

GEOCHEMICAL AND MAGNETOMETER SURVEY REPORT  
ON THE PROPERTY OF ATTLILA RESOURCES LTD.  
(NPL), CHUCHI LAKE, OMINECA MINING DIVISION,  
B. C.

93N/W, 2E

DP 1-15; MT 23,25,27-31; D 172,4,6,8;  
D 180,2,4.

Situated on the south shore of Chuchi Lake,  
Nation Lakes, 4 miles east of Jean Marie  
Creek.

55° 09'N;                      124° 35'W

Submitted by D.P. Taylor, geologist

Endorsed by R.H.D. Philp, P. Eng.

Owned by Attila Resources Ltd. (NPL)

Work conducted by Agilis Exploration  
Services Ltd.

417217

4244

GEOCHEMICAL AND MAGNETOMETER SURVEY REPORT  
ON THE PROPERTY OF ATTLA RESOURCES LTD. (NPL)  
MT, D, AND DP MINERAL CLAIMS  
OMINECA MINING DIVISION, B. C.

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4244 MAP.....

November, 1972

Vancouver, B. C.

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MT, D, AND DP MINERAL CLAIMS  
OMINECA MINING DIVISION, B. C.

INTRODUCTION

The MT and D Mineral Claim Groups are located on the south shore of Chuchi Lake, one of the Nation Lakes in Central British Columbia.

In the early summer of 1972 a geochemical survey was conducted on the MT group which produced an anomaly along the western flank of the claim group. On the recommendation of the consultant the ground to the west of the MT group was acquired and the anomaly and its suggested westward extensions were detail soil sampled and a magnetometer survey was conducted over the area.

It was believed at the time of the writing of the report on the original survey that the west flank of the MT mineral claim group was covered by the D 167-186 claims. On arrival for the autumn work it was found that there was a 2900 foot wide space between the MT and D claim groups. Following the recommendations of the August 1972 report, this area was immediately staked and covered by claims DP 1-15. The original anomaly on the MT group was detail sampled, as was the

north end of the DP group. A reconnaissance geochemical survey was conducted over the southern part of the DP group. A magnetometer survey was conducted over the detail grid.

Work was conducted by personnel of Agilis Exploration Services Ltd. under the personal direction of D.P. Taylor, geologist.

#### LOCATION & ACCESS

The three claim groups are located contiguously on the south shore of Chuchi Lake. The DP group is located

55° 09'N;            124° 33'W.

The DP group is flanked to the east by the MT group and to the west by the D group. All claims are recorded in the Omineca Mining Division, B. C.

Access to the claims is by float plane from Fort St. James, or in the summer, by boat from the road to the eastern end of Chuchi Lake.

#### PHYSIOGRAPHY

Topographic relief on the DP group is subdued. Local relief is about 400 feet on the claim group and the maximum elevation is 3000 feet. Much of the area is covered by swamps and dense brush with small spruce and pine over an old burn which covers most of the area.

Precipitation in this area is moderate with snow and freezing conditions in the winter.

### PROPERTY

The three claim groups are located in the Omineca Mining Division of British Columbia. The claims affected by the survey were DP 1-15, MT 23,25, 27-31, and the eastern flanks of D 172, 174, 176, 178, 180, 182, 184.

The properties dealt with in this report are all owned by Attila Resources Ltd. (NPL).

<u>Claims</u>	<u>Record Numbers</u>	<u>Recording Date</u>
MT 23, 25, 27-31	102098, 100, 102-106K	August 11, 1971
D 172, 4, 6, 8	101923, 5, 7, 9K	August 10, 1971
D 180, 2, 4	101931, 3, 5K	August 10, 1971
DP 1-15	not yet available	October 31, 1972

### REGIONAL GEOLOGY

According to G.S.C., Map 876A the regional geology for the Chuchi Lake property area consists of Triassic-Jurassic Takla Group volcanics and lesser sediments intruded by Jurassic-Cretaceous granitic rocks.

The Takla group is described as andesitic and basaltic flows, tuffs and breccias, with agglomerate and minor argillite and conglomerate. The attitude of these rocks in the property area is generally northeasterly striking with moderate southeasterly dips.

Intrusives in the area are generally granitic to dioritic in composition. A syenite intrusion has been mapped north of Chuchi Lake and monzonite has been found on the property.

Several copper and copper molybdenum prospects have been found in the Tchentlo-Chuchi Lake area, generally in shears in andesitic and intrusive rocks.

Extensive lower lying areas are covered by glacial overburden.

#### PROPERTY GEOLOGY

There is very little outcrop in the area covered by the survey of this report. Shallow glacial overburden and swamps obscure 99% of the bedrock geology. Available data indicates the survey area to be underlain by Takla Group andesites and sediments intruded by monzonite.

The monzonite occupies the central and southern area of that part of the MT group covered by the survey and extends about 1000 feet into the DP group. The monzonite varies considerably in colour and texture. This is believed to be in part due to absorption of country rock, it also appears to be there is more than one phase of intrusive. Fine grained dark monzonite is the most widespread rock. Coarse grained porphyritic ( $\frac{1}{2}$ " ) monzonite forms a smaller proportion of

intrusive outcrop and float. One small occurrence of potash feldspar pegmatite with magnetite and sericite was found on line 20W, 18S, apparently a late stage intrusive fraction. Much of the monzonite has undergone chloritic alteration.

No significant economic mineralization has been noted in the intrusives, or the Takla Group. The Takla Group is, however, perversively mineralized by considerable (up to 3%) disseminated pyrite.

Takla Group outcrops mapped on the MT group were all of volcanic nature, various grades of andesite, sometimes agglomeritic. Float inspected on the DP group was all of sedimentary origin. Fragmental conglomerate, siltstone, limestone, and chert being noted in particular. One limestone outcrop was noted on DP 14 which was mineralized with pyrite and traces of chalcopyrite.

The contact between the Takla series volcanics and the monzonite appears to be very irregular in the area of claims MT 27-30 and DP 3 and 5. Whether this is a shattered contact or merely very irregular is impossible to determine with the outcrop exposure available.

