

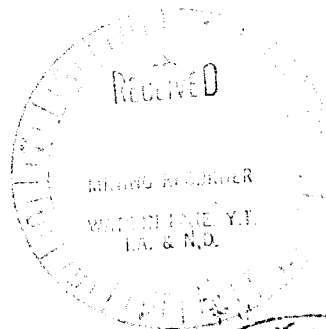
GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

TIL CLAIMS

by

Ken Ralfs

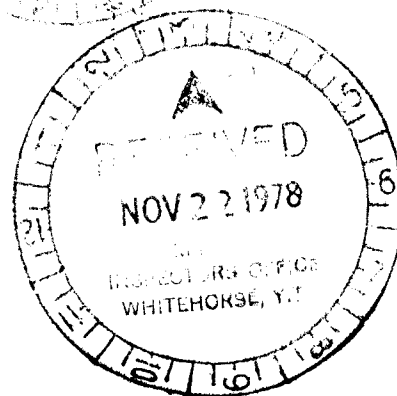


LOCATION: N.T.S. 105 G/9
61°41' N. Latitude
130°05' W. Longitude

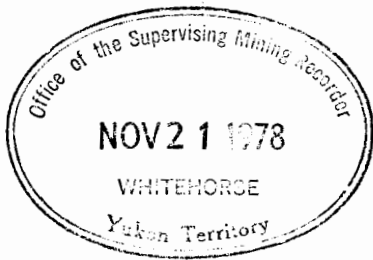
OPERATOR: Serem Limited

OWNER: Mountaineer Mines Limited

DATES WORK PERFORMED: June 7 - June 10, 1978
July 12 - July 18, 1978



090396



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 \$ 10,800


R. B. CRAIG
Regional Director

Considered as representation work under Section 33 (3) of the Quartz Mining Act.

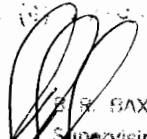

A. S. BAXTER
Supervising Mining Recorder
for Commissioner of Yukon Territory

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1. SUMMARY

Property prospecting and soil geochemistry indicate areas of silver-lead-zinc mineralization on the Til claims. Mineralization, related to quartz-carbonate filled veinlets and fractures within limestones are considered to be of no economic significance.

Property mapping indicates a Devonian shale-out facies is represented by black shale-carbonate lithologies.

2. INTRODUCTION

During June and July 1978 a combined linecutting, geological and geochemical program was undertaken on the Til 1 - 24 claims, McEvoy Lake area, by Serem Ltd. under an option agreement with Mountaineer Mines Ltd., owners of the property.

The program was initiated to evaluate and extend previous work by Pamicon Developments Ltd. as described in the assessment report by C. Ikona dated December 1977.

The program consisted of installing 12.3 miles of grid line, collection of 330 soil samples and mapping.

