

MAGNETOMETER SURVEY
FOR
NEW FAR NORTH EXPLORATION LIMITED
CONSOLIDATED BELLEKENO MINES LTD.
R. W. FALKINS
ON
JOE CLAIM GROUP
VANGORDA CREEK AREA
YUKON TERRITORY

This report has been examined by
the Geological Evaluation Unit.
Approved as to technical worth by:

J. C. Yirrell
RESIDENT GEOLOGIST

Approved as to cost in the amount
of: \$ *4324.69*

R. F. Hedden
RESIDENT MINING ENGINEER

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

Ross D. Lawrence
COMMISSIONER OF YUKON

August 29th, 1967.
Toronto, Ontario.

Ross D. Lawrence, P. Eng.
Watts, Griffis and McOuatt Limited

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INTRODUCTION

At the request of J. R. Needham and Associates Ltd., a magnetometer survey was carried out on the Joe claim group for New Far North Exploration Ltd., Consolidated Bellekeno Mines Ltd., and R. W. Falkins. The survey was done during the period July 17th to 19, 1967 by J. S. Koski of Watts, Griffis and McOuat Limited under the supervision of the author.

PROPERTY, LOCATION AND ACCESS

The property covered by this survey includes eight contiguous claims as follows:

	<u>Mineral Claims</u>	<u>Grant Numbers</u>
Joe	1 to 8 inclusive	Y-12351 - 12358

They are located ten miles west of the Faro Ore Zone of the Anvil Mining Company and fifty miles northwest of Ross River (located where the Canol Road crosses the Pelly River).

Access to the property can be gained through Whitehorse in two ways: (1) by truck from Whitehorse to the airstrip on the Anvil group and thence by helicopter to the property, and (2) by single-engined aircraft from Whitehorse to Ross River and thence by helicopter to the claim group.

GENERAL GEOLOGY

The rocks along the eastern side of the Pelly River near Vangorda Creek are all younger than Precambrian, and include a wide variety of rock types ranging from Devonian to Tertiary in age.

The Anvil Range is composed of a core of Cretaceous quartz monzonite and granodiorite. These are clearly intrusive rocks and relatively fresh and unaltered.

This core is flanked by a series of older sediments and volcanics which have all been metamorphosed to some extent, often quite severely. These rocks are considered to be Mississippian and are divided into three units as follows:

1. A lower sedimentary group of quartz-sericite schists and phyllites, graphitic slates and schists, banded quartzose granulites, chlorite schists, and local skarn zones.
2. A predominantly basic volcanic group of flows and tuffs with minor interflow sediments which are all highly sheared and altered.
3. An upper group of micaceous quartzites and schists.

The first schist group is the favourable horizon for replacement and ore deposition in the Vangorda Creek area. These rocks are generally flatly-dipping to the northeast or southwest and strike west to northwest. Locally they dip steeply.

The area covered by this magnetometer survey is indicated on Map 13-1961 as being underlain primarily by volcanics with quartz-sericite schist lying to the northeast and southwest.

GRID CONTROL

A grid was established along the south boundary of the property with a base line oriented at approximately 124° astronomic (magnetic east) and cross lines cut at 400-foot intervals. The grid was not surveyed and has been shown on the map as though the lines are all straight and parallel. It is thought that the lines are well cut and that this is a reasonable presentation.

MAGNETOMETER SURVEY

The magnetometer survey was carried out using two Sharpe MF-1 fluxgate magnetometers with a sensitivity of 20 gammas per scale division. One magnetometer was kept at the base station and read periodically during the day (by the cook). The base station was initially established at an arbitrary value of 500 gammas. This value is in line with the regional magnetic background. This information was used to establish a curve for diurnal magnetic variation which was used to correct the field readings.

Readings were taken at 100-foot intervals with intermediate readings taken when indicated to check anomalous magnetics.

A total of 7.5 miles of line were surveyed and approximately 400 readings taken.

DISCUSSION OF RESULTS

The magnetic background of the property generally ranges between 525 and 600 gammas.

An anomaly was outlined during the ground survey striking approximately north to northwest. The anomalous zone has a maximum magnetic relief of 5,000 gammas above background and a width of 300 to 1,500 feet.

Map 13-1961, published by the Geological Survey of Canada, at a scale of one inch to four miles, indicates that the property is underlain chiefly by volcanics with quartz-sericite schist occurring to the northeast and southwest.

During the course of the survey an outcrop of strongly magnetic peridotite was noted at 10 + 00 N on line 96E. This indicates that the high magnetic readings and the anomaly at least in this area is caused by a peridotite sill.

In the area between lines 88E and 92E from the base line north for several hundred feet, several outcrops of metagabbro and related rock types were noted. Thus the anomalous area from the southeast corner of the property through to line 64E is probably underlain by a basic sill with an ultrabasic phase represented by the high readings along the north contact.

A linear anomaly trending northerly between 7 + 00 N on line 64E to 19 + 00 N on line 52 E is more difficult to explain. This anomaly is quite linear, is about 300 feet wide and dies out north of line 52 E. A fault is shown on Map 13-1961 which could lie along the east side of the anomaly. The high magnetic readings could be caused by the development of magnetite during faulting.

A small outcrop noted at 26 + 00 N at 99 + 00 E appears to be quartz-sericite schist.

