

# 4881

92 I/10E

GEOLOGICAL AND GEOCHEMICAL REPORT

on the

LED, NEW LED, G.G. AND M.B. CLAIM GROUPS

GREENSTONE MOUNTAIN

KAMLOOPS MINING DIVISION

50°38'N, 120°37'W

MAP 92 10E

92 I/  
10E

for

MONETA PORCUPINE MINES LTD.

by

Department of  
Mines and Petroleum Resources

ASSESSMENT REPORT

NO. 4881 MAP

G. B. Phelps, P. Eng.

ATLED EXPLORATION MANAGEMENT LTD.

January, 1974

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## INTRODUCTION

An exploration program was started on the Led-Ex claim groups on April 6, 1973 at the request of Mr. D. Mercier, President of Moneta Porcupine Mines Ltd. A follow-up program on August 8 to 18, 1973 and October 16, 17, 18, 1973 was performed to extend the area of exploration and to investigate copper and molybdenum mineralization and geochemical anomalies located in 1972. These exploration programs were conducted by Atled Exploration Management Ltd. personnel.

## SUMMARY

The claim group is located on the north slope of Greenstone Mountain fifteen miles west of Kamloops, B.C.

The Led-Ex claims are underlain by Nicola volcanics which have been intruded by diorite stocks related to the Iron Mask Batholith. The claims are five miles west of the batholith and the Afton and Leemac copper deposits.

The 1973 survey took 236 geochemical soil samples which were assayed for copper and molybdenum over 52,750 feet of line grid. Outcrop geology was mapped over both the 1972 grid area and the 1973 area.

GEOGRAPHY

Location

The Moneta property is located in the Kamloops Mining Division, fifteen miles west of Kamloops and two miles west of Afton Mines Ltd.

Co-ordinates of the property are latitude 50°38' North and longitude 120°37' West.

