

GEOPHYSICAL SURVEY

GP-6437

ST. EUGENE MINING CORPORATION LTD., 82-G/5
MOYIE, B.C.

January 12th, 1965.

D.J. Salt

REFERENCE MEMORANDUM

DATE _____ 19__

THE ATTACHED PAPERS ARE REFERRED

TO _____

BY _____

PLEASE REPLY DIRECT	<input type="checkbox"/>	PLEASE HANDLE	<input type="checkbox"/>
PLEASE SEE ME RE THIS	<input type="checkbox"/>	YOUR COMMENTS	<input type="checkbox"/>
FOR YOUR INFORMATION	<input type="checkbox"/>	FOR APPROVAL	<input type="checkbox"/>
PLEASE RETAIN	<input type="checkbox"/>	PLEASE RETURN	<input type="checkbox"/>

Distribution:

St. Eugene Mining Corporation Ltd., Moyie, B.C.

Vancouver Office	3
G.P. Mitchell	1
A.S. Dadson	1
S.N. Charteris	1

GEOPHYSICAL SURVEY

GP. 6437

ST. EUGENE MINING CORPORATION LTD.,
MOYIE, B. C.

NTS. 82-G/5

SUMMARY:

Weak indications have been obtained on the Baltimore grid, which could be indicative of veins in the more favourable Aldridge formation underlying the Creston horizons. Three cross-sections are recommended to be drilled.

Extensive work is recommended on the Aurora grid to follow-up geophysical indications, which could be indicative of ore.

INTRODUCTION:

As it was desired to locate other lead-zinc veins, similar to those which had been mined at Moyie previously, self-potential work was conducted.

Magnetometer and Ronka surveys were also conducted, although they were not as useful.

LOCATION AND ACCESS:

The property may be reached from Moyie village on the C.P.R. A few bush roads are navigable via Jeep to the property near the top of the mountain.

METHOD OF SURVEY:

There is nothing unusual about the survey techniques used. Lines were cut at 100 or 200-foot intervals, from a base line, and the lines traversed with a Ronka or Magnetometer or Self-Potential Unit. Readings were taken at 25-foot intervals to be certain that nothing of interest was missed. Near surface material could be missed with larger separation.

The electromagnetic survey was confined to 50-foot stations as the readings spread out so far that even narrow conductors cannot be missed.

GEOPHYSICAL INTERPRETATION:

Baltimore Grid

The veins around the old workings show up rather well, both by magnetometer and self-potential results. The highs, however, are so broad that there must be more than one vein. Possibly there are veins in different directions, which make it difficult to pin down the exact location of these veins.

If the veins make ore in only the one horizon, which may be dipping toward the south-east, then it may not be possible to detect the veins with self-potential unless there is some fracturing of the beds above the ore horizon.

If this is the situation then any self-potential anomalies, which may be encountered, could be expected to be reduced in intensity.

In Areas A and B on the self-potential map, there are several areas of weak self-potential anomalies with weak magnetic correlation, which could be caused by veins which are deeply buried. Possibly they are in areas which have been moved up by faulting and are a little shallower than the intervening areas where no anomalies are indicated.

Aurora Grid

This grid is quite intriguing for high geochemical values have been obtained in an area of interest indicated by the self-potential survey.

Trending generally southwest is a large self-potential high (negative). This is probably produced by disseminated sulphides.

The very high peaks in this regional high area are probably produced by concentration of sulphides, possibly veins of ore material.

The magnetometer survey suggests the presence of mineralization in the same area as the self-potential survey. There is, however, no exact correspondence of magnetic highs with self-potential highs, suggesting that the self-potential highs are sulphides other than pyrrhotite.

The Ronka results suggest the presence of conducting material, but no discrete conductors.

The self-potential data is similar to the results on the Baltimore grid around the old workings of the St. Eugene mine.

CONCLUSIONS & RECOMMENDATIONS:

(a) Baltimore Grid

Area A should be tested by one cross-section. Area B should be tested by two cross-sections to cover the favourable areas.

The interpreted veins northwest of Area A from A to the old workings could be tested in whatever manner seems most suitable. The writer is not familiar with the extent of the old workings and previous drilling, so that some of these interpreted veins could possibly be

eliminated on the basis of these old workings. The interpreted veins should be tested, however, in the best manner possible.

(b) Aurora Grid

It is concluded that the geophysical results indicate the presence of mineralization. In conjunction with the geological and geochemical results, these self-potential anomalies should be thoroughly investigated either by trenching or drilling, whichever is the most feasible.

Nine crosssections are recommended to test the anomalies on the Aurora Grid for economic mineralization.

