

REPORT ON
A TURAM SURVEY
ON HUDSON BAY MOUNTAIN
NEAR SMITHERS, B. C.

GEOPHYSICAL

The survey covered all or a part of the following claims
which are owned by Sil-Van Mines Limited:

Mamie L7262	Payroll Fr.
Canary L7590	Silver Star L2546
Payroll L2547	Coronado L1155
Homerun L1156	SouthWest L2548
Jay #2	Pacific L7407
Jay #1	Vancouver L7408
Jay Fr.	Cobalt L2939
Torrent	Muriel

Hummingbird Fr.

93L/14W

They are located 14 miles west of Smithers, B. C.

in quadrangle 54N and 12⁷W (NW)

The field work was under the supervision of W. J. Scott

and the report was written by W. J. Scott.

The work was done between 3 July and 20 July, 1963.

REPORT ON
TURAM SURVEY

505
for

SIL-VAN MINES LIMITED

by

HUNTING SURVEY CORPORATION LIMITED

TORONTO, CANADA

July, 1963

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ACCOMPANYING MAPS

Map Pocket

- 1 Map showing claims surveyed, scale 1" = 500'
- 2 Base Line profile, scale 1" = 200'
- 3 Survey results, scale 1" = 200'
- 4 Line map and Interpretation, scale 1" = 200'

<p>Department of Mines and Petroleum Resources ASSESSMENT REPORT</p> <p>NO. <u>505</u> MAP.....</p>

INTRODUCTION

Between 3 July and 20 July 1963, Hunting Survey Corporation Limited carried out a Turam electromagnetic survey on a group of claims held by Sil-Van Mines Limited. These claims are located on the southwest slope of Hudson Bay Mountain, 14 miles west of Smithers, B.C., in quadrangle 54N and 126W.

The survey was carried out under the supervision of Mr. W. J. Scott of Hunting Survey Corporation Limited, with the assistance of Mr. D. Beale and Mr. J. Dockrill, supplied by Sil-Van Mines Limited.

Mr. Scott arrived on the property, from Vancouver, on the evening of 3 July, returned to Smithers on the morning of 20 July, and departed for Vancouver on 22 July.

A total of approximately 12.5 line miles was surveyed.

The instrument used was an A.B.E.M. Type 1182, Turam electromagnetic prospecting unit. This instrument uses two horizontal search coils, separated by 100 feet or other suitable distances at the discretion of the operator, to record the distortions in an electromagnetic field generated by an alternating current which passes through a long grounded cable. The quantities measured are (a) the ratio of the field strength at each coil, and (b) the phase difference of the field between the two coils. The grounded cable

was laid out along a base line, and readings were taken along picketed traverses, roughly perpendicular to the base line. Readings were plotted at the centre of the 100-foot coil spreads. The plotting was done in the field, and a preliminary interpretation was provided to the client immediately after the survey. The data were checked and replotted at the Toronto office of Hunting Survey Corporation Limited and a final interpretation was carried out.

GEOLOGICAL SETTING

The following geological description is taken from G.S.C. Memoir 223, (revised edition, 1954) "Mineral Resources, Hazelton and Smithers Areas, Cassiar and Coast Districts, British Columbia" by E. D. Kindle.

Mineral deposits in the area are mainly confined to volcanics of the Hazelton group, composed of tuffs, and rhyolite, dacite and andesite flows and flow breccias. Most of the large veins and vein lodes occupy fault fissures, sheeted zones, brecciated zones, or shear zones.

The veins on the Victory (NW of the survey area), Coronado, Henderson and Mamie groups all lie parallel and form a system across a belt two miles wide along the southwest slope of Hudson Bay Mountain. They strike generally northeast, and have steep dips. The veins range from a few inches to ten feet in width, and are remarkably persistent.

Sulphide concentrations may be as high as 80%, although the usual range is up to 50%.

Mineralization in the veins shows a zoning effect, with deposits grading from galena-sphalerite-tetrahedrite-pyrargyrite ores at the base of the slope to arsenopyrite-sphalerite-gold in the uphill ores. The downhill ores carry higher precious metal values.