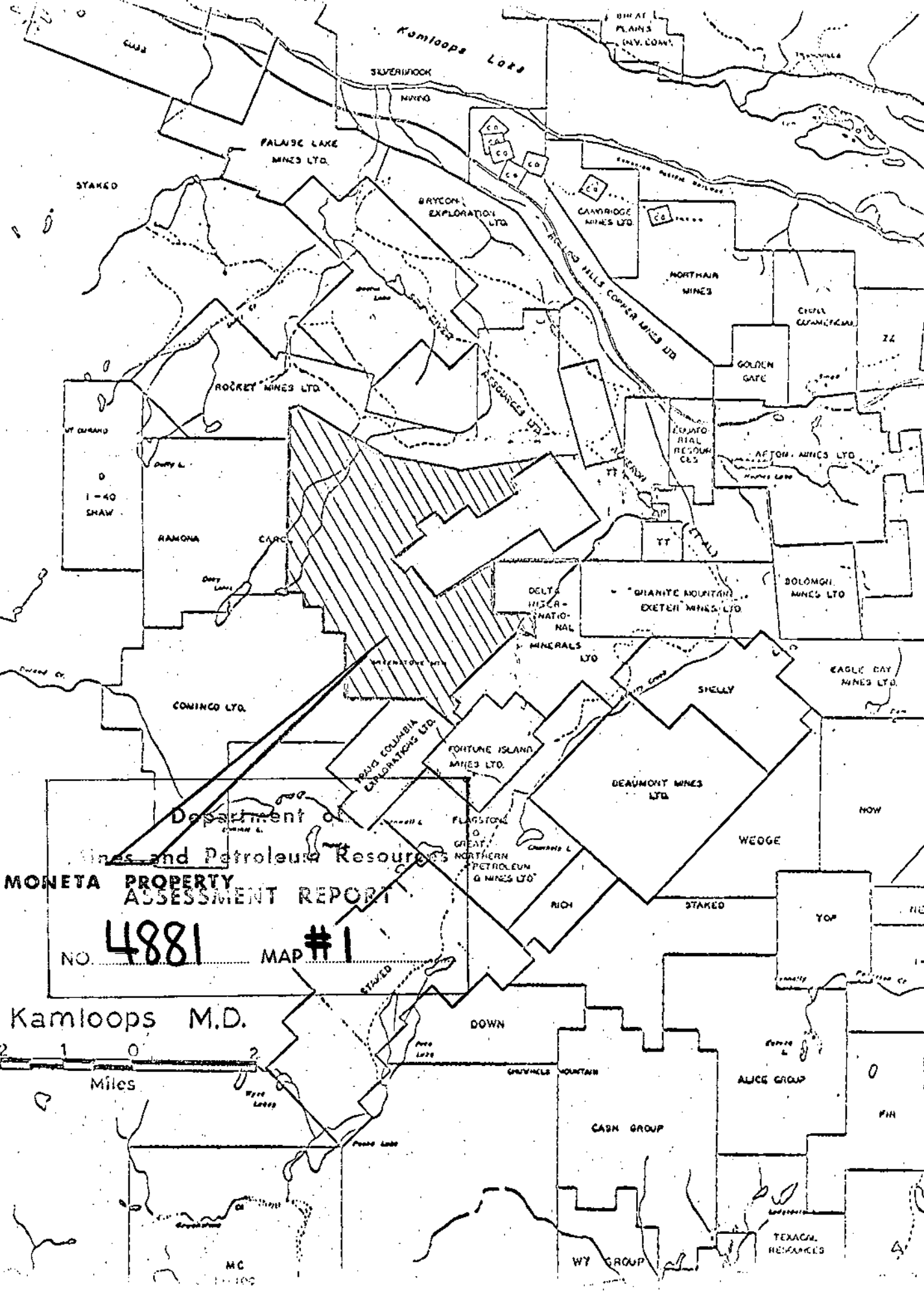
Access

From Kamloops the property can be reached by going twelve miles west on the Trans-Canada Highway to Cherry Creek and then turning south on a good gravel road that goes to the micro-wave station on Greenstone Mountain. There are several logging roads that turn west off the Greenstone road providing easy access to most of the claim group.

Topography

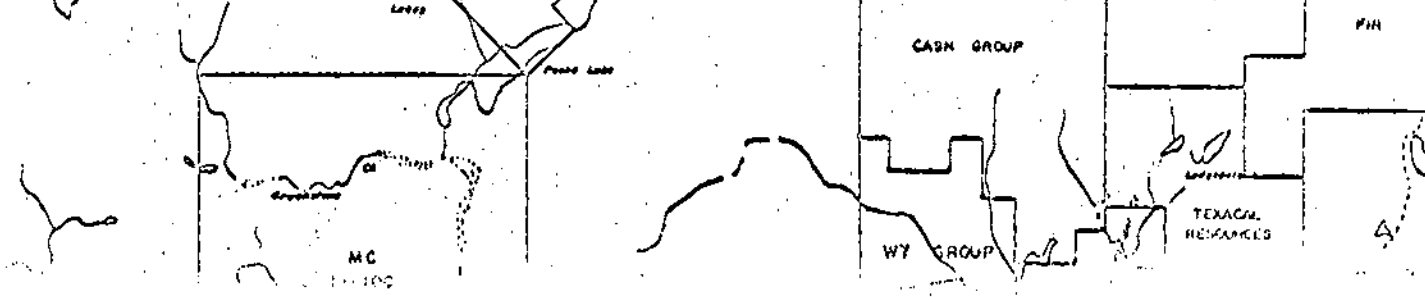
The claim group lies on the north slope of Greenstone Mountain between Ned Roberts Creek and Beaton Creek. The elevation ranges from 2,500 feet at the north end of the claim group up to an elevation of 5,884 feet on the south end of the claims on top of Greenstone Mountain.

Series of small bluffs and small benches are common in the claim area and are glacial in origin. A small lake, Gilbert Lake, occurs on the west side of the claim area.



Department of  
 Mines and Petroleum Resources  
**MONETA PROPERTY  
 ASSESSMENT REPORT**  
 NO. **4881** MAP # **1**

Kamloops M.D.  
 Miles 0 1 2



Vegetation

The claim group is covered by thick timber with open mixed pine and fir on the lower slopes changing to fir and spruce at the higher elevations. There is little underbrush except along the creek bottoms.

Climate

The property is situated in the dry belt of British Columbia having between 10 and 20 inches of rain per year. The maximum snow-pack on the lower slopes would average less than 2 feet and average 4 feet on the upper slopes.

Water

There is ample water in the area for any drilling.

