

93L/12E

GEOLOGICAL AND GEOCHEMICAL SURVEY REPORT  
ON THE AB CLAIM GROUP OF GRANDORA  
EXPLORATIONS LTD. (NPL), CARIBOU  
MOUNTAIN, OMINACA MINING DIVISION, B.C.

Situated 22 miles west of Smithers  
and about 6 miles southwest of McDonnell  
Lake.

54°42' N. Lat., 127°45' W. Long.

SUBMITTED BY: J. NEEDOBA, GEOLOGIST  
ENDORSED BY: F. HOLCAPEK, P. ENG.,  
GEOLOGIST.

OWNER: M. J. BELEY,

WORK CONDUCTED BY: AGILIS ENGINEERING  
LTD.

AB, EL, BD, JB

4671

4671

1973  
OCT 23 1973  
COMMUNICATIONS SECTION

REPORT ON THE AB GROUP

CARIBOU MOUNTAIN, CENTRAL B.C.

for

GRANDORA EXPLORATIONS LTD. (N.P.L.)

October, 1973

Vancouver, B.C.

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 4671 MAP

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REPORT ON THE AB GROUP

CARIBOU MOUNTAIN, CENTRAL B.C.

for

GRANDORA EXPLORATIONS LTD. (NPL)

1-00 INTRODUCTION

The AB property is a group of 7 claims adjoining the 40 claim NH and EL group, which is also held by Grandora Explorations Ltd. (NPL). The property is located on Caribou Mountain, 30 miles west of Smithers, central British Columbia.

Subsequent to the discovery and exploration of copper and silver mineralization on the NH claims, several claim blocks were staked to cover the possible extension of this zone as well as other copper occurrences in the area. During the 1973 field season a reconnaissance exploration program was initiated by personnel of Agilis Engineering Ltd. over the entire claim block. The survey consisted mainly of prospecting and soil sampling and led to the dropping of all surrounding claims except the AB group.

A six man crew was employed from August 12th to August 24, 1973, under the supervision of the writer. Work completed over the actual AB group consisted of 21,000 feet of line chained and flagged with stations every 200 feet; 60 soil samples taken and analysed for copper and silver; geological examination of the copper showing and associated rocks.

2-00 PROPERTY

The property is owned by Grandora Explorations Ltd (NPL) and consists of the following seven mineral claims:

<u>Claim Name</u>	<u>Record Number</u>	<u>Date Recorded</u>
JB 1,2	117543, 117544	September 22, 1972
EL 5,6	115423, 115425	August 24, 1972
AB 1,2	117667, 117668	September 22, 1972
BD 2	117642	September 22, 1972

The claims were staked by Mr. M. J. Beley, they are in the Omineca Mining Division and were recorded in Smithers, B.C.

3-00 HISTORY

The Caribou Mountain Property (NH Claims) was examined in 1967 and 1968 by Dome Babine Mines Ltd. Trenching and diamond drilling, as well as geological, geochemical and induced polarization surveys were made. This was followed up, in the late fall of 1972, with a diamond drilling program by Grandora Explorations Ltd (NPL) which was terminated after only 1400 feet of a planned 2000 foot program because of severe early winter conditions. The results were inconclusive although several short copper mineralized sections were intersected.

The ground occupied by the AB group is known to have been held under the original 82 claim NH group, however, no evidence of earlier work on the copper occurrences could be found.

The Amax Serb Creek molybdenum prospect lies 3 miles south of the AB group, and is associated with granitic rocks intrusive into Hazelton Group volcanics.

#### 4-00 GEOGRAPHY

##### 4-10 Location and Access:

The AB Group is located on the south slope of Caribou Mountain approximately one mile north of Serb Creek. Caribou Mountain lies 22 miles west of Smithers, B.C., and about six miles southwest of McDonnell Lake. The co-ordinates are  $127^{\circ} 45'$  West longitude and  $54^{\circ} 42'$  north latitude.

Access from Smithers is by 32 miles of gravel and dirt road as far as the Zymoetz River bridge (presently impassable), six miles northeast of the property. Access onto the property is by helicopter from the bridge, or by pack-horse along a well cut trail that crosses over Caribou Mountain near the claims.

##### 4-20 Physiography and Climate

Topographic relief over the claims area is moderate with cliffs lying to the north, southwest and southeast. Elevation is approximately 5,000 feet.

Alpine meadow, scattered stand of mountain spruce and rock slopes underlie the claims. Small intermittent streams flow from snow and patches of glacial ice higher on the mountain.