#### WORK CONDUCTED

The grid on the MT claim group was extended westward through the DP group to the D group. The DP group was soil sampled north of the 36S line at 100 x 200 foot spacing on north-south lines 200 feet apart. Anomalous areas on the west of



the MT group were detail gridded with new lines being put in between the lines of the old grid, and the old grid was sampled between stations to complete a 100 x 200 foot grid over the MT anomalies.

The southern portion of the DP group was gridded and sampled with north-south lines at 400 foot line spacing and stations every 200 feet along the lines.

A magnetometer survey was conducted over the area of detail gridding on the MT group and the northern part of the DP group.

## GEOCHEMICAL SURVEY

### SAMPLING PROCEDURES

Soil samples were taken at every station possible on the grid. Samples were taken with mattocks from the "B" horizon, from 10 to 14 inches depth. Records were made in the field for the condition of each sample. A total of 996 samples were taken and analysed for ppm copper content.

### ANALYSIS

All samples were analysed for ppm copper content at Core Laboratories - Canada Ltd., 325 Howe Street, Vancouver, B. C.

Samples were kiln dried and a minus 80 mesh fraction was digested for 2 hours in hot perchloric-nitric acid. Quantitative analysis was conducted using a Gerald Ash 82800 atomic absorption machine.

#### SURVEY RESULTS

Values obtained range from 1-1260 ppm copper. The mean of the population is just over 46 ppm and background is considered to be 74 ppm.

Results from this survey have been combined with the results from the earlier survey with excellent correlation.

On this basis the anomalous break has been established at 110 ppm. The top 2.5% very highly anomalous portion of the population values are those over 360 ppm.

#### INTERPRETATION

The high anomalous samples are concentrated in an arcuate pattern around the contact area (possibly a shattered contact) between the Takla group volcanics and the monzonitic intrusions on claims MT 27-30 and DP 3 and 5.

This distribution must be considered as highly significant - given the high ranges of sample values - in view of the geological environment in which they are found.

A well developed halo has evolved around this arcuate anomaly, except to the north where it is cut off.

The arcuate halo extends considerably toward the west, whether this is a result of peripheral intrusive induced mineralization or a stratigraphic feature is impossible to determine at the present state of geological knowledge.

On the remainder of the property the only significant geochemical anomaly is located on MT 23 and 21. This anomaly is relatively weak and dispersed. A minor feature is located on the broader scale survey on lines 20W--24W from stations 70S to 76S.

#### MAGNETOMETER SURVEY

##### CONTROL

A base station was set up close to camp, convenient to the lake shore and the termination of most traverses. This base was tied into as often as possible. The survey was conducted over the grid extended from the MT group. Adjacent lines were tied together at the baseline or the 36S stations. Diurnal variations were found to be minimal during the October climatic environment and the greatest variation found in one day was 120 gammas. Some days needed no adjustment.

### INSTRUMENT

The instrument used during the survey was a Sharpe Model MF-1 Fluxgate magnetometer. This instrument is hand held, self-orienting and requires only coarse levelling for  $\pm 5$  gamma readings at the lower scale use for most of the survey; or  $\pm 20$  gammas at the 10x scale for  $> 1000$  gamma readings.

The instrument was consistently zeroed at 480 gammas at the base station.

### FIELD PROCEDURE AND CORRECTIONS

The detail grid established on the DP property and the anomalous areas on the MT group were surveyed on the stations established.

Loops were closed at all possible opportunities and related to base station readings. It was found that very little correction was necessary due to diurnal drift. The instrument functioned perfectly throughout the survey.

Diurnal variations (maximum 120 gammas/day) were assumed to be linear and were corrected accordingly (maximum  $2\frac{1}{2}$  hours loop closure).

### RESULTS

Magnetic susceptibility for this survey was found to range from -520 gammas to 2280 gammas, a range of 2800 gammas. The

instrument was zeroed at +480 gammas which appears to be close to the median for the surveyed area.

Distinct variations within the magnetometer values obtained are believed to relate to geological data deduced from the little information available.

### INTERPRETATION

The western portion of the magnetometer survey, covering most of the DP group detail area, produced magnetometer values between 0 and 500 gammas. This area is believed, from float inspected, to be underlain by Takla Group sediments.

Magnetometer readings are higher toward the east. The area underlain by volcanics generally producing values of 300 - 800 gammas. The area intruded by monzonite give significantly higher readings ranging in value from 500 to 2280 gammas, with values increasing away from the contact. Lower values near the contact are believed to be the result of hybridisation, absorption of volcanics in the periphery of the intrusive.

The southern flank of the magnetic high coincides with a well developed geochemical anomaly. The geochemical anomaly arcs around the western end of the magnetic anomaly and cuts back eastward through the area of highest magnetometer readings at O, 12S.

Linear features that have developed in the magnetometer contour map do not coincide with the geochemical anomalies.

The strongest linearities are: a north-south break in the area of line 14-16W; a northeasterly trending high anomaly through 10S, 10W; a vague magnetic break trending northwesterly through the area of 20S, 36W.

CONCLUSIONS

Definite concurrent geochemical and magnetometer anomalies have developed in the area of claims MT 27-30 and DP 3 and 5.

The magnetometer survey results are interpretable in correlation with geological knowledge in the area and high magnetic readings are found associated to monzonitic intrusives.

Pyrite is found in most rocks inspected during the survey. Pyrite is also reported in volcanic and intrusive rocks mapped further eastward on the MT Group. This pervasive pyritisation may be part of an extensive pyrite halo.

The geochemical anomaly is apparently related to the gradational or mixed contact area between a monzonitic intrusion into Takla Group volcanics. There is no outcrop in the immediate locale of the geochemical anomaly. Closely adjacent outcrops contain no observed copper mineralization.

Magnetometer data indicates this geochemical anomaly is related to the intrusive-volcanic contact rather than to shearing which generally controls mineralization in the Chuchi-Tchentlo Lake area.

The strongest geochemical anomaly is arcuate around the contact area and appears to be 200-600 feet wide over a linear length of some 4000 feet. A halo of lower values surrounds most of this anomaly.