The only known major fault in the survey area, the No. 1 Fault, crossed the Henderson vein nearly at right angles, but the vein shows no serious offset in plan view. There is some question about the true nature of this fault.

SURVEY RESULTS

A number of conductors were detected by the Turam survey. Some of the anomalies interfered with each other, and some rather complex patterns are indicated. We have tried to obtain an accurate location for each anomaly, but the interpretation, in the south part especially, cannot be regarded as unique.

For convenience in description, the anomalies have been divided into groups by location, and each conductor has been given an identifying letter; subscript numbers are used to indicate branches of the same conductor. Each location will be considered separately.

I - East of Line 46+00 E

In this area there are two major conductors corresponding to known veins.

Conductor R, for which no depths can be given because the survey lines were not quite long enough, corresponds to the Henderson-Ashman vein.

Conductor M_1 - M_2 corresponds to the Mamie vein. There is no known offset of the Mamie between Line 58E and Line 60E, though part of the discrepancy may be accounted for by difference between horizontal chainages and slope chainages. Depths to this conductor are from 110 feet to 140 feet, except on Lines 64 and 62, where depths are approximately 170 feet. M_2 appears to be slightly shallower than M_1 .

Conductor M_3 , although somewhat weaker than M_1 and M_2 , is probably an extension of the Mamie. If work is done in this area, M_3 should be the first conductor investigated. Depth to this conductor is about 200 feet.

Conductors N and P are parallel to M_3 , and of the same general magnitude. Depths are uncertain because of mutual interference among the anomalies of M_3 , N and P, but should be between 140 feet and 200 feet.

Conductor Q is imperfectly defined, because it occurred at the ends of the lines; it was picked up by working beyond the ends of the cut lines, and the topography made further extensions very difficult. Depth is probably of the order of 200 feet.

II - Lines 8+00 E to 26+00 E, North Side

In this area there are three possible conductors. Two of these, J and K₁-K₂, were indicated only because they coincide with known veins, the Coronado East and Coronado West.

Conductor L is somewhat better than either J or K₁-K₂, but it is still of no major importance. It was indicated on the map mainly because it could be an extension of the Coronado West, in which case it would suggest slightly higher sulphide content than the known part.

III - Lines 8+00 E to 26+00 E - South Side

This is an area of considerable complexity in which anomalies interfere with each other to such an extent that this interpretation cannot be regarded as the only possibility.

There are three major conductors in the area, two of which fork in a manner similar to the Henderson-Ashman and the Dome Systems. Conductor B ranges in depth from about 120 feet to 180 feet, with the shallower end to the east. Conductor C is somewhat deeper, with depths from 200 feet to 300 feet; depths for Conductor E

are of the order of 200 feet. All three of these conductors warrant further investigation by drilling.

Since this part of the survey area did not extend far enough east to cross the known systems, correlation of the Turam conductors with known veins is not possible.

Conductor A may possibly be of some importance, but because the survey could not be extended farther to the south without moving the grounded cable, only partial anomalies were obtained, and thus no interpretation could be made.

Conductor D may also be important, though any work done on it should await results of work on Conductors B, C and E.

The other conductors in this area are of minor importance, and should be considered only if the major conductors are proven to be of economic interest.

SUMMARY AND RECOMMENDATIONS

From a Turam electromagnetic ground survey on a group of claims held by Sil-Van Mines Limited, a number of conductors have been outlined. The best of these corresponded to two of the known vein systems, the Mamie (Conductor M) and the Henderson-Ashman (Conductor R). Only a weak indication was obtained over the other

known veins, the Coronado East and West.

Several new conductors have also been indicated, and it is recommended that these be tested by drilling as follows:

1. Conductor E₁, Line 14+00 E, to intersect 250 feet below 14+20 S.
2. Conductor B, Line 20+00 E, to intersect 160 feet below 24+60 S.
3. Conductor C, Line 22+00 E, to intersect 230 feet below 23+50 S.
4. Conductor E₂, Line 14+00 E, to intersect 200 feet below 11+15 S.