A specimen from a small outcrop on the base line at 86E contains a small quantity of chalcopyrite in a quartz matrix. This area should be further investigated.

CONCLUSIONS

1. The magnetic survey carried out on the Joe group has indicated the existence of a linear magnetic zone and a broader magnetic anomaly.
2. While no magnetic anomalies were noted which would suggest the existence of the favourable quartz-sericite schist horizon, one outcrop of this rock type was noted.
3. A small outcrop containing a minor amount of chalcopyrite mineralization was noted.

RECOMMENDATIONS

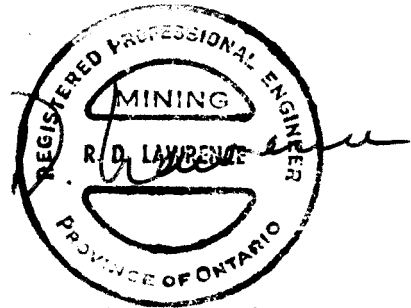
1. The property should be geologically mapped in detail once weather conditions are favourable. At the same time a geochemical soil survey should be done. The objective of this work is to outline zones exhibiting favourable structural or mineralized conditions. The mineralized outcrop on the base line at 86E should receive particular attention.

2. A gravity survey should be carried out following the above. It may be restricted to areas of definite interest as indicated by the preceding work. This work should be carefully done in detail by fully qualified personnel. The objective of the gravity survey is to outline anomalous areas within possible areas underlain by the favourable schist zone which would form drilling targets.

3. The claims should be carefully checked to ensure that no fractions exist between claims.

Respectfully submitted,

WATTS, GRIFFIS AND McOUAT LIMITED



August 29th, 1967.
Toronto, Ontario

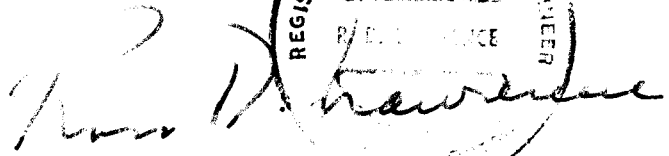
Ross D. Lawrence, P. Eng., B.A.Sc., M. Comm.

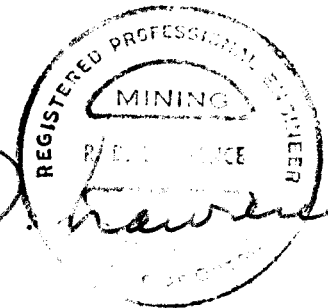
CERTIFICATE

I, Ross D. Lawrence, hereby certify:

1. That I am a geological engineer and reside at 21 Munro Blvd., Willowdale, Ontario.
2. That I graduated from the University of Toronto with the degree of Bachelor of Applied Science in 1956 and the degree of Master of Commerce in 1959.
3. That I am a registered Professional Engineer in the Province of Ontario.
4. That I have been continuously engaged in my profession for over 10 years.
5. That this report is based on a magnetometer survey carried out by J. S. Koski, B.Sc., P.Eng., which I supervised, upon a general knowledge of the Vangorda Creek area gained through work on other properties in the area and on a study of all available maps and reports on the area.
6. That I have no interest, nor do I expect to receive any interest, directly or indirectly in the property surveyed or in the securities of the companies holding it.

August 29th, 1967.
Toronto, Ontario


Ross D. Lawrence, P. Eng., B. A. Sc., M. Comm.



