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REPORT ON THE
GEOCHEMICAL AND MAGNETOMETER SURVEYS
ON THE 22 AND LAST CLAIMS
KAMLOOPS MINING DIVISION, B.C.

FOR
ENSBROOK MINES LTD. [NPL]

December 17, 1970

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2866 MAP

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REPORT ON THE
GEOCHEMICAL AND MAGNETOMETER SURVEYS
ON THE ZZ AND LAST CLAIMS
KAMLOOPS MINING DIVISION, B.C.
FOR
ENSBROOK MINES LTD. [NPL]

INTRODUCTION:

The ZZ claims held by Ensbrook Mines Ltd. [NPL] consists of thirty contiguous mineral claims located six miles west of Kamloops.

The claim group lies along the northern edge of the Iron Mask Batholith, and appears to be underlain mainly by Kamloops Volcanics.

During October 1969, personnel of Direct Development Ltd. conducted a geochemical survey along a 400 foot by 200 foot area over the ZZ claims under direction of Mr. R. Philp, P. Eng.

During this year's field season the geochemical survey was expanded to include the Last 1 to 10 mineral claims, and at the same time the whole claim group was covered by a magnetometer survey.

The work was carried out by personnel of Direct Development Ltd. under the supervision of the writer.

GENERAL CONDITIONS:

The claim group lies approximately six miles west of Kamloops, British Columbia and is accessible by road. Highway No. 1 passes along the southern boundary of the claims. Co-ordinates of the group are $120^{\circ}29\frac{1}{2}'$ west longitude, $50^{\circ}41'$ north

latitude.

Topographic relief is low to moderate and elevations vary between 1,500 to 2,600 feet above sea level. The claim group occupies the south-eastern and north-eastern slopes of a low hill, rising just north of the highway and Kamloops Lake.

The claims are lightly treed at the higher elevations, but the larger part is open grazing land.

The climate is semi-arid, although minor snow cover can be expected during the winter months.

PROPERTY:

The property consists of thirty contiguous mineral claims located in the Kamloops Mining Division, British Columbia.

The following claims comprise the ZZ claim group:

ZZ 9 - 12, 21 - 24, 33 - 36, 45 - 48, 56 - 59
Last 1 - 10

The geochemical survey was conducted on the Last 1 - 10, as an extension of the work done in 1969, whereas the magnetometer survey covers the whole claim group.

GEOLOGY:

Since the property has not been geologically mapped in detail, the only information available is from mapping by the Geological Survey of Canada Map 886A at a scale of 1 inch = 4 miles, and from mapping by the B. C. Department of Mines, available in the Annual Reports for the years 1956 and 1967.

Above sources indicate that the claim group is mainly underlain by Kamloops volcanics of Tertiary age. This rock formation consists of an assemblage of andesites, basalts, rhyolites, tuffs and breccia.

These volcanics form a cap over the northern contact of the Iron Mask Batholith, which outcrops to the south of the claims. The batholith consists mainly of microdiorite, porphyritic-microdiorite, diorite, monzonite and syenite. Narrow bands of picrite basalt and serpentine are also present.

Copper mineralization found within the Iron Mask batholith is in general associated with shears, picrite basalt, breccia zones, but occurs also in veins as massive sulfides and as disseminations within the intrusives.

GEOCHEMICAL SURVEY:

FIELD PROCEDURE:

The grid established during the 1969 field season, covering the western part of the property was extended to the eastern boundary of the property.

East-west base and tie lines were established and cross lines run at 400 foot intervals. All lines were established by chain and compass and marked by flagging, with stations at 200 foot intervals. A total of 6,800 feet of base and tie lines and 43,200 feet of cross lines have been established in this manner.

Samples, taken at 200 foot intervals along all cross lines, have been collected with an auger or pick, and taken, if possible, from the "B" horizon. Sample depth varied, but was never more than 8 inches.

Notes were taken at each sample location regarding soil type, depth taken, vegetation and topography. This information was used later in interpreting the results.

TESTING PROCEDURE:

Samples were packaged in kraft envelopes and sent to Chemex Labs Ltd. in North Vancouver for testing. Here, they were dried in an electric oven, screened to -80 mesh, digested in a perchloric-nitric acid solution and analyzed for total copper content by the atomic absorption method. The results were reported in parts per million [ppm].

