

2477

GEOLOGICAL AND GEOCHEMICAL REPORT

on the

KELSALL LAKE CLAIM GROUP

(Lat. 59°48' , Long. 136°33')

by

William M. Tupper

for

PACIFIC PETROLBUMS LIMITED

July 28 - August 28

1970 1969

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ASSESSMENT REPORT
NO. 2477 MAP

INTRODUCTION

This report contains the results and recommendations from a geological and geochemical exploration program conducted over the Kelsall Lake claim group in northwestern British Columbia. The object of the program was to assess the significance of silt anomalies on the claim group. Kelsall Lake is situated 2 miles east of the Haines highway, some 10 miles south of the Yukon - British Columbia border (Figure 1).

The writer was assisted in the field by Mr. William Ostafichuk of Ottawa, Mr. Dan Phillips of Whitehorse and Mr. John Tarde of Montreal. Helicopter support was provided by Trans North Turbo Air Limited of Whitehorse; and expediting services by Terricon Enterprises Limited, also of Whitehorse. The time and costs of undertaking this program are recorded in Appendix I.

GEOLOGY

The area was mapped on a scale of 1 inch - 3,000 feet. Local relief is approximately 1200 feet and the area is open and treeless. Outcrops were only found on the northeast ridge and on a small ridge to the southwest (Figure 2). A large mass of diorite or meta-andesite outcrops on the northeast ridge and plateau. Andesite outcrops south of the diorite, and intercalated bands of limestone, rhyolite, and andesite outcrop to the southwest. Northeast and northwest trending faults cut the area. No evidence of economic mineralization was noted while prospecting.

GEOCHEMISTRY

Soils in the area are transported and immature. Samples were collected by spade from either the "B" or "C" horizon and were analyzed by Barringer Research Limited in Whitehorse by acid digestion and atomic adsorption for Cu, Pb, and Zn.

Soil samples were collected at 100 foot intervals along lines 300 feet apart (Figures 3 - 6). No significant Pb anomalies exist. Several significant Zn anomalies occur between lines 12 + 00S and 45 + 00S and the base line to 18 + 00E. The pronounced Zn anomaly west of the base line between 33 + 00S and 39 + 00S is probably associated with stream dispersion. Copper anomalies are more widespread than zinc. The most significant lie between lines 12 + 00S and 42 + 00S and generally coincide with the Zn anomalies in this area. The diffuse Cu anomalies on the east side of the grid may be due to a higher background associated with the diorite. The anomalies are somewhat discontinuous, but this could be expected on steep slopes with transported soils.