Respectfully submitted,

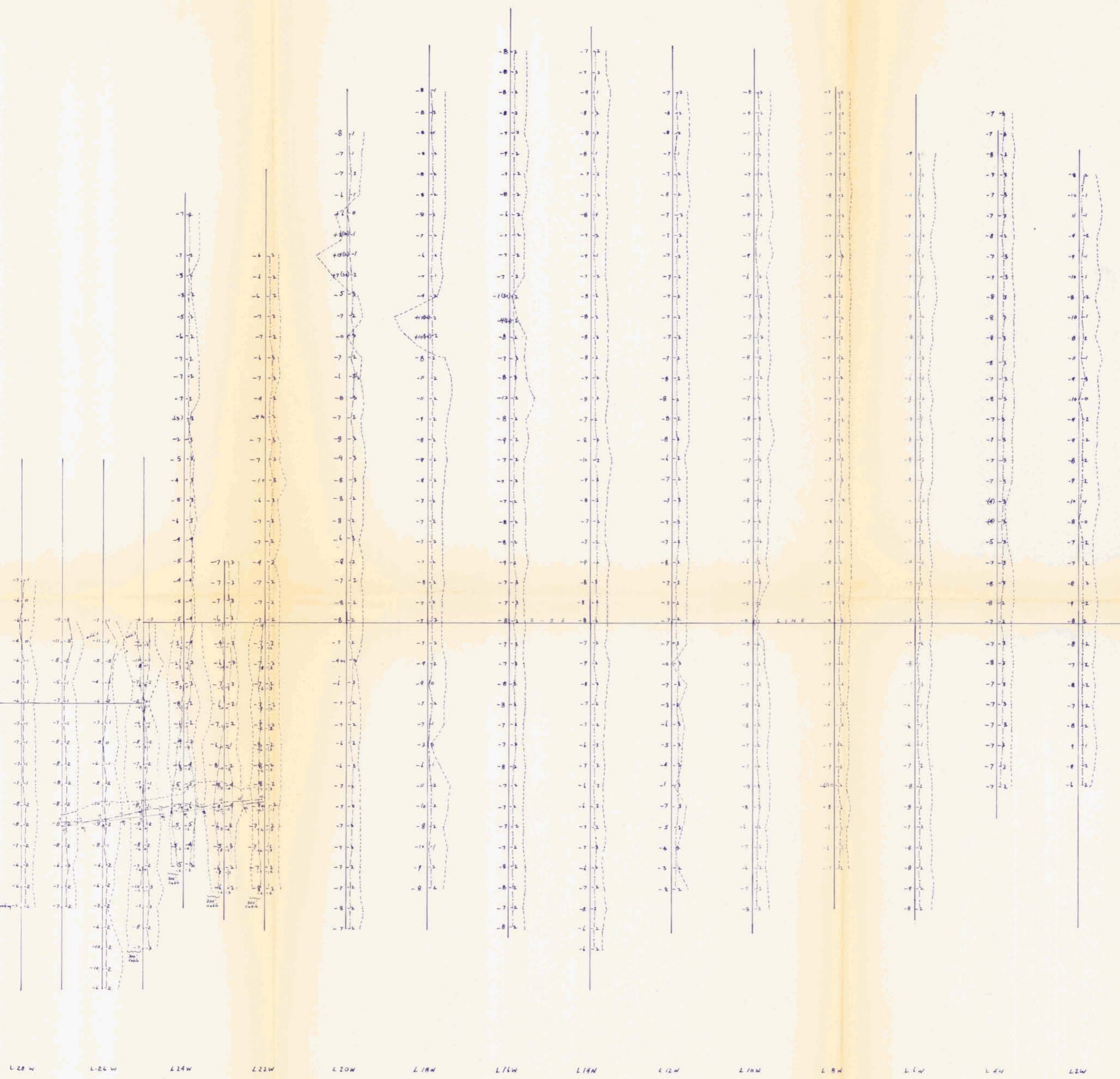
DJS/j1
January 12th, 1965.

..... 

D. J. Salt

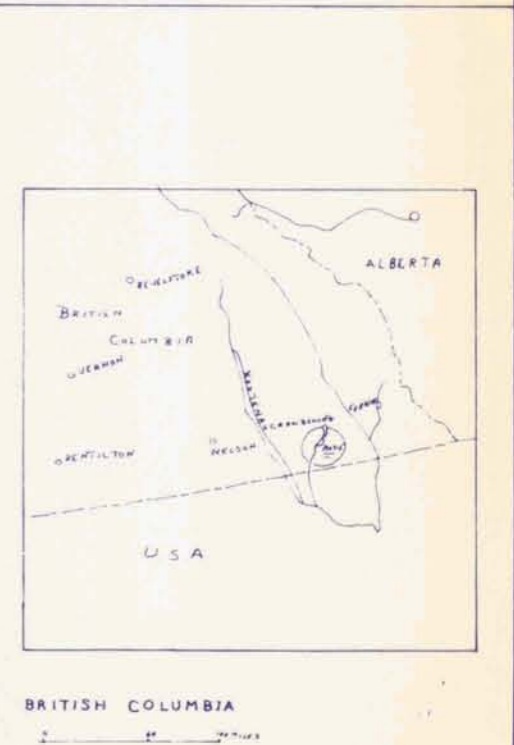


Tailings



LEGEND
 IN PHASE 1" = 20%
 OUT OF PHASE
 RECEIVER TO THE NORTH AT ALL TIMES
 500 FOOT CABLE PROFILED (MINUS) TO LEFT OF LINE

