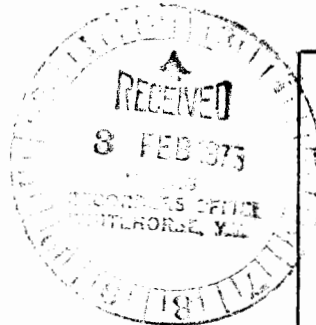




GEOLOGICAL, GEOCHEMICAL AND
GEOPHYSICAL REPORT ON THE
MJK 33-44 MINERAL CLAIMS
FREEGOLD MOUNTAIN AREA,
WHITEHORSE MINING DISTRICT,
YUKON TERRITORY.



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

\$ ~~6574.86~~ 6994.65

Resident Geologist or
Resident Mining Engineer

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

Commissioner of Yukon Territory

Vancouver, B.C.
October 29, 1974

J.R. Deighton,
Geologist.

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GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL
REPORT ON THE
MJK 33-44 MINERAL CLAIMS
FREEGOLD MOUNTAIN AREA,
WHITEHORSE MINING DISTRICT,
YUKON TERRITORY,
FOR
WESTERN MINES LTD.
CREAM SILVER MINES LTD. (NPL),
BELMORAL MINES LTD. (NPL).

SUMMARY

The MJK 33-44 mineral claims, located in the Whitehorse Mining District, Yukon Territory were optioned by Western Mines Ltd., Cream Silver Mines Ltd. (NPL), and Belmoral Mines Ltd. (NPL). A program consisting of Geological mapping, Line cutting, Geochemical Soil Sampling and Magnetometer Survey were conducted over the claims during the summer of 1974.

CONCLUSIONS

The northern portion of the property is underlain by syenite and granodiorite that is cut by dykes of quartz-feldspar porphyry.

The southern portion of the property is underlain by Laberge Group Sediments.

One anomalous and one threshold value in copper is found to be associated with the contact between granodiorite and syenite.

Five threshold values in copper and one threshold value in Antimony are associated with the Laberge Sediments.

Gold occurs in black quartz sediments cut by quartz veins on the adjacent Hope Group.

Quartz veins cut the Laberge Sediments to the west of the creek.

RECOMMENDATIONS

Investigation of the contact between the syenite and granodiorite in the area of the anomalous copper sample.

Investigation of the Laberge Group Sediments in areas of the threshold values in copper and antimony and in the areas of quartz veining.

The investigation should consist of prospecting with trenching and sampling where warranted.

INTRODUCTION

The MJK 33-44 mineral claims are located in the Whitehorse Mining District, Yukon Territory. They are situated 32 miles west of Carmacks at co-ordinates 62° 15' North Latitude, 137° 10' West Longitude.

The claims are held under option by Western Mines Ltd., Cream Silver Mines Ltd. (NPL) and Belmoral Mines Ltd. (NPL).

A program of geological mapping, line cutting, geochemical soil sampling and magnetometer survey were conducted over the property during the summer of 1974.

This report is based on the above work carried out by crews of Agilis Engineering Ltd. under the direction of G. House.

OWNERSHIP AND TITLE

The MJK 33-44 mineral claims were acquired by option, by Western Mines Ltd., Cream Silver Mines Ltd. (NPL) and Belmoral Mines Ltd. (NPL). The property consists of 12 contiguous mineral claims located in the Whitehorse Mining District, Yukon Territory.

The property consists of the following mineral claims;

<u>Claim Name</u>	<u>Record Number</u>	<u>Date Recorded</u>
MJK 33-44	Y78916-Y78927	May 27, 1974.

LOCATION AND ACCESS

The property is located on the northern facing slope of Seymour Creek, opposite Freegold Mountain, approximately 32 miles west of Carmacks, Yukon Territory.

Co-ordinates of the property are 62° 15' North Latitude, 137° 10' West Longitude.

Access to the mineral claims is by gravel road from Whitehorse to Carmacks, a distance of 111 miles. Thence by dirt road to the property a distance of approximately 37 miles.

PHYSIOGRAPHY AND CLIMATE

The mineral claim group lies within the central Yukon. Temperatures are extremely cold during winter with snow cover from October to June. Summers are mild with moderate precipitation.

Topography in the area is generally of moderate relief.

Vegetation consists of spruce and balsam in lower elevations but give way to open grasslands and tundra at higher elevations.

HISTORY.

In 1946-47, considerable prospecting for hardrock gold was carried out in the general Mount Nansen - Mount Victoria area, about 30 miles west of Carmacks. This area had previously revealed interesting Placer deposits in the upper reaches of Nansen and Victoria Creeks, mostly during the period 1910-14. The original discovery of gold was made in 1899.

In the Freegold Mountain area, gold occurrences were discovered in 1930, also as a result of the previous Placer-Gold discoveries on Seymour Creek.

The Nansen-Freegold Mountain area has three deposits developed by underground methods with reported reserves as follows:

	<u>Tons</u>	<u>oz/ton Au</u>	5. <u>oz/ton Ag</u>
Laforma (discovery Mines)	80,000	0.70	-
Brown-McDade Mines 1968	45,670	0.50	6.0
" " " 1970	35,000	0.37	5.9
Mount Nansen Mines 1968	200,000	0.33	13.0

The Laforma operated in 1965-66 and Mount Nansen in 1968-69. The former suffered from poor ground conditions and an inadequate mill, while the latter suffered from excessive expenditures, overestimated reserves and too large and expensive a mill.

REGIONAL GEOLOGY

The area is characterized by a great variety of intrusives now believed to range in age from Triassic to Tertiary, intruding a core of Yukon schists.

The main intrusive is a coarse grained porphyritic syenite to quartz monzonite. It extends in length some 40 miles from Victoria Mountain to eight miles northwest of Prospector Mountain. It is thought to be of Triassic age.

Another unique characteristic of the area, is a more or less westerly facing crescent shaped belt of tertiary quartz-feldspar porphyries forming dykes and masses of considerable size. The belt extends from southwest of Mt. Nansen to southeast of Prospector Mountain.

Further southwest and on the flanks of the area of interest the syenite-quartz monzonite is replaced by a granodiorite.