CONCLUSIONS AND RECOMMENDATIONS

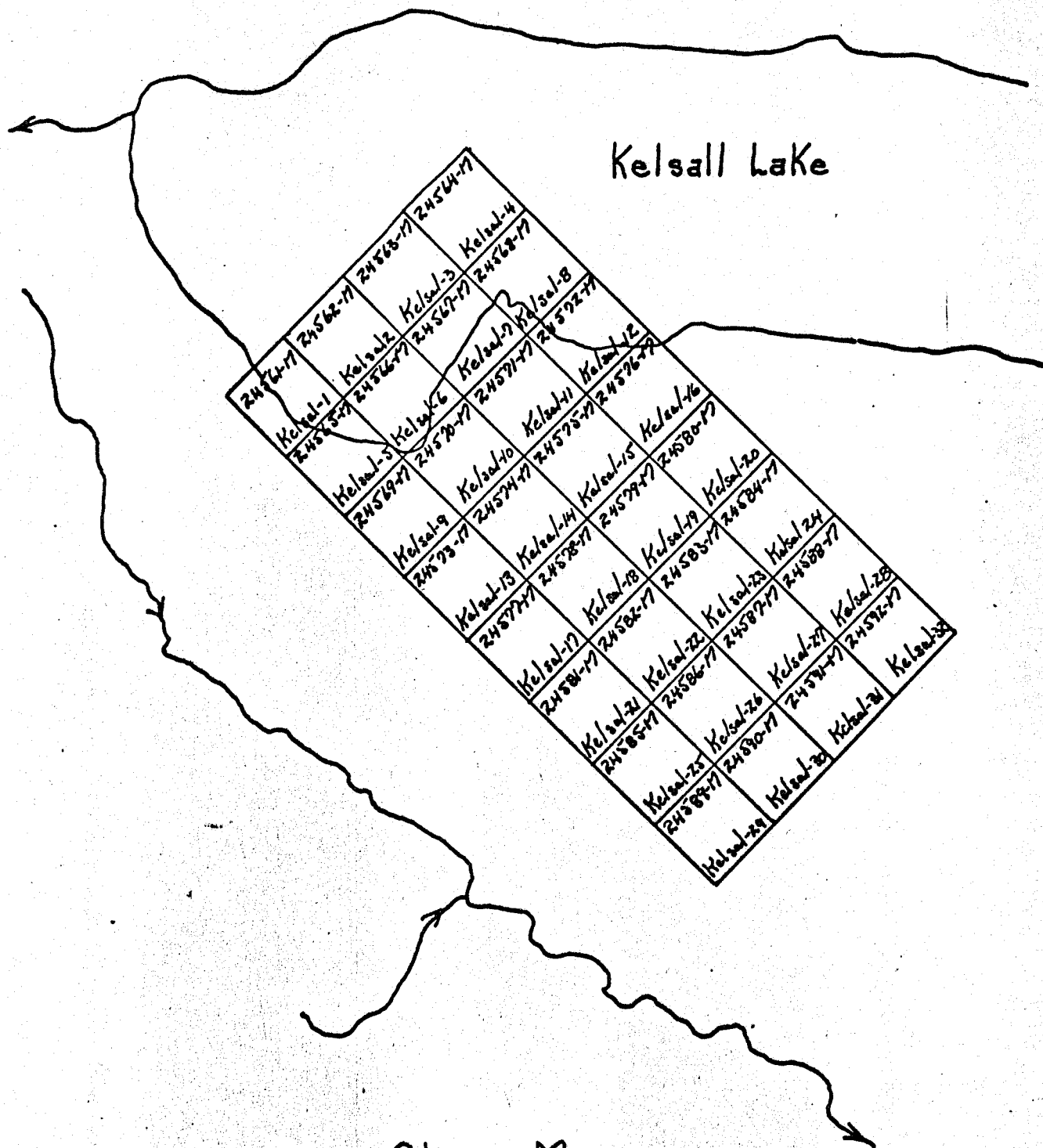
Several significant Cu and Zn anomalies occur on the grid, but no further geochemical work is warranted.

It is recommended that a reconnaissance type B-M geophysical survey be run over that part of the grid containing the geochemical anomalies. It should cover the area from 6 + 00S to 45 + 00S and from the base line to 18 + 00E. Pickets will have to be placed on the grid before the geophysical survey can be undertaken. This specific area should also be mapped on a scale of 1 inch to 300 feet.

William M. Tupper
William M. Tupper, Ph.D.
Kars, Ontario,

June 17, 1970.