ST. EUGENE MINING CORPORATION
 MOYIE, BRITISH COLUMBIA
RONKA SURVEY
 BALTIMORE GRID





ST. EUGENE MINING CORPORATION
 MOYIE, BRITISH COLUMBIA
SELF POTENTIAL SURVEY
 BALTIMORE GRID - EAST SHEET

0 100 200 300 400
 FEET



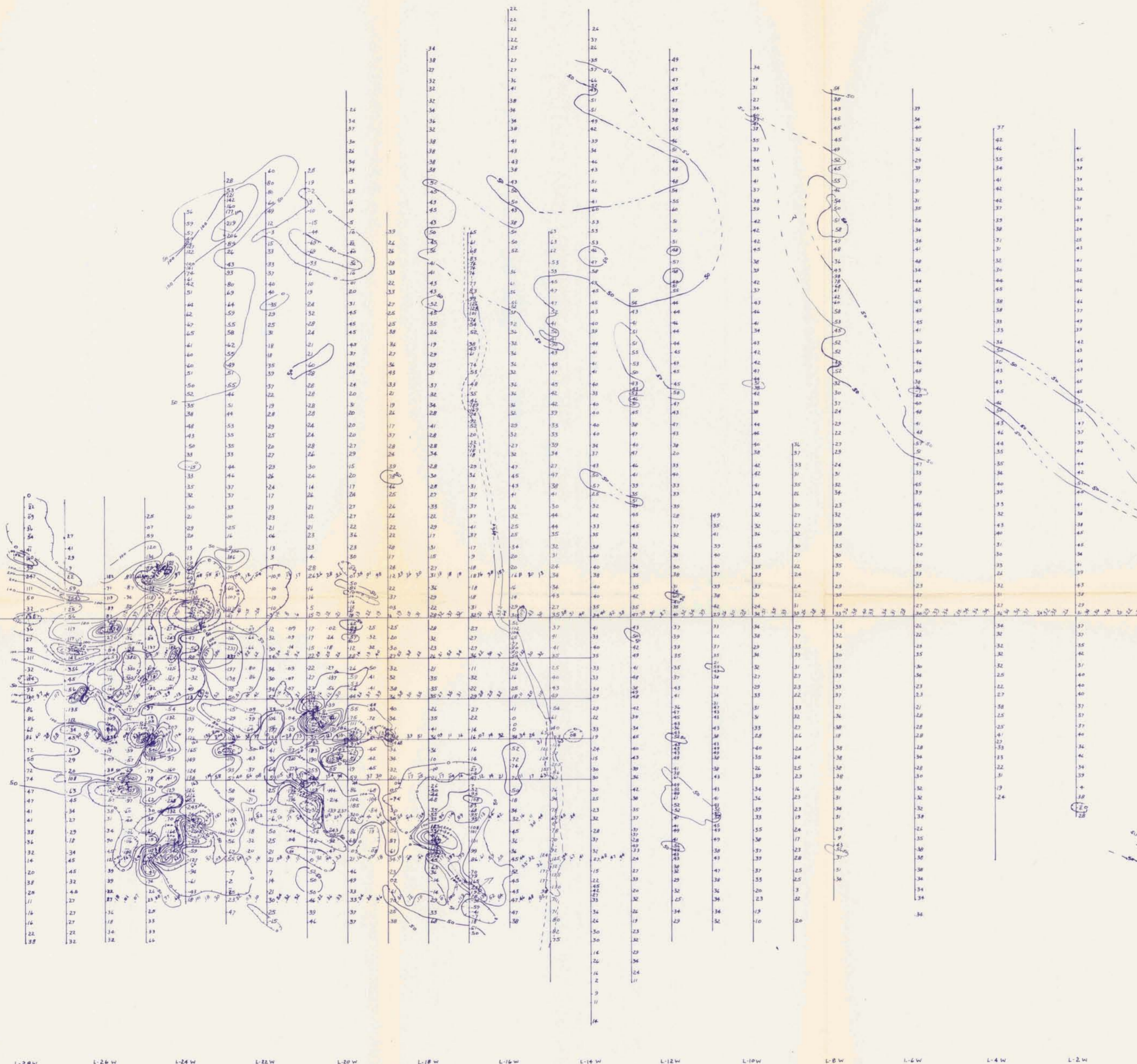
L-0 L-2 E L-4 E L-6 E L-8 E L-10 E L-12 E L-14 E L-16 E L-18 E L-20 E L-22 E L-24 E L-26 E L-28 E L-30 E L-32 E L-34 E L-36 E

ST. EUGENE MINING CORPORATION
 MOYIE, BRITISH COLUMBIA

MAGNETOMETER SURVEY
 (ASKANIA)