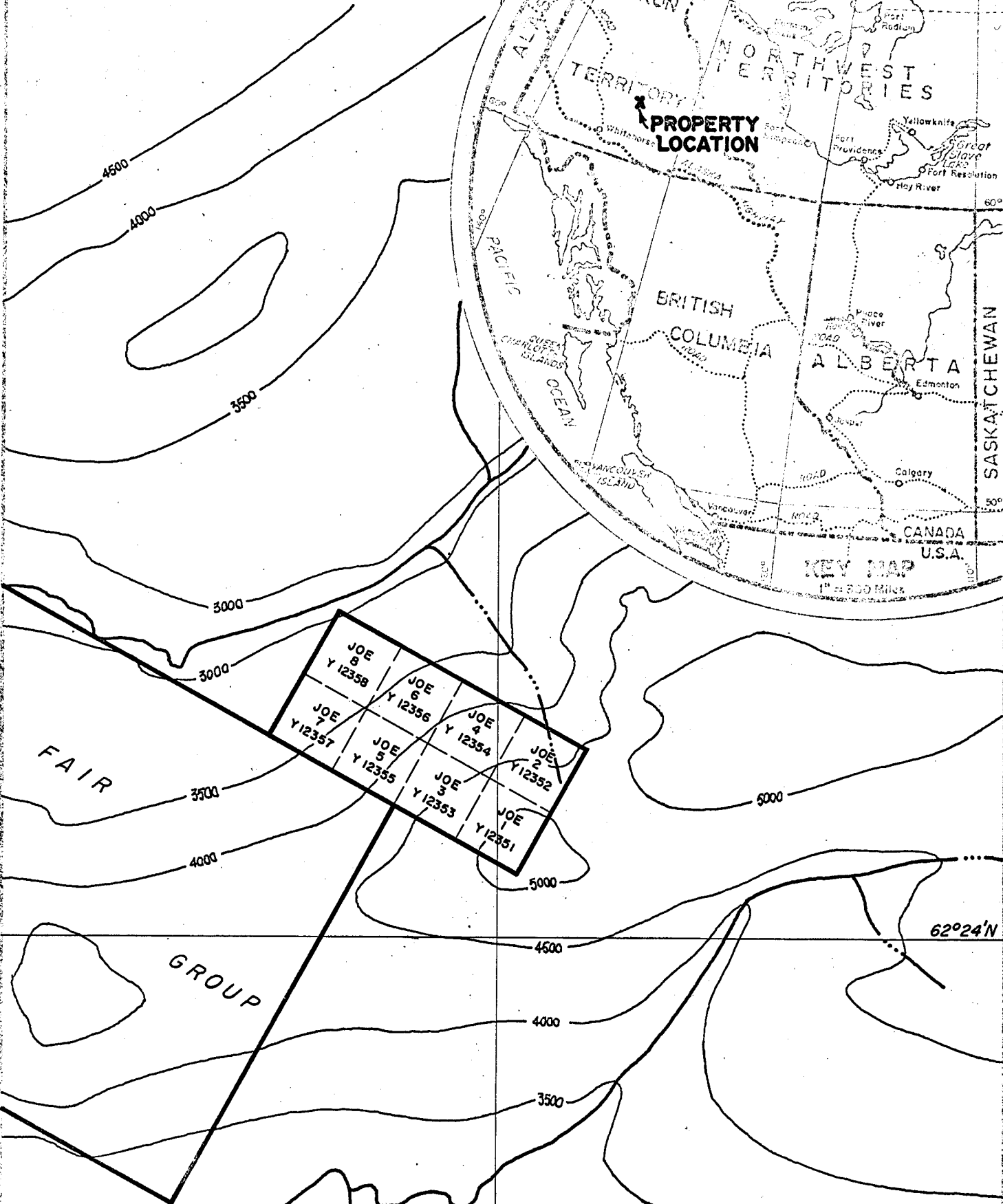
NEW FAR NORTH ET AL

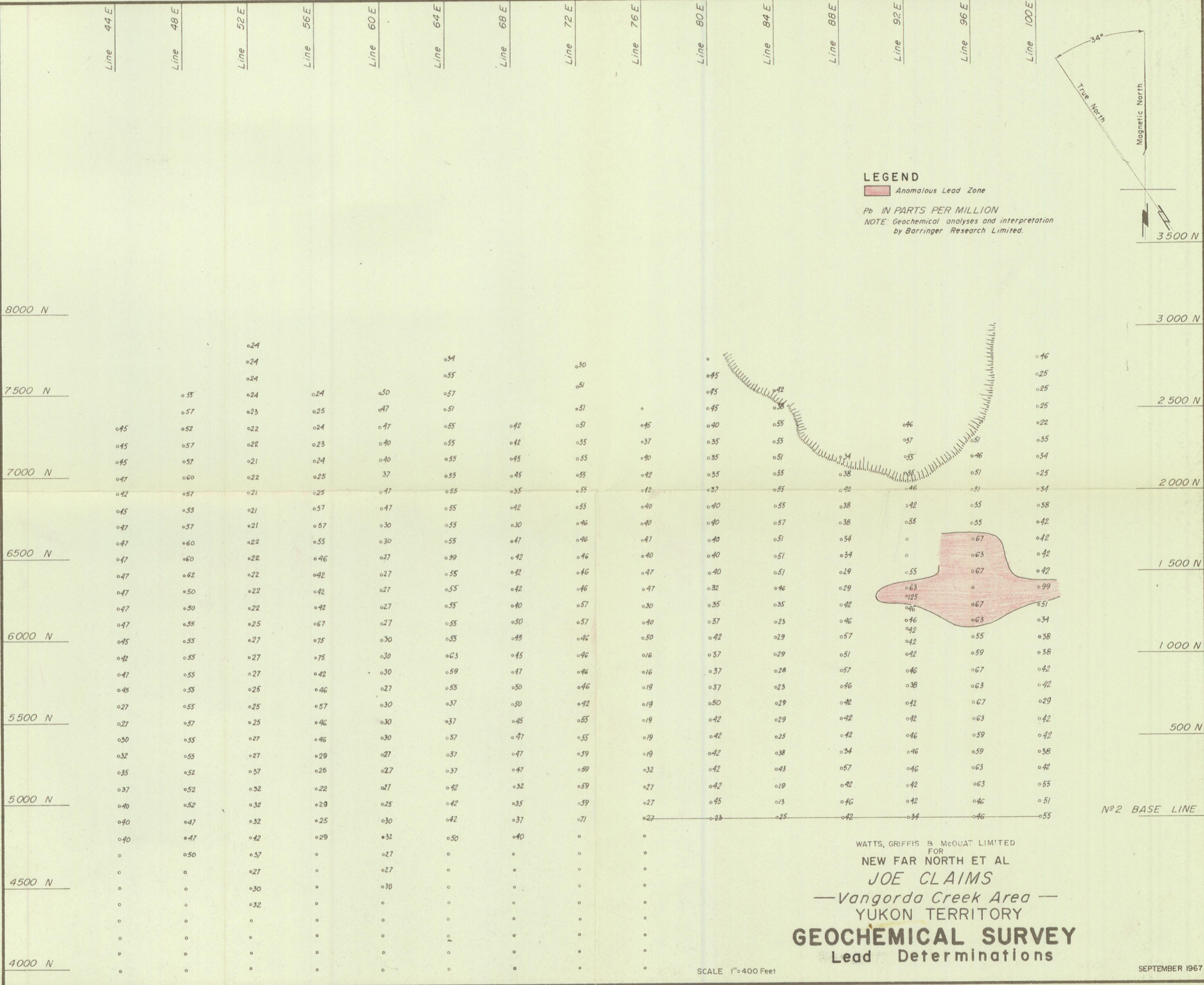
• JOE GROUP.
Vangorda Creek Area
YUKON TERRITORY