CLAIMS

The following mineral claims are owned by Moneta Porcupine Mines Ltd. on Greenstone Mountain, Kamloops Mining Division, B. C.

<u>CLAIM</u>	<u>RECORD NUMBER</u>	<u>EXPIRY DATE</u>
LED 2 - 6	103076 - 103080	January 18, 1975
LED 8 - 10	103082 - 103084	January 18, 1975
LED 12 - 14	103086 - 103088	January 18, 1975
LED 23 - 35	103097 - 103109	January 18, 1975
LED 74	103148	January 18, 1975
LED 76	103150	January 18, 1975
LED 81 - 94	113641 - 113654	April 27, 1975
G.G. 1 - 2	119128 - 119129	May 24, 1975
G.G. 3	118012	May 15, 1975
G.G. 5 - 8	118014 - 118017	May 15, 1975
G.G. 11 Fraction	118020	May 15, 1975

## GEOLOGY

### General Geology

The claim area is underlain by the Triassic Nicola Group volcanic rocks which have been intruded by diorite and monzonite stocks or plugs.

The Nicola volcanics consist of massive augite porphyry, andesite, tuffaceous fragmentals and flow breccia. Locally units may contain up to 10 per cent magnetite and minor amounts of pyrite. No readily identifiable units or marker beds have been located.

Sulfide mineralization occurs as chalcopyrite, molybdenite and pyrite in quartz veins in the Nicola volcanics. Pyrite also is disseminated in some of the volcanics but seldom exceeds 1 to 2 per cent.

An intensely altered quartz monzonite intrusive on the east end of Lake Gilbert contains minor disseminated chalcopyrite and molybdenite.

A breccia zone near the peak of Greenstone Mountain contains copper mineralization. In this zone the Nicola volcanics are highly brecciated with from 2 to 5 per cent disseminated pyrite and minor chalcopyrite. Due to covered ground the extent of this zone has not been determined.

No significant mineralized outcrops were located in the geochemically anomalous zone sampled in 1973. Small veinlets of quartz with molybdenite and chalcopyrite occur at random but not in significant quantities.

## GEOCHEMICAL SURVEY

### Survey

Two geochemical soil sampling surveys were conducted in 1973 by personnel of Atled Exploration Management Ltd. These surveys collected a



total of 236 soil samples over a 52,750 foot line grid.

The first survey was under the supervision of Mr. P. Henry, Project Manager from August 8 to August 18, 1973. The second survey was performed by Mr. G. Gutrath, P. Eng. and Mr. G. Phelps, P. Eng. in October 16 to 19, 1973.

#### Procedure

The samples were collected from the "B" soil horizon and placed in Kraft paper bags. The average sample depth was 8 inches.

Vancouver Geochemical Laboratories Ltd. analysed the samples for copper and molybdenum.

The analysis is by instrumental Atomic Absorption. The extraction is by hot  $\text{HClO}_4$  -  $\text{HNO}_3$  digestion. Detection is by Techtron AA<sub>5</sub>.

#### Results

Two anomalous zones of both copper and molybdenum have been outlined by the surveys as shown on the maps. The copper values over 300 ppm and the molybdenum values over 11 ppm have been considered definitely anomalous. The abrupt changes in the molybdenum values on the northern part of the grid are probably related to a lithologic change and indicate an intrusive or contact zone.

Many of the highest anomalous copper values occur in swampy ground. It was not possible to determine if these values are a residual concentration or if they are caused by a mineralized zone which was more easily eroded both by glacial activity and subsequent weathering.

In general the higher molybdenum values show a direct relation to the presence of outcrops and angular float of either the intrusive or feldspathized andesite. The high copper values in the swampy ground could not be tested at depth during this work program.

CONCLUSION

An additional zone of anomalous copper and molybdenum values was located during the 1973 work program. Initial results were sufficient to extend the geochemical survey and do additional geological mapping.

The copper anomalous zones conforms to a flat bench area or a topographic low which may have accumulated metal ions to give a residual anomalous zone, or it may represent a contact mineralized zone which was more easily eroded resulting in the topographic low.

The high molybdenum values on the north change very abruptly and probably represent a lithologic change from the andesites to the monzonite-diorite intrusive or possibly a mineralized contact zone.