A weaker dispersed geochemical anomaly has developed on claims MT 23 and 31. This anomaly is relatively uninteresting compared to the stronger southerly feature. The weak anomaly on the regional grid to the south is likewise of relatively minor interest.



how about a VLF-EM  
to pick up skewing??

RECOMMENDATIONS

The main anomalous area should become the object of more intense investigation.

Open ground directly south of the anomaly should be staked by Attila Resources Ltd. (NPL) and regional geochemical investigation should be performed.

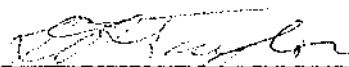
The anomaly itself should become the object of a two phase programme of investigation.

Although the pervasive pyrite in this area will create problems, an induced polarization survey should be conducted over the anomaly in conjunction with physical investigations. I.P. results must be carefully correlated with geochemical results and a constant awareness of the presence of disseminated pyrite must be maintained. Results from a detailed and shallow survey should assist prediction of underground distribution of any surface mineralization if these precautions are taken.

Physical work should take the form of trenching and prospecting. The logistics of putting a bulldozer into the anomalous area are complicated by the isolated location of the claims and by the swampy nature of the terrain, however, it is considered worthwhile for preliminary investigation of the anomaly and will not only produce valuable data for later work but also access.

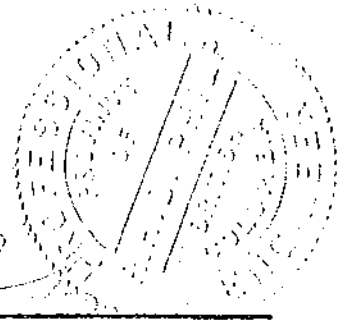
Dependent on the results of this first phase of work short hole percussion drilling should be conducted with a series of holes systematically investigating the anomalous contact area.

Respectfully submitted by:

  
\_\_\_\_\_  
D.P. TAYLOR, Geologist

Endorsed by:

  
\_\_\_\_\_  
R.H.D. PHILP, P. Eng.



November, 1972

Vancouver, B. C.

CERTIFICATION

I, David Pelham Taylor, of Vancouver, B. C., do hereby certify that:

1. I am an exploration geologist, residing at 2097 West 6th Avenue, Vancouver, B. C.
2. I am a graduate of the Royal School of Mines, London University (M. Sc., D.I.C. 1971).
3. I have practiced as an exploration geologist in B. C. for four years.
4. The work subject of this report was conducted by myself and a crew under my supervision in October, 1972.

*D. P. Taylor*  
D.P. Taylor, M.Sc., D.I.C.

November, 1972

Vancouver, B.C.

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

In the Matter of detailed grids, geological, geochemical and magnetometer surveys conducted on the Chuchi Lake Properties

I, David Pelham Taylor

of c/o 107 - 325 Howe, Vancouver 1, B. C.

in the Province of British Columbia, do solemnly declare that the following personnel were employed and costs incurred in conducting the surveys during October, 1972.

Personnel:

D. Kay	15 days @ 44.32/day	664.80
K. Amos	15 days @ 44.32/day	664.80
B. Ashley	15 days @ 44.32/day	664.80
D. Reinke - Party Chief	17 days @ 61.81/day	1,050.77
D. Taylor - Geologist--field	14 days @ 100.00/day	1,400.00
	office 7 days @ 100.00/day	700.00
R. Philp - P. Eng.	1/2 day @ 150.00/day	75.00
B. Talbot - draughting	40 hours @ 8.50/hour	340.00
		<u>5,560.17</u>

Disbursements:

Groceries, supplies, gas	330.00	
Minister of Finance	75.00	
Misc. - taxis, freight, prints, typing	86.62	
Geochemical testing	1,135.00	
Fixed wing aircraft	267.00	
Truck and transportation	531.41	
Meals and accomodation	329.16	
Contract draughting	100.00	2,904.19
Plus 10% overhead on disbursements		<u>290.42</u>

TOTAL AMOUNT 8,754.73

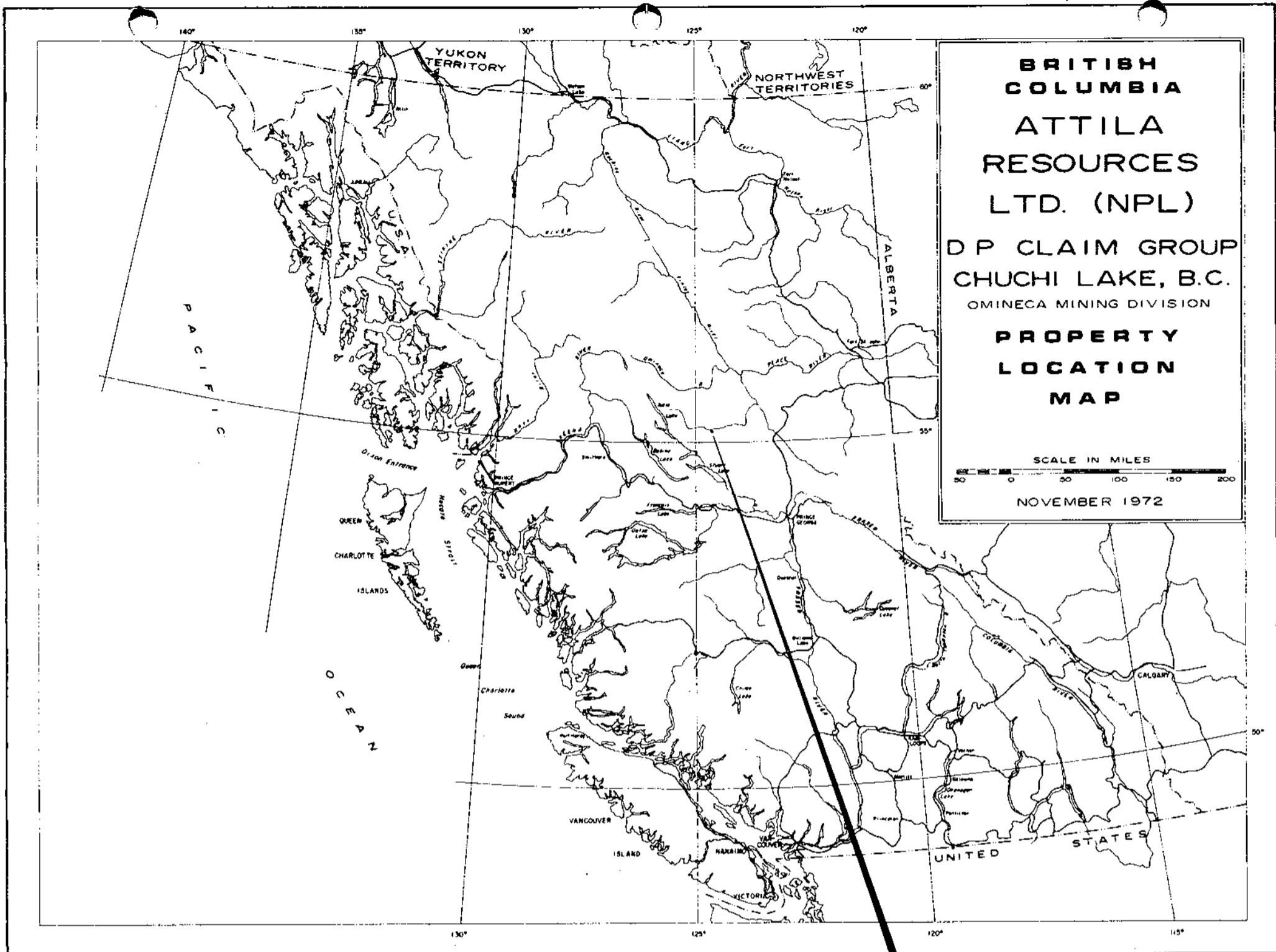
And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City  
 of Abbotsford, in the  
 Province of British Columbia, this 20th  
 day of November 1972, A.D.