Figure-1

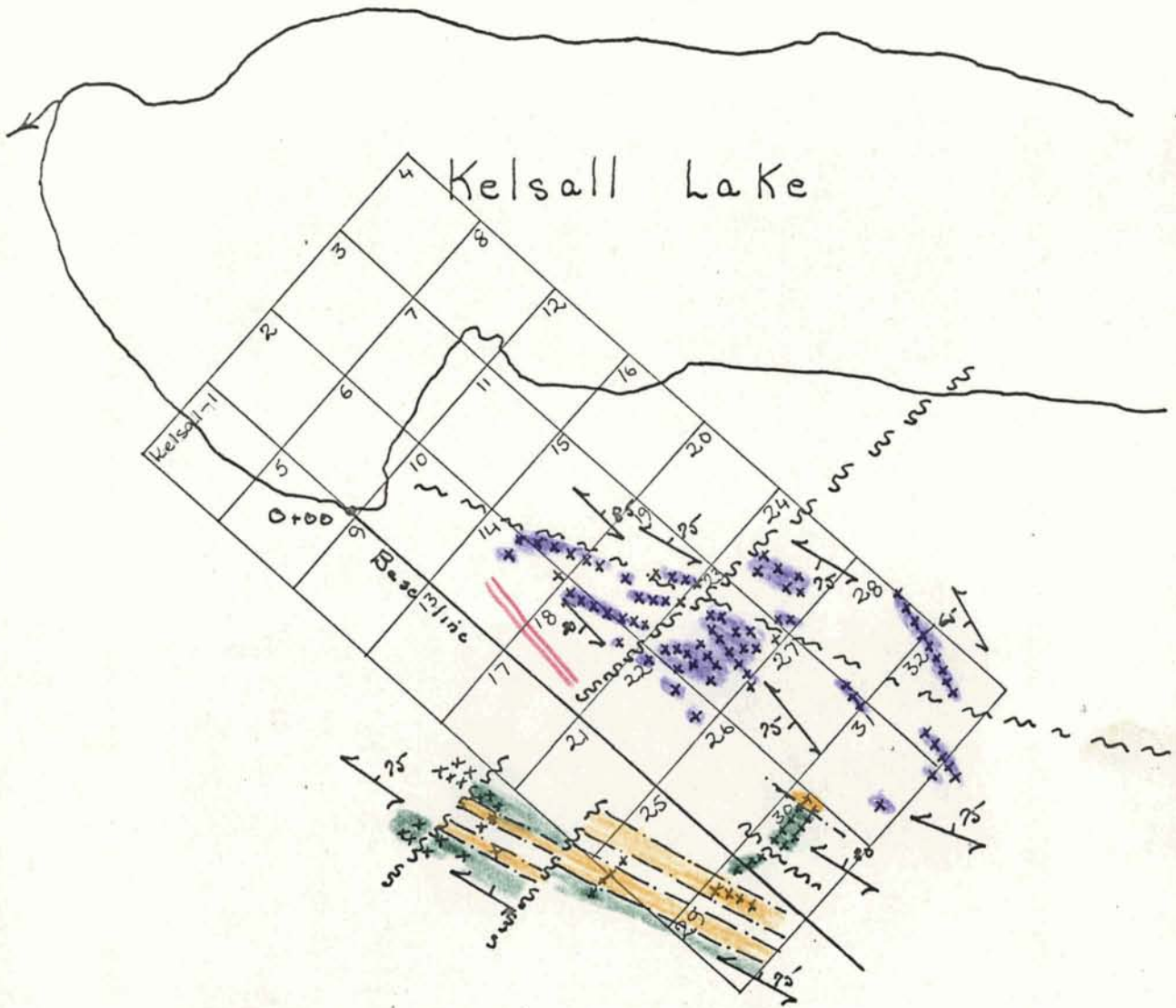







Claim Map

0 3900'

feet

Figure 2



-  Diorite
-  Andesite
-  Rhyolite
-  Limestone
-  Zone of anomalous springs and seepages

0 3000
feet

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APPENDIX I

KELSALL LAKE CLAIM GROUP

EXPENDITURES

(1) Soil Sampling

William Ostafichuk July 28 - Aug. 11 (15 days at \$400./mon.)	\$ 200.00
John Tarde, Dan Phillips - July 28 - Aug. 7. (11 days at \$15./da)	165.00
Accomodation - 2 men - July 28 - Aug. 7.	300.00
Vehicle rental, repairs and support, July 28 - Aug.11	231.99
Soil sample analysis - 901 samples @ \$2.00 per sample.	1,802.00
	<hr/>
	\$ 2,698.99

(2) Geological Mapping

W. M. Tupper, Aug. 2, 4, 11. 3 days @ 100.00 per day	\$ 300.00
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(3) Geological and Geochemical Plotting and Interpretation

W. M. Tupper, Aug. 25 - 28. 4 days @ 100.00 per day	\$ 400.00
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(4) Helicopter Support of Geochemical and Geological Work

August 2, 4, 11. (11.3 hours flying)	\$ 2,266.00
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TOTAL \$ 5,664.99

William M. Tupper

William M. Tupper, PhD.
Kars, Ontario,

June 17, 1970.

APPENDIX II

GEOCHEMICAL METHODS

Field Sampling - samples were collected by spade or mattock, placed in kraft paper bags, which in turn were placed in plastic bags and submitted for analysis. All samples were collected from the "B" or lower horizons.

Analytical Laboratory - Barrigner Research Ltd., Whitehorse, Yukon.

Analyst - G. Parker

Method - samples were dried, sized by nylon sieves, digested by nitric acid, and metals determined quantitatively by atomic absorption.

