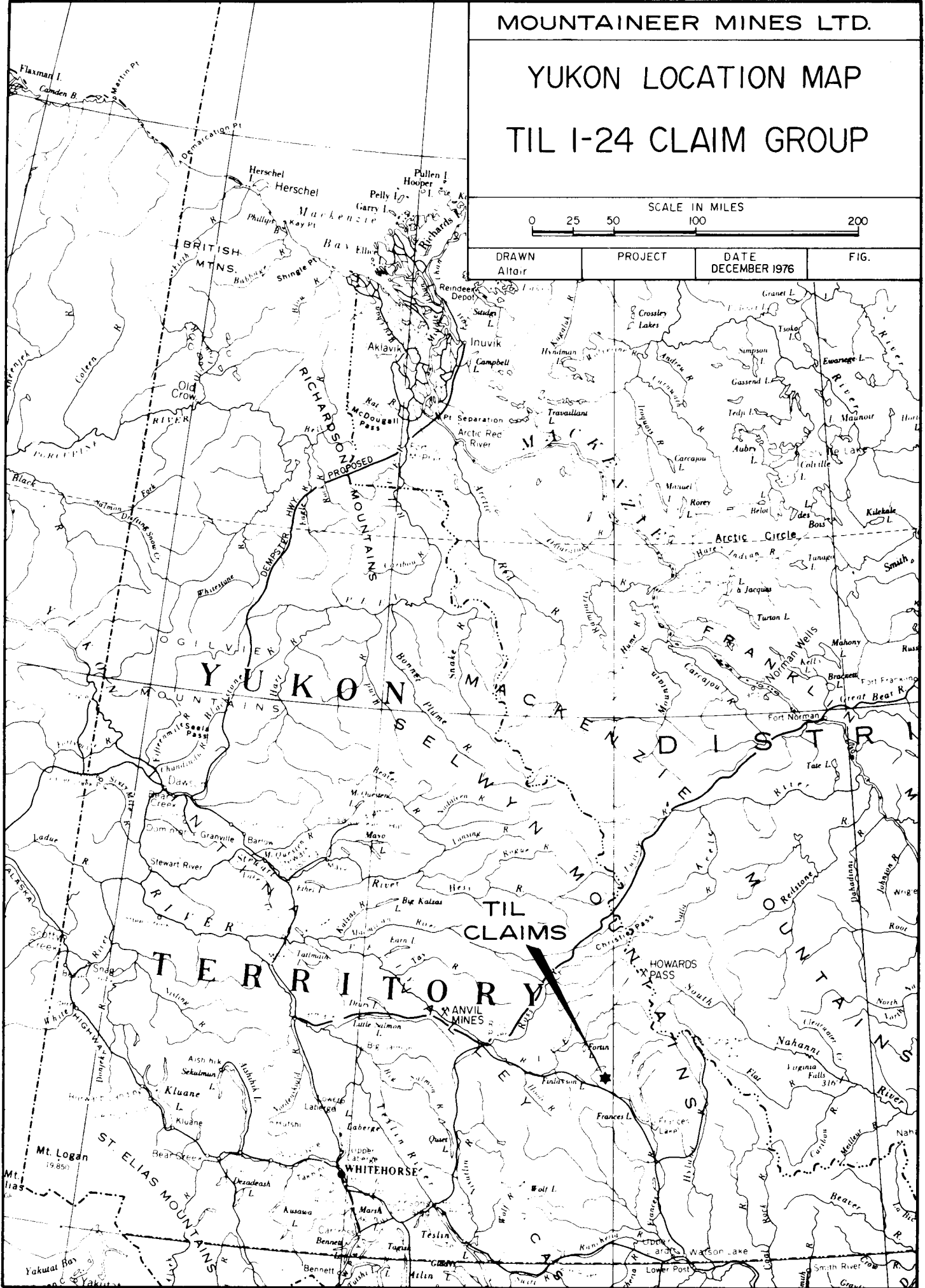
MOUNTAINEER MINES LTD.

