GEOLOGICAL, GEOPHYSICAL & GEOCHEMICAL REPORT ON THE CAR 1-40 MINERAL CLAIMS FREEGOLD MOUNTAIN AREA, 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 $ 14,954.22

D.B. Craig
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

M.J. Deighton
Geologist.

AGILIS ENGINEERING LTD.
CONSULTING ENGINEERS & GEOLOGISTS
107-325 HOWE STREET, VANCOUVER, B.C. V6C 1Z7

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GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL REPORT

ON THE CAR 1-40 MINERAL CLAIMS

WHITEHORSE MINING DISTRICT, YUKON

1-00 SUMMARY

The property was optioned by Western Mines Ltd., Belmoral Mines Ltd. (NPL), and Cream Silver Mines Ltd. (NPL). A program consisting of a Geochemical Soil Survey, Magnetometer Survey, Line cutting and Geological Mapping was conducted over the property during the summer of 1974.

The property has a limited potential as a porphyry copper deposit.

2-00 RECOMMENDATIONS AND CONCLUSIONS

The western portion of the property is underlain by Yukon Group Schists.

The eastern portion of the property is underlain by granodiorite intruding into Yukon Group Schists.

An area of granodiorite with "porphyry copper" type alteration occurs in the central portion of the property.

The altered zone generally has a low magnetic profile.

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3-00 CONCLUSIONS

The majority of the anomalous and threshold values in copper and most of the threshold antimony values obtained on the property occur in soils from over the altered zone.

Several threshold values in copper occur at the contact between the unaltered granodiorite and Yukon schists near the eastern border of the property. Four threshold values in antimony also occur in this area.

The magnetics over the Yukon schist have a low relief.

The favourable local for gold mineralization, the contact between svenites and quartz-feldspar porphyry, has not been found on the property.

The property has limited potential for developing into a porphyry copper deposit, although "porphyry copper" type alteration is present on the property.

4-00 INTRODUCTION

The Car 1-40 mineral claims are located in the Whitehorse Mining District, Yukon Territory. They are situated 32 miles west of Carmacks at co-ordinates 62° 19' North Latitude, 137° 08' 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 Co. Ltd., under the direction of G. House.

5-00 OWNERSHIP AND TITLE

The Car 1-40 mineral claims were acquired by option, by Western Mines Ltd., Cream Silver Mines Ltd. (NPL) and Belmoral Mines Ltd. (NPL). The property consists of 40 contiguous mineral claims located in the Whitehorse Mining District, Yukon Territory.

The property consists of the following mineral claims:

Claim Name	Record Number	Date Recorded
CAR 1-40	Y78678-78717	May 1, 1974

6-00 LOCATION AND ACCESS

The property is located on the southwesterly facing slope of Big Creek, near Freegold Mountain, approximately 32 miles west of Carmacks, Yukon Territory.

Co-ordinates of the property are 62° 19' North Latitude, 137° 08' 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 42 miles.

7-00 PHYSIOGRAPHY AND CLIMATE

The mineral claim group lies within the central Yukon. Temperatures are extremely cold during the 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 gives way to open grasslands and tundra at higher elevations.

8-00 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, in place 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:

	Tons	oz/ton Au	oz/ton Ag
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, over-estimated reserves and too large and expensive a mill.

9-00 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 8 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 Mount Nansen to southeast of Prospector Mountain.

Further northwest 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.

10-00 PROPERTY GEOLOGY

The Car 1-40 mineral claims are underlain by metamorphosed sediments and volcanics of the Yukon Group and by intrusives varying in age from Triassic to Tertiary. The intrusives are syenite, granodiorite and quartz-feldspar porphyries.

The oldest rocks on the property are the Proterozoic Yukon schists. The unit varies from hornblende to biotite schists and gneisses, chlorite schists, quartz schists and quartz sericite schists. The western portion of the claim group is wholly underlain by this unit, while only remnants remain on the eastern portion.

On the eastern portion the Yukon schists have been intruded by syenite and granodiorite of Triassic to Jurassic age, and by quartz-feldspar porphyry dykes of Tertiary age.

A small area of hornblende syenite appears in the central southern border region of the claim block. This syenite is porphyritic in character. Hornblende occurs in variable amounts and the syenite approaches a hornblendite in places.