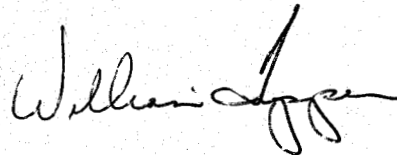
STATEMENT OF QUALIFICATIONS

I, William M. Tupper of Kars, Ontario received the following degrees

B.Sc.	Mount Allison University	1953
M.Sc.	University of New Brunswick	1953
Ph.D.	Massachusetts Institute of Technology	1959

and have fifteen years experience as a geological and geochemical consultant for various industrial and government organizations.

Furthermore, I have no interest, financial or otherwise, in Pacific Petroleum Ltd.



W. M. Tupper
Kars, Ontario
June 17, 1970



304 CARLINGVIEW DRIVE
 REXDALE, ONTARIO, CANADA
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 CABLE: BARESEARCH

ADVANCED TECHNIQUES AND INSTRUMENTATION FOR THE EARTH SCIENCES

DATE: August 22, 1969

PROJECT: 104.33

PERIOD COVERED:

PROGRESS BILLING:

SHIPPING REPORT:

WORK REPORT: 60-A

FED. SALES TAX: N/A

ONT. SALES TAX: N/A

- Dr. W. Tupper
- Dept. of Geology
- Carleton University
- Colonel By Drive,
- Ottawa 1, Ont.

TERMS: NET

AUTHORITY: Dr. Tupper

TO: Geochemical Analysis.

112 Samples analysed for total Cu	@ \$0.90 each	100.80
112 Samples analysed for total Pb	@ \$0.45 each	50.40
112 Samples analysed for total Zn	@ \$0.45 each	50.40
As		
Ag		
112 Sample preparation	@ \$0.20 each	22.40

224.00
 =====

INVOICE N^o 5404



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DATE: August 9, 1969

PROJECT: 104-33

PERIOD COVERED:

PROGRESS BILLING:

SHIPPING REPORT:

WORK REPORT: 47-A

FED. SALES TAX: N/A

ONT. SALES TAX: N/A

Dr. W. M. Tupper,
 P.O. Box 2762,
 WHITEHORSE, Y.T.

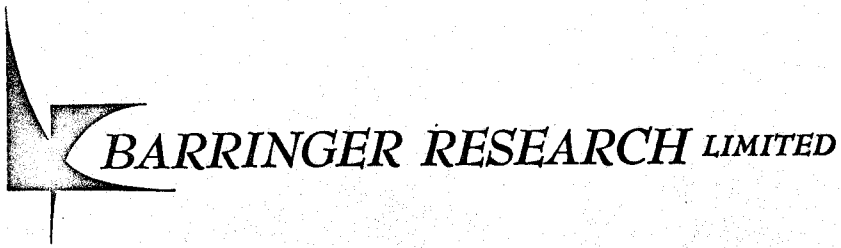
TERMS: NET

AUTHORITY: Dr. Tupper

TO: Geochemical Analysis

463	Samples Analysed for Total Cu	@\$.90 ea	416.70	
463	Samples Analysed for Pb	@\$.45 ea	208.35	
463	Samples Analysed for Zn	@\$.45 ea	208.35	
20	Samples Analysed for Mo	@\$2.25 ea	45.00	
483	Sample Preparation	@\$.20 ea	96.60	
				975.00

INVOICE N° 5308



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 CABLE: BARESEARCH

ADVANCED TECHNIQUES AND INSTRUMENTATION FOR THE EARTH SCIENCES

DATE: August 22, 1969

PROJECT: 104.33

- Dr. William Tupper
 Dept. of Geology
 Carleton University,
 Colonel By Drive,
 Ottawa 1, Ont.

PERIOD COVERED:

PROGRESS BILLING:

SHIPPING REPORT:

WORK REPORT: 59-A

FED. SALES TAX: N/A

ONT. SALES TAX: N/A

TERMS: NET

AUTHORITY: Dr. Tupper

TO: Geochemical Analysis.