BALTIMORE GRID - EAST SHEET

0 100 200 300 400
 FEET



L-28W

L-26W

L-24W

L-22W

L-20W

L-18W

L-16W

L-14W

L-12W

L-10W

L-8W

L-6W

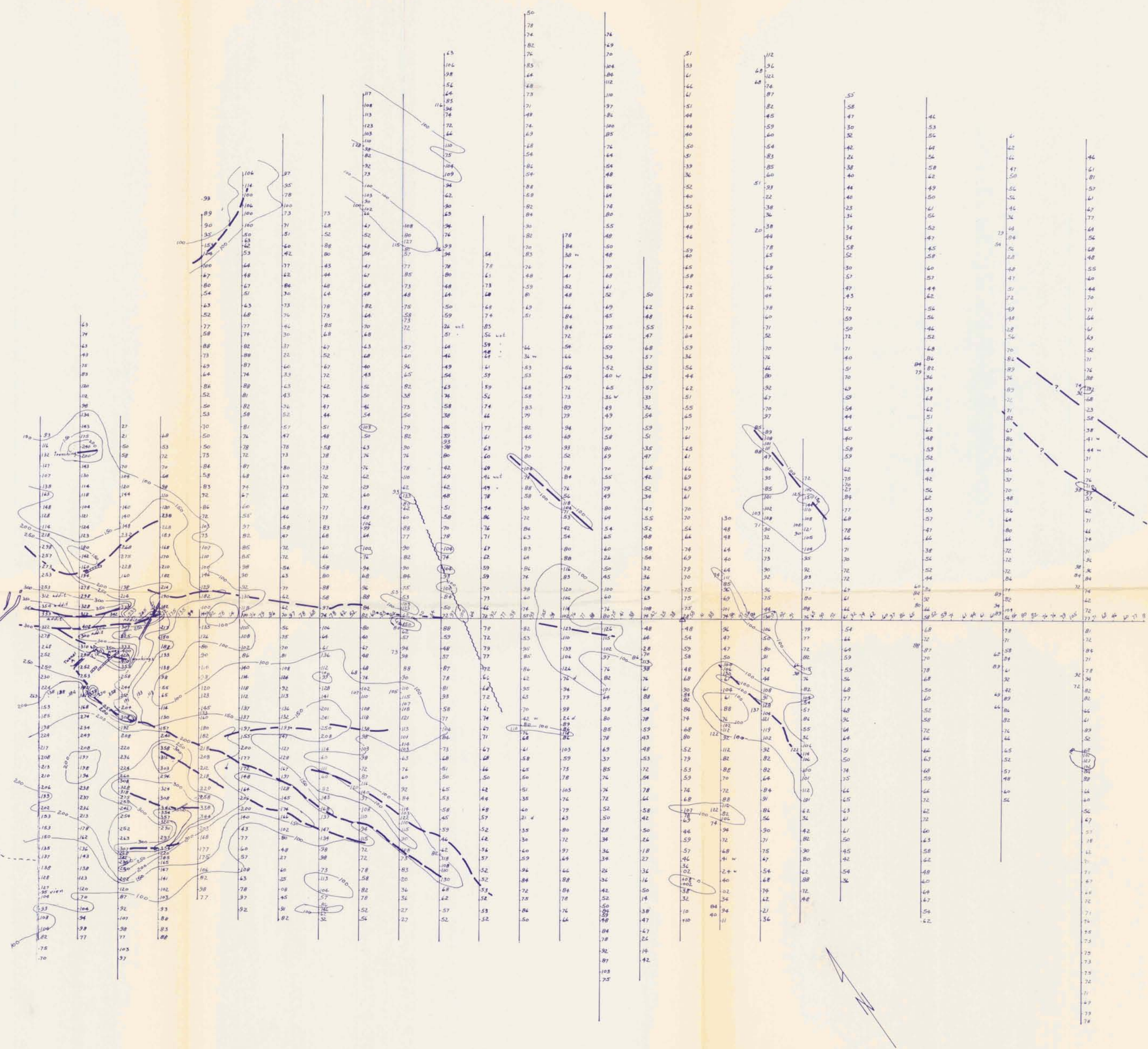
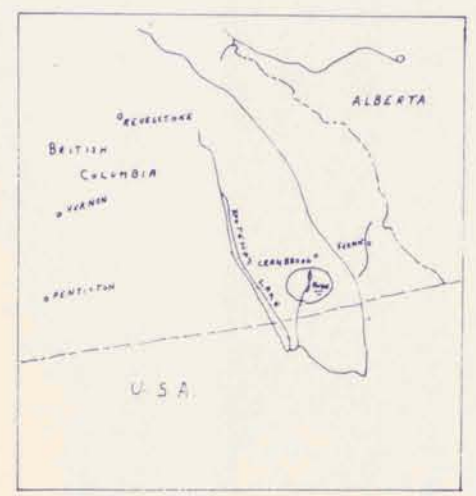
L-4W

L-2W

ST. EUGENE MINING CORPORATION
MORUE, BRITISH COLUMBIA**MAGNETOMETER SURVEY**

(ASKANIA)

BALTIMORE GRID - WEST SHEET



L-20 W L-26 W L-24 W L-22 W L-20 W L-18 W L-16 W L-14 W L-12 W L-10 W L-8 W L-6 W L-4 W L-2 W

LEGEND

102
 INTERPRETED VEINS
 INTERPRETED FAULTS
 RECOMMENDED CROSS-SECTION

LEGEND

D. Red 300 - 400 M.V.
 Red 250 - 300 M.V.
 L. Red 200 - 250 M.V.
 D. Orange 150 - 200 M.V.
 L. Orange 100 - 150 M.V.
 Blue 80 - 100 M.V.
 Yellow 0 - + M.V.

