

Department
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3149 MAP _____

933/854W GEOPHYSICAL

GEOCHEMICAL SURVEY

Barb 13-24 and 37-46 Claims

CARIBOO M.D.

122°-53° - SE 2-6-71 : 16-6-71

Alfred R. Allen, P.Eng.

3149

For:

GRAMARA MINES LTD. (N.P.L.)
145 - 890 West Pender Street
Vancouver 1, B.C.

By:

ALLEN GEOLOGICAL ENGINEERING LTD.

303 - 325 Howe Street
Vancouver 1, B.C.

July 26th, 1971

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GEOCHEMICAL SURVEY

Barb 13-24 and 37-46 Claims

CARIBOO M.D.

McLEESE LAKE AREA

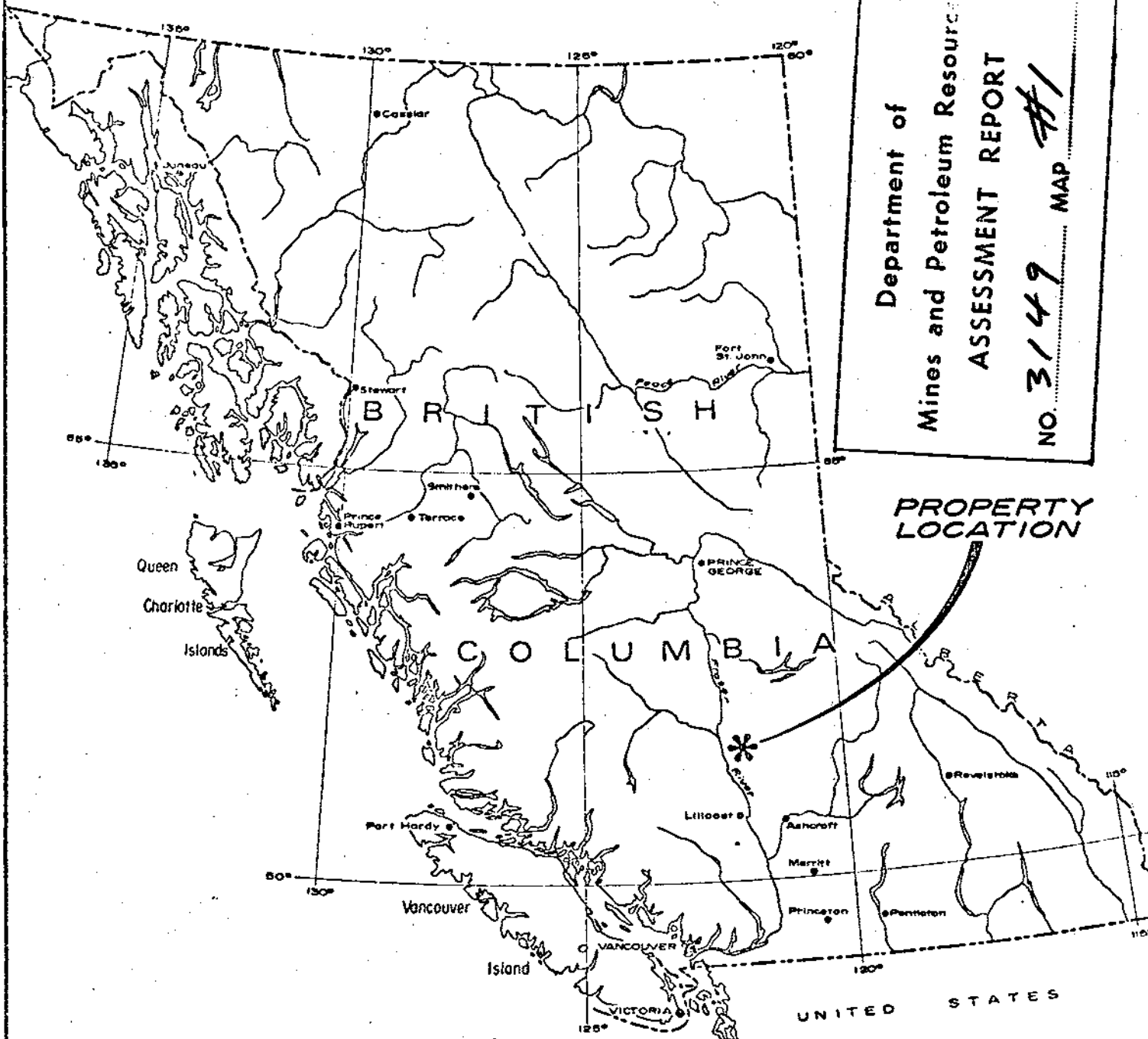
B.C.