Subsequent work should be planned to test the copper and molybdenum anomalous zones at minimum expense either by bulldozer trenching or preferably by percussion drilling. The bulldozer trenching may not reach the depth required and is not as conclusive.

Respectfully submitted,

A circular professional seal for G. B. Phelps, P. Eng. The seal contains the text "PROFESSIONAL ENGINEER" around the top and "G. B. PHELPS P. Eng." in the center. A signature is written across the seal. Below the seal, the text "G. B. Phelps, P. Eng." and "ATLED EXPLORATION MANAGEMENT LTD." is printed.  
G. B. PHELPS  
P. Eng.  
ATLED EXPLORATION MANAGEMENT LTD.

DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA.  
To Wit:

**In the Matter of** COSTS INCURRED IN CARRYING OUT  
GEOLOGICAL MAPPING AND A GEOCHEMICAL SURVEY ON THE  
LED, P.H. and G.G. CLAIMS.

I, George B. PHELPS

of Vancouver

in the Province of British Columbia, do solemnly declare that the following are the minimum costs incurred in carrying out the exploration program of the Greenstone Mountain Group of Moneta Porcupine Mines Ltd. by Atled Exploration Management Ltd.

Personnel

Pat Henry	Aug. 8 - 18, 1973	\$ 725.00
Burry Vanderveer	Aug. 13 - 18, 1973	240.00
Jeff Lerner	Aug. 8 - 10, 1973	150.00
G. Gutrath, P. Eng.	Oct. 15 - 18, 1973	375.00
G. Phelps, P. Eng.	Oct. 15 - 18, 1973	375.00