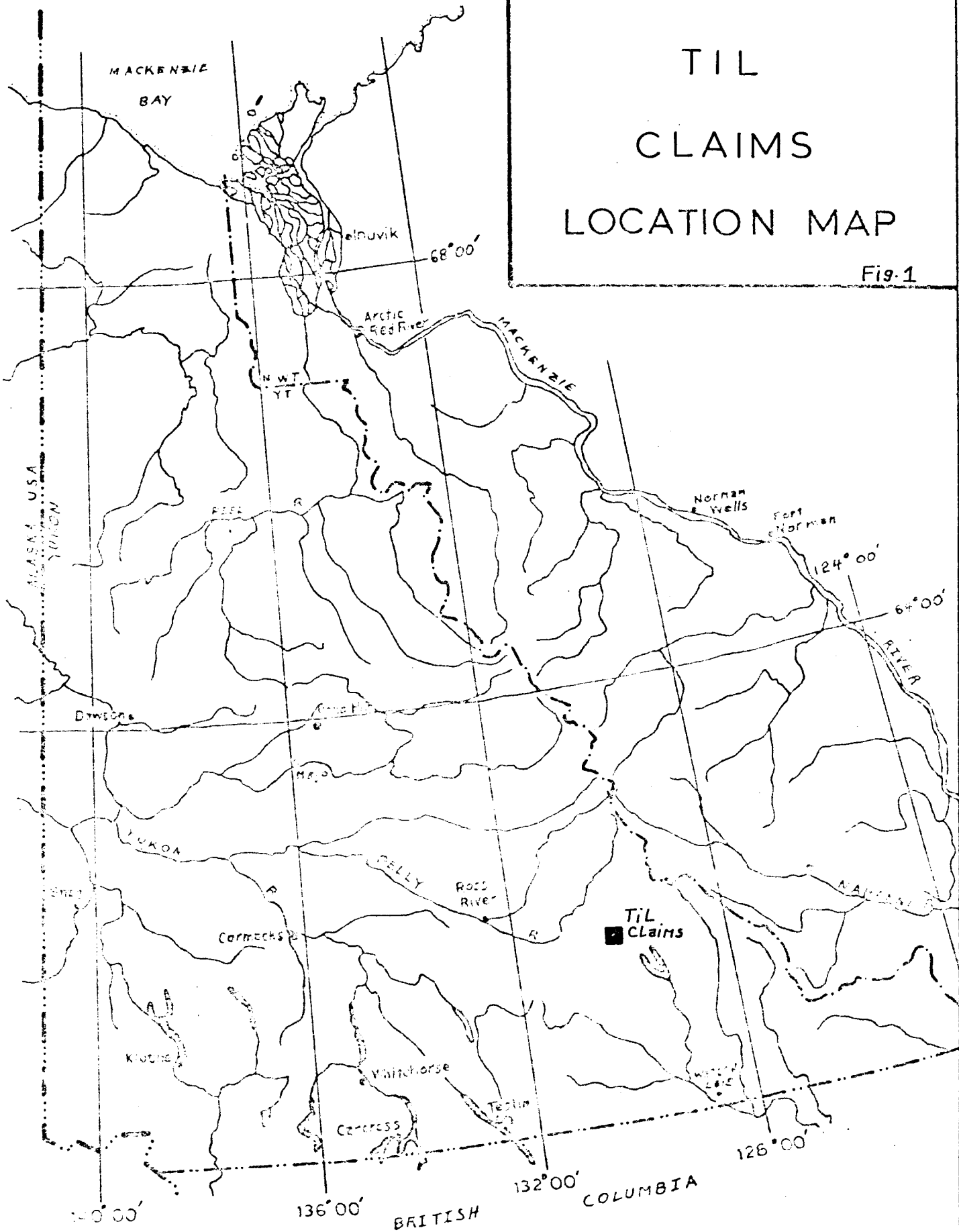
3. LIST OF CLAIMS

<u>Claim Name</u>	<u>Grant No.</u>	<u>Expiry Date</u>	<u>Owner</u>
TIL 1 - 24 incl.	Y84019-Y84042 incl.	March 13,79	Mountaineer Mines Ltd.

YUKON

TIL CLAIMS LOCATION MAP

Fig-1





SCALE:

1" = 1/2 Mi.

105G-9

TIL CLAIM MAP

Fig. 2

4. LOCATION AND ACCESS

The Til group is located 80 miles east of the village of Ross River and 125 miles northwest of Watson Lake, just 7 miles north of the Campbell Highway.

Access was by truck from Ross River to the southeast end of Finlayson Lake and thence by helicopter about 14 miles to the northeast where a fly-camp was set up at an elevation of 4,800 feet.

Both helicopter and fixed wing aircraft, as well as full expediting services are available in Ross River, Y.T.

5. TOPOGRAPHY AND VEGETATION

The claim group straddles a ridge between two creeks which flow south-easterly towards Finlayson Creek. Elevations vary from about 4,500 to 5,700 feet over the claims with the higher ground and rock exposure occupying the northern half of the property.