Scale: 1" = 1/2 Mile

Aug. 1967

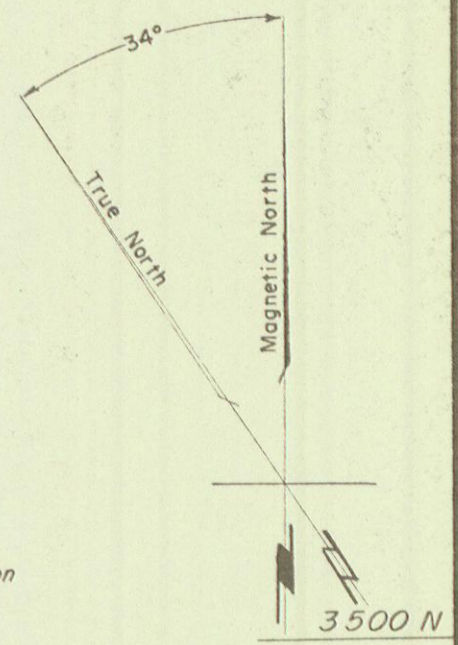
133°37'W





LEGEND
 Anomalous Lead Zone

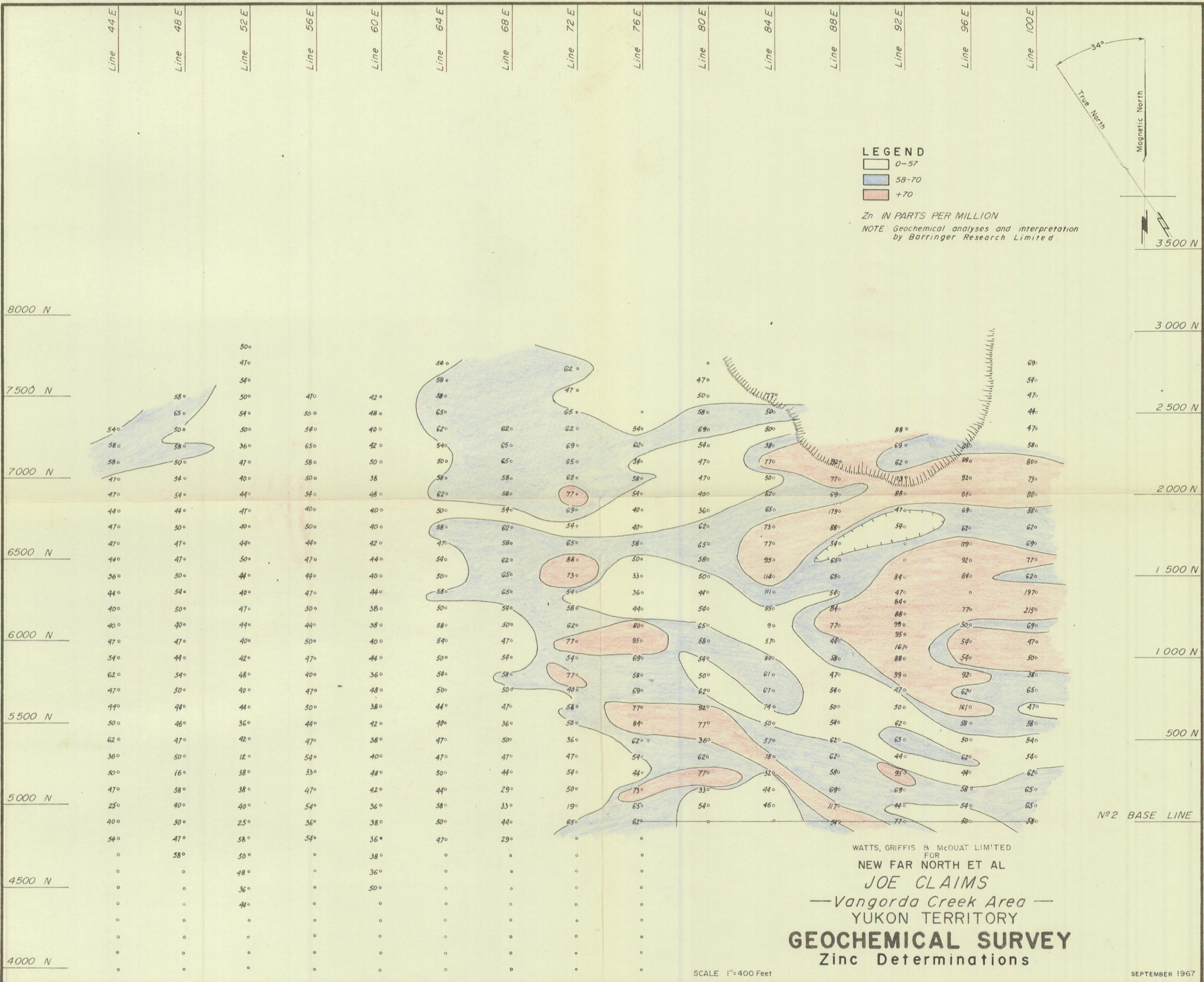
Pb IN PARTS PER MILLION
 NOTE: Geochemical analyses and interpretation
 by Barringer Research Limited.