As the property lies at 5,000 feet of elevation, and over, the weather and temperatures are typical of the alpine regions of central B.C. Snow can be expected from late August to early June, while the summer months experience moderate rainfall. Some ground is permanently snow covered during colder summers.

## 5-00 GEOLOGY

### 5-10 Regional

Caribou Mountain is underlain by a thick sequence of middle Jurassic Hazelton Group feldspar porphyries (volcanic flows) usually dark green in color and in part amygdaloidal in the upper part of the several flows. These are interbedded with dark grey to red andesites, with dark purple to light colored tuffs, breccias and pyroclastics.

Intermediate granitic intrusives occur a few miles to the south, however, neither them nor their derivatives are known to cut the Hazelton rocks of Caribou Mountain.

### 5-20 Property

Purple to black tuffs and andesites, and light colored tuffs underlie the claims. These volcanic units are 5 to 40 feet thick and weather both blocky and flaggy. They strike quite consistently at  $355^{\circ}$  -  $360^{\circ}$  and dip  $15^{\circ}$  -  $25^{\circ}$  east. Alteration and fracturing is found only along a few northerly striking, vertically dipping narrow fault zones, and is minor.

## 6-00 MINERALIZATION

Copper mineralization occurs over about 200 feet along two parallel fault zones. (See Figure 1).



The main zone (A in figure) consists of fracture fillings and veinlets of chalcocite and bornite over a zone one foot wide which is exposed for 20 feet. The veining and mineralization becomes discontinuous to the NW in an overlying red-purple, flaggy weathering tuff. However, preferential replacement and open space filling of a chloritized greenish andesite occurs where it is cut by the fracturing. The mineralized unit is five feet wide and was exposed along strike for 30 feet. A grab sample (AB 2) of this unit assayed 1.76% Cu and 4.95 oz/ton silver. A chip sample (AB 1) across 8 inches of the veined fracture zone assayed 0.87% Cu and 1.08 oz/ton silver.

Along strike, 70 feet to the southwest, malachite is common along tight fractures in the same volcanic unit as described above. No sulphides or veining were noticed.

Chalcocite veins occur in rocks along a small talus slope (C in figure) of the same volcanic unit 100 feet further southeast. A grab sample (AB 3) of the mineralization assayed 5.05% Cu and 10.94 oz/ton silver.

A fourth occurrence (D in figure) consists of narrow chalcopyrite and chalcocite veins associated with a 2-foot wide fault zone striking  $360^{\circ}$  and dipping  $80^{\circ}$  east. Chlorite, epidote and calcite stringers are common. A selected grab sample (AB 4) taken from the narrow sulfide veins, assayed 1.76% Cu and 4.95 oz/ton silver. The veining was traced for 80 feet.

7-00 GEOCHEMICAL SURVEY

Soil and silt sampling was employed as a reconnaissance tool, along with prospecting, to examine the claim blocks around the original NH showing on Caribou Mountain. Control was obtained by running lines at 102° spaced at 400 feet with stations marked at 200-foot intervals.

7-10 Method:

Soil samples were collected from the B horizon at a depth of 6 to 14 inches using a soil auger. A portion of the soil obtained was placed into Kraft sample envelopes which were numbered corresponding to the grid location. At each sample location notes were recorded on any data that might enable a better interpretation of the results.

Samples were forwarded to Core Laboratories Ltd., 325 Howe Street, Vancouver, for analysis. After drying in an electric oven the soil was screened and the -80 mesh fraction was digested in hot perchloric-nitric acid mixture. Quantitative analysis for total copper and silver was performed by atomic absorption method and reported in parts per million (ppm).

7-20 Results:

Because of the small sample population, statistics were not employed in the interpretation. Samples taken over known mineralization places anomalous values for copper between 60 ppm and 310 ppm. Background ranges from 2 ppm to 60 ppm and averages about 25 ppm.

Silver can be considered anomalous at 1.0 ppm with a high of 1.5 ppm corresponding to the copper high of 273 ppm. Average background silver value is 0.5 to 0.6 ppm.

Only one zone on the claim group can be considered anomalous, that corresponding with the known showing on line 40W, extending from 70S to 64S. The highest copper value, 273 ppm, occurs north of the observed showing in a small stream channel, and corresponds to a silver high of 1.5 ppm.

8-00 SUMMARY AND CONCLUSIONS

The AB claims adjoin the EH and NH copper mineralized property of Grandora Mines Ltd (NPL) on Caribou Mountain, 22 miles southwest of Smithers, B.C.