INTRODUCTION

The Barb 13-24 and 37-46 claims are located one mile east of McLeese Lake, B.C., about seven miles south of the Gibraltar property which is now being prepared for production.

The claims extend from the first bench east of McLeese Lake down to the lake level. In excess of 95% of this 1,100 acre property is covered by glacial till and the southwest 100 acres is cultivated farm land.

While excavating a trench on an area of low magnetic intensity on the northeast corner of the property, copper was detected in the soil and gravel to a depth of over 20 feet. In addition, pyrite and chalcOPYrite were noted in what appear to be outcropping of bedrock near the central part of the claims area. It was these evidences of copper mineralization that influenced the management of Gramara Mines to proceed with a geochemical survey of their holdings.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3149 MAP #1

PROPERTY
LOCATION

GRAMARA MINES LTD. (N.P.L.)

LOCATION MAP

SCALE : 1" = 136 Mls.

Drawn by ALTAIR.	Date DEC. 1970	ALLEN GEOLOGICAL ENGINEERING LTD.
Checked by A.A.	Org. no. 2	

A surveyed grid was established over the claims area. This grid consisted of a north-south base line and east-west parallel lines at 400 foot intervals. Stakes marked with station numbers were set at 100-foot intervals along the lines. Samples of soil from the B zone were taken from each station where possible and assayed for copper. The results of the soil assays are shown on the accompanying map.

McLeese Lake was used as the base of operations and the field crew used an automobile and a 4-wheel-drive $\frac{1}{2}$ ton truck for transportation to and on the property.