Gold deposits are seen to be associated where quartz-feldspar porphyries and syenite occur together. Veins high in silver and lower in gold seem to prefer the granodiorite.

PROPERTY GEOLOGY

The northern portion of the MJK 33-44 claim block is underlain by Triassic Hornblende Syenite and Quartz Monzonite that have been intruded by dykes and small masses of quartz-feldspar porphyry of Tertiary Age. The southern portion is underlain by the Sedimentary Labarge Group composed of poorly sorted massive thick bedded conglomerates grits and sandstone.

The syenitic intrusives are structurally inter-tongued with Granodiorite to quartz monzonite. The syenite is coarse grained. The Granodiorite has a reddish weathering characteristic. The main syenitic intrusion is cut by feldspar-porphyry and quartz porphyry "Aplitic" dykes, that have a northwest trending strike.

Massive thick beds of sandstone and conglomerate are exposed in trenches and road cuts along Cariboo Creek and in outcrop on the hill west of the creek. The sediments are composed of poorly sorted granitic to felsic pebbles and cobbles to black quartz sandstone. These sediments belong to the Laberge group of Lower to Middle Jurassic Age.

Quartz veins were noted in one outcrop to the west of Cariboo Creek. These quartz veins have a southwesterly strike and a vertical dip.

The host rock for the gold mineralization on the adjacent Hope Group of Mr. P.F. Guder is a fine grained massive black sedimentary rock with rounded quartz grains (5-10 mm). Quartz veins cut this rock and the gold is believed to be associated with them.

GEOCHEMISTRY

During the course of the summer six properties in the area of Freegold Mountain were soil sampled on a reconnaissance basis. Ground control was obtained by chaining and flagging a base line and establishing cross lines at 400 to 800 foot intervals. Stations were marked and samples were taken at 200 foot intervals along these lines. A total of 1372 soil samples were collected and submitted for analysis. All samples were analyzed for Copper while some were also analyzed for Antimony, Gold and Arsenic.

Of all sample analyzed, copper was found to give the best and widest range. All samples analyzed for gold returned values below the detectable limits of the assay method (30 ppb). Early arsenic and antimony values showed no great range and the assay procedure was omitted form the later portion of the sampling program.

Chemex Labs Ltd., 212 Brooksbank Avenue, North Vancouver, B.C. did the sample preparation and analysis.

A frequency distribution plot was made of the entire population to determine background and anomalous ranges for copper and antimony. For this the accumulated percent was plotted against the range of values in parts per million on arithmetic probability paper.

	No. of Samples	Range ppm	Background	%	Anomalous	%
Cu	1372	3-995	33	92	70	4.27
Sb	691	1-19	13	96.5	not detected	

A total of 198 samples were collected from the MJK 33-44 mineral claims.

One anomalous sample (station 12 N 4 W) in copper was obtained in the results of the geochemical survey. This sample lies along the contact between the syenite and granodiorite. A threshold value in copper was also recorded near this contact as well. The remaining five threshold copper values are all underlain or within the projected limits of the Laberge sediments. One of these samples (base line at 30 S) also has a threshold value in antimony.

The area around the anomalous sample and the contact between the syenite and granodiorite deserves further investigation.

An investigation should also be conducted in the Laberge Group sediments as threshold values in copper and antimony seem to concentrate there. Gold has also been found associated with quartz veins cutting black sediments on the adjacent Hope Ground. The areas covered by the Laberge Group and having threshold values in copper and antimony should be investigated particularly since quartz veining was also noted cutting the sediments.

MAGNETIC SURVEY

A magnetic survey using a Sharp model MF-1 fluxgate magnetometer, was conducted over the property. Control for the survey was established by using the chained and flagged grid described in the section of Geochemistry.

The magnetometer survey showed a very flat magnetic relief, with a maximum amplitude of 2000 gammas.

The Magnetics associated with the Laberge Group Sediments show practically no relief. The magnetics over the intrusives show a higher relief, but do not have any discernible pattern. One high magnetic reading was found to occur at a point where magnetite was noted in a granodiorite outcrop. This outcrop is the only place where magnetite was found on the property.

A narrow hooked shape magnetic trough is indicated close to a northerly draining creek in the northern portion of the property. No outcrop occurs in this area so no correlation can be made to the geology. It is suggested that the trough might indicate a narrow altered zone in the Granitic rocks, probably caused by faulting.



J.R. Deighton,

Vancouver, B.C.
October 29, 1974.

CERTIFICATION

I, JOHN RAYMOND DEIGHTON, of 3250 West 33rd Avenue, Vancouver, British Columbia, do hereby certify that:

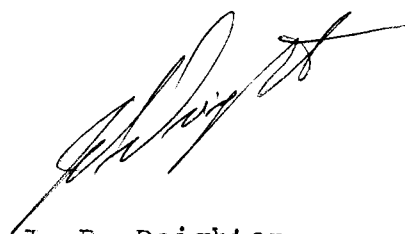
I am a graduate of the University of British Columbia, with a Bachelor of Science Degree in Geology, 1965.

Since graduation I have been engaged in Mineral Exploration in British Columbia, Yukon, Northwest Territories, Washington, Arizona and California.

I am a Fellow of the Geological Association of Canada and of the Canadian Institute of Mining and Metallurgy.

I am a Geologist.

Vancouver, B.C.
October 29, 1974.