The geochemical and geophysical work was carried out over the southern portion of the claims. Here the topography was gentle to moderate with steep slopes being encountered at the east and west ends of the survey lines. Vegetation in the form of scrub spruce and willows was quite thick over most of the survey area.

6. GRID INSTALLATION

Line-cutting totalling 64,950 feet (12.3 miles), consisting of 7,200 feet of baseline and 57,750 feet of crosslines was constructed by Petra Gem Exploration of Canada Limited between June 7 and June 10, 1978, inclusive. The baseline was cleared with powersaws and lath pickets erected at stations every 100 feet. Crosslines at a spacing of 250 feet were cleared with axes and lath pickets erected at stations every 200 feet.

7. REGIONAL GEOLOGY

The geology of the entire area has been mapped by the Geological Survey of Canada at 1 inch to 4 miles and is presented in G.S.C. Map 8-1960, Geology of Finlayson Lake, Yukon Territory, by J.A. Roddick and J.A. Wheeler (1960), and G.S.C. Open File 486 compiled by D.J. Tempelman-Kluit, 1977.

The Til group lies in an area underlain by a thick succession of clastic and carbonate sediments deposited along the southern margins of the Selwyn sedimentary Basin. Its position in the basin is near the Devonian hinge line where shales of the Road River Formation "shale-out" into a platform carbonate facies. Locally, the geology is complex due to moderate-intense folding coupled with high angle faulting.

To the north and northwest of the Til group the sedimentary sequences have been intruded by the McEvoy granodiorite stock of Cretaceous age.

8. PROPERTY GEOLOGY

The Til claims were mapped at a scale of 1"=500' using the grid for control. Figure # 4.

A table of geologic formations is included as Figure # 3.

The lithologies are essentially a gradational, interfingering succession from a shale facies to a carbonate facies of Devonian age near the southern margin of the Selwyn Basin. Although shales are isoclinally folded and carbonates are faulted locally to complicate detailed structure, this succession trends northerly with moderate easterly dips.

TABLE 3

TABLE OF GEOLOGICAL FORMATIONS

- 5 Quartzite
 - rusty weathering, strongly contorted.
- 4 Quartzite
 - light grey weathering, massively bedded quartzite with minor shale interbeds.
- 3 Limestone
 - interbedded grey, blocky weathering, fetid, weakly calcareous, laminated limestones; thin bedded, very calcareous light grey limestone containing two-holed crinoids and with chert lenses along bedding planes; buff limestone containing two-holed crinoid stems and very fine grained disseminated specks of pyrite.
- 2 Interbedded-Limestone, Mudstone, Shale, Quartzite
 - an interbedded transition zone between units 1 and 3. Characterized by a light grey weathering, laminarly banded argillaceous limestone.
- 1 Shale
 - black siliceous, locally graphitic shale with minor interbedded quartzite. The shale weathers grey and slightly rusty dark grey and varies from thinly parting to blocky. Quartz laminae and lenses occur locally parallel to axial plane cleavage.

9. MINERALIZATION

The limestones of unit 3, predominantly the buff weathering, slightly pyritic limestones, contain both multi-oriented, usually millimetric veinlets and fault-fracture surfaces containing secondary quartz, calcite and actinolite-tremolite. Quartz-carbonate cemented limestone is developed locally in several larger faults. Positive zinc-zap reaction from these structures is ubiquitous. Sphalerite, galena and tetrahedrite were observed as discrete blebs within these structures but so infrequently that no tonnage or grade of economic significance can be envisioned.