The results from these holes should be considered before further work is undertaken. A list of some other conductor locations is given as a guide to possible further drilling.

EFFECT OF UNDERGROUND RAILS

In some of the known vein systems there are underground workings with rails laid on the floors. There is a possibility that such rails could affect the anomalies obtained over the veins. If the rails have an effect, this effect would arise not from the interaction between the primary field and the rails, but rather from the concentration of current flowing through the earth from one end of the grounded cable to the other. For maximum concentration the rails should be parallel to the grounded cable, and not too far from it. The anomaly so obtained would be indistinguishable in characteristics from that obtained over the vein itself.

In this survey, however, there are two reasons for assuming that the presence of underground rails has no serious effect. Depths on the Mamie, calculated from the Turam anomalies, show no correspondence at all with the known rails on the two levels shown by portals on the hillside. This would suggest that the Mamie anomalies are primarily if not entirely due to the vein rather than to the rails. Turam work over both the Coronado East and the Coronado West veins gives no significant anomaly, although there are in both these structures adits containing rails. Thus it seems probable that the anomalies obtained are not greatly influenced by the presence of rails in the underground workings.

APPROXIMATE CONDUCTOR LOCATIONS

<u>Conductor</u>	<u>Line</u>	<u>Chainage</u>	<u>Approximate Depth</u>
B	22+00 E	26+10 S	140'
	20+50 E	25+45 S	150'
	20+00 E	24+60 S	160'
C	20+50 E	22+45 S	240'
D	20+00 E	19+70 S	120'
	18+00 E	19+50 S	110'
E	18+00 E	15+30 S	220'
E ₁	16+00 E	15+40 S	180'
	12+00 E	12+80 S	200'
	10+00 E	11+90 S	150'

<u>Conductor</u>	<u>Line</u>	<u>Chainage</u>	<u>Approximate Depth</u>
E ₂	10+00 E	9+45 S	190'
F	10+00 E	24+00 S	160'
G ₂	20+00 E	7+50 S	270'
M ₃	52+00 E	5+50 N	200'
	50+00 E	5+50 N	180'
P	54+00 E	9+30 N	180'
	52+00 E	9+50 N	140'

HUNTING SURVEY CORPORATION LIMITED,

W. J. Scott,

W. J. Scott,
Geophysicist.

Toronto, Ontario,
July, 1963.



HUNTING SURVEY CORPORATION LIMITED

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Air Photography • Maps • Volumes • Control • Photo Interpretation • Geology • Geophysics • Resources Inventories • Route and Site Analyses

TO WHOM IT MAY CONCERN

Re: Qualifications of Geophysicist

The qualifications of Mr. W. J. Scott, geophysicist, who carried out the Turam survey over the property of Sil Van Mines Limited, are detailed in the following paragraphs.

Mr. Scott attended the University of Toronto and graduated in Engineering Physics (Geophysics Option) in 1962.

Mr. Scott has been employed by the Geophysics Division of this company on a part time basis since 1959. During this time he has carried out geophysical surveys for mineral exploration using Horizontal-loop E.M., Turam, magnetometer, resistivity and seismic methods. Last year Mr. Scott spent three months in the Yukon carrying out Turam surveys.

Mr. Scott is presently working towards an M.A. in Geophysics at Toronto University.

Toronto, Ontario,
July 26, 1963.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.

In the Matter of

Evidence of Expenditures
Incurred for Turam Survey
on Sil-Van Mines Ltd.
Claims from July 3, 1963
to July 20, 1963

To Wit:

SUB-MINING RECORDER
RECEIVED
SEP 20 1963
M.R. #65045 D \$145.00
VANCOUVER, B.C.

I, William St. C. Dunn

of 808-602 West Hastings Street, Vancouver 2, B. C.

in the Province of British Columbia, do solemnly declare that

Cost of Turam Survey by Hunting Survey Corporation Ltd., Invoice Number 1715, August 27th, 1963	\$ 3,195.00
Cost of Topographic Base Map for Turam Survey. Hunting Survey Corporation Invoice No. 1598, June 28, 1963	<u>323.52</u>
	<u>\$ 3,518.52</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."