Food & Accommodation - 25 man days  
at \$15.00 per day 375.00

Transportation

Truck 4 wheel drive 17 days - 2,235 miles 255.50

Equipment & Supplies 117.94

Assaying for Copper and Molybdenum

Vancouver Geochemical Ltd. 255.65

Report and Maps

500.00

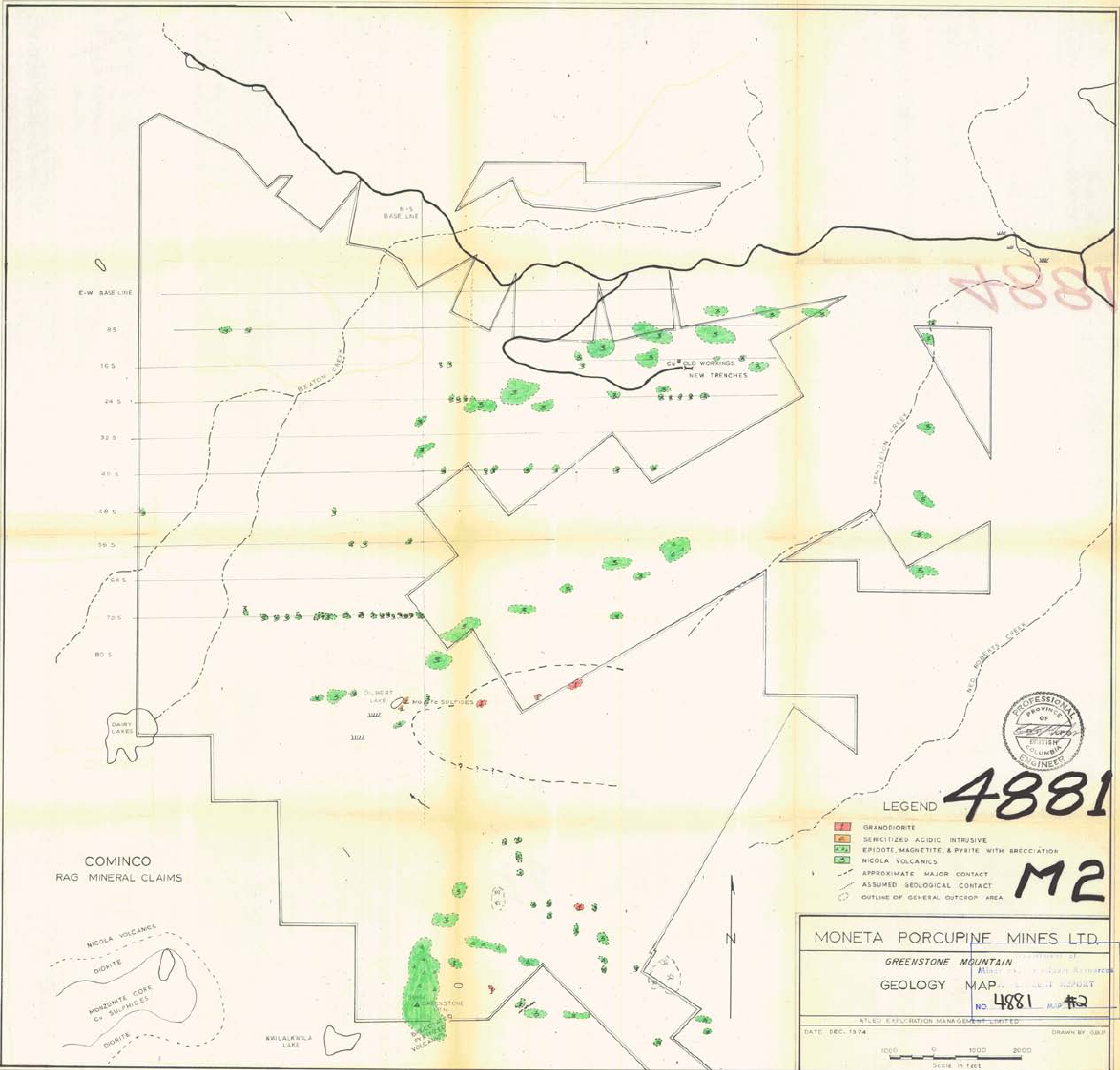
\$ 3,369.09

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the *City*  
of *Vancouver*, in the  
Province of British Columbia, this *18<sup>th</sup>*  
day of *February, 1974*, A.D.

*George Phelps*

*Jan Paul* Sub-mining Recorder  
A Commissioner for taking Affidavits for British Columbia or  
A Notary Public in and for the Province of British Columbia.



4881



4881

M2

LEGEND

- GRANODIORITE
- SERICITIZED ACIDIC INTRUSIVE
- EPIDOTE, MAGNETITE, & PYRITE WITH BRECCIATION
- NICOLA VOLCANICS
- - - APPROXIMATE MAJOR CONTACT
- - - ASSUMED GEOLOGICAL CONTACT
- OUTLINE OF GENERAL OUTCROP AREA

MONETA PORCUPINE MINES LTD.