The group of claims has been held following a reconnaissance soil sampling and prospecting survey over approximately 150 claims surrounding the NH and EL Group after which the others were dropped.

Nature of the mineralization is similar to that discovered on the NH and EL claims where significant copper and silver values are associated with faulting and a particular lapilli tuff unit.

Mineralization on the AB group at present appears minor in extent, however, the extent of the preferential replacement of a volcanic unit next to the fault zone, and the soil high in copper and silver to the north is of significant interest to warrant further work.

Because of the poor soil development over much of the property, many samples could not be taken, and some cannot be considered reliable, as prospecting in the same area has indicated that soil highs have sometimes not occurred over mineralization where B horizon is undeveloped and C horizon is poor.

9-00 RECOMMENDATIONS

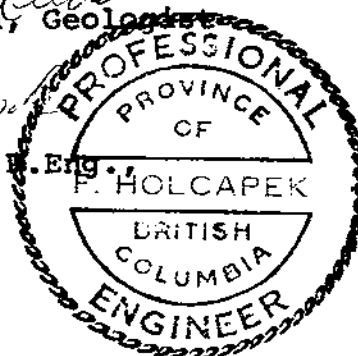
It is recommended that the claims be held until the true extent of the mineralization is traced on surface. The geological relations of this area to that underlying the EH and NH claims should be ascertained.

As rock exposure is good it is suggested that a thorough geological examination be made of the volcanics between the two properties and the structure and lithology be related to the mineral occurrences.

Respectfully submitted,

*J. C. Needoba*  
J. C. Needoba, Geologist

*F. Holcapek*  
Endorsed by: F. Holcapek, P. Eng.



October 22, 1973  
Vancouver, B.C.

CERTIFICATION

I, Jack Charles Needoba of 3 - 876 E. 8th Avenue,  
Vancouver, British Columbia, do hereby certify that:

1. I am a graduate of the University of British Columbia (1971) and hold a B.Sc. degree in geology.
2. I have practised as an exploration geologist in British Columbia, Yukon Territory and Northwest Territories for three years.
3. Information contained in this report is based upon work performed by myself or at my direction.

Submitted by:

  
\_\_\_\_\_  
J.C. Needoba, Geologist.

August 1973

Vancouver, B.C.

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

In the Matter of Geological and Geochemical surveys conducted  
 on the AB claim Group of Grandora Explorations Ltd. (NPL)  
 Caribou Mountain, Omineca M.D., B.C.

I, J.B. Talbot

of c/o 107 - 325 Howe St., Vancouver, B.C.

in the Province of British Columbia, do solemnly declare that The following personnel were employed and costs incurred in conducting the above work from Aug. 12 to Aug. 24, 1973.

Personnel

F. Holcapek - Supervision	9.50 hrs. @ 15.00/hr	142.50
R. Turner - Field	19.00 days @ 72.72/day	1,381.68
F. Zischka "	18.00 days @ 43.20/day	777.60
M. Veerman "	11.00 days @ 40.90/day	449.90
D. Nordley "	16.25 days @ 40.90/day	664.62
J. Needoba - Geologist	9.50 days @ 100.00/day	950.00
S. McColl - Field	11.00 days @ 45.44/day	499.84
B. Talbot - recording	4.00 hrs. @ 8.50/hr.	34.00
R. Rollings - office	1.50 hrs. @ 8.50/hr.	12.75
L. Turner - Field	18.25 days @ 36.36/day	663.57
		<u>5,576.46</u>

Disbursements

Airfares	318.00
Groceries and supplies	680.06
Hotel and meals	360.98
Gas and Oil	86.49
Geochem testing	171.90
Helicopter	366.80
Misc. freight, taxi, prints	68.56
Camp charges	120.00
Truck - rental	250.00
- mileage 1,300 @ 15¢	195.00
Minister of Finance (assess work)	730.00
+ 10% overhead for disbursements	334.77
	<u>3,682.56</u>

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."