ST. EUGENE MINING CORPORATION
 MOYIE, BRITISH COLUMBIA

SELF POTENTIAL SURVEY
 BALTIMORE GRID - WEST SHEET

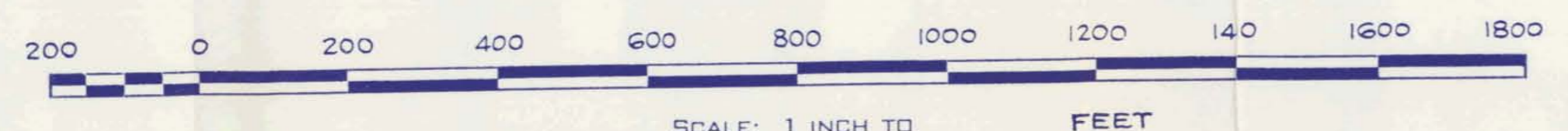
0 100 200 300 400
 FEET

L-36 L-32 L-28 L-24 L-20 L-16 L-12 L-0

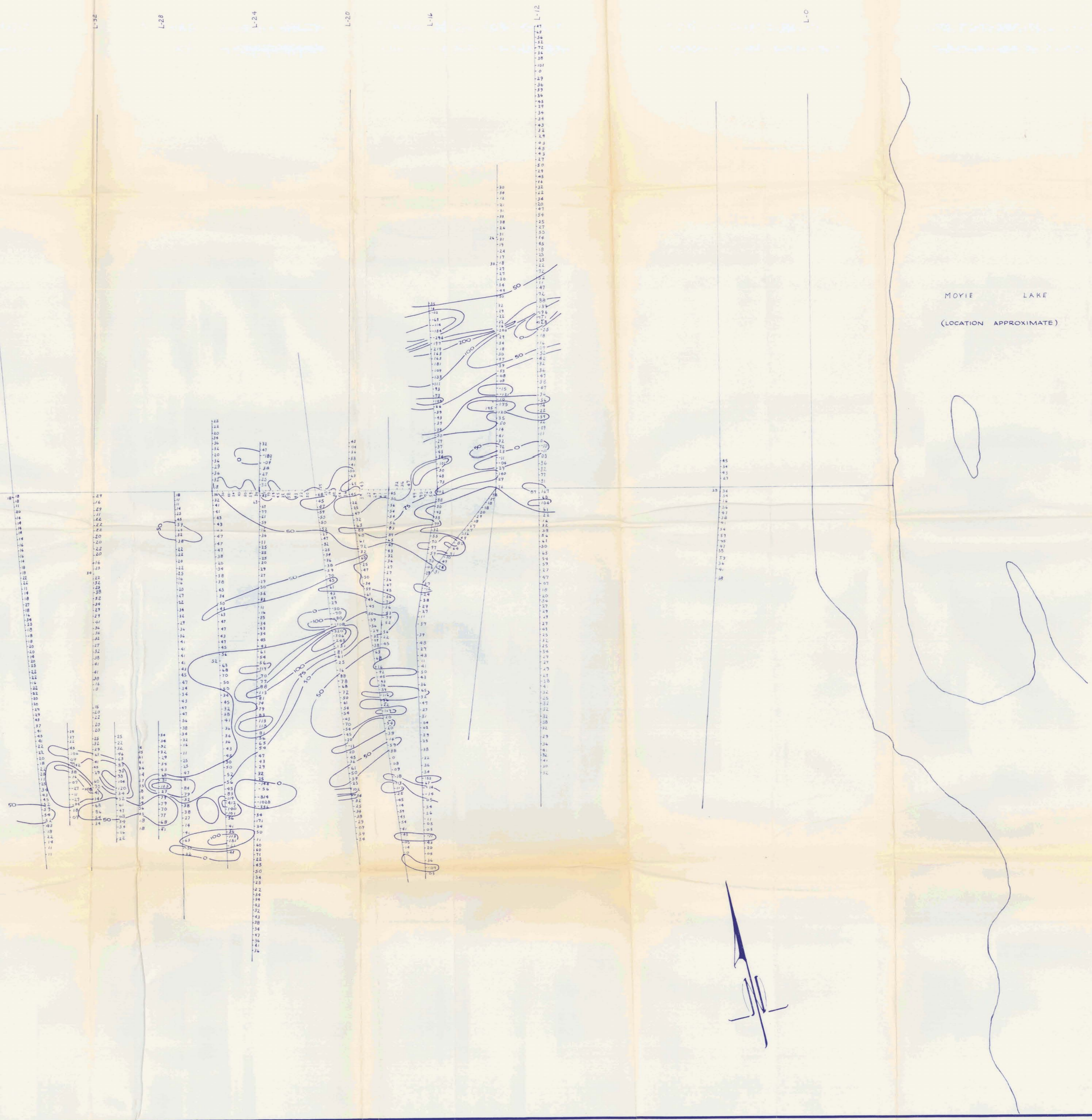
BASE LINE



BRITISH COLUMBIA



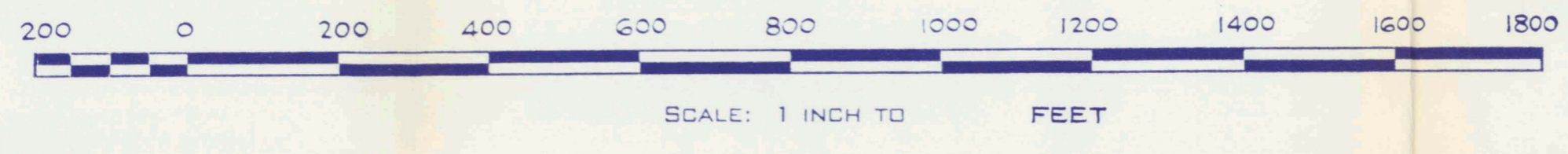
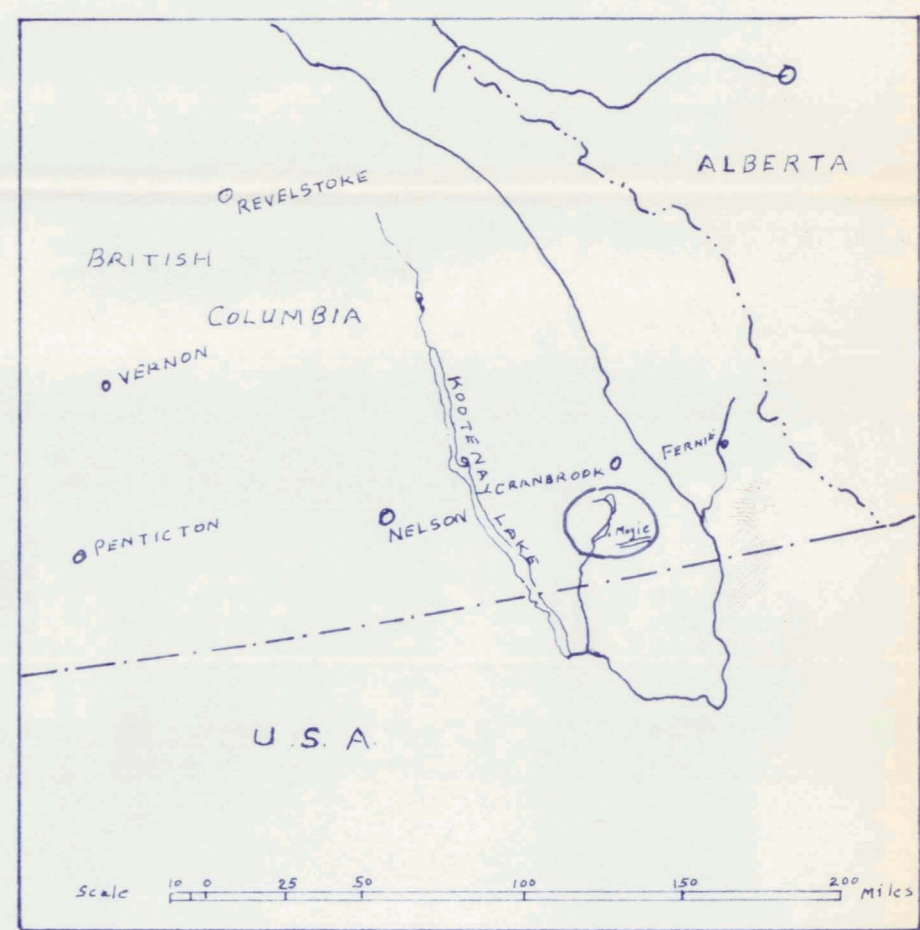
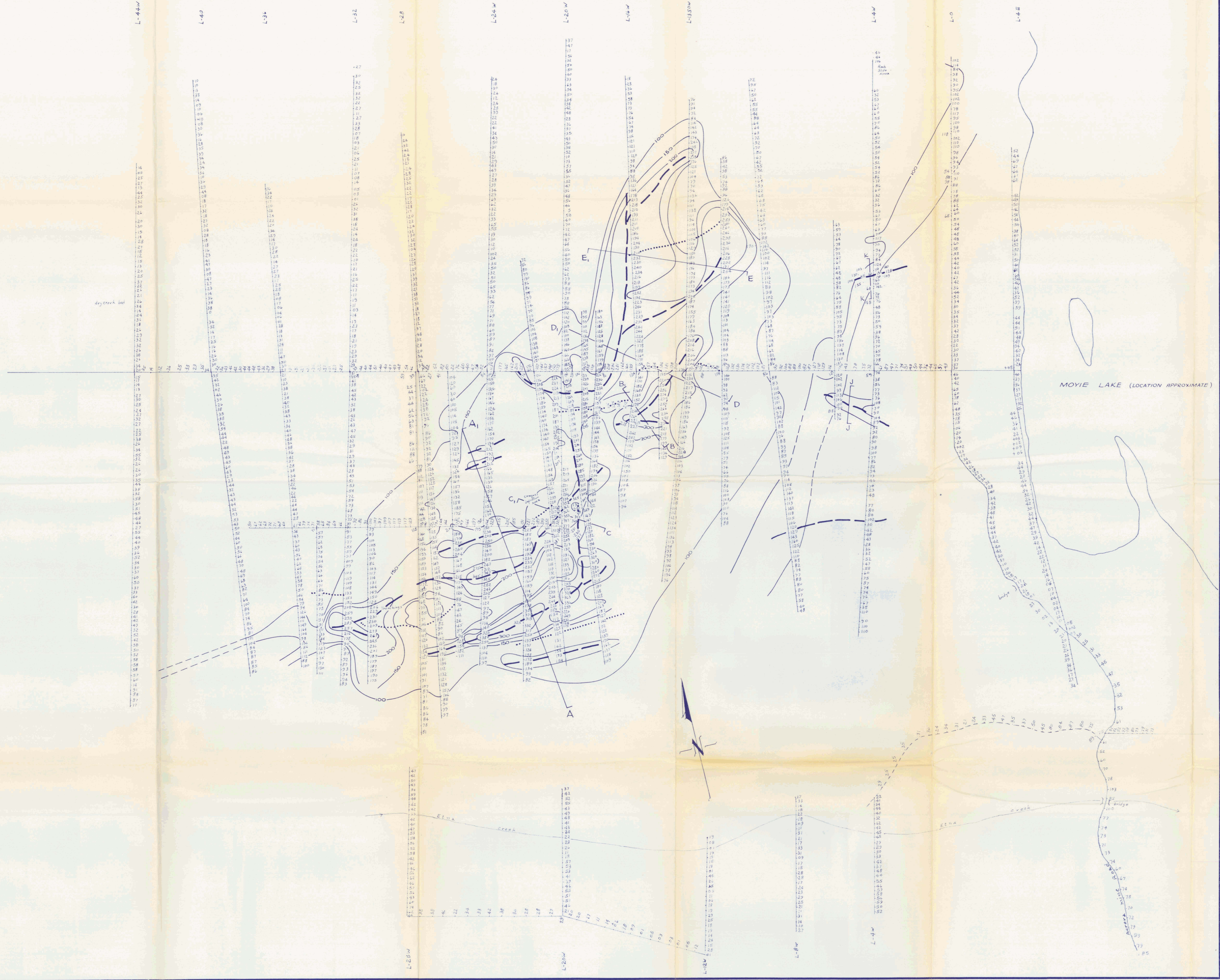
SCALE: 1 INCH TO FEET