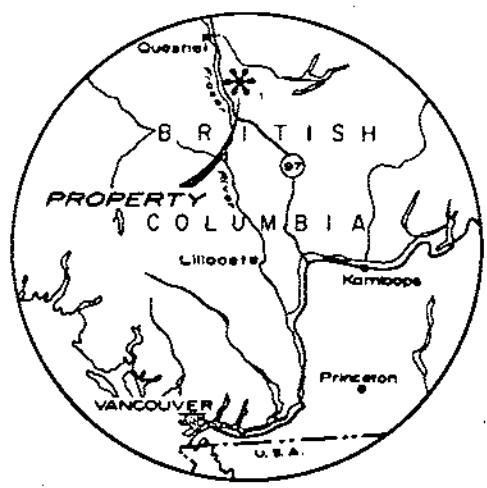
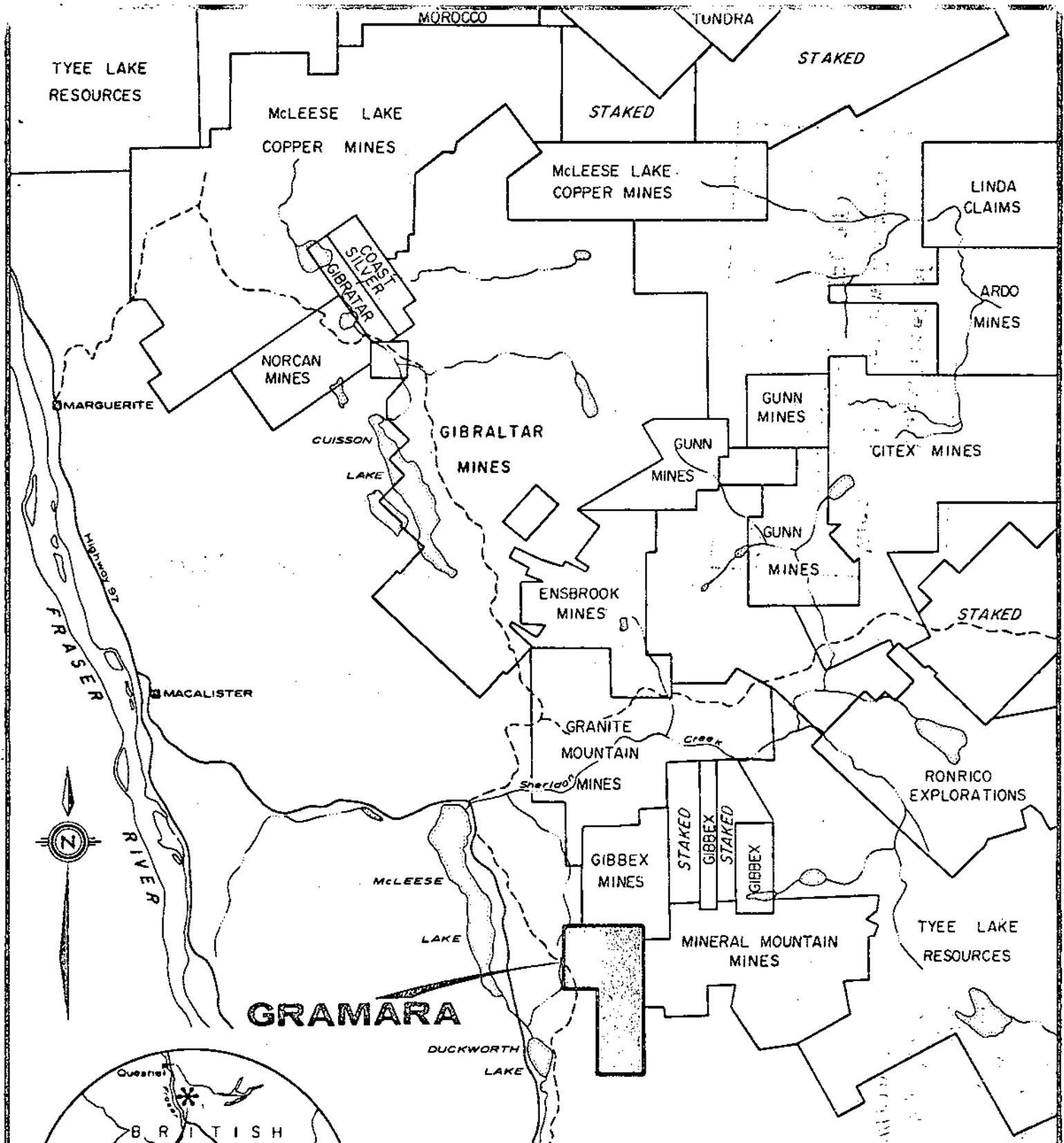
The purpose of the survey was to ascertain the copper content of the overburden over the claims area, and to outline any anomalous areas where the copper content is considered sufficiently high to warrant investigating the possible bedrock source of the metal.

LOCATION AND ACCESSIBILITY

The property is located one mile east of McLeese Lake, B.C., approximately 35 miles north of Williams Lake and 55 miles south of Quesnel.

Geographic location is $122^{\circ}-15'$ west longitude and $52^{\circ}-21'$ north latitude.

Access from the highway is via good secondary roads.



PROPERTY MAP
GRAMARA MINES LTD.
(N.P.L.)
McLEESE LAKE AREA, B.C.



**Department of
Mines and Petroleum Resources**

ASSESSMENT REPORT

NO. **3149** MAP **A2**

TOPOGRAPHY

The map is a planimetric map of the area shown in the title block. It is a planimetric map of the area shown in the title block. It is a planimetric map of the area shown in the title block.

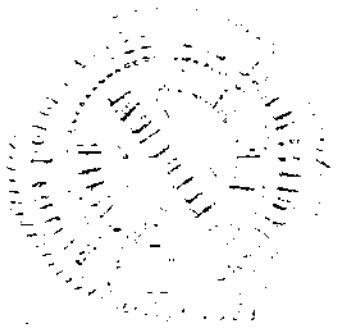
The following adjacent-located mineral claims are shown on the map:

Report No.	Map No.
3149	A2

The above information is based on the information provided by the applicant and is subject to the requirements of the Act.