350 Samples analysed for total Cu	@ \$0.90 each	315.00
350 Samples analysed for total Pb	@ \$0.45 each	157.50
350 Samples analysed for total Zn	@ \$0.45 each	157.50
350 Sample preparation	@ \$0.20 each	70.00

700.00
 =====

INVOICE N^o 5406

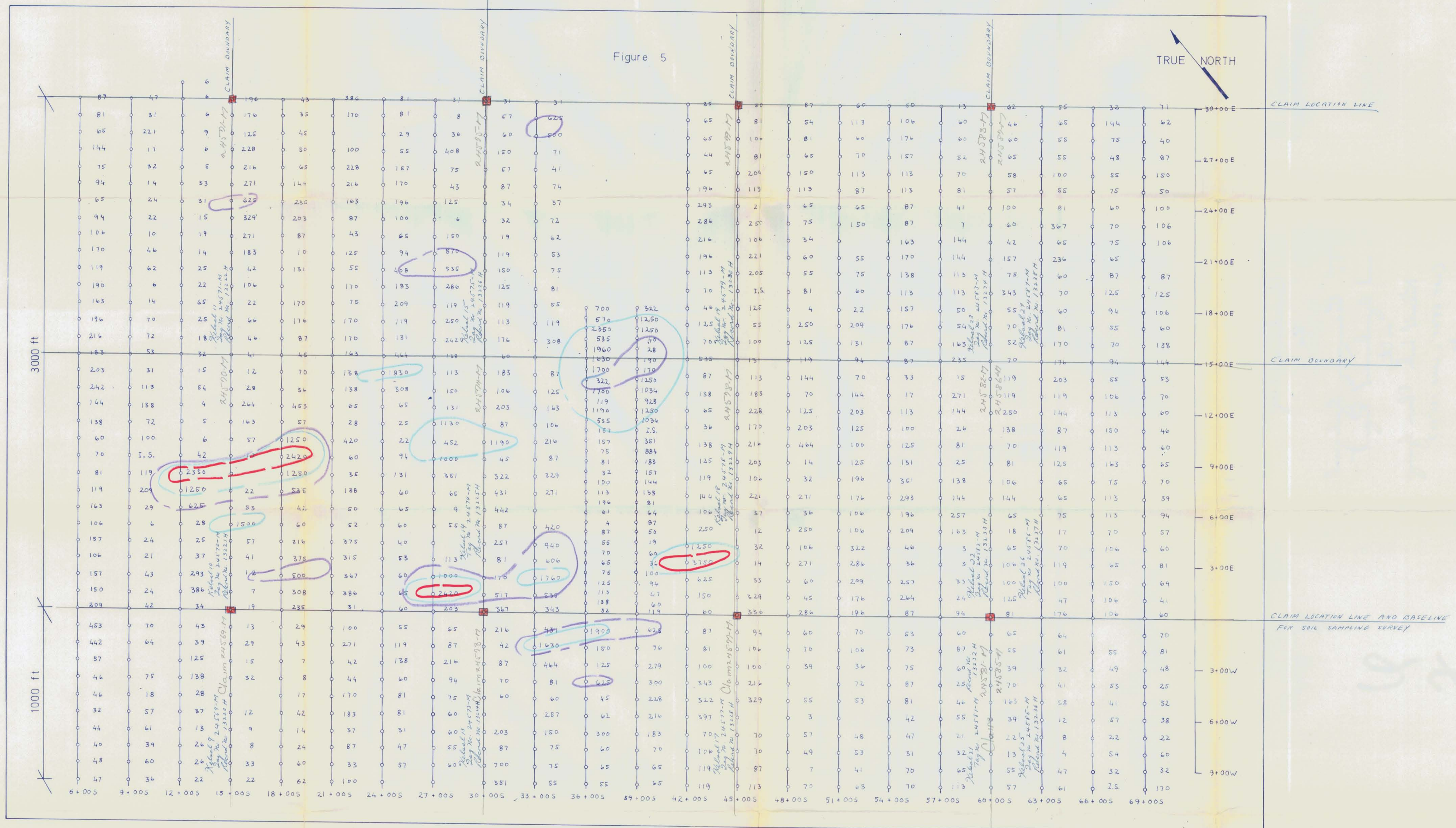


Figure 5

TRUE NORTH

3000 ft

1000 ft

- > 2000 ppm
- 1000 - 2000 ppm
- 500 - 1000 ppm