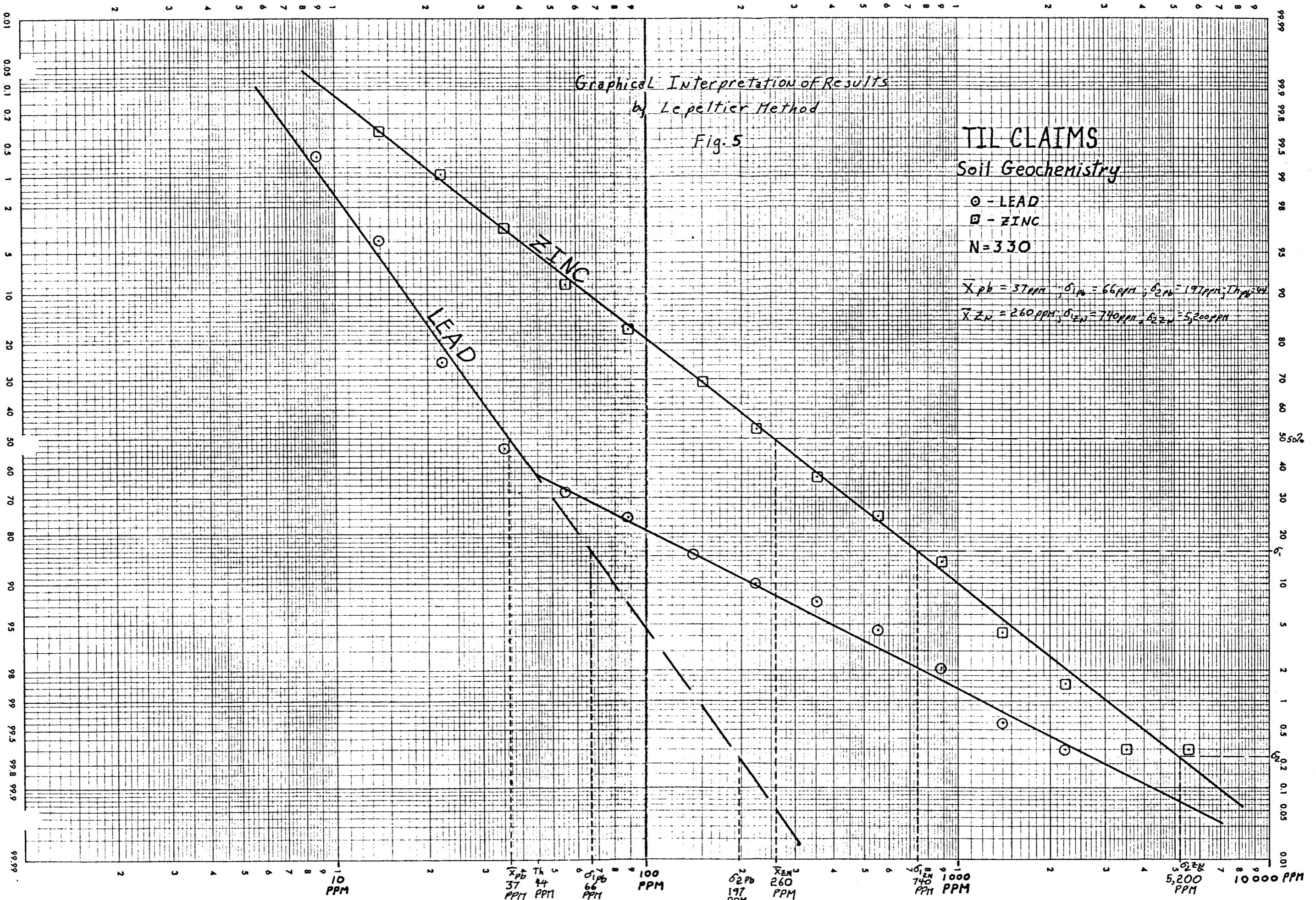
10. GEOCHEMICAL SURVEY

10.1. Procedures

Soil samples were collected using mattocks at 200 foot intervals from the "B" horizon at a depth of 6 to 12 inches. Samples were placed in Kraft bags, dried and shipped to Vangeochem Laboratories in North Vancouver, B.C., for analysis. The samples were analysed using standard atomic absorption techniques for silver, lead and zinc. The results of the 330 samples collected were plotted graphically in Figures 5 and 6, and plotted and contoured on Figures 7, 8 and 9.

