Report on a Geochemical Survey on the
ZZ CLAIMS for ENSBROOK MINES LTD. (NPL)

ZZ 9-12:21-24:33-36:45-48:56-59

Situated 6 Miles West of Kamloops, B. C.
120° 29½' West Longitude
50° 41' North Latitude 92I/9W, 10E

Submitted by: R.H.D. PHILP, P. Eng.

Owner: ENSBROOK MINES LTD. (NPL)
Work conducted by
DIRECT DEVELOPMENT LTD. during
October, 1969

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part 2

GEOCHEMICAL SURVEY REPORT

ON THE ZZ CLAIMS

KAMLOOPS MINING DIVISION, B. C.

for

ENSBROOK MINES LTD (NPL)

by

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

January 14, 1970 Vancouver, B. C.

AGILIS EXPLORATION SERVICES LTD.
CONSULTING ENGINEERS & GEOLOGISTS
201 - 714 W. HASTINGS ST., VANCOUVER 1, B.C.

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MAPS

Base Map - 1 inch = 400 feet

Geochemical Survey Plan, 1 inch = 400 feet.

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GEOCHEMICAL SURVEY REPORT

ON THE ZZ CLAIMS
KAMLOOPS MINING DIVISION, B. C.

for

ENSBROOK MINES LTD (NPL)

INTRODUCTION

The ZZ claims held by Ensbrook Mines Ltd (NPL) comprise a group of 20 claims, located 6 miles west of Kamloops, British Columbia.

Situated near the northern edge of the Iron Mask Batholith, the claims are largely underlain by a younger volcanic capping present in this area.

A geochemical soil sampling survey was conducted over the entire group during October, 1969 by personnel of Direct Development Ltd under the direction of the writer.

GENERAL CONDITIONS

The claims lie 6 miles west of Kamloops, British Columbia and are accessible by road from that centre, Highway No. 1 passing through the southern edge of the claims. Co-ordinates of the group are 120° 29 1/2' west longitude, 50° 41' north latitude.

Elevations range between approximately 1500 and 2600 feet above sea-level with low to moderate topographic relief. The claims occupy the southeastern and northeastern slopes of a small hill rising between the highway and Kamloops Lake.

The region, which is either lightly treed or open grazing country, is mainly free of underbrush. Climate is semi-arid although snow will be present in minor amounts during the winter months.

PROPERTY

The property consists of 20 mineral claims located in the Kamloops Mining Division of British Columbia. These are the ZZ numbers 9 - 12, 21 - 24, 33 - 36, 45 - 48, 56 - 59.

The geochemical survey was conducted over all 20 claims.

GEOLOGY

Mapping by the Geological Survey of Canada has been published as Map 886A at a scale of 1 inch = 4 miles. Mapping of the Iron Mask Batholith by the B. C. Department of Mines is available in the Annual Reports for the years 1956 and 1967.

Available maps indicate the property is underlain mainly, if not entirely, by volcanic rocks belonging to the Kamloops Group of Tertiary Age. These consist variously of andesite, basalt, rhyolite, tuff and breccia.

In this area these volcanics cap the northern contact of the Iron Mask Batholith, units of which outcrop near the southern boundary of the claims. These intrusives consist mainly of microdiorite, porphyritic-microdiorite, diorite, monzonite and syenite, with narrow bands of picrite, basalt and serpentinite.

Copper mineralization occurs in shears, veins, breccia zones, and disseminations throughout the intrusives to the south and southeast.

GEOCHEMICAL SURVEY

Field Procedure:

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 colored flagging with stations marked at 200 foot intervals. A total of 3.4 miles of base and tie lines plus 24 miles of cross lines were established in this manner.

Samples, taken at 200 foot intervals on all cross-lines, were collected with an auger or pick and taken wherever possible from the soil horizon immediately underlying the surface humus layer. Sample depth varied up to 8 inches but generally averaged 4-5. inches. Soil type was generally a light brown, and less commonly dark brown, sand varying from fine to coarse grained.

Notes were taken at each sample location regarding soil type, depth taken, vegetation, topography and any other pertinent features that could be used later in interpretting 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 and screened to -80 mesh. Following this they were digested in a perchloric-nitric acid mixture and analyzed for total copper content by atomic absorption with values reported in parts per million (ppm).

Results of Survey:

Background values range up to about 40 ppm copper, increasing slightly in the southern portion of the claims. This can probably be attributed either to dispersion from nearby copper occurrences to the south or to a change in rock type.

Three anomalous areas with values greater than 100 ppm copper are present on the claims. The first extends in a northeast direction from 4 + 00 E, 46 + 00S to 20 + 00E, 30 + 00S, measuring approximately 3000 feet by 100-500 feet wide, with a peak value of 260 ppm copper. Near the centre values dip slightly below 100 ppm. Outcrop occurs within the anomalous area and old workings and copper bearing float near the stronger eastern end. The western portion, possibly 1100 feet of the anomaly, extends off the claims onto the adjoining property.