Declared before me at the *City*
of *Vancouver*, in the
Province of British Columbia, this *20*
day of *September* 1963, A.D.

John Surran
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.
Sub-Mining Recorder

SIL-VAN MINES LIMITED N.P.L.
EVIDENCE OF EXPENDITURES INCURRED

SUB-MINING RECORDER RECEIVED SEP 20 1963 M.R. #65045 \$145.00 VANCOUVER, B.C.

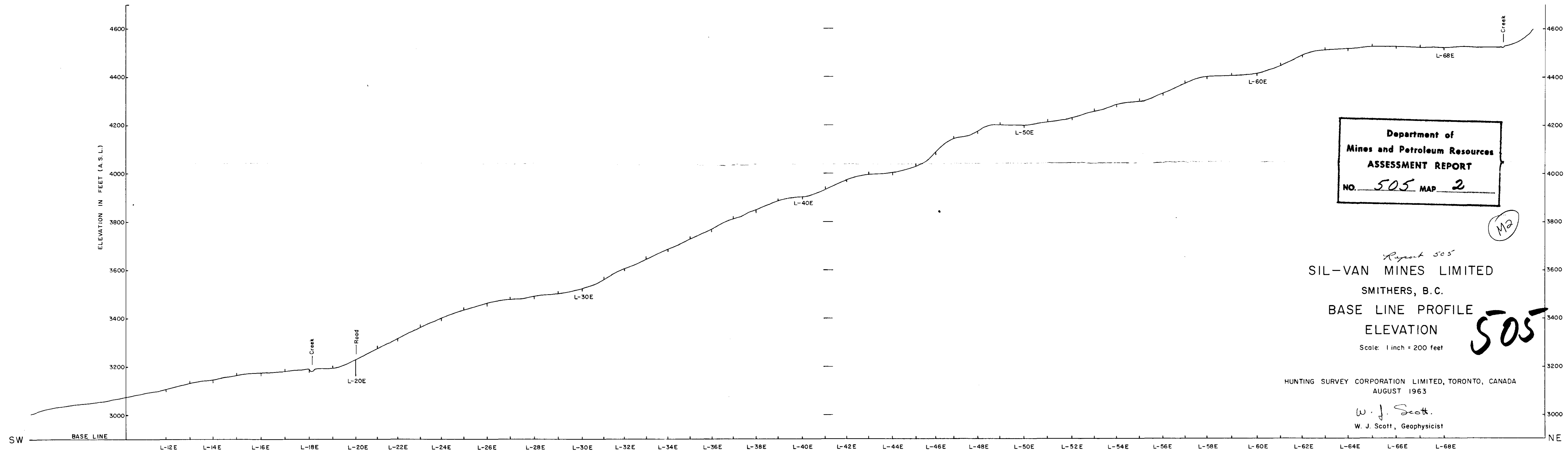
NAME	JOB	DATES	HOURS & RATE	TOTAL
A. Clark	Linecutter	June 25 - July 16	32 hrs @ 2.25 = 72.00 118 hrs @ 2.00 = 236.00 4 hrs @ 3.00 = 12.00	320.00
T. Heissey	Linecutter	June 25-July 3	72 hrs @ 2.00	144.00
J. Owens	Linecutter	June 28-July 20	172 hrs @ 2.00	344.00
B. Nokelby	Linecutter	June 28-July 20	164 hrs @ 2.00	328.00
D. MacDonald	Linecutter	July 4-July 16	96 hrs @ 2.00	192.00
J. Dockrill	Survey Helper	July 4-July 19	112 hrs @ 2.00	224.00
D. Beale	Linecutter	June 26-July 3	\$300.00/month	80.00
D. Beale	Survey Helper	July 4-July 19	\$300.00/month	150.00
S. Homenuke	Supervisor	July 5-July 20	\$400.00/month	200.00
W. Dunn	Engineer	June 24-July 4	10 days @ 35.00	350.00
W. Dunn	Engineer	July 14-July 19	6 days @ 35.00	210.00

Declared before me at the *City*
of *Vancouver*, in the
Province of British Columbia, this *20*
day of *September* 1963, A.D. *W. St. C. Dunn*
Jim Turan
Sub-mining Recorder
September 20, 1963.