*David Pelham Taylor*

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

Submitting Recorder

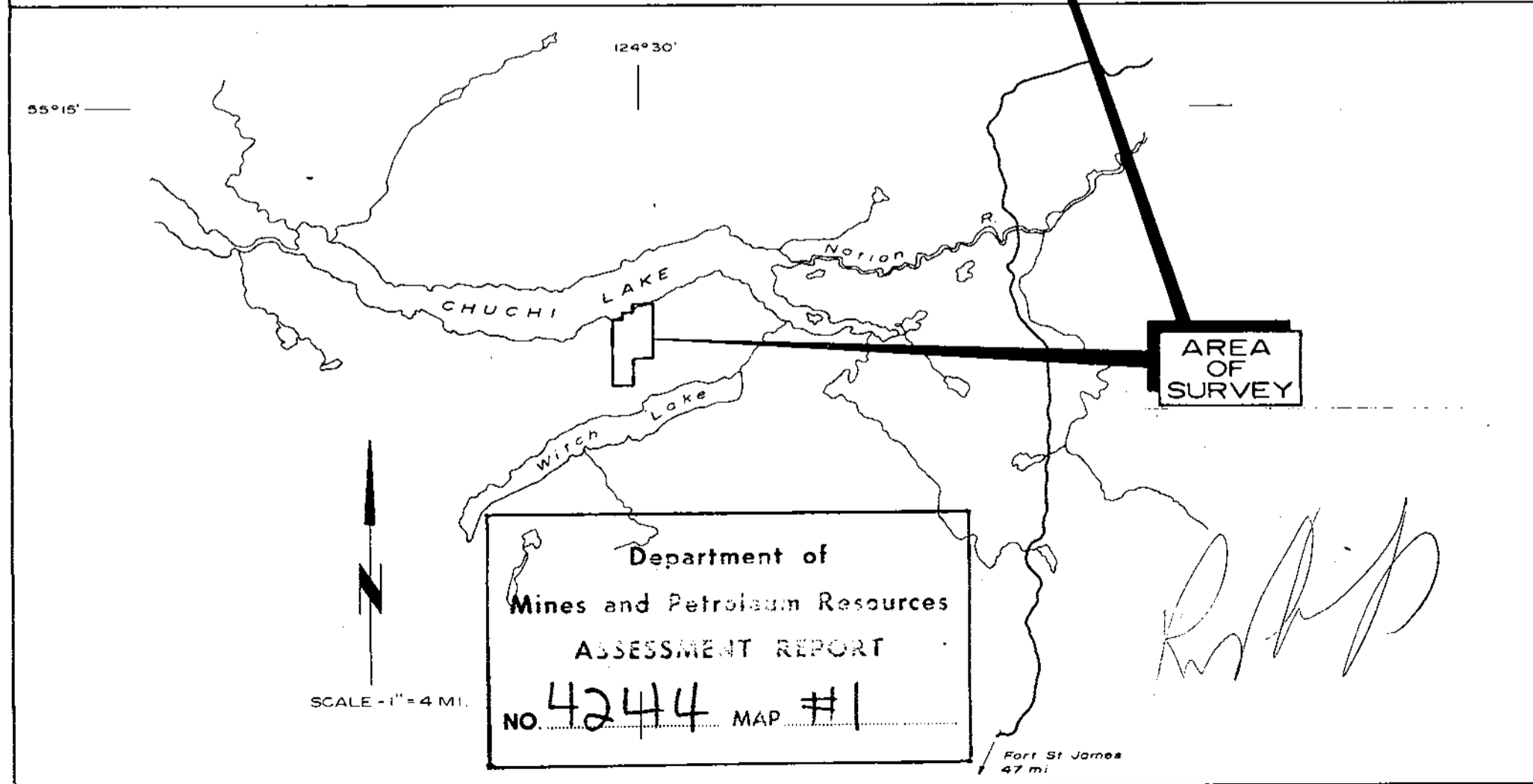


**BRITISH COLUMBIA  
ATTILA  
RESOURCES  
LTD. (NPL)  
D P CLAIM GROUP  
CHUCHI LAKE, B.C.  
OMINECA MINING DIVISION**

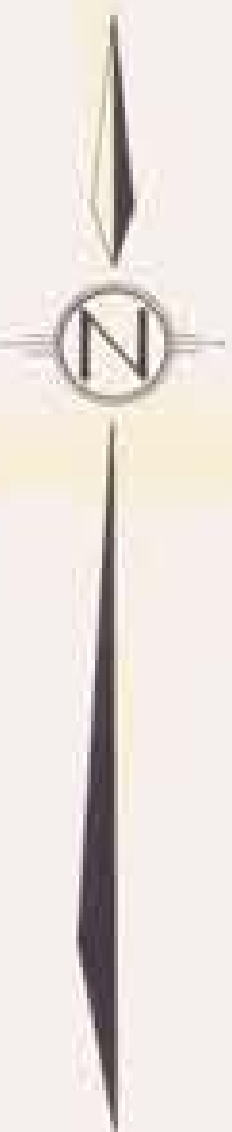
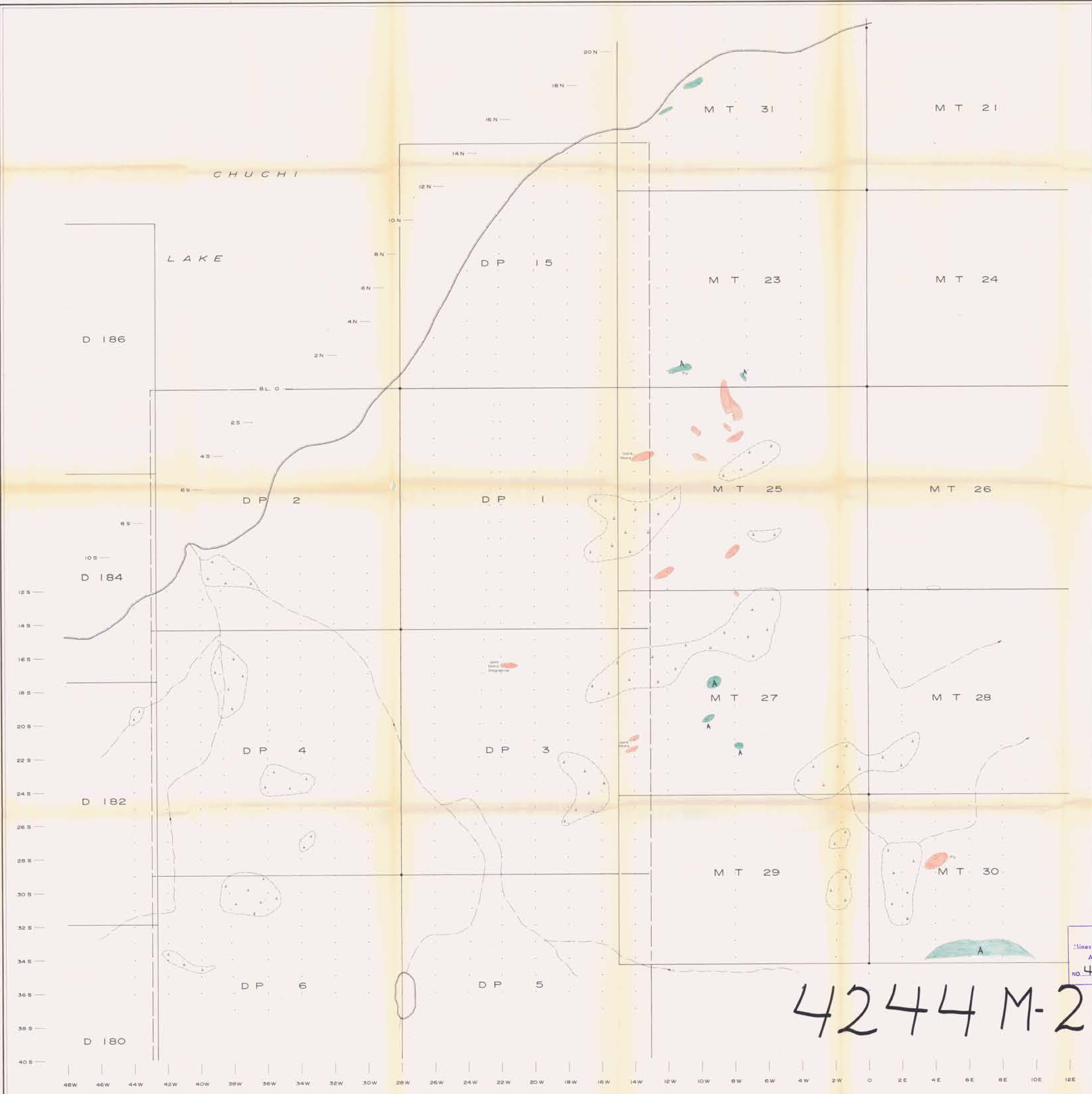
**PROPERTY  
LOCATION  
MAP**

SCALE IN MILES  
0 50 100 150 200

NOVEMBER 1972



*[Handwritten signature]*



- LEGEND**
- Creek
  - Boundary
  - Lake or pond
  - Stream head
  - Drain hole
  - Boundary of lake source
  - Anomalous
  - Mineral



Department of  
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ASSESSMENT REPORT  
NO. 4244 MAP #2

4244 M-2

AGILIS EXPLORATION SERVICES LTD.  
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D.P. CLAIM GROUP  
OMINECA MINING DIVISION