- 300 - 500 ppm

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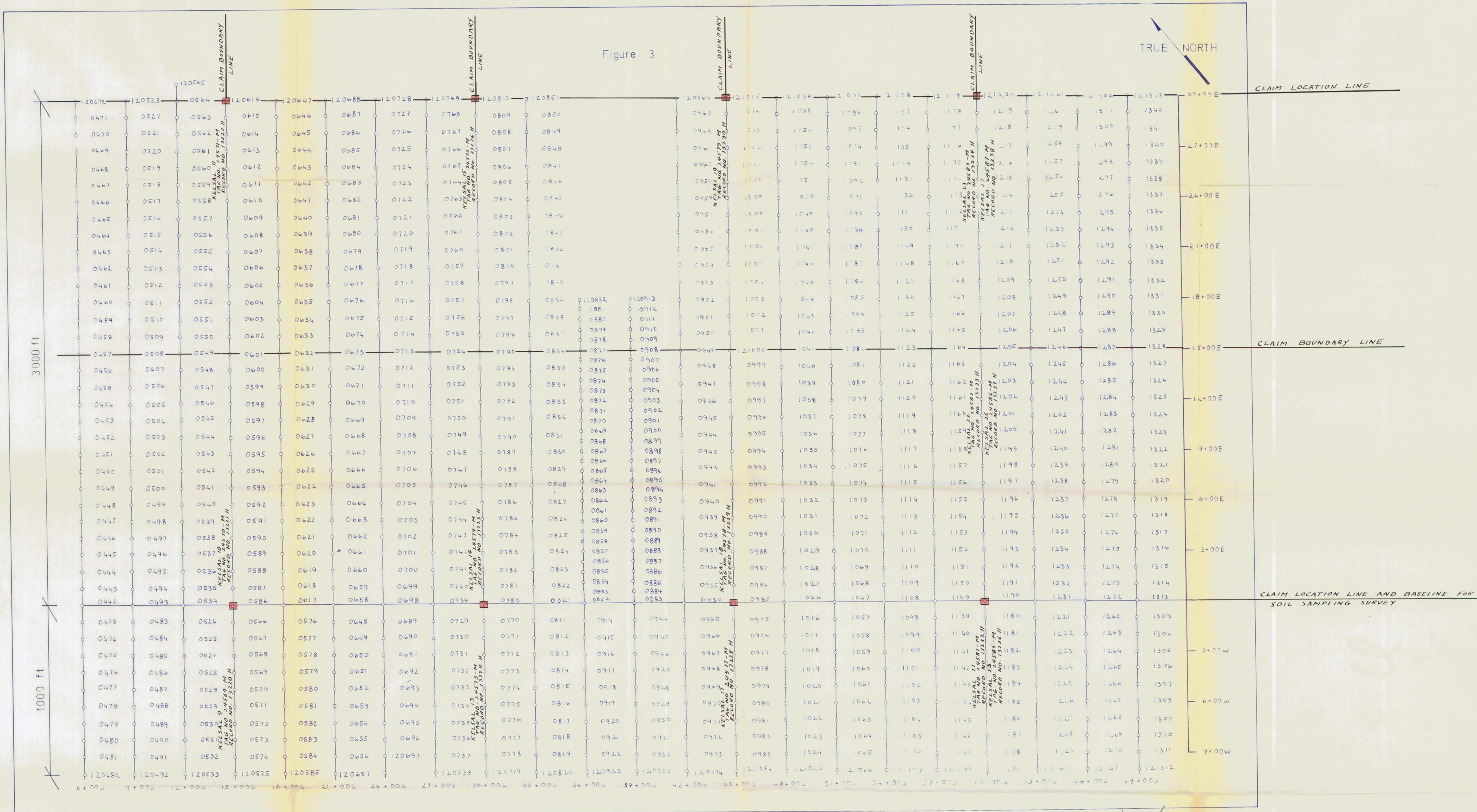
CARCROSS PROJECT
KELSALL LAKE CLAIM GROUP
Zinc (ppm) in Soils

0 300 600 900
Scale in Feet

--- LOCATION OF CLAIM POST

W. McInnes
June 17/70

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CARCROSS PROJECT
 KELSALL LAKE CLAIM GROUP
 Soil Sample Grid