10.2. Discussion of Geochemical Results

There is a strong coincidence of the silver, lead and zinc anomalies with values in ppm ranging to 11.6, 2520 and 6700 respectively. The geochemical anomalies show a strong coincidence with the unit 3 limestones plus downhill dispersion from the rounded knob forming the height of the Til claims. Ground examination clearly reveals that the anomalous geochemical values are due to sulphide mineralization within unit 3 limestones.



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TIL CLAIMS Soil Geochemistry

o Silver

N = 330

\bar{X} , Background = 1.35 PPM

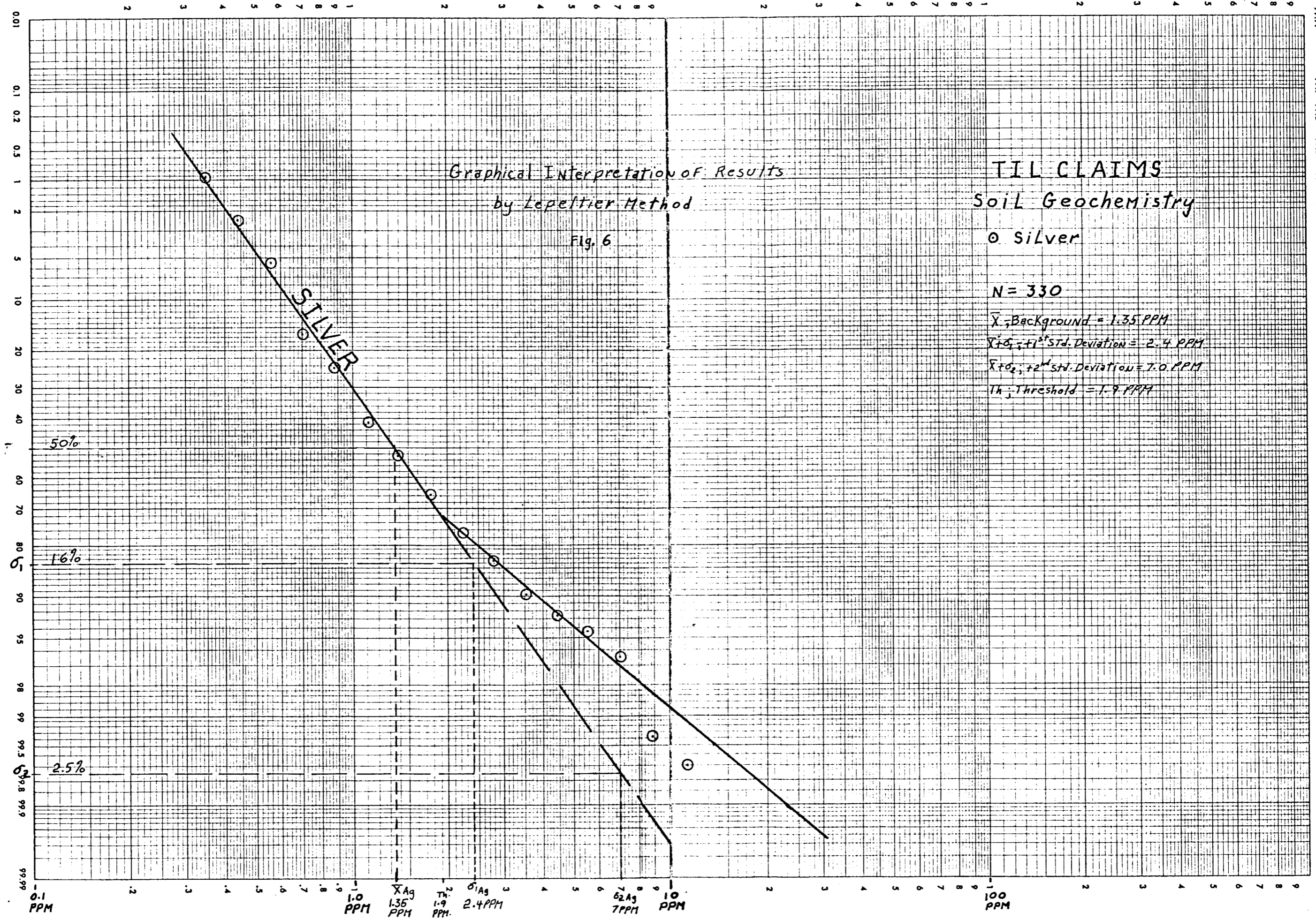
$\bar{X} + \sigma_1$, +1st Std. Deviation = 2.4 PPM