RESULTS OF SURVEY:

Background value from last year's work is about 40 ppm copper, which agrees with this year's results.

The plotted and contoured data shows that the copper content in the soil is fairly uniform over the surveyed area. The little relief shown does not exceed the expected range. The only area with values over 100 ppm, which is considered anomalous, trends from 68 E 26 S to 56 E 22 S. This anomaly consists of four readings above 100 ppm, obtaining a maximum of 248 ppm Cu at 64 E 22 S. This anomaly is of too limited extent to be considered important, unless it can be shown that the older intrusive rocks are exposed in this vicinity by a window in the Kamloops Volcanics.

MAGNETOMETER SURVEY:

The magnetometer survey was conducted by personnel of Direct Development Ltd. A total of approximately thirty line miles has been surveyed.

INSTRUMENT:

An MF-1 Sharp fluxgate magnetometer was used for the survey. This instrument measures the vertical component of the earth's magnetic field and has a maximum sensitivity of 5 gammas on the lowest scale; the total scale range being from plus 100,000 gammas to minus 100,000 gammas.

FIELD PROCEDURE:

At the beginning of the survey readings were taken along wide spaced points to obtain an indication of the magnetic relief in the area. Afterwards the instrument was adjusted to read on the 1,000 gamma scale to obtain maximum sensitivity, since only the relative magnetic intensity of the different rock units was considered important for this survey.

Following this, base stations were established along the base line by taking three readings at half hour intervals. Subsequent readings were tied into base stations to permit correction for short term diurnal variations. Care was taken to note the time at every station, and that each traversed loop did not take longer than thirty minutes.

The data obtained was corrected for daily and short term variations, plotted, and contoured for interpretational purposes.

CORRECTIONS:

Compensation built into the instrument eliminates any need for temperature corrections being applied to the field readings. Short term and long term time correction have been applied to all readings and were determined by the difference from the corrected reading between the initial and final base stations of each traverse.

This variation is assumed to be linear and the correction for any one reading in a traverse is the diurnal variation multiplied by the ratio, time elapsed when reading taken, divided by total time elapsed in the loop.

If:

- V_c = corrected value
 B_c = corrected base station reading
 B_i = initial base station value when loop is started
 B_f = final base station value when loop is finished
 V_t = reading of station at time t when loop is run
 t_i = time of initial base station value
 t_f = time of final base station value
 t = time when station is read

then the corrected value for a station read at time t is:

$$V_c = V_t + [B_c - B_i] + [B_i - B_f] \cdot \frac{t - t_i}{t_f - t_i}$$

INTERPRETATION AND RESULTS:

The magnetometer survey shows that the maximum magnetic relief on the property is 5,500 gammas. The centre of the surveyed area is occupied by a magnetic low which trends northwesterly across the property. A second low trends northeasterly and crosses the first mentioned. This low is most likely due to shearing. Several small magnetic highs, centres at 64E 20S, 56E 4N and 24E 6S are present but cannot be interpreted without geological information.

CONCLUSION AND RECOMMENDATION:

1. The geochemical survey outlined a possible anomaly centered on line 64E 22S.
2. The magnetometer survey outlined two large magnetic lows trending northwesterly and northeasterly across the centre part of the property and several small magnetic highs, but this feature cannot be interpreted without more geological information.
3. Geological mapping will be necessary to make a final interpretation of the magnetic survey.