2,542.00

I hereby certify that the above expenditures were incurred in the making of a Turam Survey on the claims of Sil-Van Mines Limited in the Omineca Mining Division.

W. St. C. Dunn
W. St. C. Dunn



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 505 MAP 2

Ma

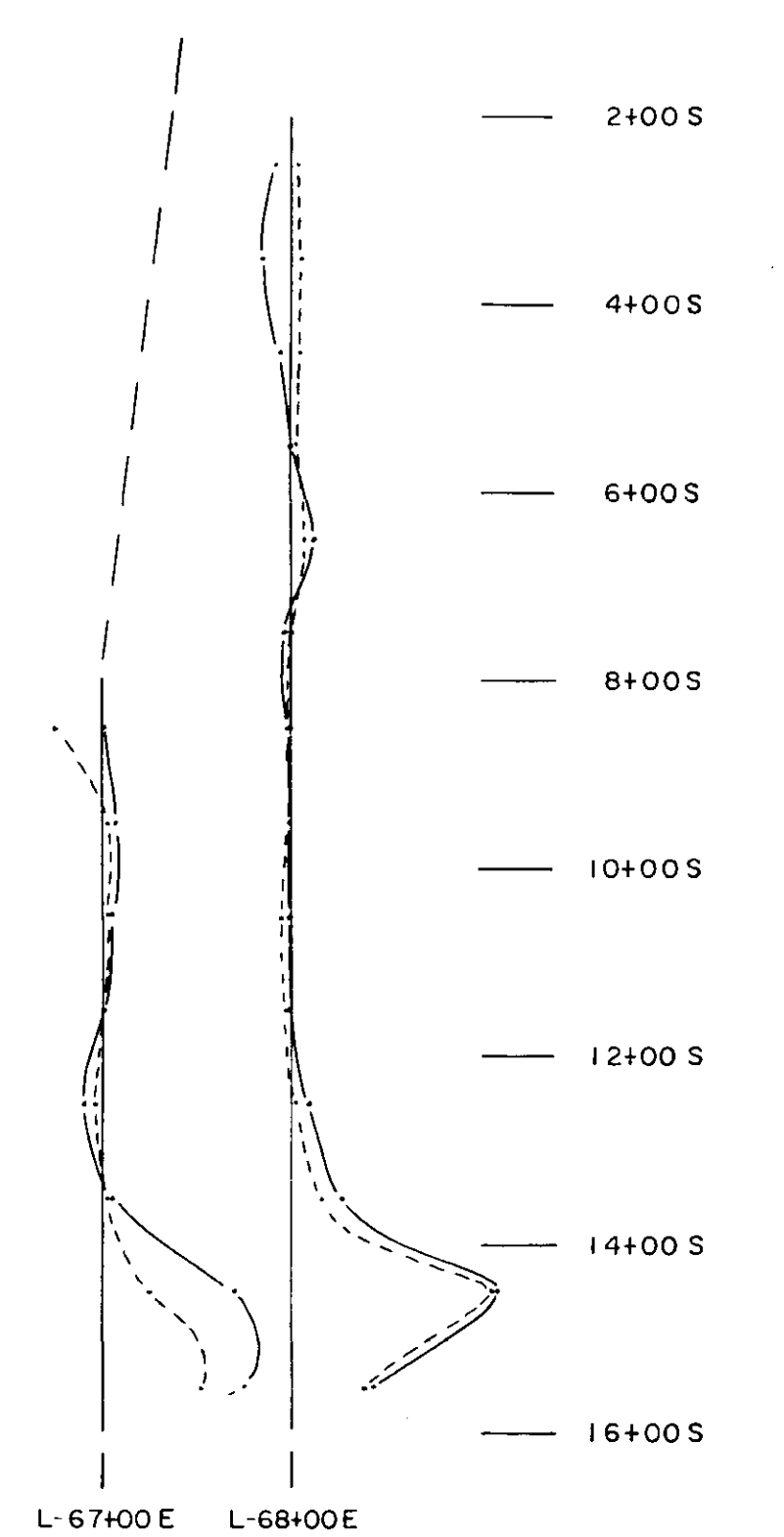
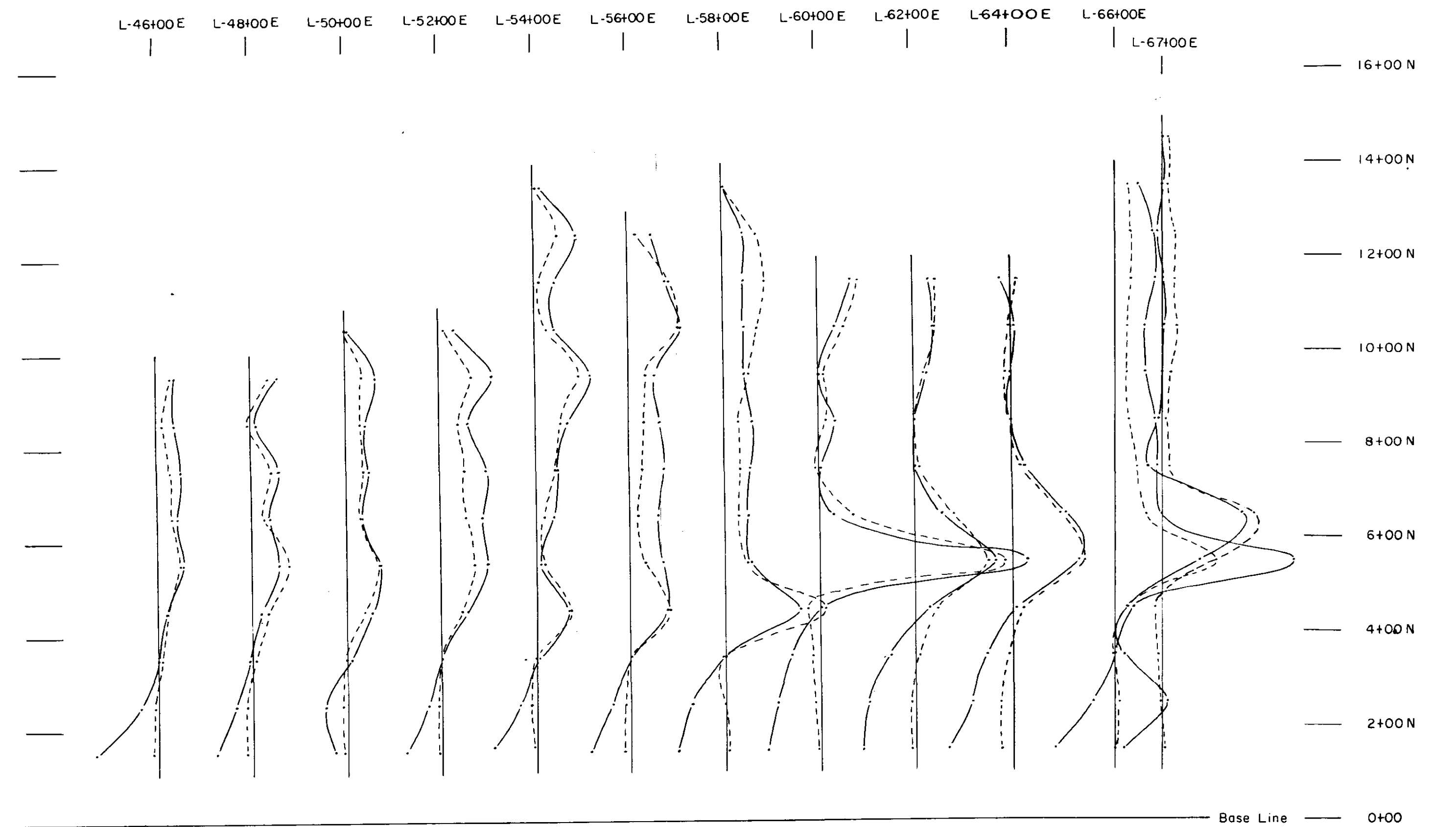
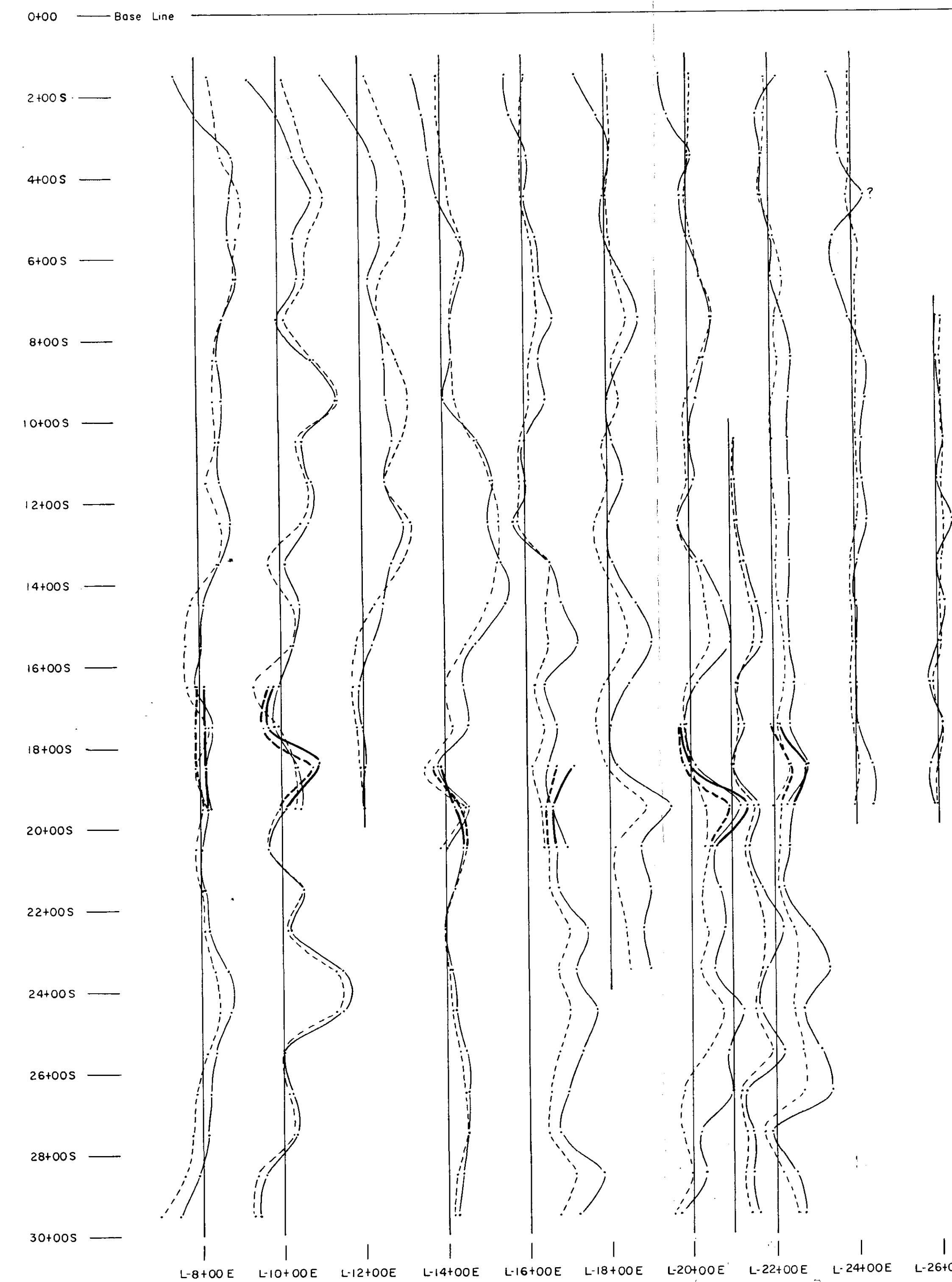