# YUKON LOCATION MAP TIL I-24 CLAIM GROUP

SCALE IN MILES



DRAWN Altair	PROJECT	DATE DECEMBER 1976	FIG.
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TIL CLAIMS

ANVIL MINES

WHITEHORSE

YUKON TERRITORY

FRANKLIN DISTRICT

RICHARDS MOUNTAINS

OGILVIE MOUNTAINS

ST. ELIAS MOUNTAINS

HOWARDS PASS

ARCTIC CIRCLE

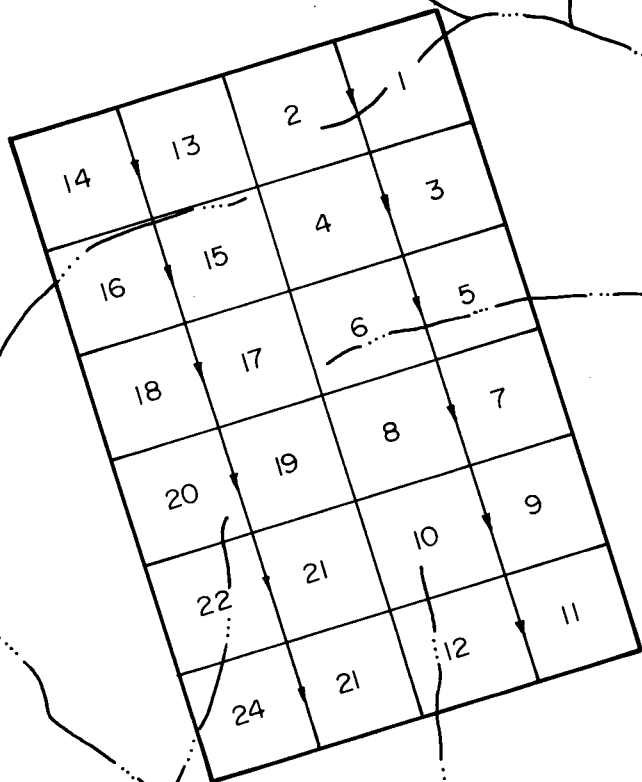
Mt. Logan  
19,850'

Virginia Falls  
316'



130°05'W

61°41'N



MOUNTAINEER MINES LTD.

TIL 1-24 MINERAL CLAIM GROUP  
N.T.S. 105-G-9  
61°42'N. & 130°5'W.

SCALE : 1" = 1/2 MILE

DECEMBER 1976

are  $61^{\circ}42'N$  and  $130^{\circ}05'W$ .

Access to the property is recommended by helicopter from the Campbell Highway.

#### TOPOGRAPHY AND VEGETATION

The claim group covers a divide between two small southeasterly flowing creeks and may be described as moderate to fairly rugged. Elevations vary from 4,500 feet to approximately 5,500 feet with some outcrops on the higher north end on the property.

Most claims are above timberline with some scattered stands of stunted spruce and willow on the lower south end of the property.

#### HISTORY

The area received some regional exploration work subsequent to the discovery of the Cypress-Anvil ore body at Faro to the west of Ross River. It was during these programs that anomalous stream sediment values were noted from the creeks draining the ridge controlled by the TIL claim group. No follow-up work was performed at that time and the ground lay dormant until staked in 1975 by R. Darney and A. Harman. The property was sold to Mountaineer Mines Ltd. in August, 1976.

GEOLOGY

REGIONAL

The area is underlain by a northwesterly trending succession of open folded and faulted meta-sedimentary rocks within the southern margin of the Selwyn Basin.

These rocks are of Proterozoic and Lower Paleozoic age and to date have yielded most of the known lead-zinc occurrences in the Yukon.

To the north-west of the TIL group the sedimentary rocks have been intruded by the McEvoy, a granodiorite stock of Cretaceous age, resulting in some additional metamorphism and the existence of some quartz veining and siliceous lensing within the sedimentary units.