W.M. Suggs
 June 17/70

0 300 600 900
 Scale in Feet

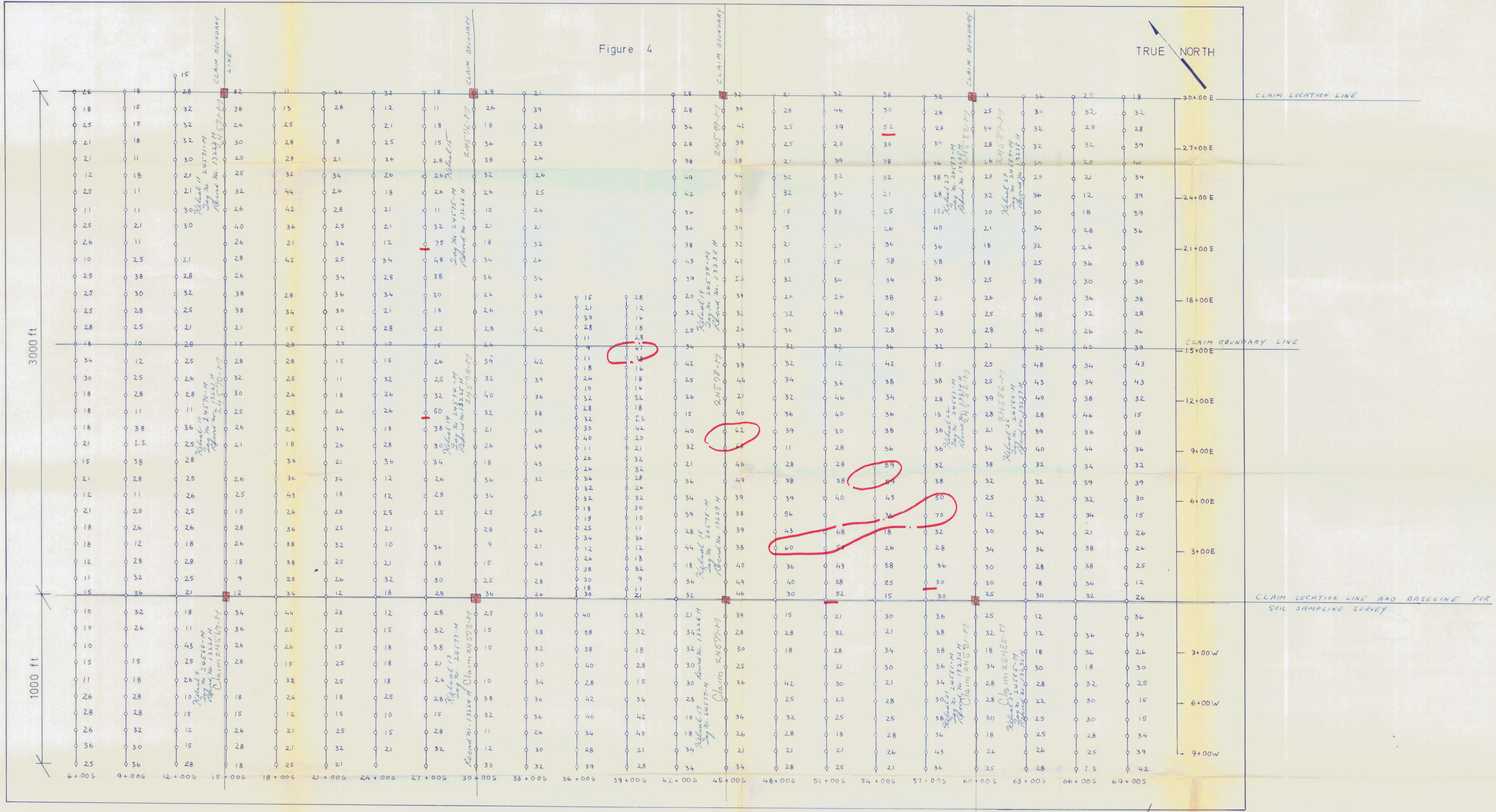
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2477