Two anomalous areas exist in the southeast corner of the claims. The strongest measures approximately 2000 by 700 feet and extends off the grid to the south and east. Peak value is 403 ppm copper with several samples showing values of 200 ppm or greater. The second lies to the north on lines 40 + 00 and 44 + 00 E and extends off the grid to the east. Values are lower in this area which has a peak of 120 ppm copper and measures approximately 800 by 700 feet. No outcrop was noted in this area which consists of relatively flat ground.

Considerable outcrop exists in the area of the stronger anomaly in the southeast corner, particularly in the western portion. Copper mineralization was also noted at one point at 44 + 00 E, 70 + 00 S. Topography slopes gently north throughout most of the anomaly which may be due in part to migration from mineralization to the south.

CONCLUSIONS AND RECOMMENDATIONS

Three copper anomalous areas were outlined by the geochemical survey. Copper mineralization has been found within two of the areas, while the third may be due largely to topography.

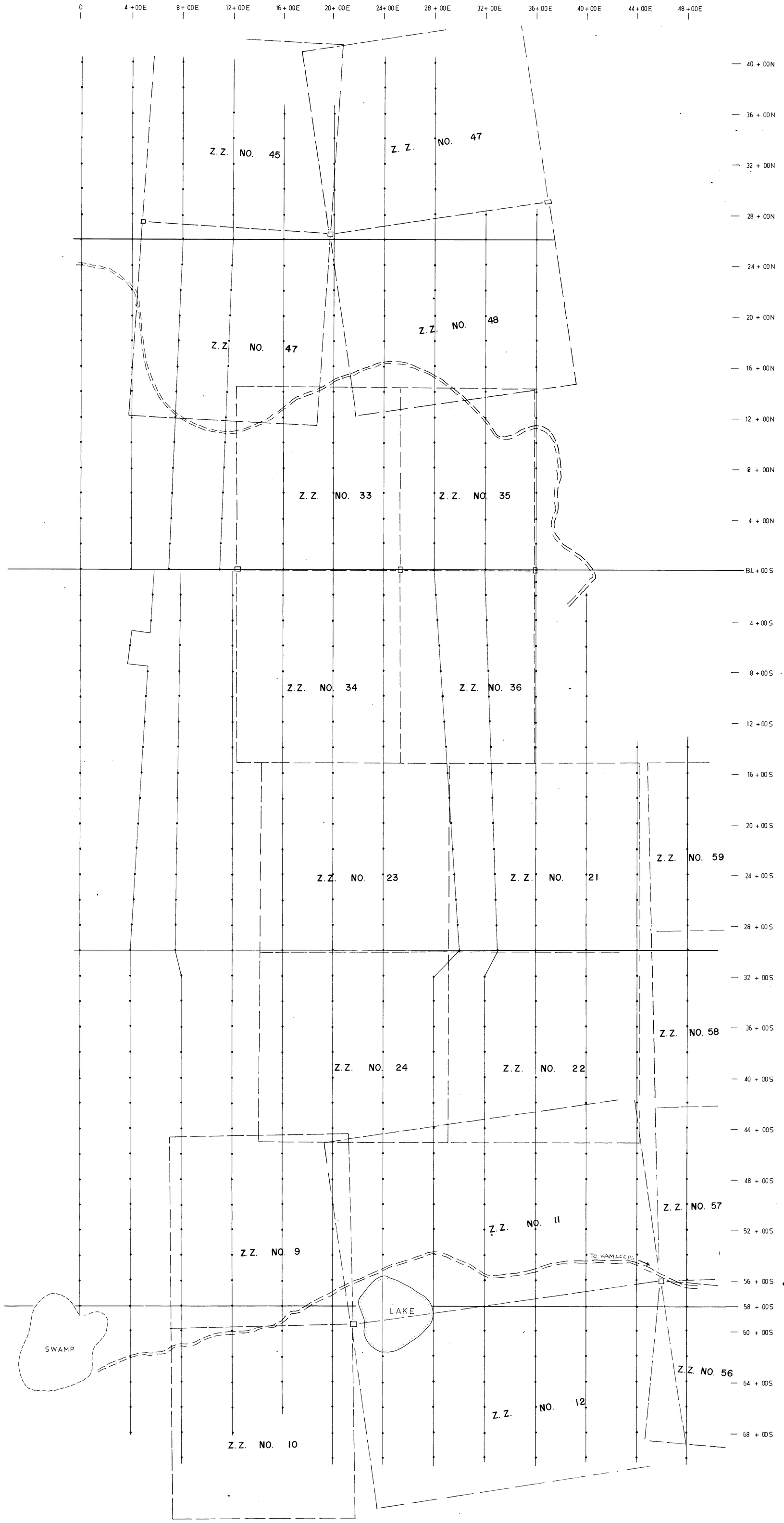
Geological conditions should be most favourable in the vicinity of the largest and strongest anomaly in the southeast corner of the claims, although this may in part be due to migration from mineralization to the south.