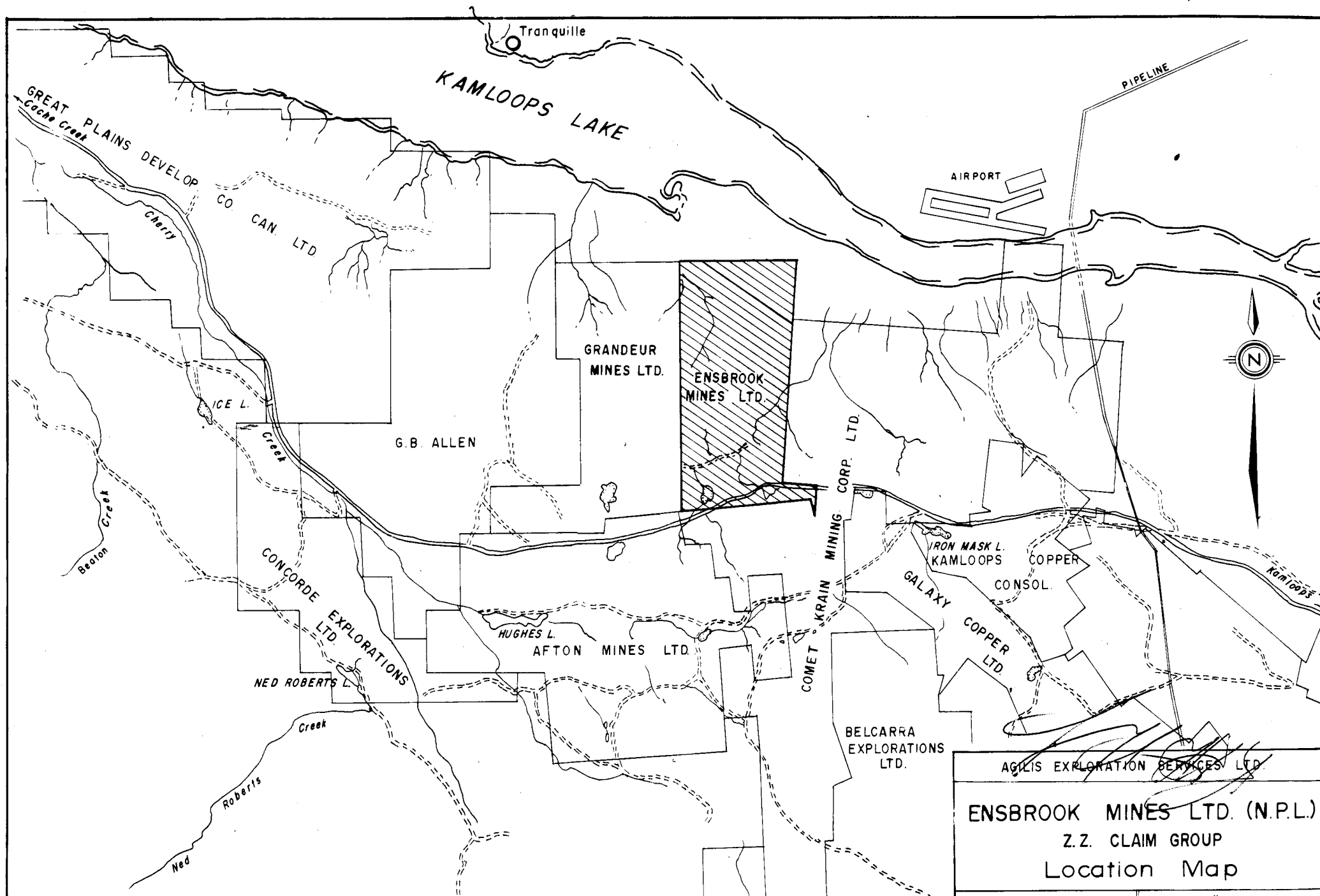
Respectfully submitted,

F. Holcapek

F. Holcapek, Geologist

Vancouver, B. C.,
December 16, 1970

Endorsed by
RAD RJP



NOTE:
property boundaries are approximate.

| | |
|---|---------------------|
| AGLIS EXPLORATION SERVICES LTD. | |
| ENSBROOK MINES LTD. (N.P.L.) Z.Z. CLAIM GROUP Location Map | |
| DRAWN BY: L.M. | SCALE: 1" = 1 mile |
| CHECKED BY: R.P. | DATE: October, 1969 |