WATTS, GRIFFIS & McQUAT LIMITED
 FOR
 NEW FAR NORTH ET AL
 JOE CLAIMS
 —Vangorda Creek Area—
 YUKON TERRITORY
GEOCHEMICAL SURVEY
 Lead Determinations

SCALE 1" = 400 Feet

SEPTEMBER 1967

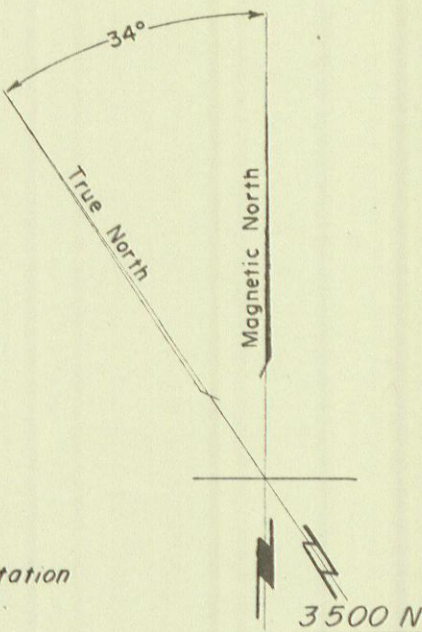


LEGEND

- 0-57
- 58-70
- +70

Zn IN PARTS PER MILLION

NOTE: Geochemical analyses and interpretation by Barringer Research Limited.



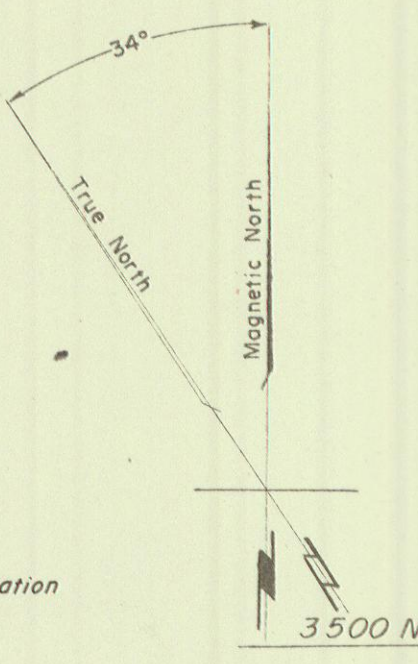
Line	44 E	48 E	52 E	56 E	60 E	64 E	68 E	72 E	76 E	80 E	84 E	88 E	92 E	96 E	100 E
8000 N															
7500 N			50°												
7000 N	54°	58°	50°	47°	42°	54°	62°	47°	50°	58°	50°	69°	88°	69°	69°
6500 N	47°	54°	40°	40°	40°	50°	54°	40°	40°	62°	65°	179°	47°	69°	38°
6000 N	44°	44°	47°	40°	40°	58°	62°	54°	40°	62°	73°	88°	54°	62°	62°
5500 N	47°	47°	44°	44°	42°	47°	58°	58°	58°	65°	77°	84°	54°	79°	69°
5000 N	40°	40°	49°	44°	38°	58°	50°	44°	44°	54°	57°	84°	84°	50°	69°
4500 N	47°	47°	40°	50°	40°	54°	47°	77°	95°	58°	57°	40°	167°	54°	47°
4000 N	54°	44°	42°	47°	44°	50°	54°	54°	69°	54°	80°	58°	88°	54°	50°

WATTS, GRIFFIS & McQUAT LIMITED
 FOR
 NEW FAR NORTH ET AL
 JOE CLAIMS
 —Vangorda Creek Area—
 YUKON TERRITORY
GEOCHEMICAL SURVEY
 Zinc Determinations