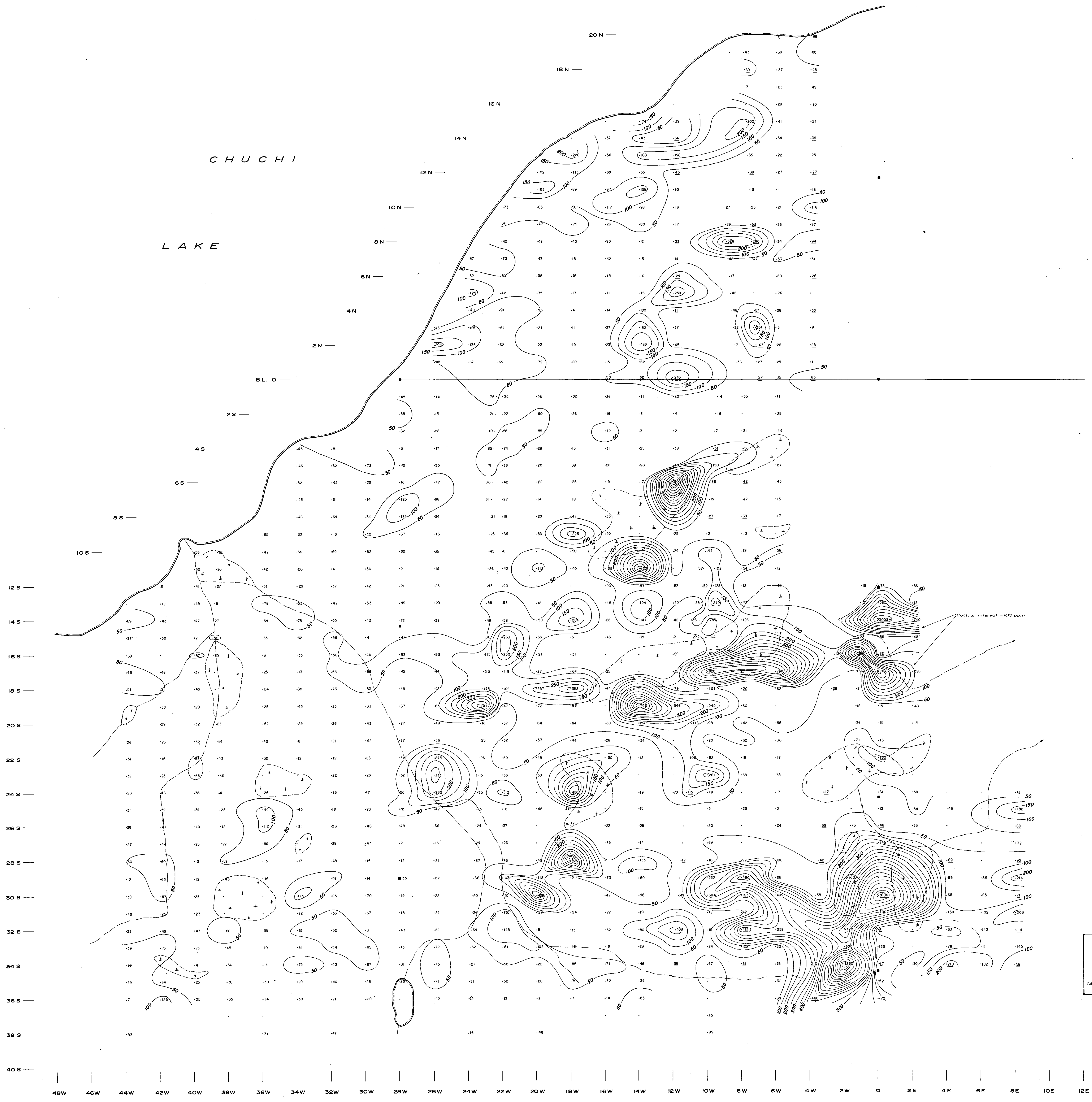
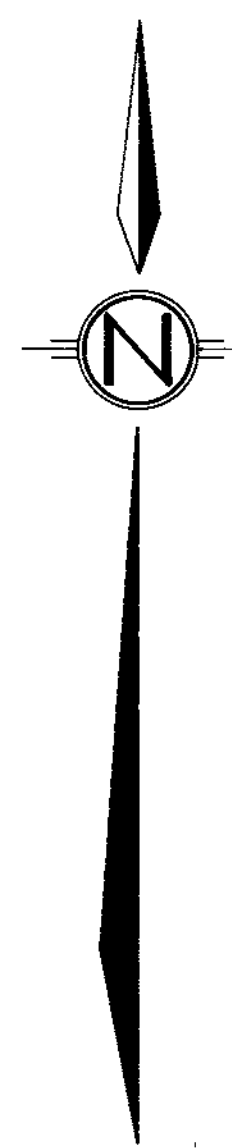
**CLAIM MAP  
SHOWING GEOLOGY**

SCALE IN FEET  
0 200 400 600

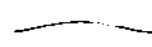
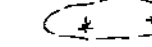


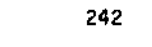
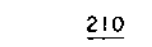
NOVEMBER 1979

*R. P. P.*

CHUCHI  
LAKE

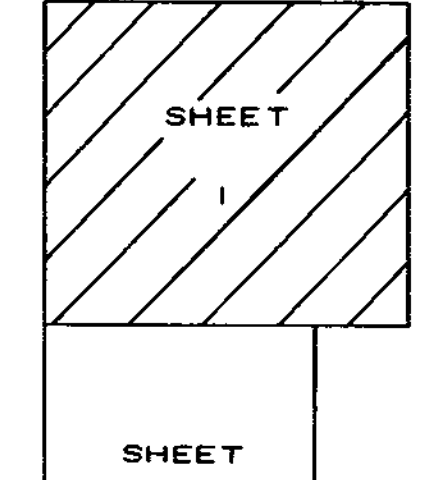


LEGEND

-  Creek
-  Swamp
-  Lake or pond
-  Claim post
-  242 Copper (ppm) Oct. 1972
-  210 Copper (ppm) from previous survey