Geological mapping plus a magnetometer survey, primarily as an aid in geological mapping, should be conducted over the claim group with emphasis placed on the anomalous areas. In addition, the western and southeastern claims boundaries should be located accurately. Following this the anomalous areas should be investigated in detail.

Respectfully submitted,

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

January 14, 1970.



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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2323B MAP #1

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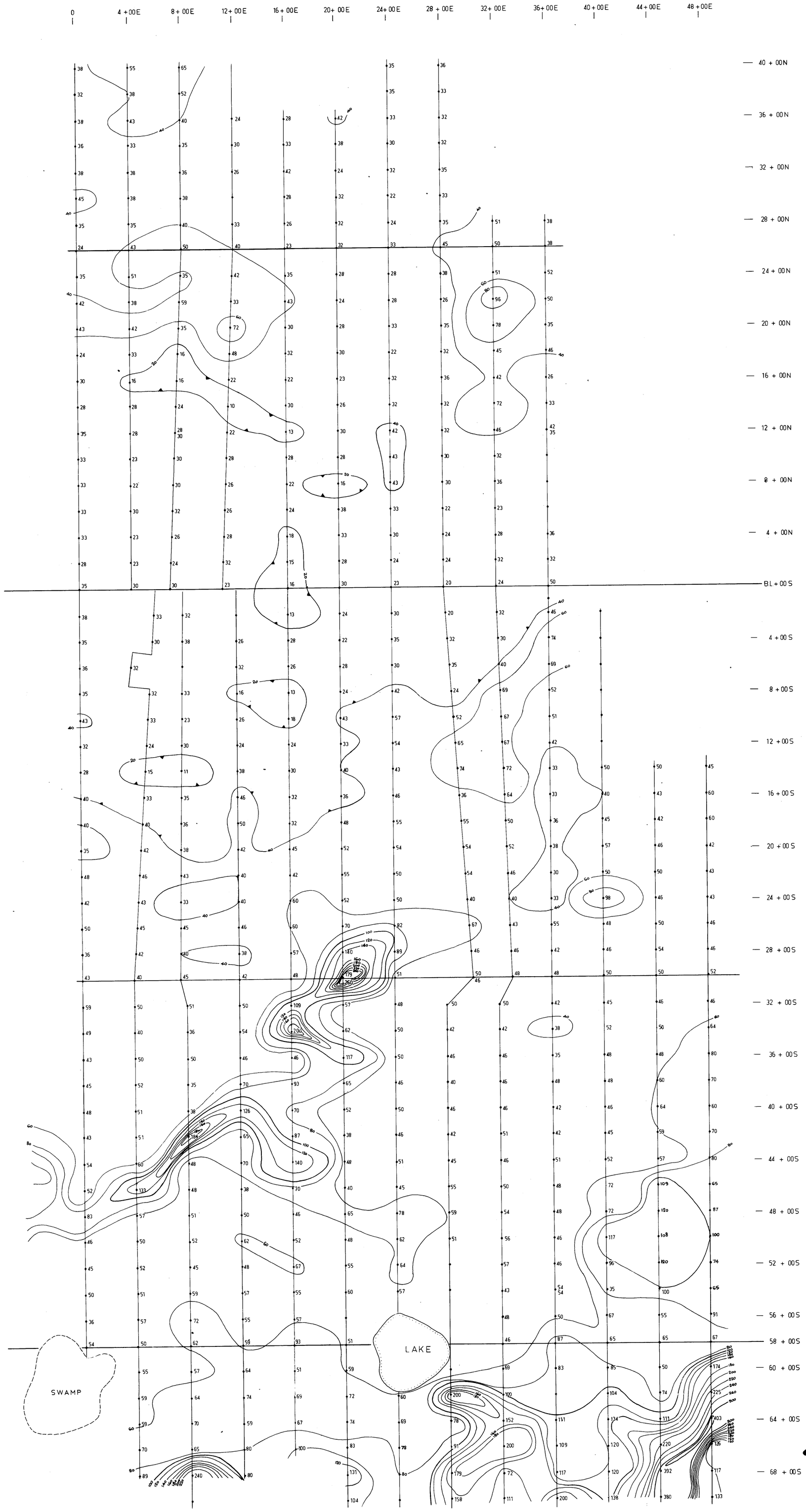
ENSBROOK MINES LIMITED N.P.L.
Z.Z. MINERAL CLAIMS
KAMLOOPS B.C.
BASE MAP

DRAWN BY : P.V.	SCALE : 1 : 400
CHECKED BY : R.P.	DATE : December , 1969



LEGEND :

40 Cu value in p.p.m.

60 Contour interval 20 p.p.m.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2323 B MAP #2

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AGILIS EXPLORATION SERVICES LT.D.

ENSBROOK MINES LIMITED N.P.L.
Z.Z. MINERAL CLAIMS
KAMLOOPS B.C.
GEOCHEMICAL SURVEY

DRAWN BY : P.V.	SCALE : 1 : 400'
CHECKED BY : R.P.	DATE : December , 1969