PROPERTY

The TIL claims are underlain by 2 main sedimentary units with the contact between the two appearing to run in a north-easterly direction. To the west and possibly underlying 1/3 of the group is a succession of grey to black shales and argillites. These are normally thin bedded, banded in places and contain some quartz lenses with extensive pyrite and limonite staining in some areas. This unit gently dips to the southwest but may be locally contorted. To the east is a unit of dirty grey, extensively shattered



limestone which has been re-healed with calcite. Some minor interbedded slate up to 10 feet in thickness were mapped in this unit.

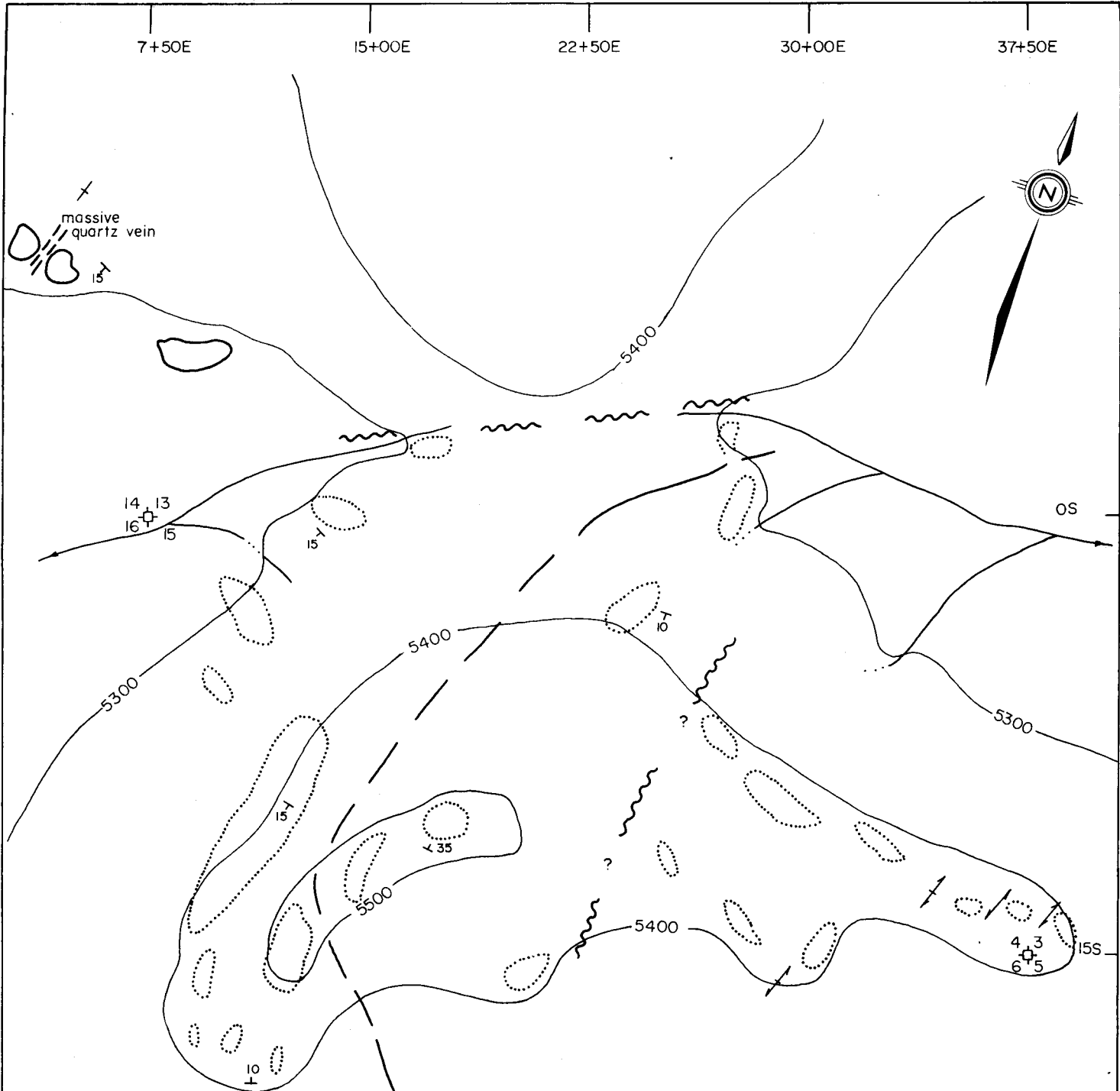
#### MINERALIZATION

Only pyrite has been noted within the shale units. Minor secondary zinc was located in the limestone unit. This mineralization was widely dispersed and associated with the re-healing of the limestone and with some possible shears in the area of the TIL 3, 4 - 5, 6 posts. Mineralization to date is of sub-economic grade, however the shattered and re-healed nature of the limestone unit makes it an attractive exploration target.