REMARKS

The map is a planimetric map of the area shown in the title block. It is a planimetric map of the area shown in the title block. It is a planimetric map of the area shown in the title block.



TOPOGRAPHY

The property extends from a flat bench about five hundred feet above McLeese Lake down a moderate to steep slope of several hundred feet to the southwest.

PROPERTY

The following adjoining located mineral claims make up the Barb Group of Gramara Mines :

Barb 13-24	Record Numbers 55922A-55933A
Barb 37-46	" " 55946A-55955A

The lines and posts have been checked by the writer and are in accordance with the requirements of the B.C. Mineral Act.

GEOLOGY

The oldest rocks known to outcrop in the area of the Barb Group are the argillite, tuff, chert, limestone and schist of the Permian or older Cache Creek Group. These have been intruded by igneous rocks of the Granite Mountain batholith - chiefly quartz-diorite and minor

granodiorite and diorite. Patchy remnants of Tertiary volcanic rocks overlie the older rocks northwest of McLeese Lake.

The large copper-molybdenum deposits of the Gibraltar property occur in foliated quartz diorite.

GEOCHEMICAL SURVEY

A geochemical survey over a grid pattern on the Barb group was conducted under the supervision of the writer July 2, 1971 to July 16, 1971.

A north-south base line was surveyed by chain and Brunton compass along and close to the location line of the Barb 13-22 and 41-46 claims. At 400-foot intervals east-west lines were surveyed by chain and Brunton compass across the property. Pickets with station numbers marked on each were set at 100-foot intervals.

All lines were slashed, blazed and flagged.

From each station a sample of soil was taken from the "B" zone (below the humus and surface debris), placed in a waterproof sample bag and marked with the station number.

All samples were shipped to Crest Laboratories in Vancouver. They were dried and screened. From the -80 mesh material sufficient material was taken for assaying. The acid extraction and atomic absorption technique was used and results were reported in parts per million copper.

Sample results are shown on the accompanying plan G-2 on a scale of 400 feet per inch.

SURVEY RESULTS

The background copper values in the soil over the Barb group average close to 20 parts per million.

On the accompanying plan showing the survey results, the areas with soil samples assaying up to 40 ppm are not coloured.

The anomalous areas are divided into the following four categories:

Green -	41-100 ppm,	anomaly, good copper
Yellow	-101-150 ppm,	anomaly, medium copper
Orange	-151-200 ppm,	anomaly, strong copper
Red	- 201-250 ppm,	anomaly, strong copper

Brief descriptions of the anomalous areas are as follows:

The area of main interest extends north-south, centering along line 16 west, and extending down westerly sloping ground. It is 5,000 feet long and up to 2,000 feet wide. The highest assay of 160 ppm was from the sample at line 1200 north and station 1300 west.

On line 800 south, the samples ranged from 100 to 130 ppm copper over a length of 600 feet. It would appear that copper is being picked up from bedrock and carried in solution by ground waters through the soil and gravel overburden down the slope for a distance of about 2,000 feet, at the same time leaving enough in by precipitation to account for the anomalous effects detected by the sampling.

A second anomalous area extends from 2200 south to 5,400 south, and is centered along line 800 east. This anomaly is on relatively flat ground about 2000 feet southeast of the number one anomaly. It is 3,400 feet long and up to 1,600 feet wide. The highest assay was 110 ppm copper from the sample at 500 east on line 5,200 south. This zone is smaller and lower in copper content than the number one zone, but worthy of checking by stripping to acquire bedrock information.

A strong anomalous area centers on line 500 west and 5,400 south. It is 1,000 feet long, up to 500 feet wide, and the highest copper content is 250 ppm from the sample at station 500 west on 5,200 south.