$\bar{X} + \sigma_2$, +2nd Std. Deviation = 7.0 PPM

T_h , Threshold = 1.9 PPM

Graphical Interpretation of Results by Lepeltier Method

Fig. 6



11. CONCLUSIONS

In a regional geologic context the Til claims are favourably located with respect to the Selwyn shale-basin margin.

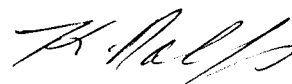
Property mapping indicates the presence of near shore carbonate deposition, shallow marine euxinic shale deposition and a transition zone between these two all of which is a shale out facies of probable Devonian age.

The minor amounts of mineralization within the limestones is of no economic interest.

Soil geochemistry successfully represents and indicates mineralization within the limestone.

12. RECOMMENDATIONS

The Til claims are of no further interest.

A handwritten signature in cursive script, likely belonging to a geologist or surveyor, located in the bottom right corner of the page.



LEGEND

- 5 Quartzite — rusty weathering
 - 4 Quartzite — light grey with shale interbeds
 - 3 Limestone — grey and buff limestone with two hole crinoids
 - 2 Interbedded limestone, shale, mudstone and quartzite
 - 1 Shale — grey to black weathering, black siliceous, locally graphitic shale with minor interbedded quartzite
- outcrop
 - stream
 - fault
 - bedding
 - axial plane cleavage
 - trend and plunge of fold axis