Unaltered hornblende granodiorite to quartz diorite of Triassic age forms the main intrusive body on the claims. The mafic minerals, hornblende and biotite, may be lineated in places.

The central portion of the property is underlain by a highly altered intrusive. This intrusive is believed to have been a granodiorite originally. The granodiorite may be an alteration zone of the Triassic granodiorite described above or it may be a separate intrusion. The alteration zone has some feature of "porphyry copper" alteration zones. It has a central core of pervasive kaolinization and silicification. Quartz veining with pyrite and very minor amounts of chalcopyrite were seen peripheral to the central zone. Chloritization of the mafics and epidote were noted in outcrops in distal regions of the alteration pattern.

A broad magnetic low also appears to cover the alteration zone.

A northerly striking fault is postulated to occupy the creek drainage on this slope. This fault would account for the abrupt facies change at the western contact of the altered zone. Another

northerly striking fault is also postulated to occupy a creek to the east of the altered zone.

11-00 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 baseline and establishing crosslines 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 samples 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 machine (30 ppb). Early arsenic and antimony values showed no great range and the assay procedure was omitted from 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 362 samples were collected from the CAR 1-40 mineral claims.

The majority of the anomalous and threshold values in copper obtained on the property occur in soils from over the altered granodiorite.

Several threshold values occur at the contact between the unaltered granodiorite and Yukon schists near the eastern border of the property. A number of threshold values also occur in a 1000 feet wide broken zone near the southern border of the claim block. A few scattered low threshold copper values occur in the Yukon schists in the central northern portion of the grid.

Most of the antimony threshold and the only anomalous sample occur in the soils over the altered zone.

Four threshold antimony values also occur in the same area as the copper values near the contact between the granodiorite and the Yukon schists. A few scattered low threshold values are distributed through the Yukon schists with a group of four occuring in the southwest corner of the property.

None of the areas on the property can be said to be highly anomalous although there seems to be a slight increase in both antimony and copper in soils over the altered granodiorite zone.

12-00 MAGNETIC SURVEY

A magnetic survey using a Sharp model MF-2 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 low relief over the Yukon schists, it had a maximum amptitude of 800 gammas. Relief is more erratic in the area of the postulated north-south fault and a north-south trend is predominant.

The area underlain by the altered granodiorite is generally an area of low magnetics, although several high readings occur in the core area.

The magnetics over the unaltered granodiorite (eastern portion of the property) shows no pattern that aids in the interpretation of the underlying structure.

Respectfully submitted,

J. R. Deighton,
Geologist.

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 Bacheolor 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.

J.R. Deighton,
Geologist.

Vancouver, B.C.
October 29, 1974.

SAMPLE ANALYSIS

COPPER PPM

INTERVAL	NO. OF SAMPLES	%	CUMULATIVE %
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

INTERVAL	NO. OF SAMPLES	%	CUMULATIVE %
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

LEGEND

TERTIARY ?		FELDSPAR PORPHYRY, QUARTZ PORPHYRY, GRANITE PORPHYRY FORMS NUMEROUS DYKES AND IRREGULAR BODIES IN PLACES.
JURASSIC ?		UNDIFFERENTIATED GRANODIORITE, QUARTZ MONZONITE, ON THIS MAP DISTINCTIVE ALTERATION COMMON.
TRIASSIC ?		SYENITE, PORPHYRITIC K-SPAR SYENITE, VARIABLE HORNBLENDE CONTENT - HORNBLENDITE.
TRIASSIC ?		HORNBLENDE GRANODIORITE TO QUARTZ DIORITE, BIOTITE HORNBLENDE, FOLIATION SHOWN BY ALIGNMENT OF MAFICS, AND FELSIC MINERALS IN PARTS.
PROTERZOIC AND/OR PALAEOZOIC		HORNBLENDE GNEISS, CHLORITE QUARTZ SCHIST ALSO INCLUDES BIOTITE SCHIST.