At the location of the trench previously bulldozed on Barb 13 claim, one sample from line 6,000 north at 900 east assayed 190 ppm copper. This is an isolated high and may have been caused by a local copper-rich vein.

SUMMARY AND CONCLUSIONS

The Barb 13-24 and 37-46 are located in the McLeese Lake area of B.C. They are accessible by secondary road. The Gibraltar Mine will, within one year, be producing copper and molybdenum concentrates from extensive mineral deposits located about 7 miles to the north of the Barb claims.

The geochemical survey has outlined large areas where the overburden contains copper in sufficient quantities to warrant detailed bedrock investigations.

It is concluded that the anomalous zones should be checked, first by trenching to bedrock and if sufficient copper mineralization is exposed, by a follow-up diamond drilling programme.

RECOMMENDATIONS

The following work is herewith recommended to check the bedrock and location of the copper encountered in the overburden by the geochemical survey.

1. Expose bedrock by stripping and trenching along lines 400 north to 1,200 south, from 800 to 2,000 west.
2. Strip to bedrock on line 5,200 south, from 300 to 800 west.
3. Map and sample exposed mineral zones.
4. Where practicable, locate drill target-areas and check these with both percussion and core drilling.

The scope and duration of the programme will be contingent upon results; and although no detailed cost estimates are practicable at this date, experience in the area points to minimum budget requirements of \$2,500.00 for stripping and trenching and \$12,500.00 for drilling, sampling, assaying and supervision.

Respectfully submitted,

ALLEN GEOLOGICAL ENGINEERING LTD.

Per. *Alfred R. Allen* P. Eng.

Alfred R. Allen

Vancouver, B.C.
July 26th. 1971

REFERENCES

- Annual Reports, B.C. Minister of Mines, '57-'67
Geological Survey of Canada, Paper 1533, Sheet 93 B/9
Geological Survey of Canada, Maps 12-1959, 3-1961
Keevil Mining, Maps and Reports, 1960-62
A.R. Allen, Reports, Gibraltar Mines, 1964-67.
Cominco, Reports and Maps, 1966-67
Eastwood, G.E.P., Geology of Granite Mountain Stock

* * * * *

ALFRED R. ALLEN

GEOCHEMICAL SURVEY, CARIBOO M.D. 2/7/71 - 16/7/71

Barb 13-24 and 37 - 46

EXPENDITURES

Crew

T. Thomas, Langley, B.C., Experienced operator,	
July 2 - 6 incl.	\$ 281.25
E. Hayes, Merritt, B.C., Experienced operator,	
July 2 - 6 incl.	330.00
R. Thomas, Langley, B.C., Assistant,	
July 2 - 6 incl.	281.25
Automobile	132.00
Truck	250.00
Lodging and meals etc.	180.00

<u>A.R. Allen, P.Eng.</u> : Vancouver, B.C.,	
July 11, 16, 25, 26, 27,	
Fees	1,250.00
Travel expenses	155.00
Telephone, sample shipping, etc.,	65.00
Assaying	1,244.40
Office, reports, mapping, typing	80.00