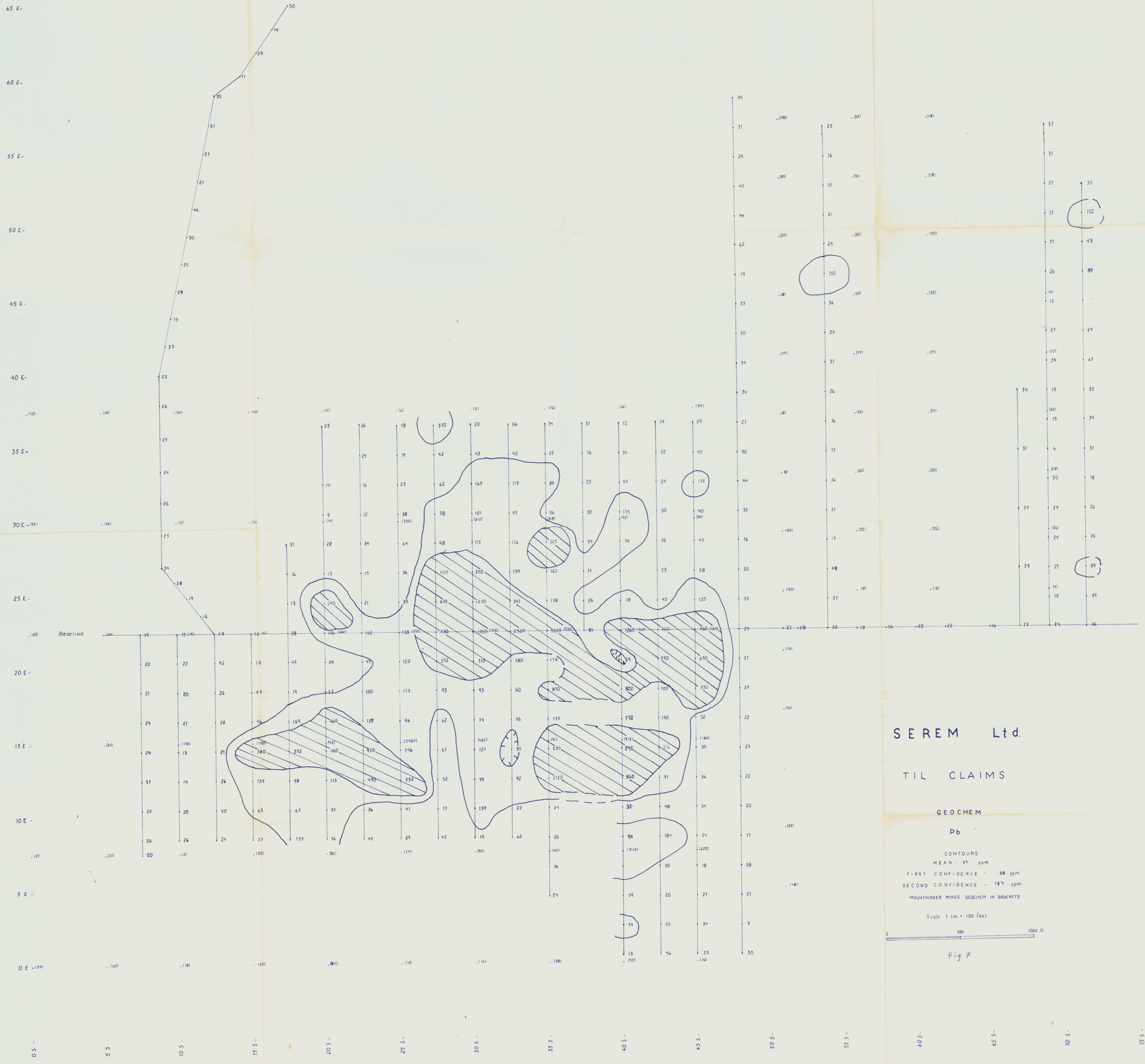
TIL CLAIMS

GEOLOGY

Scale: 1" = 500'

October, 1978

Fig. 4



SEREM Ltd.