--- LOCATION OF CLAIM POST

Figure 4

TRUE NORTH



> 50 ppm

CARCROSS PROJECT
 KELSALL LAKE CLAIM GROUP
 Lead (ppm) in Soils

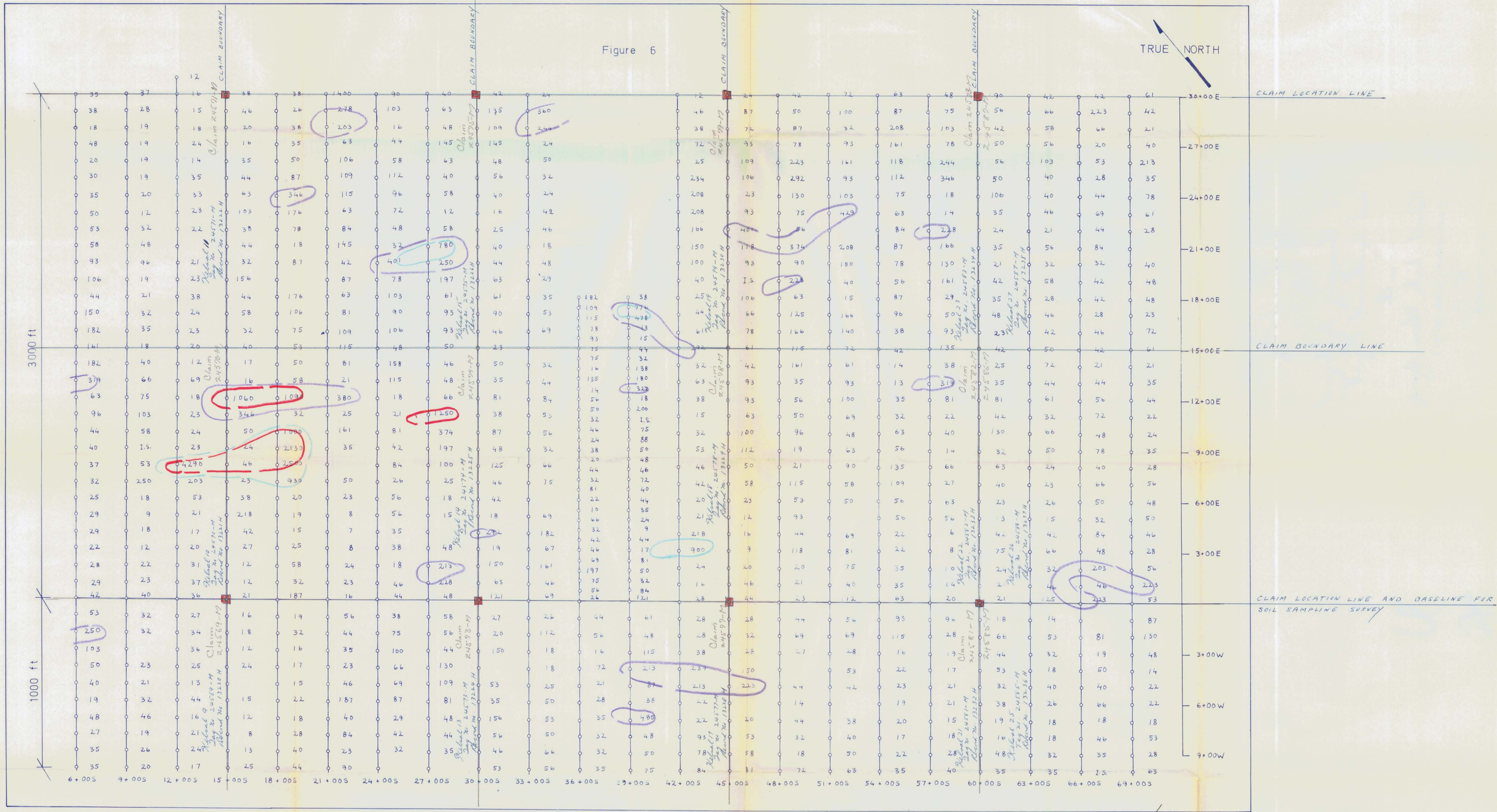
0 300 600 900
 Scale in Feet

--- LOCATION OF CLAIM POST

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W. M. [Signature]
 June 17, 1990

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CARCROSS PROJECT
KELSALL LAKE CLAIM GROUP
Copper (ppm) in Soils

0 300 600 900
Scale in Feet

--- LOCATION OF CLAIM POST

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