BASED ON CARMACKS SHEET 115 - I - 1974 - D.J. TEMPELMAN-KLUIT

- GEOLOGICAL BOUNDARY
- FAULT (Assumed)
- 40° BEDDING, DIP, VERTICAL
- 70° FOLIATION, DIP, VERTICAL
- 80° JOINTING, DIP, VERTICAL
- OUTCROP, FLOAT BOUNDARY (Outcrop as such will have attitudes plotted, float marked as rock type only.)
- DRAINAGE
- CLAIM POST AND LINE

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

FREEGOLD MOUNTAIN AREA

CAR 1-40 MINERAL CLAIMS
Whitehorse Mining District, Y.T.

GEOLOGY & CLAIM MAP

SCALE IN FEET
400 0 400 800 1200

AGILIS ENGINEERING LTD. SEPT 1974

WESTERN MINES LTD. (NPL)
CREAM SILVER MINES LTD.(NPL)
BELMORAL MINES LTD.(NPL)
FREEGOLD MOUNTAIN AREA
CAR 1-40 MINERAL CLAIMS
Whitehorse Mining District, Y.T.

MAGNETOMETER SURVEY AND CONTOUR MAP

IN GAMMAS

SCALE IN FEET
400 0 400 800 1200

AGILIS ENGINEERING LTD. SEPT. 1974

LEGEND

- Drainage
- Claim post
- Survey station
- 33 – Geochemical value for copper in p.p.m.
- 8 – Geochemical value for antimony in p.p.m.
- Threshold copper
- Anomalous copper
- Threshold antimony
- Anomalous antimony

WESTERN MINES LTD. (NPL)
CREAM SILVER MINES LTD. (NPL)
BELMORAL MINES LTD. (NPL)
FREEGOLD MOUNTAIN AREA
CAR 1 - 40 MINERAL CLAIMS
Whitehorse Mining District, Y.T.

GEOCHEMICAL SURVEY MAP FOR COPPER & ANTIMONY IN P.P.M.

SCALE IN FEET
400 0 400 800 1200

AGILIS ENGINEERING LTD. SEPT. 1974

YUKON TERRITORY

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

FREEGOLD MOUNTAIN AREA
CAR 1-40 MINERAL CLAIMS
Whitehorse Mining District, Y.T.