SCALE 1"=400 Feet

SEPTEMBER 1967

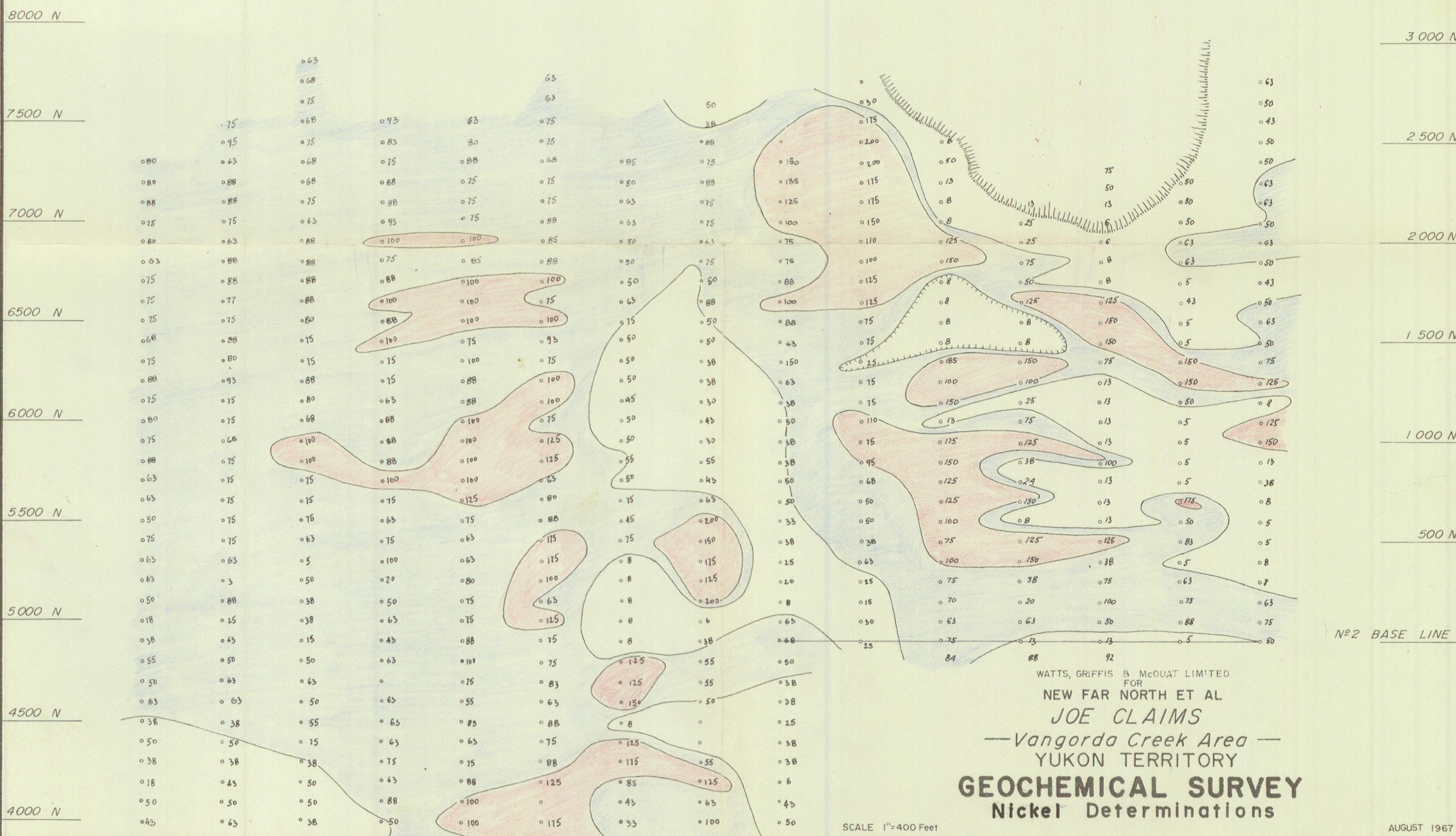
Line 44 E Line 48 E Line 52 E Line 56 E Line 60 E Line 64 E Line 68 E Line 72 E Line 76 E Line 80 E Line 84 E Line 88 E Line 92 E Line 96 E Line 100 E



LEGEND

- 0-50
- 50-100
- 100+

Ni- IN PARTS PER MILLION
 NOTE: Geochemical analyses and interpretation
 by Barringer Research Limited.

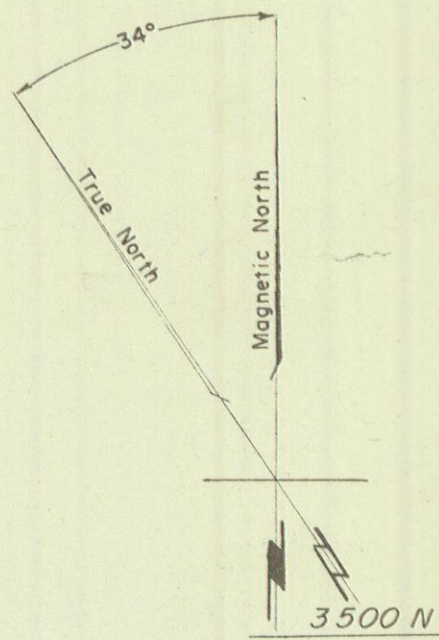


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 FOR
 NEW FAR NORTH ET AL
 JOE CLAIMS
 — Vangorda Creek Area —
 YUKON TERRITORY
GEOCHEMICAL SURVEY
Nickel Determinations

SCALE 1"=400 Feet

AUGUST 1967

Line 44 E Line 48 E Line 52 E Line 56 E Line 60 E Line 64 E Line 68 E Line 72 E Line 76 E Line 80 E Line 84 E Line 88 E Line 92 E Line 96 E Line 100 E