TIL CLAIMS

GEOCHEM

Pb

CONTOURS:
 MEAN - 31 ppm
 FIRST CONFIDENCE - 66 ppm
 SECOND CONFIDENCE - 197 ppm
 MOUNTAINEER MINES GEOCHEM IN BRACKETS

Scale 1 cm = 100 feet

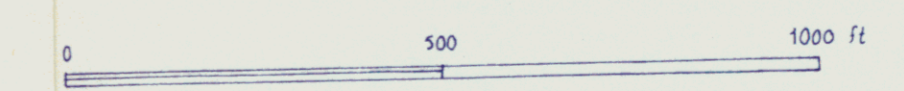
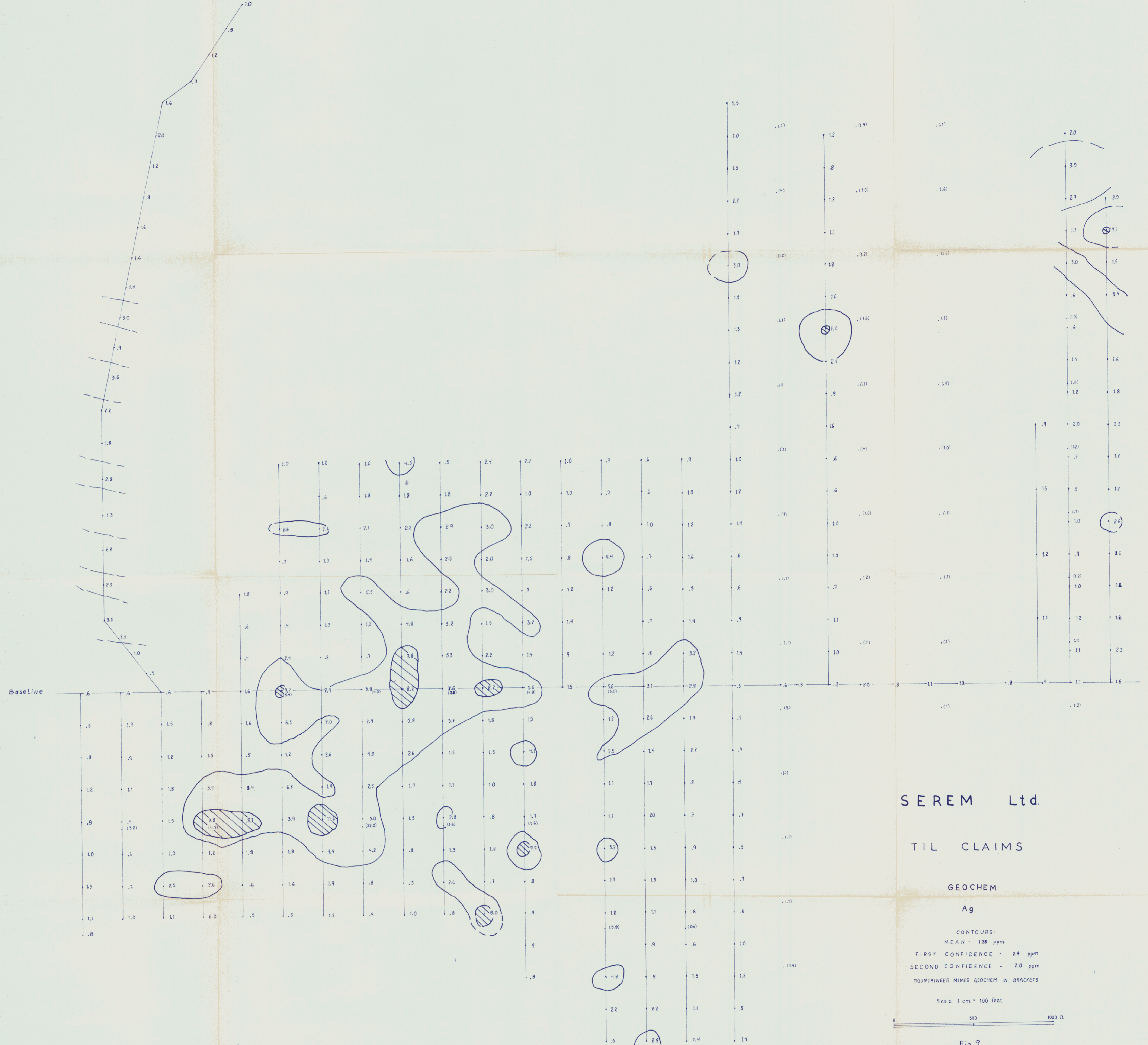


Fig 7

65 E
60 E
55 E
50 E
45 E
40 E
35 E
30 E
25 E
20 E
15 E
10 E
5 E
0 E



SEREM Ltd.

TIL CLAIMS

GEOCHEM

Ag

CONTOURS:
MEAN - 136 ppm
FIRST CONFIDENCE - 24 ppm
SECOND CONFIDENCE - 7.0 ppm
MOUNTAINEER MINES GEOCHEM IN BRACKETS

Scale 1 cm = 100 feet

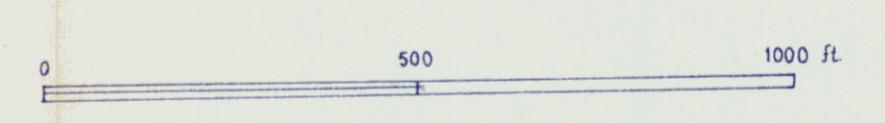


Fig. 9

0 S
5 S
10 S
15 S
20 S
25 S
30 S
35 S
40 S
45 S
50 S
55 S
60 S
65 S
70 S
75 S