COMPANY .. FALCONBRIDGE NICKEL MINES LTD.
 PROPERTY .. AURORA GRID
 LOCATION .. MOYIE B.C.

WORKING PLACE .. MOYIE B.C.
 TYPE OF MAP .. MAGNETOMETER SURVEY
 BASED ON .. PACE AND COMPASS

DATE .. Oct. 1964
 DRAWN BY .. V.B. S.P.
 DATE OF WORK .. Oct. 1964



COMPANY . . . FALCONBRIDGE NICKEL MINES LTD.
 PROPERTY . . . AURORA GRID
 LOCATION . . . MOYIE B.C.

WORKING PLACE . . .
 TYPE OF MAP . . . SELF POTENTIAL - M.V.
 BASED ON . . . Pace and compass

DATE . . . Oct. 1964
 DRAWN BY . . . S.P.
 DATE OF WORK . . . Oct. 1964

L-28

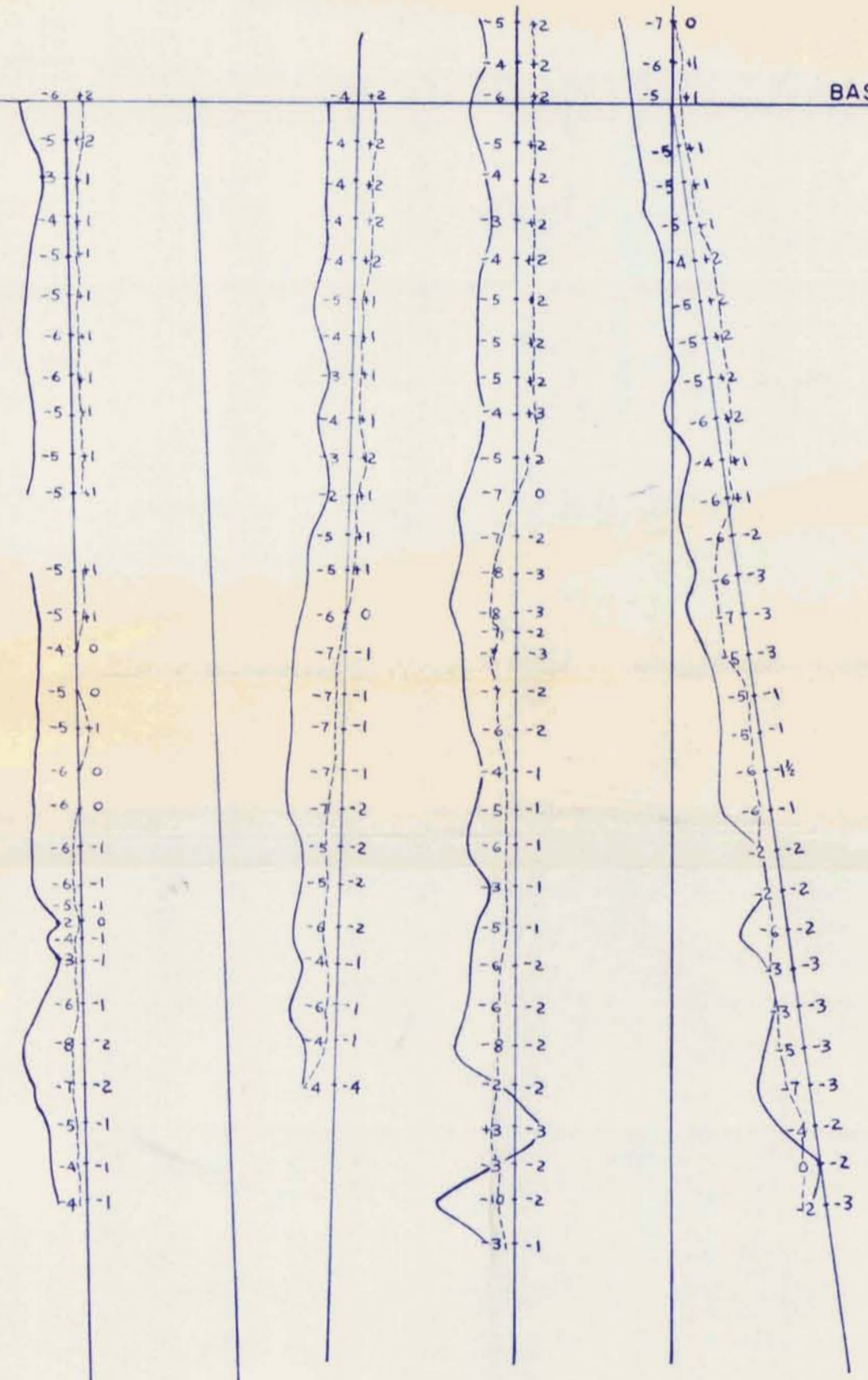
L-26

L-24

L-22

L-20

BASE LINE



LEGEND

$\left. \begin{array}{l} \text{In phase on left.} \\ \text{Out of phase on right} \end{array} \right\} -5 \text{ } +2$