GREENSTONE MOUNTAIN

GEOLOGY MAP

NO. 4881 MAP #2

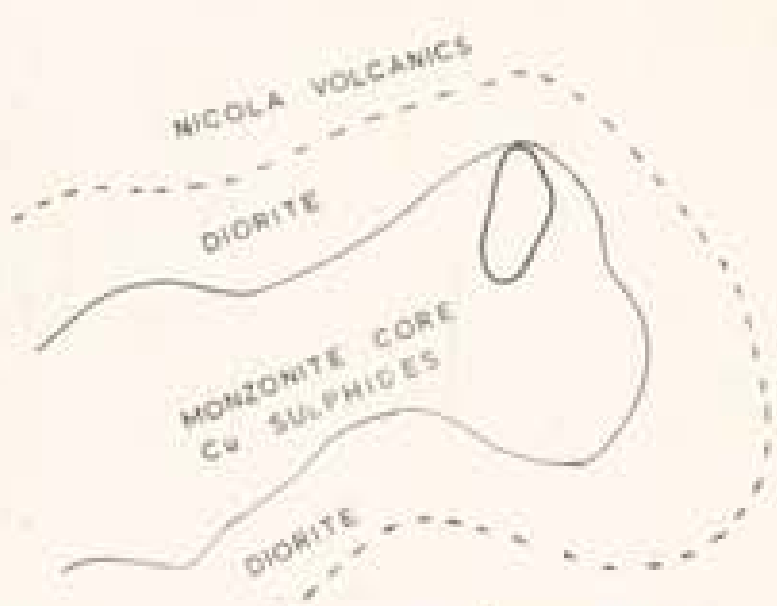
ATLIED EXPLORATION MANAGEMENT LIMITED

DATE: DEC. 1974

SCALE IN FEET

1000 0 1000 2000

COMINCO  
RAG MINERAL CLAIMS



NWILAKWILA LAKE

GREENSTONE MOUNTAIN  
BY PYRITE VOLCANICS