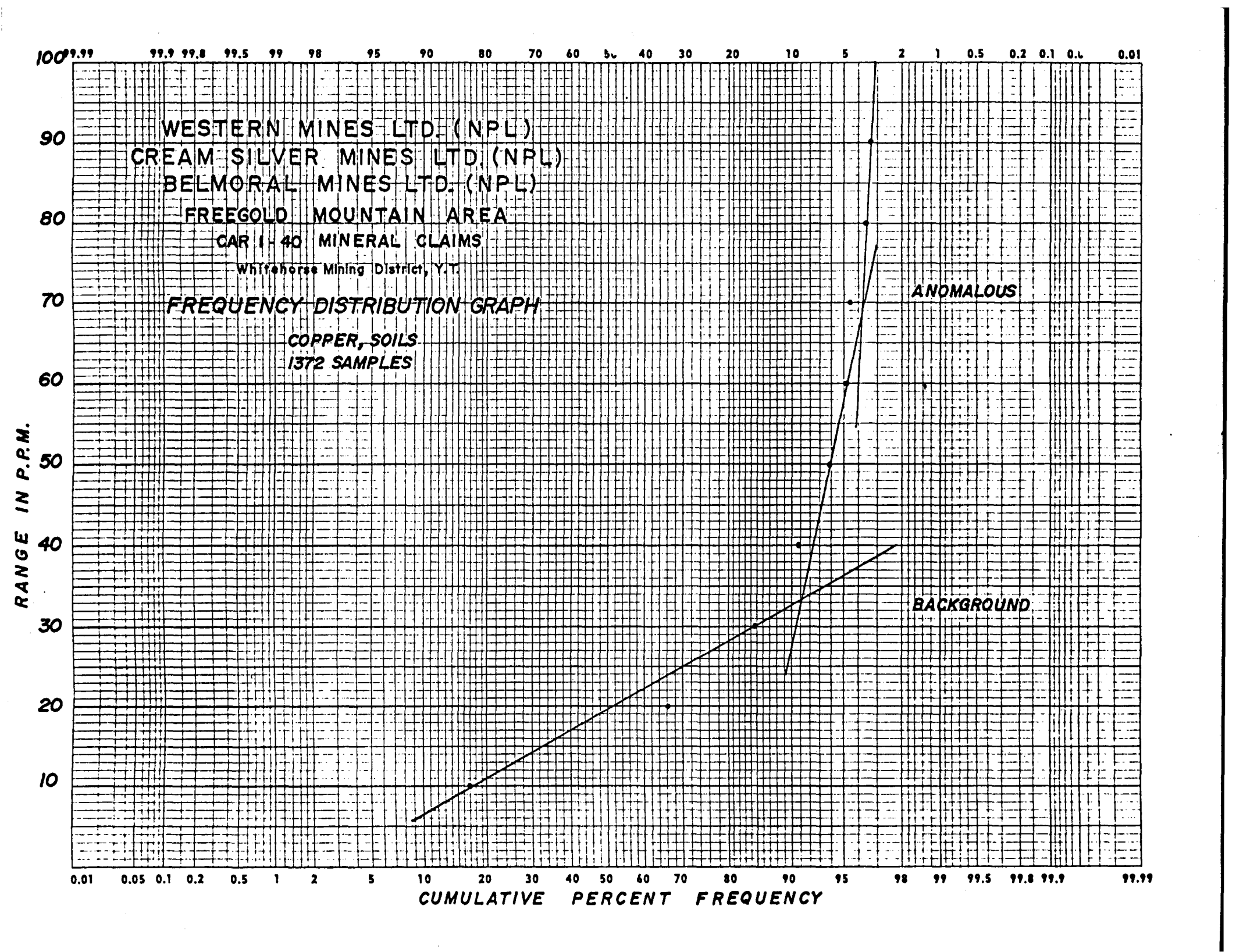
PROPERTY LOCATION MAP

SCALE IN MILES
50 0 50 100 150

AGILIS ENGINEERING LTD. OCTOBER, 1974

140°00' 136°00' 132°00'
MACKENZIE BAY
FRANKLIN BAY
Inuvik
68°00'
Arctic Red River
MACKENZIE R.
N.W.T.
Y.T.
ALASKA U.S.A.
YUKON
PEEL R.
Norman Wells
Fort Norman
124°00'
64°00'
Dawson
Keno Hill
Mayo
Stewart River
YUKON R.
PELLY R.
Ross River
Snag
Carmacks
S. NAHANNI R.
Fort Simpson
Fort Liard
N.W.T.
120°00'
Kluane
Whitehorse
Teslin
Carcross
60°00'
BRITISH COLUMBIA
128°00'
124°00'
140°00' 136°00' 132°00'