Contour interval - 100 ppm

SHEET INDEX

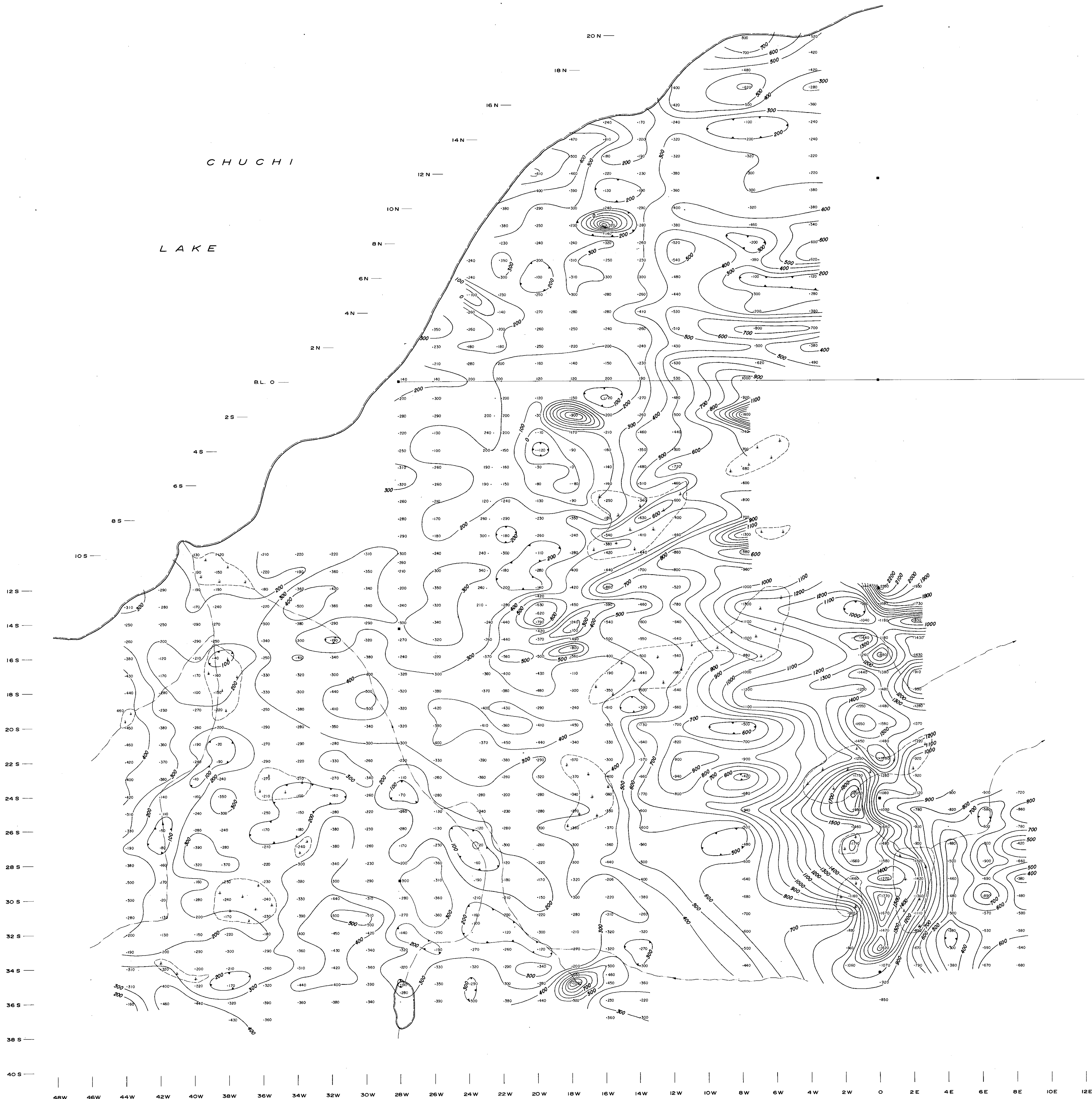


Department of  
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ASSESSMENT REPORT  
NO. 4244 MAP #4





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ATTILA RESOURCES LTD. (NPL)  
D.P. CLAIM GROUP  
OMINECA MINING DIVISION

**GEOCHEMICAL  
SURVEY**  
COPPER (ppm)  
CONTOUR INTERVAL - 50 PPM  
SCALE IN FEET  
200 0 200 400 600  
NOVEMBER 1972





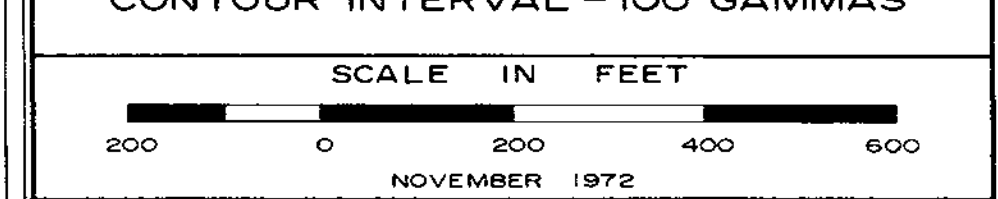
**LEGEND**

-  Creek
-  Swamp
-  Lake or pond
-  Claim post

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4244 MAP #6

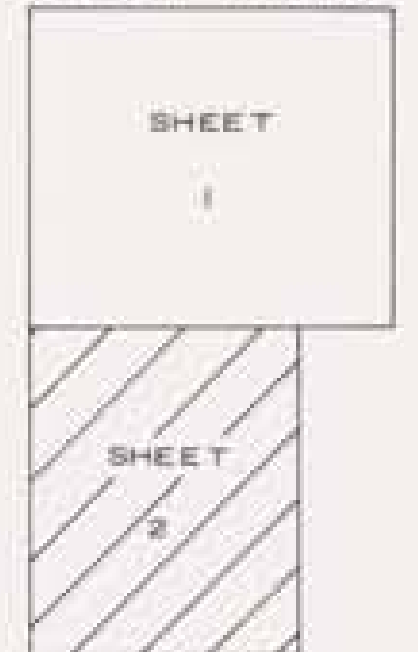
AGILIS EXPLORATION SERVICES LTD.  
ATTILA RESOURCES LTD. (NPL)  
D P CLAIM GROUP  
OMINECA MINING DIVISION