N-S  
BASE LINE

E-W  
BASE LINE

85

165

245

325

405

485

565

645

725

805

BEATON CREEK

BENLETON CREEK

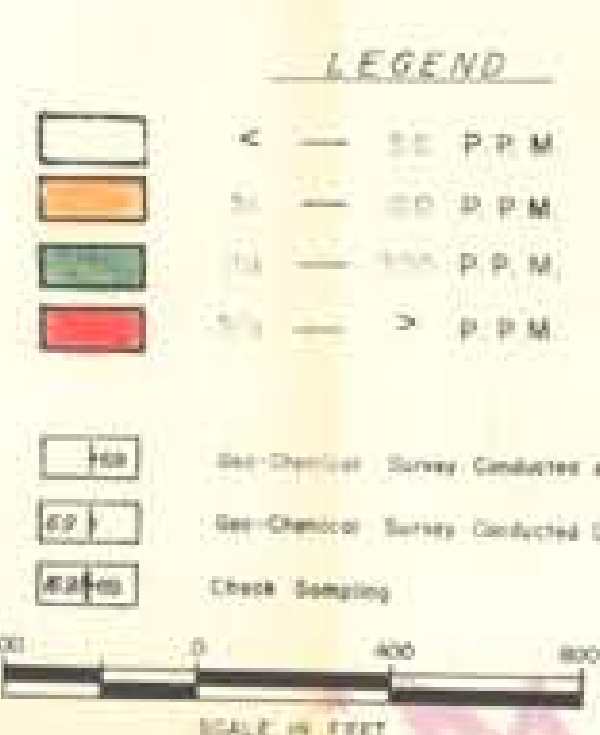
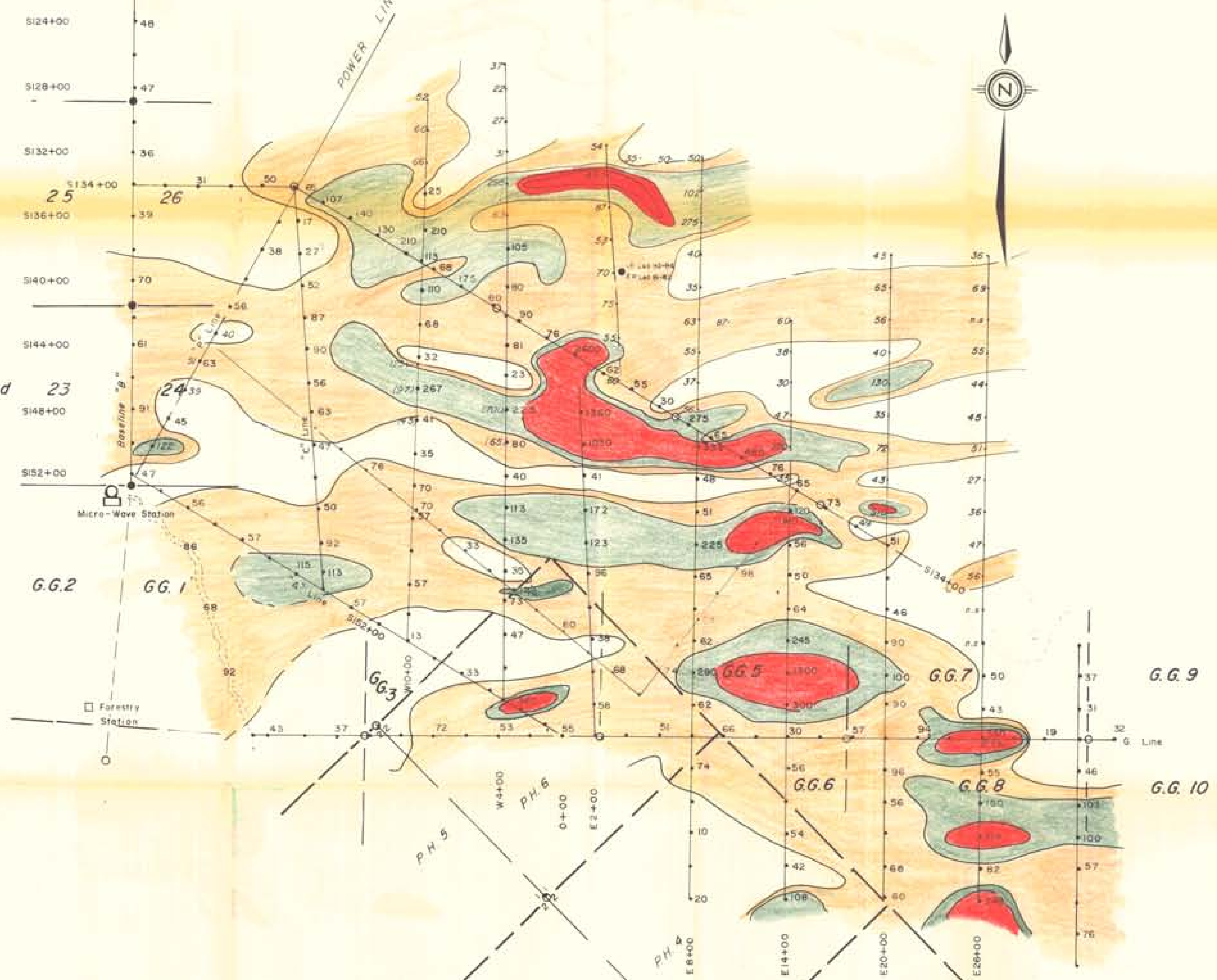
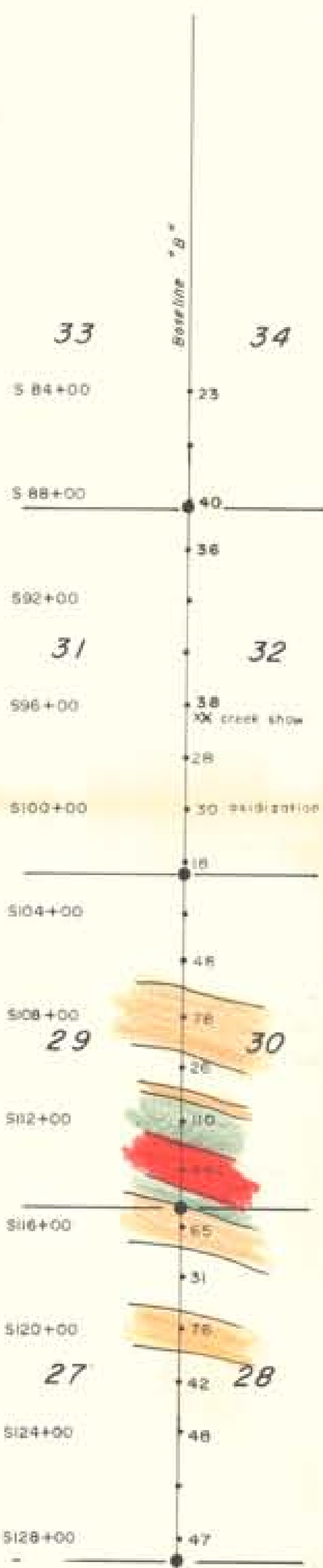
NEO-PORCUPINE CREEK