#### GEOCHEMISTRY

Geochemical soil samples were collected on the TIL 3-7 and TIL 15-20 claims area on a reconnaissance grid spacing of 750' E-W and 500' N-S. The samples were placed in Kraft bags and forwarded to Chemex Labs Ltd, in North Vancouver for analysis by Atomic Absorption techniques. Results of this survey are shown on Fig. 4.

A large, well defined area of high coincident lead and zinc values in the south central portion of the survey area is of major interest. This area is open to the south



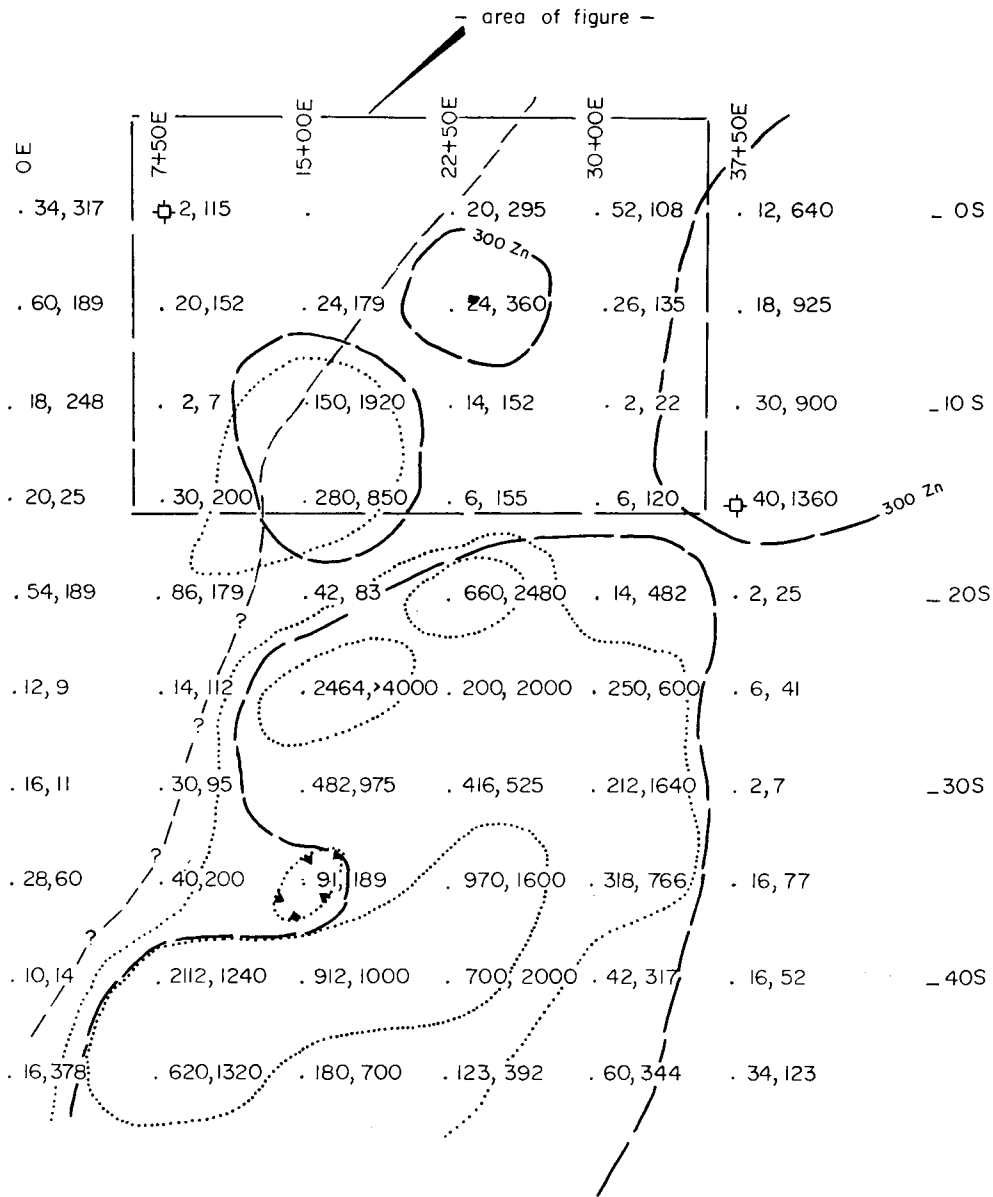
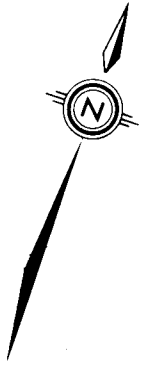
- Dirty grey shattered Limestone  
 calcite rehealing - some re-crystallization  
 thin bedded to blocky  
 minor interbedded shales to 10 feet thick  
 to east  
 some secondary zinc mineralization  
 notably associated with apparent shears
- Grey to black shales & argillites  
 normally thin bedded  
 banded in areas  
 some quartz lenses and alteration  
 extensive pyrite in areas with  
 general limonite staining