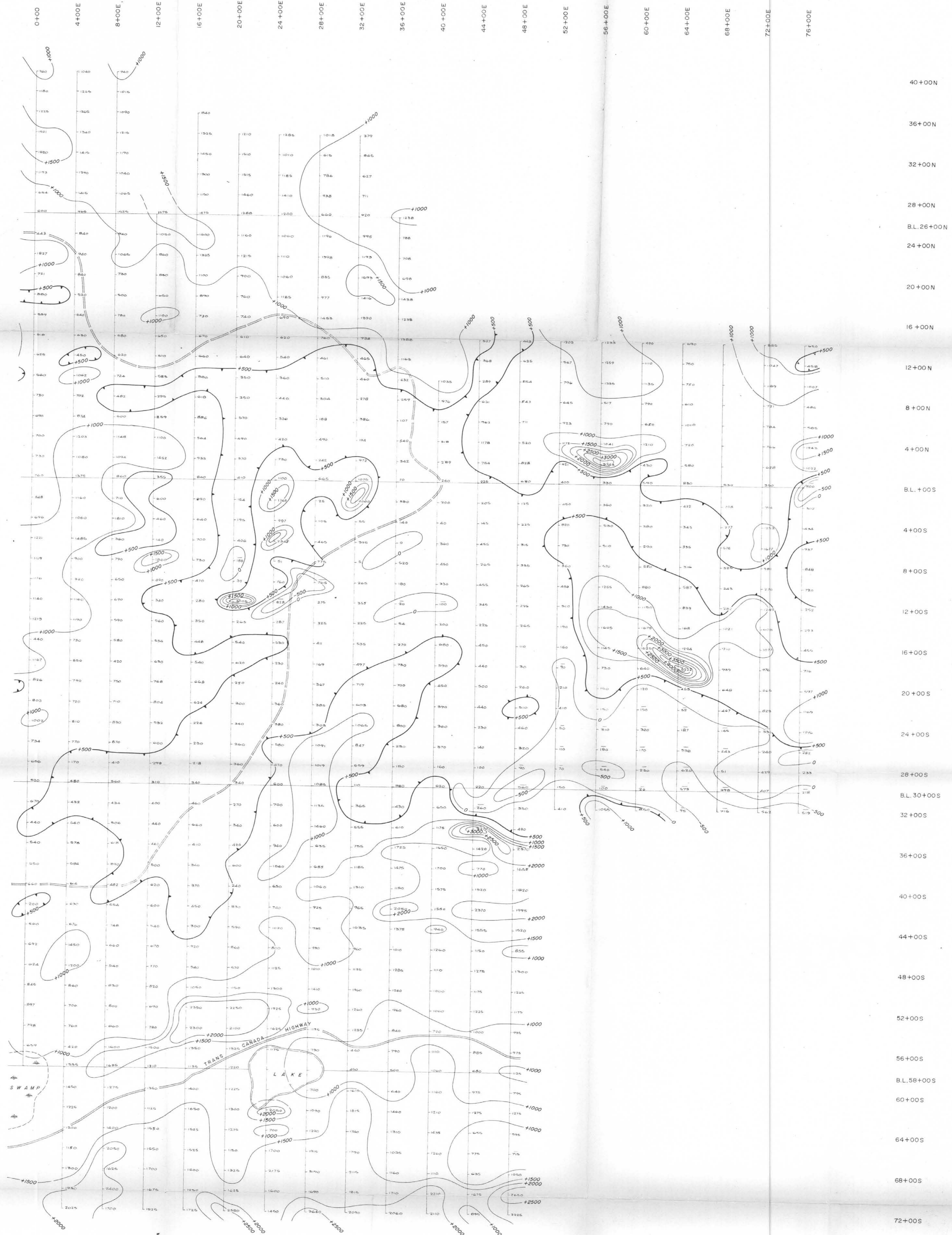
40+00N
36+00N
32+00N
28+00N
8.L.26+00N
24+00N
20+00N
16+00N
12+00N
8+00N
4+00N
B.L.+00
4+00S
8+00S
12+00S
16+00S
20+00S
24+00S
28+00S
B.L.30+00S
32+00S
36+00S
40+00S
44+00S
48+00S
52+00S
56+00S
8.L.58+00S
60+00S
64+00S
68+00S
72+00S

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2866 MAP #1

2866
M-1

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| | |
|---|------------------|
| AGILIS EXPLORATION SERVICES LTD. | |
| ENSBROOK MINES LIMITED N.P.L. | |
| Z.Z. AND LAST MINERAL CLAIMS KAMLOOPS B.C. | |
| GEOCHEMICAL SURVEY | |
| DRAWN BY: F.F. | SCALE: 1" = 400' |
| CHECKED BY: | DATE: |



Department of
Mines and Petroleum Resources
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2866 M-2

NOTE:
INSTRUMENT - SHARPE M.F.-1
500 GAMMAS - CONTOUR INTERVAL

AGILIS EXPLORATION SERVICES LTD.
ENSBROOK MINES LIMITED N.P.L.
Z.Z. AND LAST MINERAL CLAIMS
KAMLOOPS B.C.
MAGNETOMETER CONTOUR PLAN
DRAWN BY: _____ SCALE: 1" = 400'
CHECKED BY: _____ DATE: _____