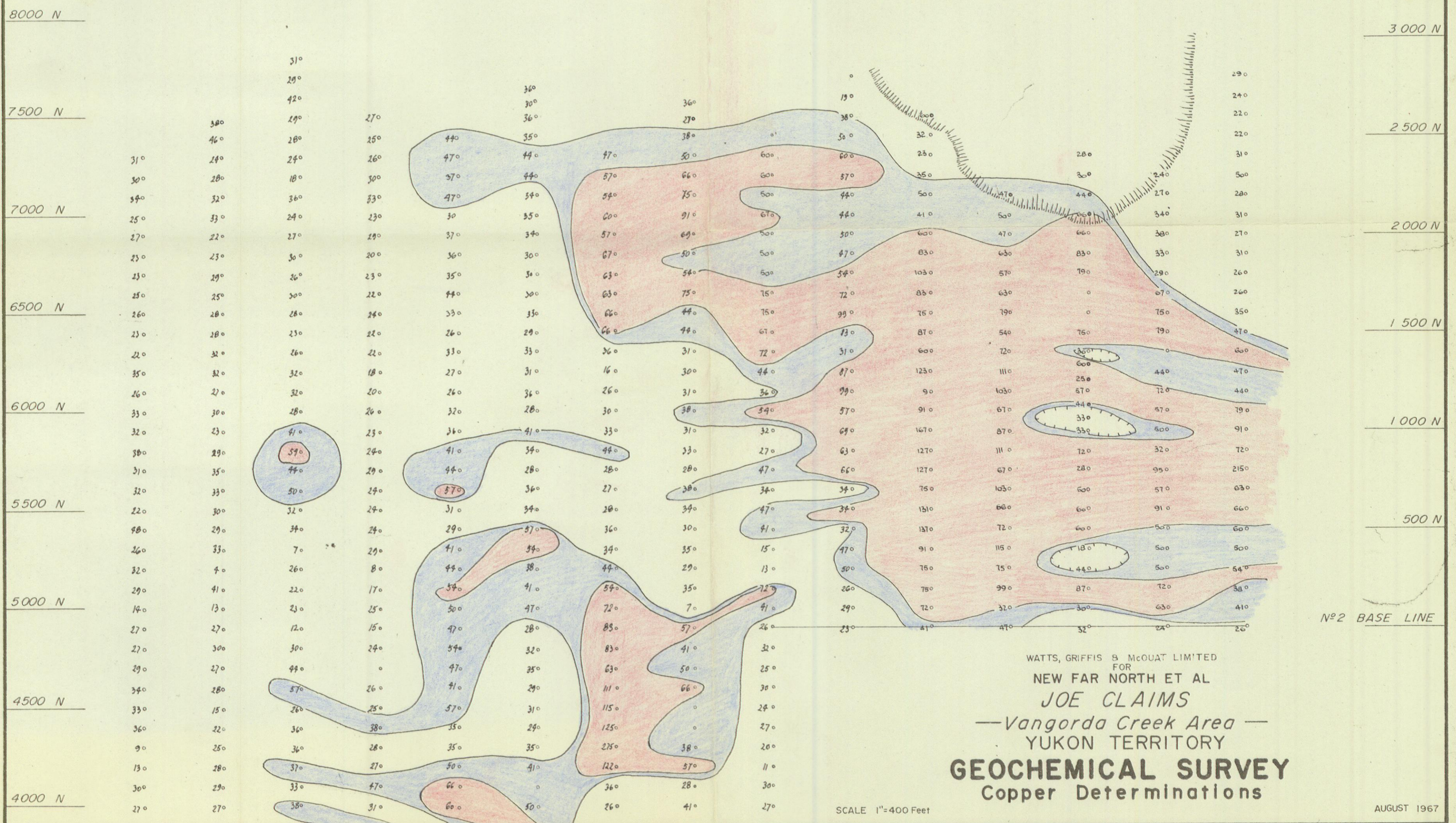


LEGEND

- 0-36
- 37-50
- + 50

Cu. IN PARTS PER MILLION

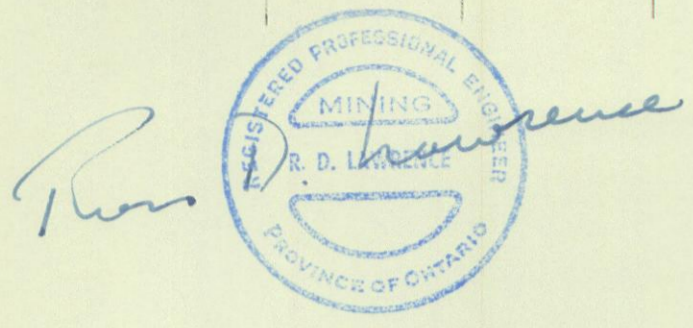
NOTE: Geochemical analyses and interpretation by Barringer Research Limited.