DAIRY LAKES

OLBERT LAKE  
Mo Fe SULPHIDES





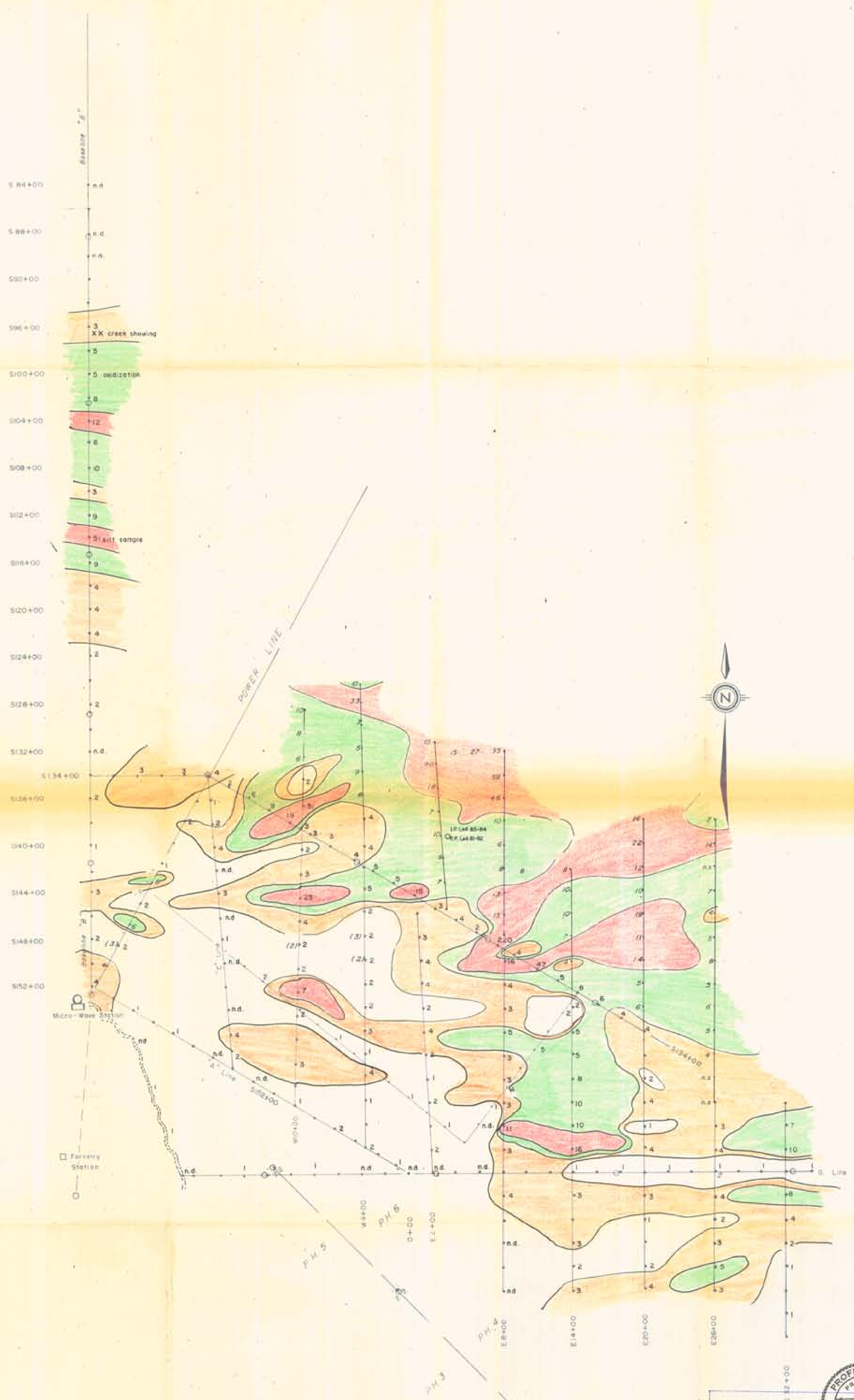


PROFESSIONAL ENGINEER  
 BRITISH COLUMBIA  
 S. R. HARRIS  
 NO. 4881 MAP #3

MONETA PORCUPINE MINES, Limited  
 Allied Exploration Management Ltd.  
 425 - 675 HORN ST. VANCOUVER 1, B.C.  
**LED & G.G. GROUP**  
 Geochemical Survey  
 RAMLOOPS MINING DIVISION N.T.S. 92/100  
 SCALE 1" = 400'  
 DRAWN C.H.K.  
 DATE SEPT., 1973  
 NUMBER 306-E

4881 M3

COPPER



**LEGEND**

	< 2 P.P.M.
	3 - 4 P.P.M.
	5 - 10 P.P.M.
	> 11 P.P.M.

Geo-Chemical Survey Conducted Aug. 1973  
 Geo-Chemical Survey Conducted Oct. 1973  
 Check Sampling

SCALE IN FEET

PROFESSIONAL ENGINEER

ASSESSMENT REPORT

NO. 4881 MAP #4

MONETA PORCUPINE MINES, Limited

Allied Exploration Management Ltd.  
400-475 HURON ST. VANCOUVER 1, B.C.

LED & G.G. GROUP  
Geochemical Survey

SCALE 1" = 400'

DRAWN S.S.K.

DATE SEPT., 1973

PLATE 208-2a

**MOLYBDENUM**

4881 M4