**MAGNETOMETER SURVEY**  
CONTOUR INTERVAL - 100 GAMMAS





SHEET INDEX



LEGEND

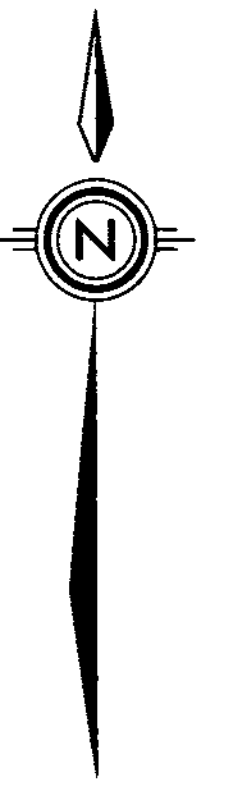
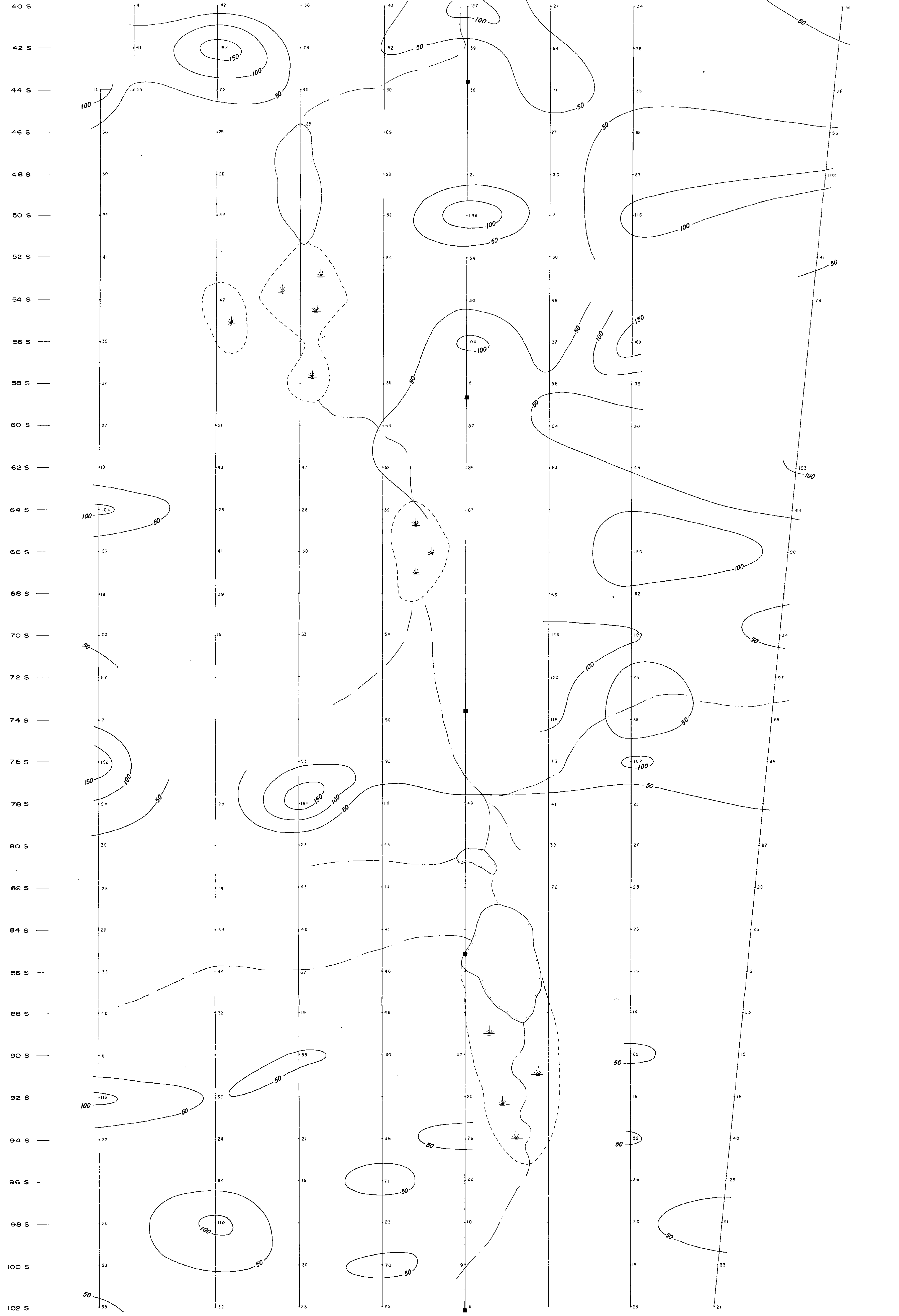
- CLASH
  - CLAIM LINE
  - FAULT
  - BOUNDARY OF DISTRICT
  - CLAIM POST
  - CLAIM LINE
  - LIGNITE
- Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4244 MAP #3
- RAP*

AGILIS EXPLORATION SERVICES LTD.  
ATILA RESOURCES LTD. (NPL)  
DP CLAIM GROUP  
OMEGA MINING DIVISION

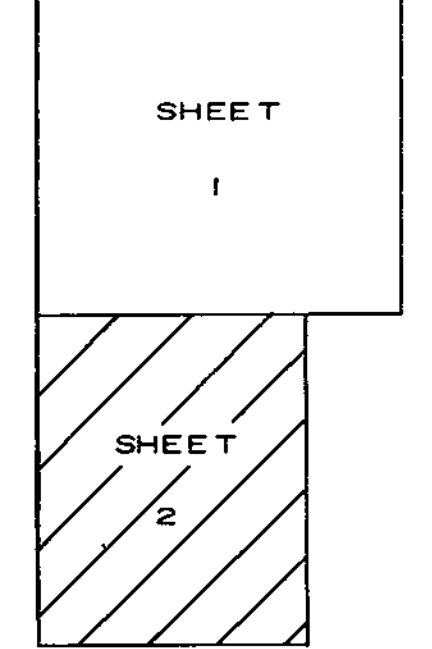
CLAIM MAP  
SHOWING GEOLOGY



48 W 46 W 44 W 42 W 40 W 38 W 36 W 34 W 32 W 30 W 28 W 26 W 24 W 22 W 20 W 18 W 16 W 14 W 12 W 10 W 8 W



SHEET INDEX



LEGEND

- Creek
- Lake or pond
- Swamp
- Claim post

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 4244 MAP #5

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AGILIS EXPLORATION SERVICES LTD.  
ATTILA RESOURCES LTD. (N.P.L.)  
D.P. CLAIM GROUP  
OMINECA MINING DIVISION

**GEOCHEMICAL SURVEY**  
**COPPER (ppm)**  
CONTOUR INTERVAL - 50 PPM  
SCALE IN FEET  
200 0 200 400 600  
NOVEMBER 1972

48 W 46 W 44 W 42 W 40 W 38 W 36 W 34 W 32 W 30 W 28 W 26 W 24 W 22 W 20 W 18 W 16 W 14 W 12 W 10 W 8 W