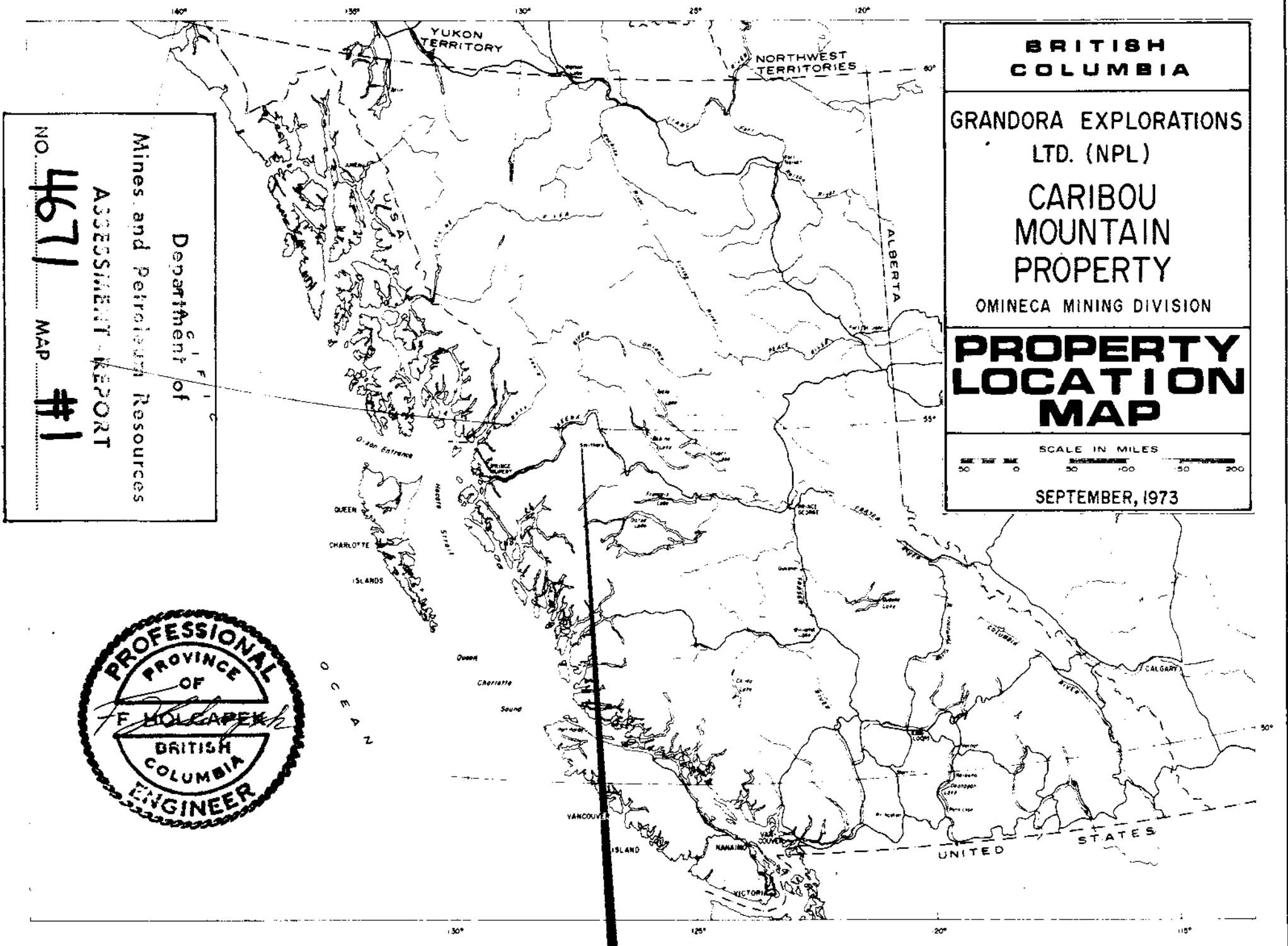
Total Amount 9,259.02

Declared before me at the CITY  
 of VANCOUVER, in the  
 Province of British Columbia, this 24  
 day of October, 1973, A.D.