J. R. Deighton,
Geologist.

SAMPLE ANALYSIS

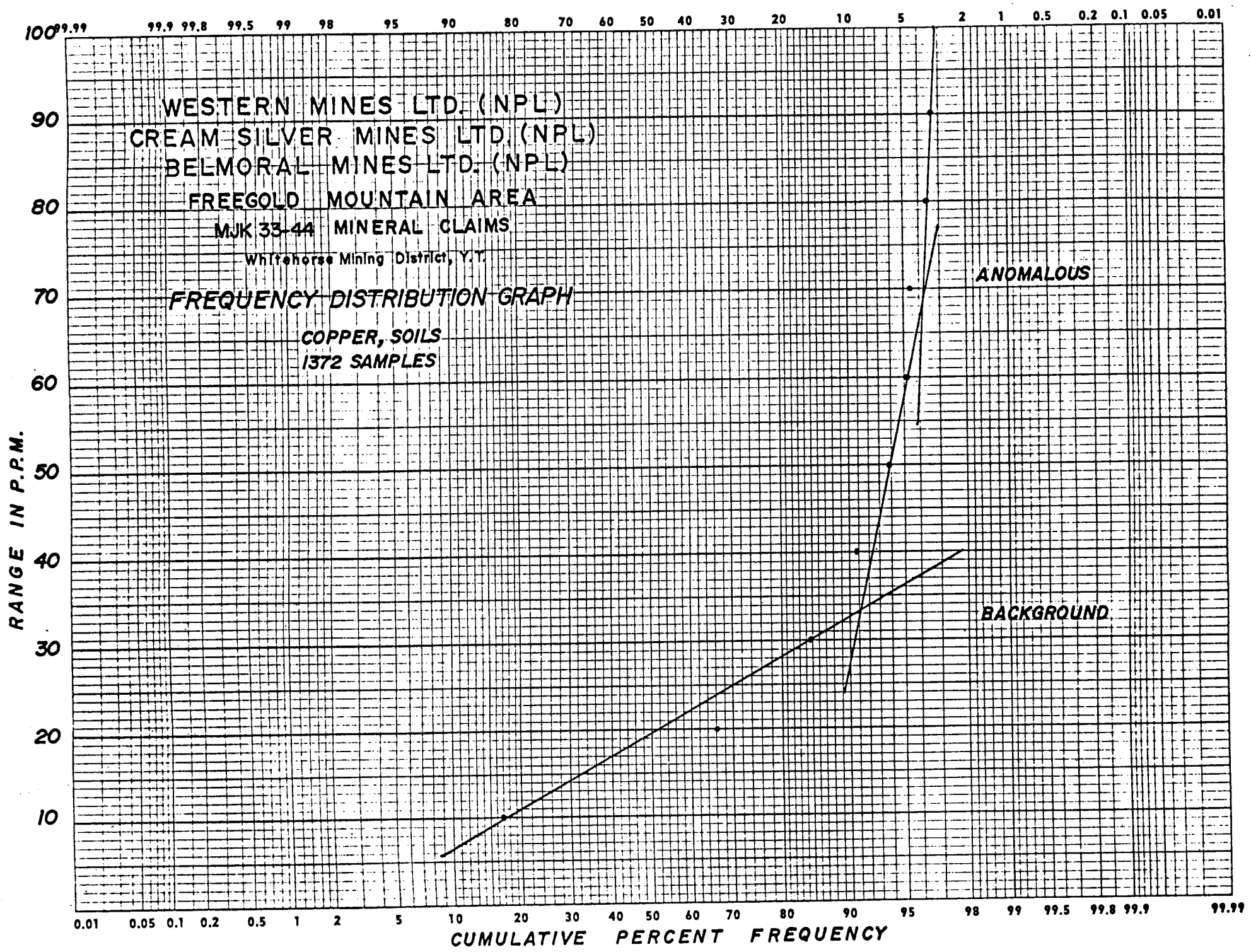
COPPER PPM

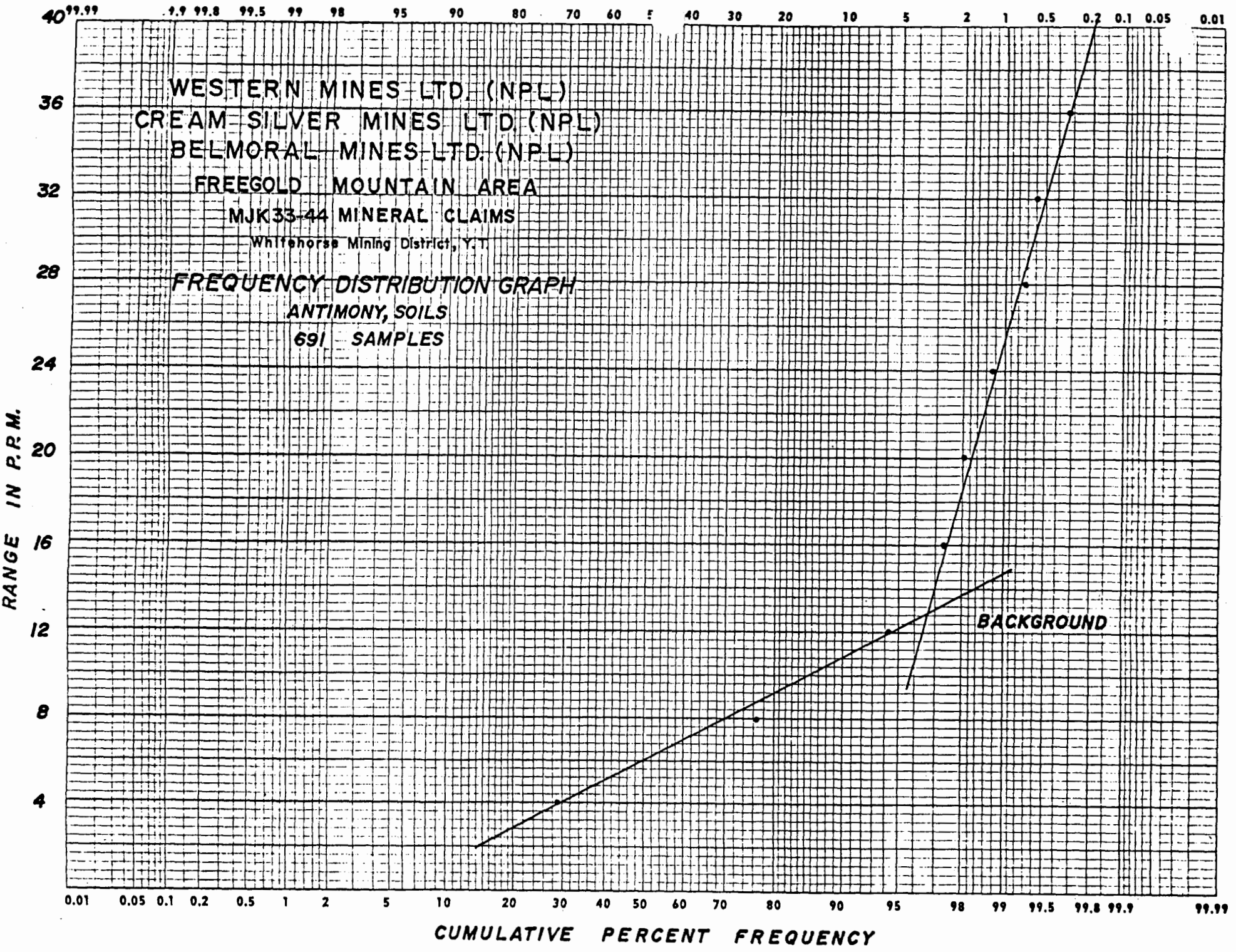
<u>INTERVAL</u>	<u>NO. OF SAMPLES</u>	<u>%</u>	<u>CUMULATIVE %</u>
0-10	240	17.49	17.49
11-20	679	49.48	66.97
21-30	249	18.14	85.11
31-40	81	5.90	91.01
41-50	42	3.06	94.07
51-60	17	1.23	95.30
61-70	6	.43	95.73
71-80	10	.72	96.45
81-90	4	.29	96.74
91-100	2	.14	96.88
101-110	2	.14	97.02
111-120	2	.14	97.16
+120	38	2.76	99.92