137° 05'
AIRSTRIP
CREEK
BIG
ROAD CREEK
SEYMOUR
STUDDART CREEK
N
SCALE: 1" = 1 MI.
CAR 1-40 MINERAL CLAIMS
20 18 16 14 12 31 33 35 37 39
19 17 15 13 11 32 34 36 38 40
10 8 6 4 2 21 23 25 27 29
9 7 5 3 1 22 24 26 28 30
62° 20'
FREEGOLD MTN
137° 05'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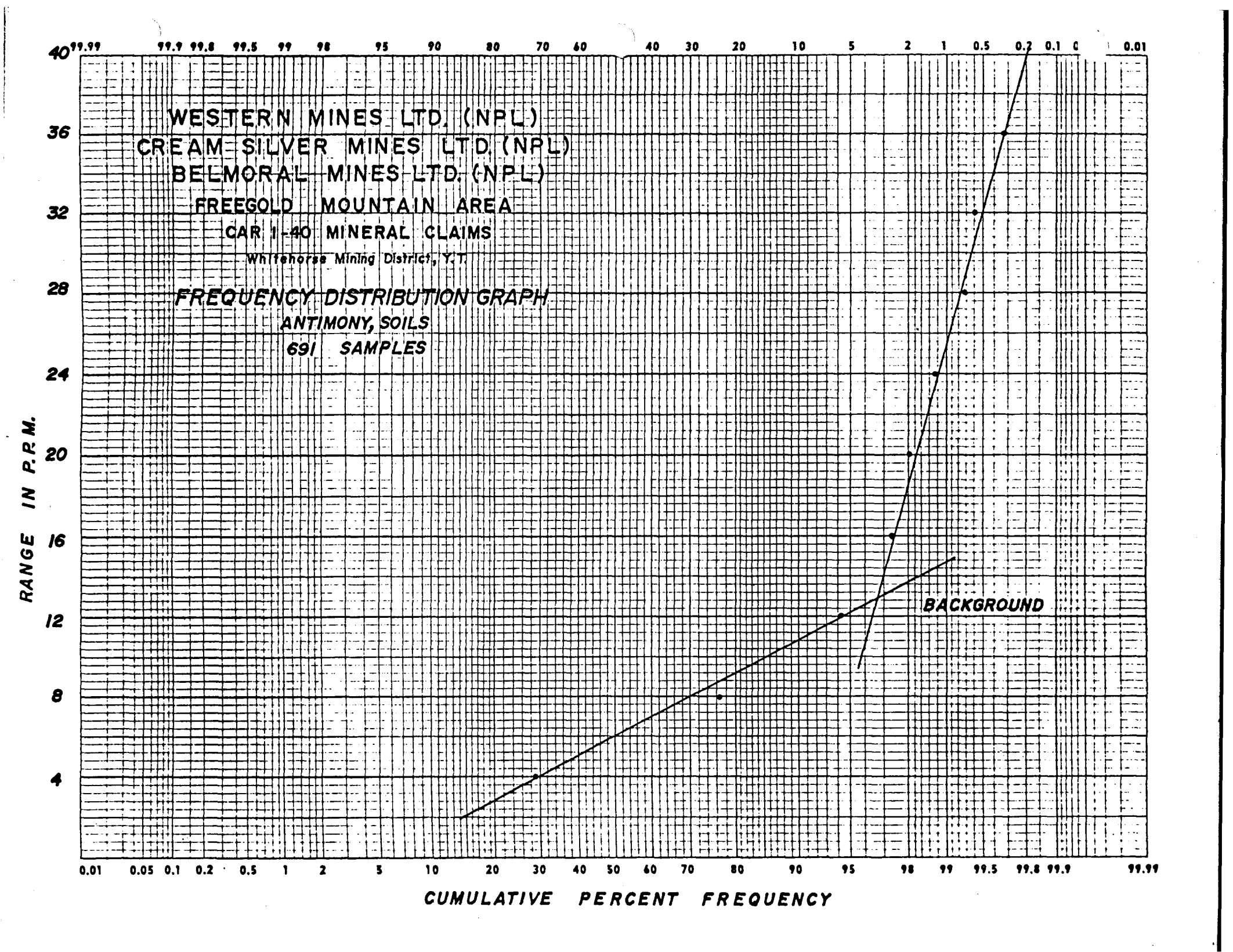
CREAM SILVER MINES LTD. (NPL)
BELMORAL MINES LTD. (NPL)
FREEGOLD MOUNTAIN AREA
CAR 1-40 MINERAL CLAIMS
Whitehorse Mining District, Y.T.
FREQUENCY DISTRIBUTION GRAPH
COPPER, SOILS
1372 SAMPLES
ANOMALOUS
BACKGROUND
RANGE IN P.P.M.
CUMULATIVE PERCENT FREQUENCY
100
90
80
70
60
50
40
30
20
10
99.99 99.9 99.8 99.5 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05 0.01
0.01 0.05 0.1 0.2 0.5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.5 99.8 99.9 99.99


WESTERN MINES LTD. (NPL)
CREAM SILVER MINES LTD. (NPL)
BELMORAL MINES LTD. (NPL)
FREEGOLD MOUNTAIN AREA
CAR 1-40 MINERAL CLAIMS
Whitehorse Mining District, Y.T.
FREQUENCY DISTRIBUTION GRAPH
ANTIMONY, SOILS
691 SAMPLES
BACKGROUND
RANGE IN P.P.M.
CUMULATIVE PERCENT FREQUENCY
40
36
32
28
24
20
16
12
8
4
99.99 99.9 99.8 99.5 99 98 95 90 80 70 60 40 30 20 10 5 2 1 0.5 0.2 0.1 0 0.01
0.01 0.05 0.1 0.2 0.5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.5 99.8 99.9 99.99