- geological contact
- ⋯ outcrop boundary
- ~?~ fault (inferred)
- ↗ shear
- T bedding attitudes
- ⊕ claim post

Figure

MOUNTAINEER MINES LTD.	
SKETCH : GEOLOGY OF NORTHERN TIL CLAIMS	
SCALE : 1" = 500'	NOVEMBER 1975

APPROXIMATE BOUNDARY TIL CLAIM GROUP



- 2, 378 ppm Pb, ppm Zn
- - - - - Zn anomaly
- ..... Pb anomaly
- ⊕ claim posts
- - - - - approximate trace of geologic contact (mapped)
- - - - - trace of contact (assumed)

Figure

MOUNTAINEER MINES LTD.	
GEOCHEMICAL SAMPLING	
TIL GROUP	
SCALE: 1" = 1000'	DECEMBER 1976

and presents limited exposure.

To the west of the assumed geologic contact between the shale and limestone units and in the portion of the area apparently underlain by shales, both lead and zinc values appear to be in the background range of values.

The north central portion of the area indicates some mildly anomalous zinc values in areas where some secondary zinc mineralization in the limestone unit was noted during geological mapping.

#### DISCUSSION AND CONCLUSIONS

The reconnaissance program has indicated a large area of coincident high lead and zinc geochemical values in the south central portion of the TIL claim group. Preliminary geological mapping to the north of this anomaly indicates the anomalous area to be underlain by a highly shattered and re-healed limestone unit. The presence of minor secondary zinc minerals associated with a lower order zinc geochemical anomaly was noted in the same unit during mapping. No lead mineralization has been located on the property to date.

The size and strength of the unexplained geochemical anomaly, in particular the lead values, makes this portion of the TIL claim group an exploration target warranting additional work.

RECOMMENDATIONS

The following program is recommended for the TIL claims and for the adjoining areas:

1. Detailed geochemistry in the area of the anomaly revealed by the reconnaissance program to more closely define the anomaly and to close it off to the south.
2. Detailed prospecting and mapping in the area of the anomaly.
3. A ground EM survey over the anomalous area employing the grid established for the detailed geochemical survey.
4. Reconnaissance geochemical survey and prospecting to the east of the claims in the areas presumed to be underlain by the limestone unit.

Subsequent to this trenching and/or drilling may be warranted on the group.