SAMPLE ANALYSIS

ANTIMONY PPM

<u>INTERVAL</u>	<u>NO. OF SAMPLES</u>	<u>%</u>	<u>CUMULATIVE %</u>
0-4	196	28.36	28.36
5-8	335	48.48	76.48
9-12	119	17.22	94.06
13-16	22	3.18	97.24
17-20	5	.72	97.96
21-24	5	.72	98.68
25-28	4	.57	99.25
29-32	1	.14	99.39
33-36	2	.28	99.67
37-40			
41-44			
45-48			
49-52			
53-56	1	.14	99.81
110	1	.14	99.95





YUKON TERRITORY

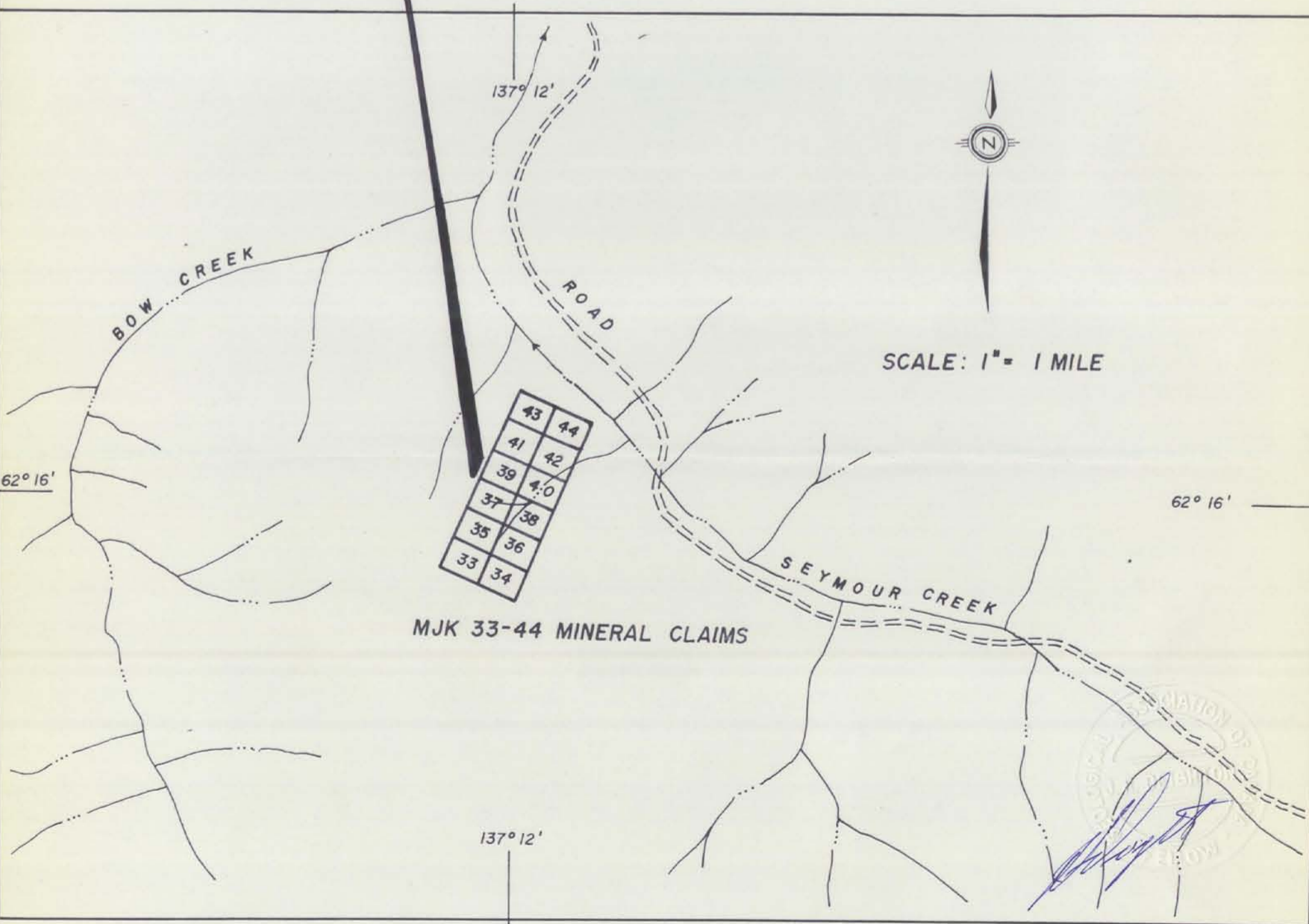
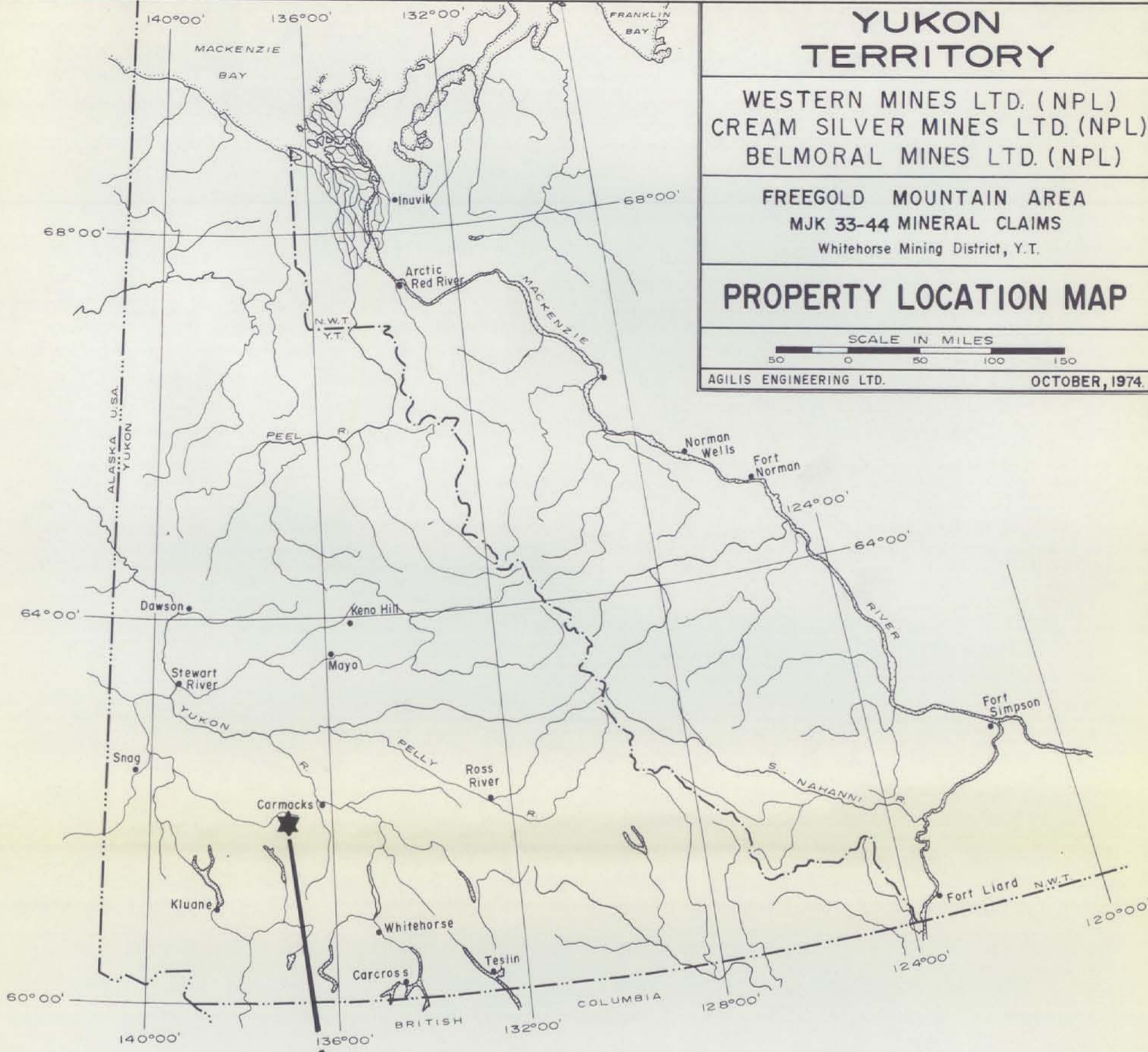
WESTERN MINES LTD. (NPL)
CREAM SILVER MINES LTD. (NPL)
BELMORAL MINES LTD. (NPL)

FREEGOLD MOUNTAIN AREA
MJK 33-44 MINERAL CLAIMS
Whitehorse Mining District, Y.T.