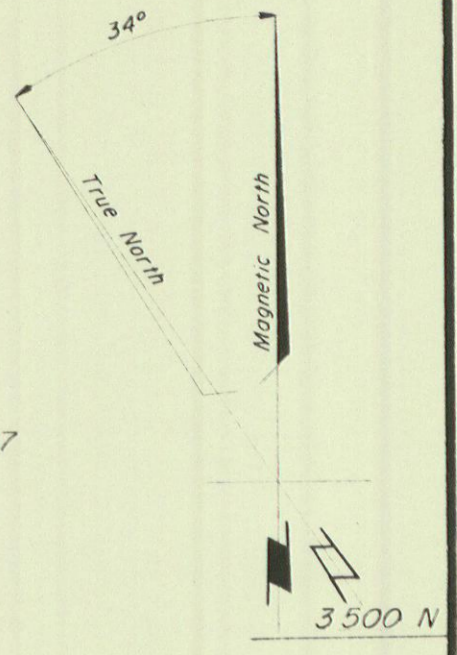
WATTS, GRIFFIS & McQUAT LIMITED
 FOR
 NEW FAR NORTH ET AL
JOE CLAIMS
 —Vangorda Creek Area—
 YUKON TERRITORY
GEOCHEMICAL SURVEY
 Copper Determinations

SCALE 1"=400 Feet

AUGUST 1967

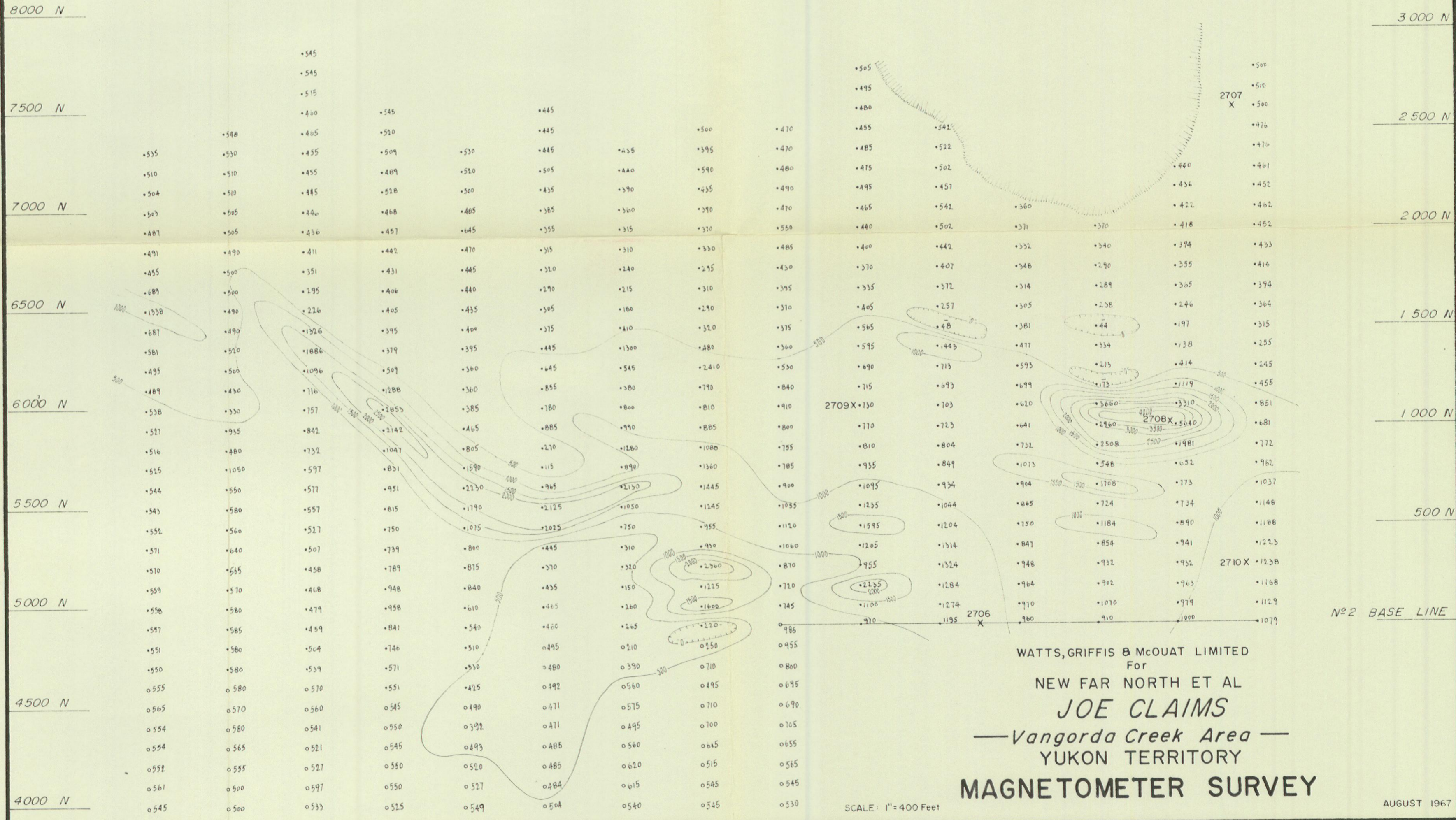


Line 44 E Line 48 E Line 52 E Line 56 E Line 60 E Line 64 E Line 68 E Line 72 E Line 76 E Line 80 E Line 84 E Line 88 E Line 92 E Line 96 E Line 100 E



MAGNETOMETER MF-1, N^o 603197
 CONTOUR INTERVAL... 500 GAMMAS

2706 X Sample N^o & Location



WATTS, GRIFFIS & McOUAT LIMITED
 For
 NEW FAR NORTH ET AL
JOE CLAIMS
 — Vangorda Creek Area —
 YUKON TERRITORY
MAGNETOMETER SURVEY

SCALE: 1" = 400 Feet

AUGUST 1967