*J. B. Talbot*

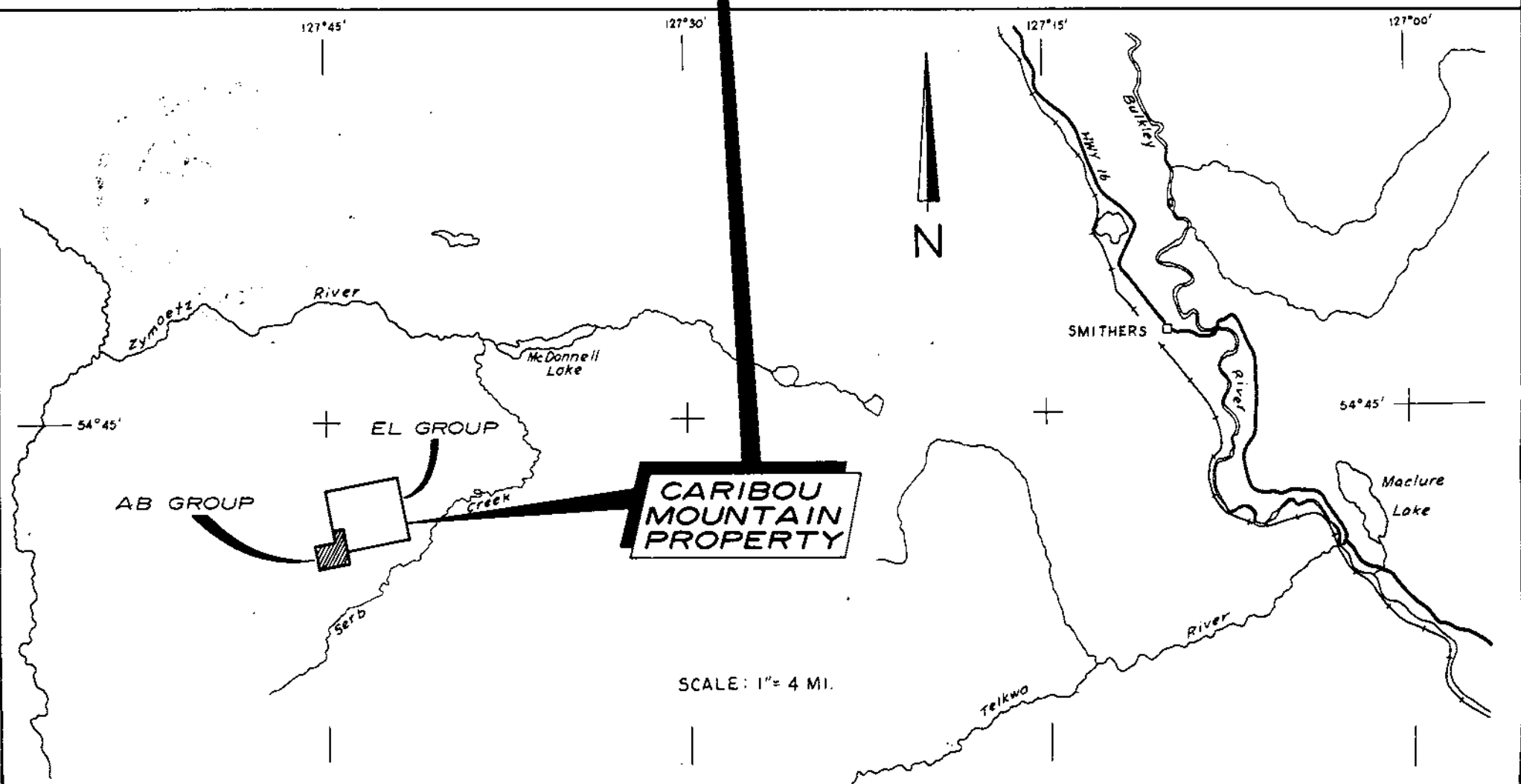
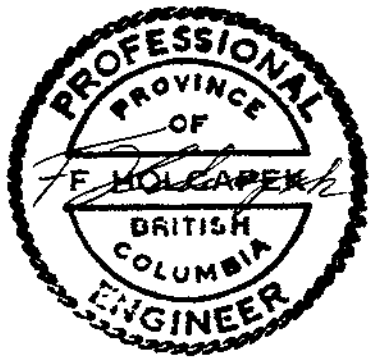
*L. Geanno*  
 A Commissioner for taking Affidavits for British Columbia or  
 A Notary Public in and for the Province of British Columbia.