PROPERTY LOCATION MAP

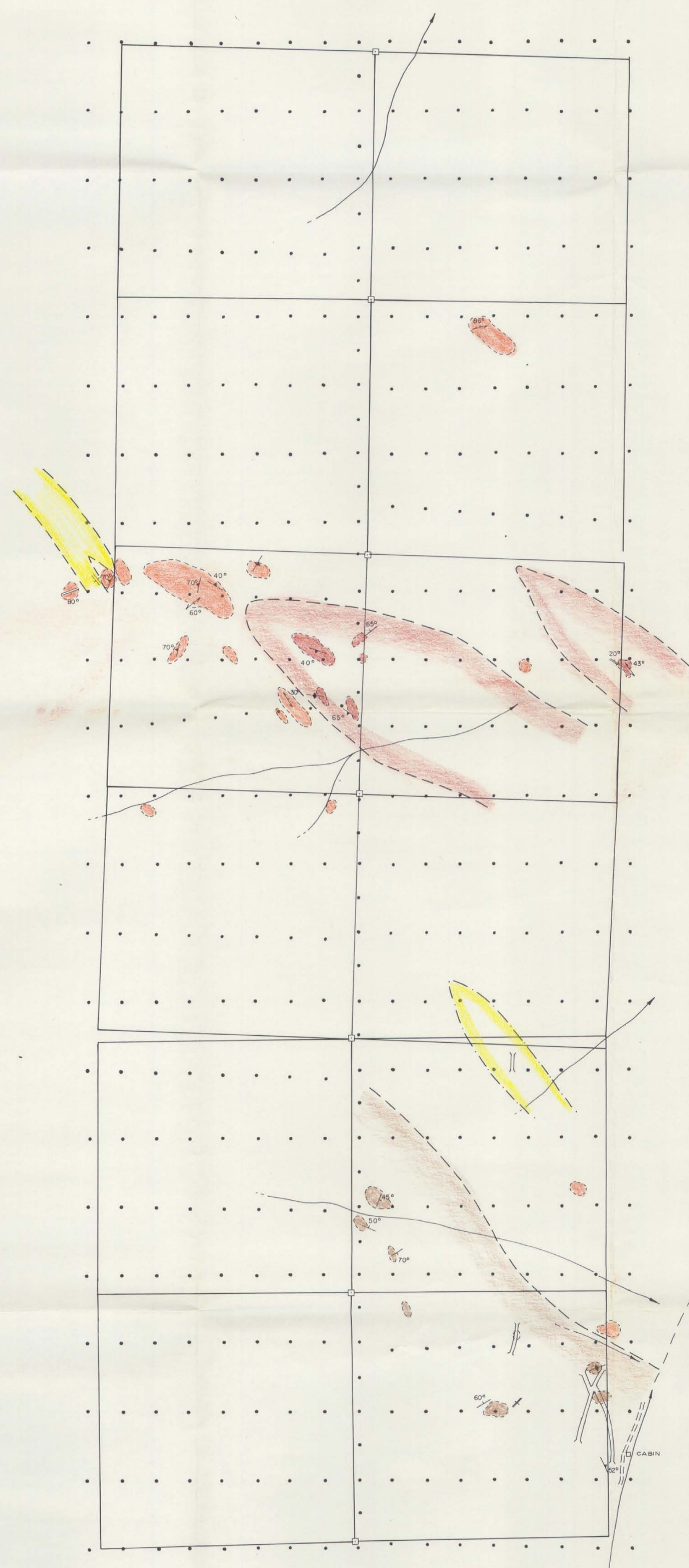
SCALE IN MILES
50 0 50 100 150

AGILIS ENGINEERING LTD. OCTOBER, 1974.



16^W 12^W 8^W 4^W B.L.O. 4^E 8^E 12^E 16^E

44 N
40 N
36 N
32 N
28 N
24 N
20 N
16 N
12 N
8 N
4 N
0
4 S
8 S
12 S
16 S
20 S
24 S
28 S
32 S
36 S
40 S
44 S



LEGENDS

GEOLOGY

- EOCENE**
 Feldspar porphyry, quartz porphyry, granite porphyry, form numerous dykes and irregular bodies in part.
- JURASSIC**
 LABERGE GROUP - Poorly sorted, massives and thick bedded sandstone and conglomerate, granitic and felsic pebbles, cobbles, to black quartz sandstone.
- TRIASSIC**
 Granodiorite and quartz monzonite, intrusive into syenite.
- TRIASSIC**
 SYENITE, coarse grained K-spar porphyritic syenite, varying amounts hornblende, to a coarse grained hornblende.

SYMBOLS

- Bedding, dip, vertical
- Lamination, dip, vertical
- Jointing, dip, vertical
- Geological Boundary
- Trench
- Trail, Road
- Outcrop or Float Boundary
- Claim Post and claim lines
- Creek

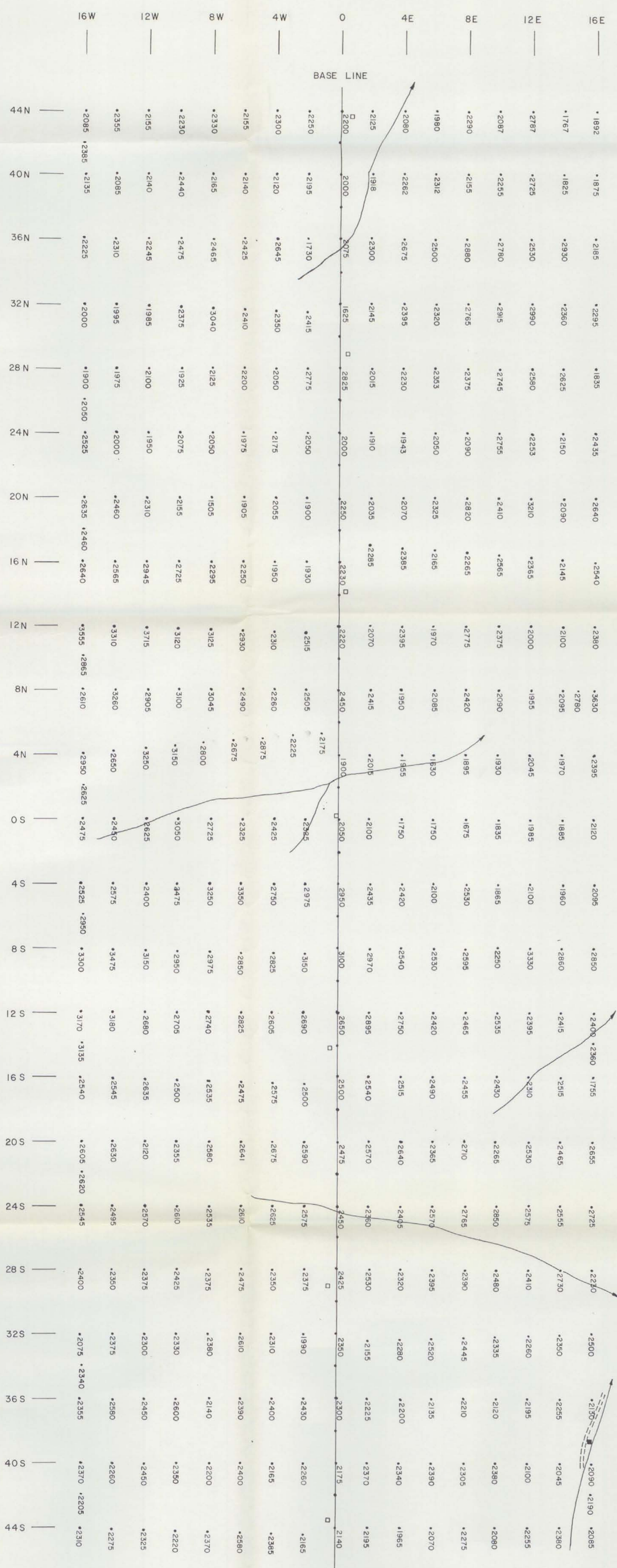
FREEGOLD MOUNTAIN AREA
 MJK 33-44 MINERAL CLAIM
 Whitehorse Mining District, Y.T.