$\left. \begin{array}{l} \text{In phase} \\ \text{Out of phase} \end{array} \right\} 1 \text{ in.} = 20 \text{ degrees}$

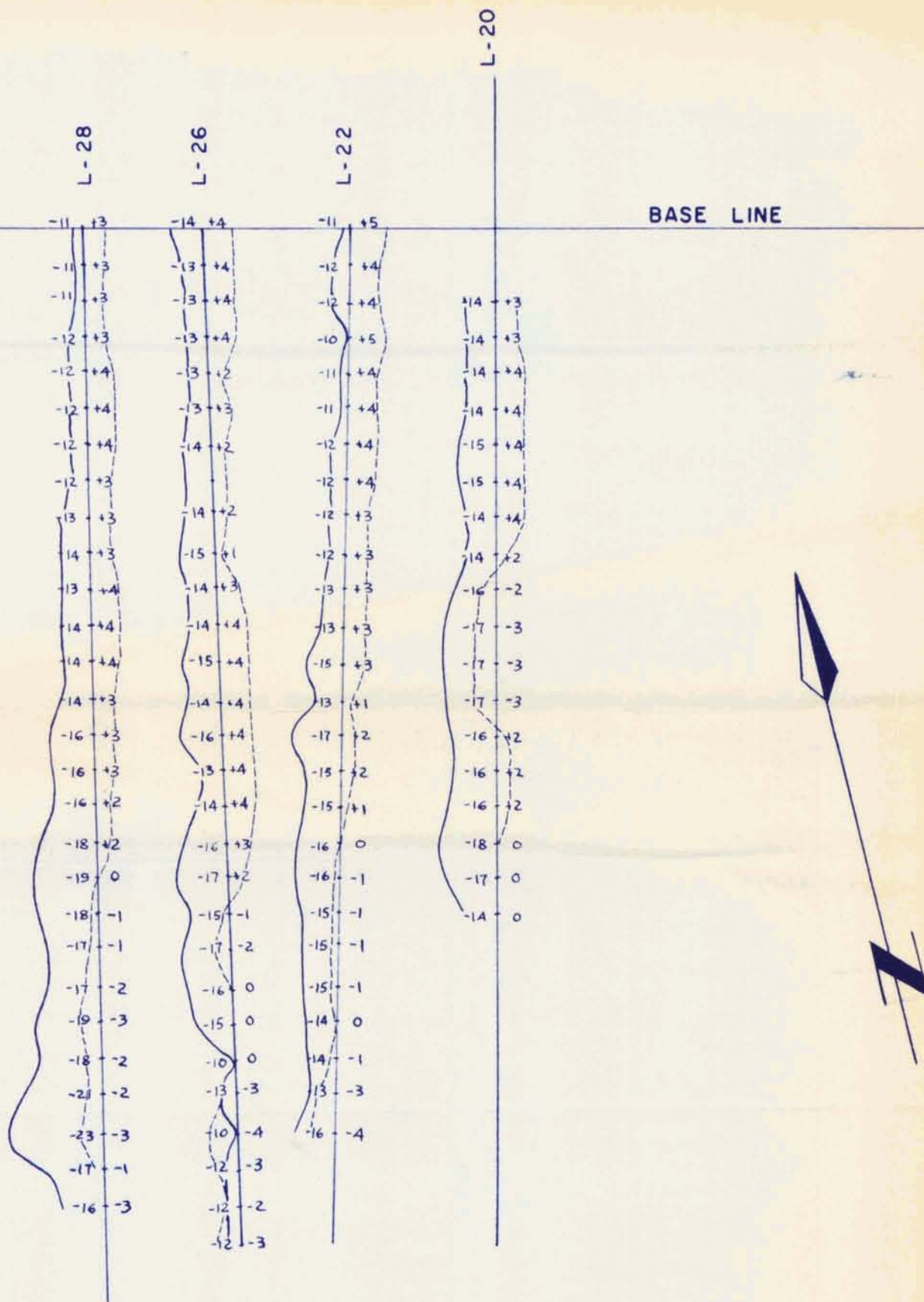
Receiver on south end of 200 foot cable

FALCONBRIDGE NICKEL MINES LTD.

RONKA ELECTROMAGNETIC SURVEY

AURORA GRID

200 100 0 200 400
FEET



LEGEND

$\left. \begin{array}{l} \text{---} \\ \text{---} \end{array} \right\} \begin{array}{l} \text{In phase on left.} \\ \text{Out of phase on right.} \end{array}$

$\left. \begin{array}{l} \text{---} \\ \text{---} \end{array} \right\} \begin{array}{l} \text{In phase.} \\ \text{Out of phase.} \end{array} \left. \begin{array}{l} \\ \\ \end{array} \right\} 1 \text{ in.} = 20 \text{ degrees.}$

Receiver on south end of 300' cable.

FALCONBRIDGE NICKEL MINES LTD.

RONKA ELECTROMAGNETIC SURVEY

AURORA GRID

200 100 0 200 400
FEET