Estimated program costs are:

1.	Mobilization & demobilization	
	Air fares, trucking etc.	\$ 1,500
	Helicopter (8 hours)	2,500
2.	Equipment rental	1,500
3.	Wages	
	2 wks. Geologist & 2 prospectors	2,400
4.	Geochemical analysis and assaying	3,000
5.	E.M. Survey - 15 miles @ \$125/mile	1,875

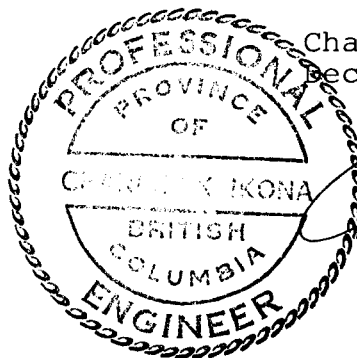
6. Food & supplies	
70 man days @ \$20/day	\$ 1,400
7. Engineering & reports	1,000
8. Contingency at 10%	<u>1,500</u>
TOTAL PHASE I	\$16,675

Subsequent trenching and/or diamond drilling allowance:

Trenching	\$15,000
1000 ft. diamond drilling @ \$40/ft.	<u>40,000</u>
TOTAL PHASE II	\$55,000
TOTAL PROGRAM COST:	<u><u>\$71,675</u></u>

Respectfully submitted,

Charles K. Ikona, P.Eng.  
December, 1976



A handwritten signature in cursive script, appearing to read "Charles K. Ikona", written over the right side of the professional seal.



# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
 NORTH VANCOUVER, B.C.  
 CANADA V7J 2C1  
 TELEPHONE: 985-0648  
 AREA CODE: 604  
 TELEX: 043-52597

•ANALYTICAL CHEMISTS    •GEOCHEMISTS    •REGISTERED ASSAYERS

## CERTIFICATE OF ANALYSIS

TO: Harman Management  
 907 - 675 W. Hastings,  
 Vancouver, B. C.

CERTIFICATE NO. 38903

INVOICE NO. 18544

RECEIVED Oct. 4/76

ATTN: Chuck Ikona

ANALYSED Oct. 8/76

SAMPLE NO. :	PPM Lead	PPM Zinc
T 15E 35N	91	189
40	912	1000
T 15E 45N	180	700
T22+50E OS	20	295
5	24	360
10	14	152
15	6	155
20	660	2480
25	200	2000
30	416	525
35	970	1600
40	700	2000
T22+50E 45S	123	392
T 30E OS	52	108
5	26	135
10	2	22
15	6	120
20	14	482
25	250	600
30	212	1640
35	318	766
40	42	317
T 30E 45S	60	344
T 37+50 OS	12	640
5	18	925
10	30	900
15	40	1360
20	2	25
25	6	41
30	2	7
35	16	77
40	16	52
T37+50 45S	34	123
T 750E ON	2	115
5	20	152
10	2	7
15	30	200
20	86	179
25	14	112
T 750E 30N	30	95
Std.	96	206



MEMBER  
 CANADIAN TESTING  
 ASSOCIATION

CERTIFIED BY:

*R. Swaiter*



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 NORTH VANCOUVER, B.C.  
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## CERTIFICATE OF ANALYSIS

TO: Harman Management  
 907 - 675 W. Hastings  
 Vancouver, B. C.

CERTIFICATE NO. 38804  
 INVOICE NO. 18544  
 RECEIVED Oct. 4/76  
 ANALYSED Oct. 8/76

ATTN: Chuck Ikona

SAMPLE NO. :	PPM Lead	PPM Zinc
T 750E 35N	40	200
40	2112	1240
T 750E 45N	620	1320
T OW ON	34	317
5	60	189
10	18	248
15	20	25
20	54	189
25	12	9
30	16	11
35	28	60
40	10	14
T OW 45N	16	378
T15E 5N	24	179
10	150	1920
15	280	850
20	42	83
25	2464	> 4000
T15E 30N	482	975
Std.	96	206



MEMBER  
 CANADIAN TESTING  
 ASSOCIATION

CERTIFIED BY: *R. L. Swaiter*