CLAIM AND GEOLOGY MAP

SCALE	IN	FEET
400 0 400 800 1200		

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061085



LEGEND

- Magnetometer survey station
- Claim post
- Road
- Drainage

WESTERN MINES LTD. (NPL)
 CREAM SILVER MINES LTD. (NPL)
 BELMORAL MINES LTD. (NPL)

FREEGOLD MOUNTAIN AREA
 MJK 33-44 MINERAL CLAIM
 Whitehorse Mining District Y.T.

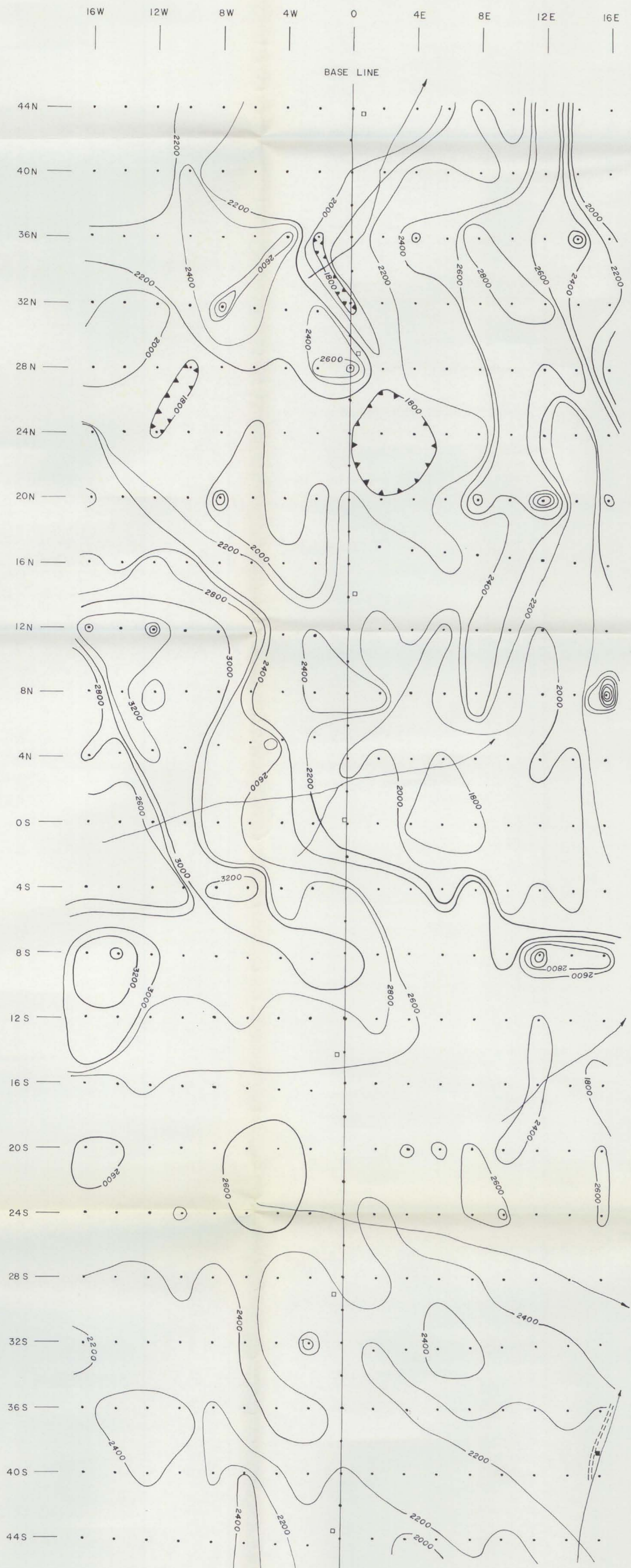
MAGNETOMETER
 SURVEY

IN GAMMAS

SCALE

IN FEET

AGILIS ENGINEERING LTD. JULY 1974



LEGEND

- Magnetometer survey station
- 2400— Magnetic contour lines in gammas
- CONTOUR INTERVAL IS 200 GAMMAS
- ■ Claim post
- Drainage
- ==== Road

WESTERN MINES LTD. (NPL)
CREAM SILVER MINES LTD. (NPL)
BELMORAL MINES LTD. (NPL)

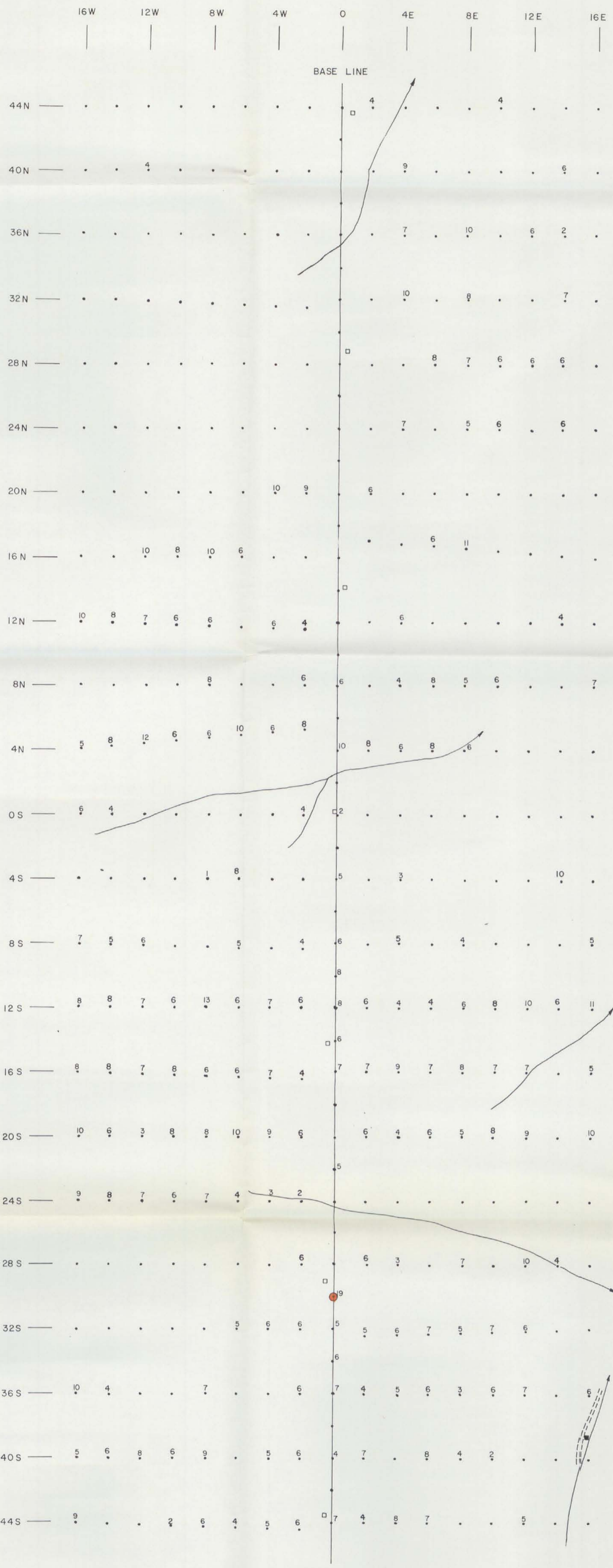
FREGOLD MOUNTAIN AREA
MJK 33-44 MINERAL CLAIM
Whitehorse Mining District Y.T.