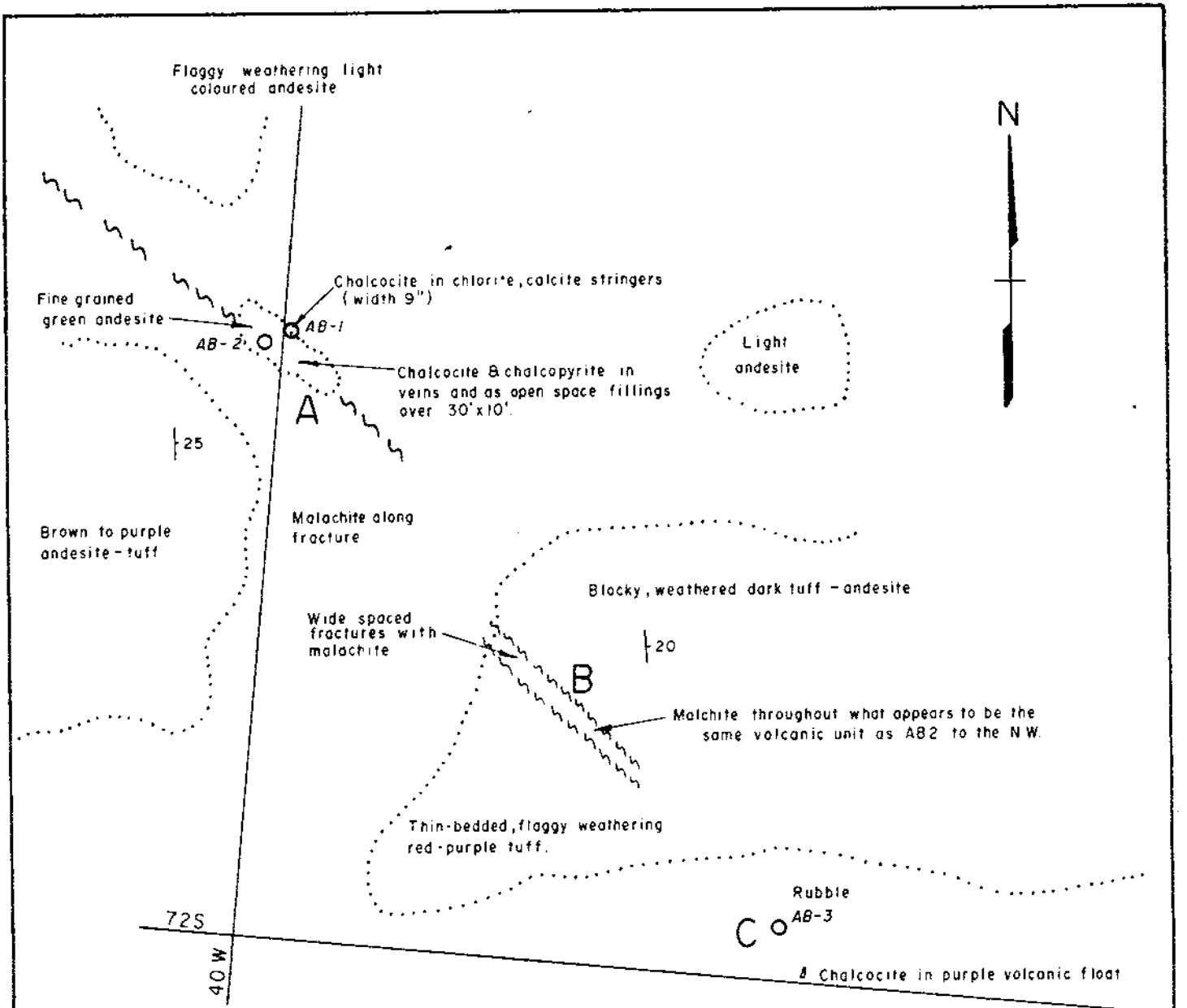
SUB-MINING RECORDER



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. **4671** MAP # **1**

**BRITISH COLUMBIA**  
GRANDORA EXPLORATIONS LTD. (NPL)  
**CARIBOU MOUNTAIN PROPERTY**  
OMINECA MINING DIVISION  
**PROPERTY LOCATION MAP**  
SCALE IN MILES  
0 50 100 150 200  
SEPTEMBER, 1973





Sample N <sup>o</sup> .	% Cu	oz. / T. Ag	Sample Type
AB-1	0.87	1.08	Chip over 8"
AB-2	1.76	4.95	Grab
AB-3	5.05	10.94	Float
AB-4	0.85	0.47	Grab