\$4,248.90

FIELD CREW

GEOCHEMICAL SURVEY

Barb 13-24 and 37-46

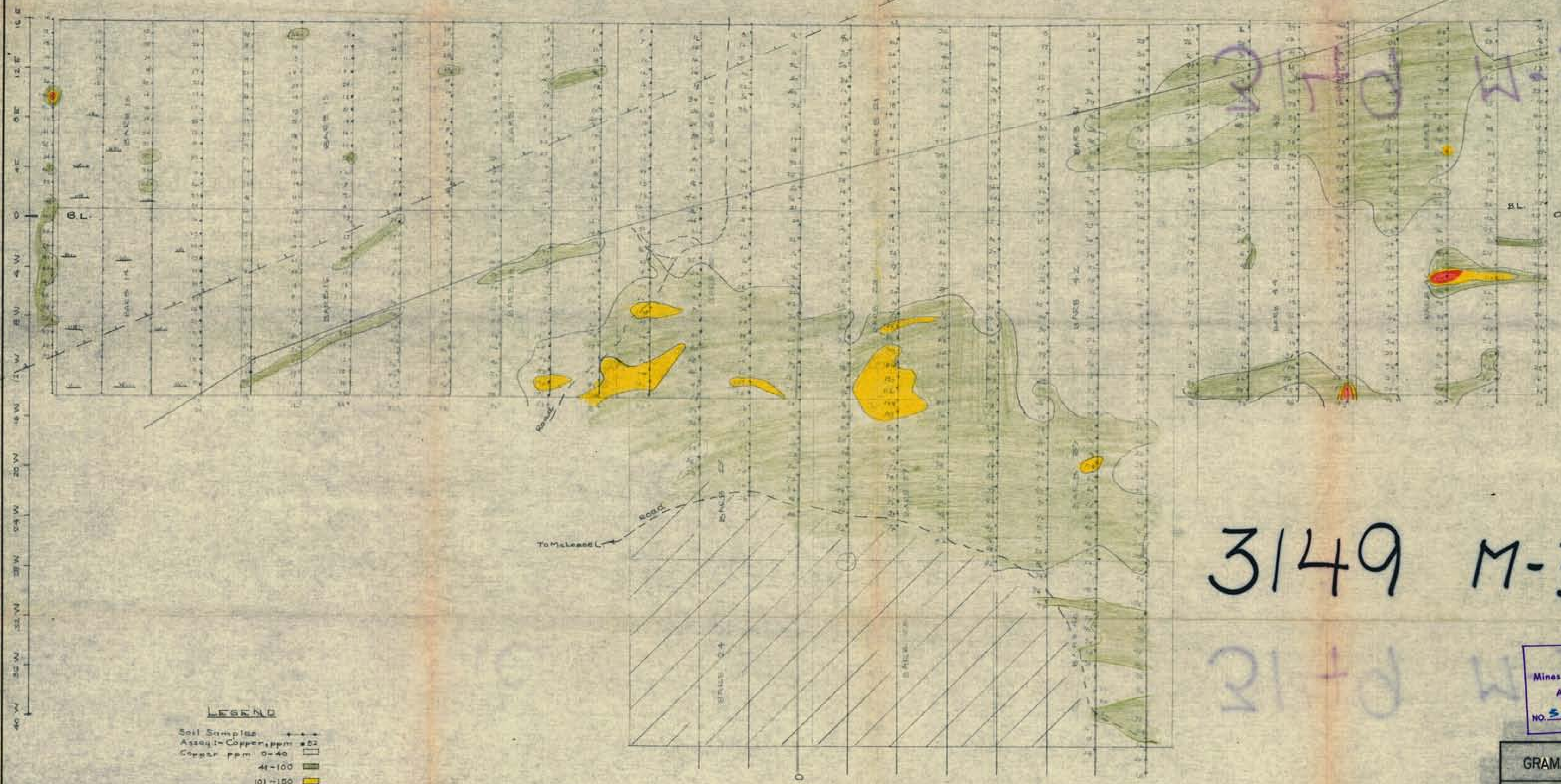
CARIBOO M.D.

July 2 - 16, 1971

T. Thomas, Langley, B.C.,	Operator
E. Hayes, Merritt, B.C.,	Operator
R. Thomas, Langley, B.C.,	Helper
A.R. Allen, Vancouver, B.C.	Engineer



90N 80N 70N 60N 50N 40N 30N 20N 10N 0 10E 20E 30E 40E 50E 60E 70E 80E 90E



3149 M-3

3149 W

LEGEND

- Soil Samples
- Assay: Copper, ppm
- Copper ppm 0-40
- 41-100
- 101-150
- 151-200
- 201-250
- Pipeline
- Power Line
- Road
- Swamp
- Cultivated Land

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3149 MAP #3

GRAMARA MINES LTD (NPL)

GEOCHEMICAL SURVEY

BARB 13-24 AND 34-46

122° 53' 32" CARIBOO M.D. 3-7-71 to 15-7-71

SCALE 1" = 100'

DATE 23/7/71

BY A.R. ALLEN

ALLEN GEOLOGICAL ENGINEERING LTD.

6-2