**MAGNETOMETER
CONTOUR MAP**

IN GAMMAS

SCALE	IN	FEET
400	0	400 800 1200

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LEGEND

- Geochemical Survey Station
 - Background
 - Threshold
 - Anomalous
- Claim Post
- Road
- Drainage

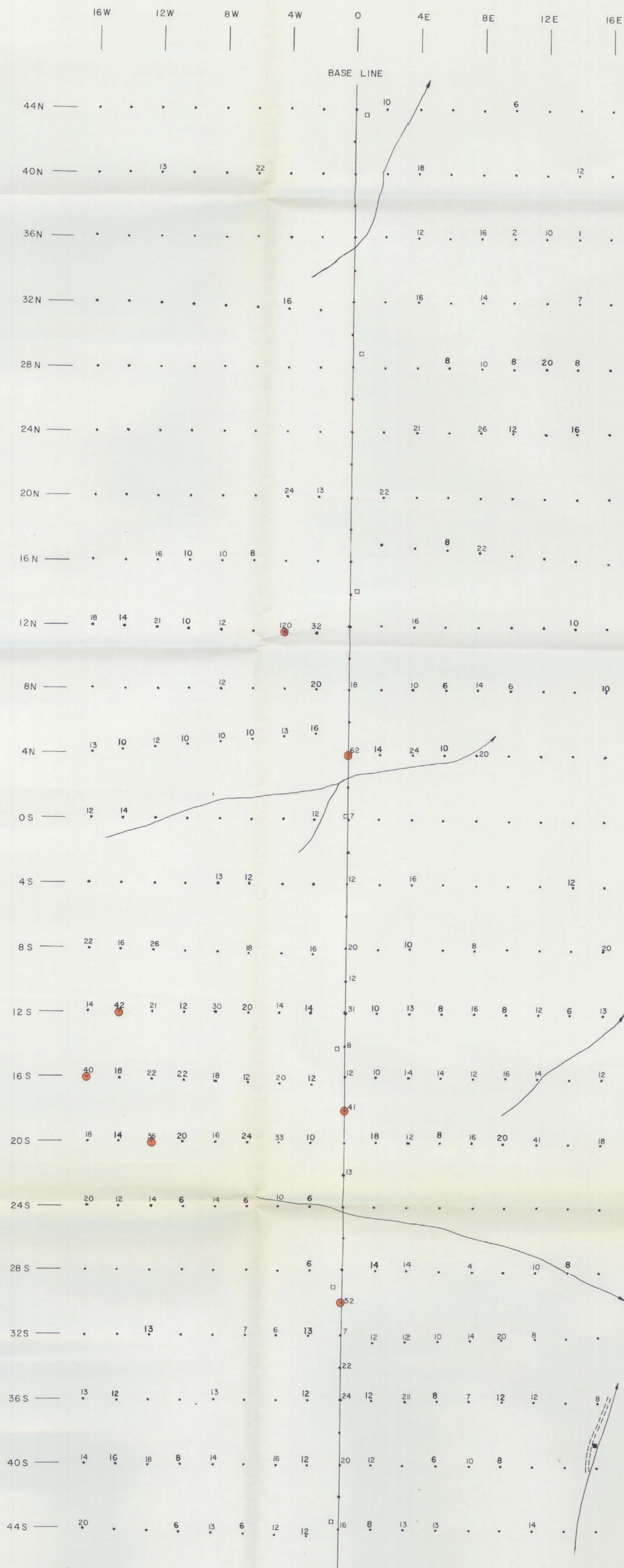
WESTERN MINES LTD. (NPL)
 CREAM SILVER MINES LTD. (NPL)
 BELMORAL MINES LTD. (NPL)

FREEGOLD MOUNTAIN AREA
 MJK 33 - 44 MINERAL CLAIM
 Whitehorse Mining District Y.T.

GEOCHEMICAL SURVEY
 ANTIMONY IN P.P.M.

SCALE IN FEET
 400 0 400 800 1200

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LEGEND

- Geochemical Survey Station
- Background 33
- Threshold 70
- Anomalous ABOVE 70
- Claim Post
- ==== Road
- > Drainage

[Handwritten signature]

WESTERN MINES LTD. (NPL) CREAM SILVER MINES LTD. (NPL) BELMORAL MINES LTD. (NPL)
FREEGOLD MOUNTAIN AREA MJK 33-44 MINERAL CLAIM <small>Whitehorse Mining District Y.T.</small>
GEOCHEMICAL SURVEY COPPER IN P.P.M.
SCALE IN FEET 400 0 400 800 1200
AGILIS ENGINEERING LTD. JULY 1974