Fracture zone 2' wide with associated malachite & chalcopyrite

**GRANDORA EXPLORATIONS LTD.  
(NPL)**

**CARIBOU MOUNTAIN PROPERTY  
AB, BD, JB and EL CLAIMS  
OMINECA MINING DIVISION, BC.**

**GEOLOGY MAP  
OF MAIN SHOWING**

SCALE IN FEET  
50 100

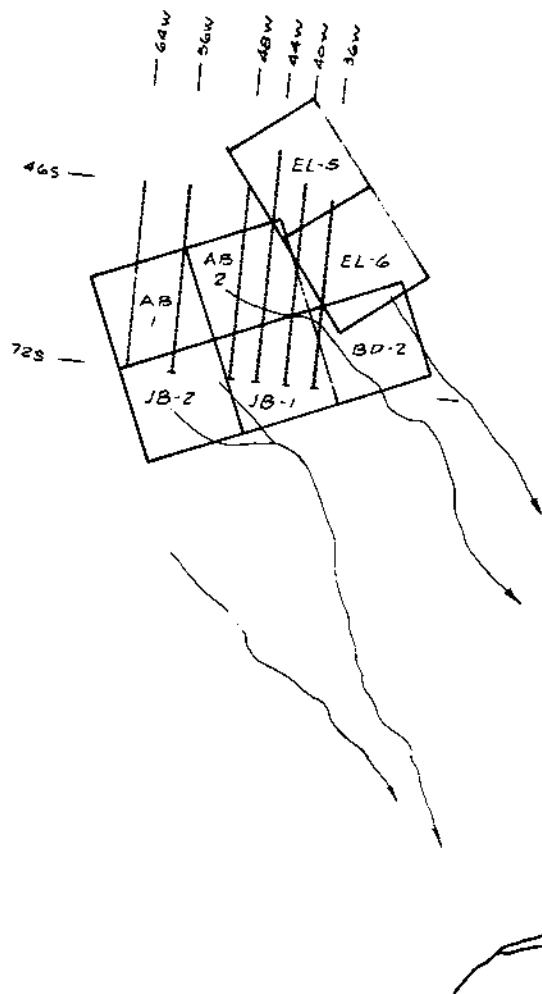
AGILIS ENGINEERING LTD. OCTOBER, 1973

Department of  
**Mines and Petroleum Resources**

**ASSESSMENT REPORT**

NO. **4671** MAP **#5**





Department of  
 Mines and Petroleum Resources  
**ASSESSMENT REPORT**  
 NO. **4671** MAP **#6**

GRANDORA EXPLORATIONS LTD. (NPL)  
 CARIBOO MOUNTAIN PROPERTY

PROPERTY SKETCH MAP  
 SHOWING  
 GEOCHEMICAL GRID LOCATION

SCALE 1" = 2640'      JAN., 1974

*Note Topography from B.C. Claim map  
 93-L-12 E 1/2*



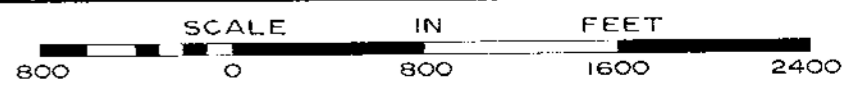
Department of  
Mines and Petroleum  
ASSESSMENT REPORT  
NO. 4671 MAP #2



**4671-M2**

GRANDORA EXPLORATIONS LTD. (NPL)  
CARIBOU MOUNTAIN PROPERTY  
EL, NH, JB, AB, BD, RB and PD CLAIMS  
OMINECA MINING DIVISION, B.C.

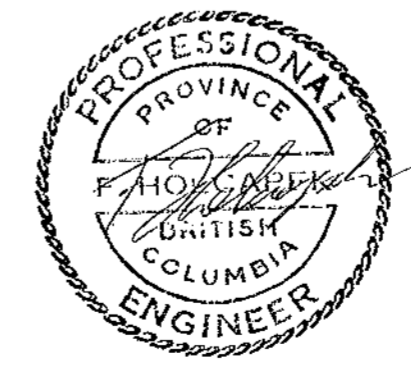
**GEOCHEMICAL  
SURVEY**  
COPPER (PPM)



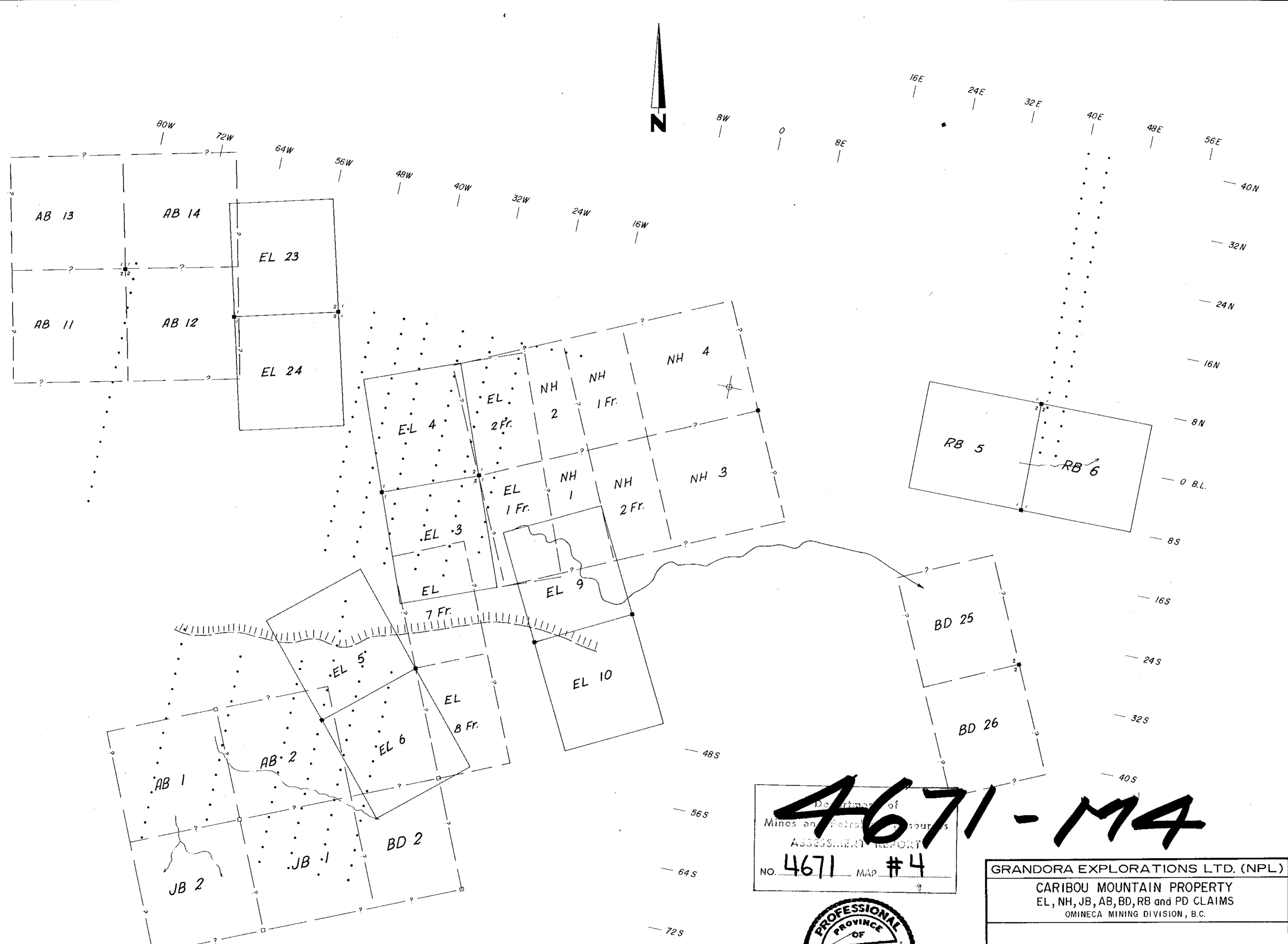


Department of  
 Geological Resources  
 ASSESSMENT REPORT  
 NO. 4671 MAP #3

**4671**  
**M3**

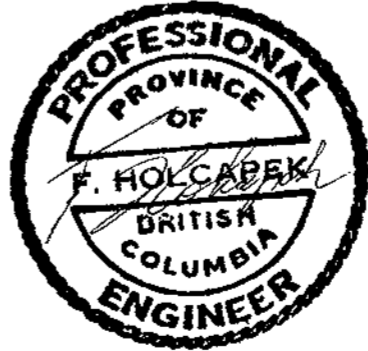


GRANDORA EXPLORATIONS LTD. (NPL)	
CARIBOU MOUNTAIN PROPERTY EL, NH, JB, AB, BD, RB and PD CLAIMS OMINECA MINING DIVISION, B.C.	
<b>GEOCHEMICAL SURVEY</b> SILVER (PPM)	
SCALE IN FEET 800 0 800 1600 2400	
AGILIS ENGINEERING LTD.	SEPTEMBER, 1973



4671-MA

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 4671 MAP #4



GRANDORA EXPLORATIONS LTD. (NPL)  
 CARIBOU MOUNTAIN PROPERTY  
 EL, NH, JB, AB, BD, RB and PD CLAIMS  
 Omineca Mining Division, B.C.

## CLAIM MAP