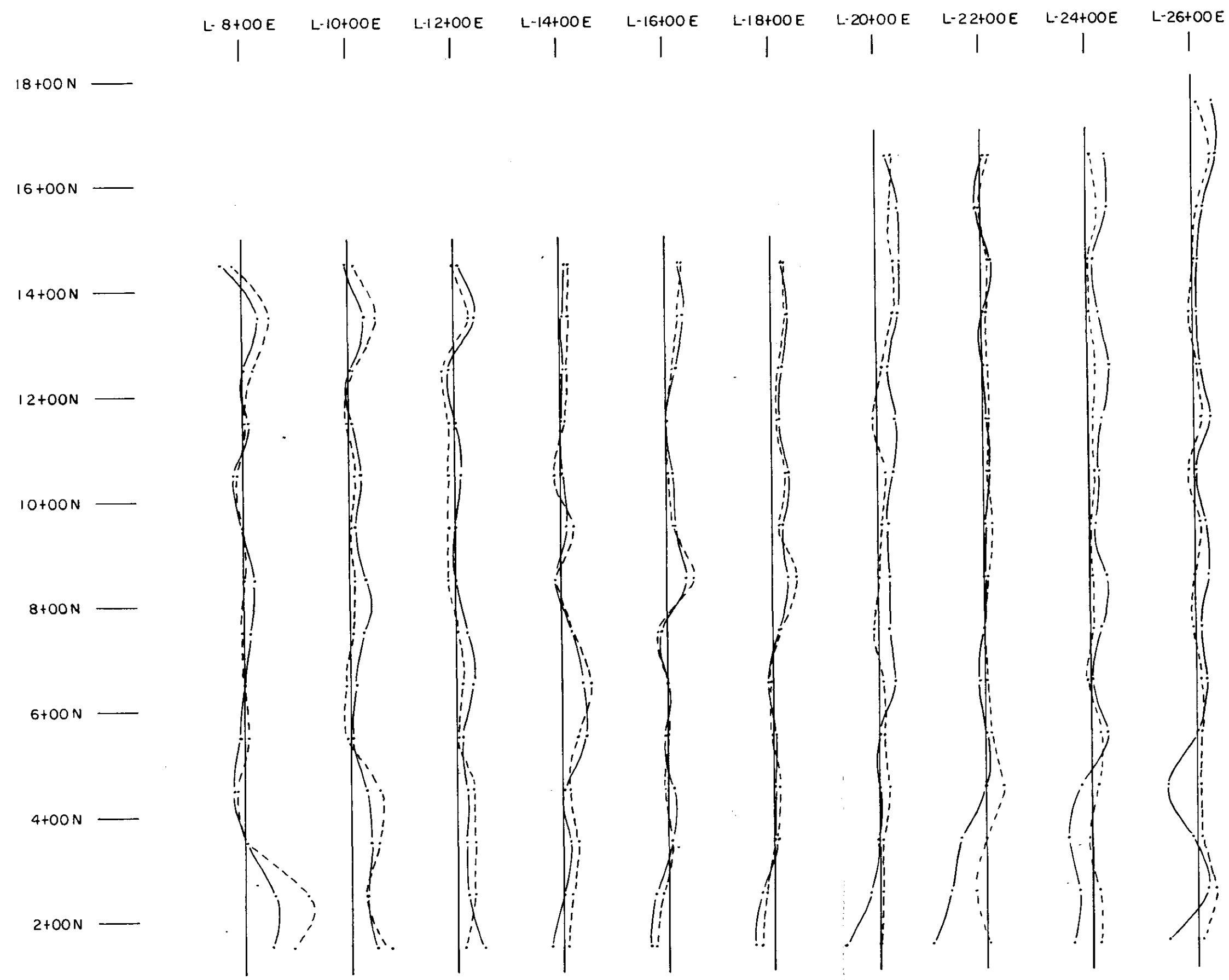
Report 505
SIL-VAN MINES LIMITED
SMITHERS, B.C.
BASE LINE PROFILE
ELEVATION

505

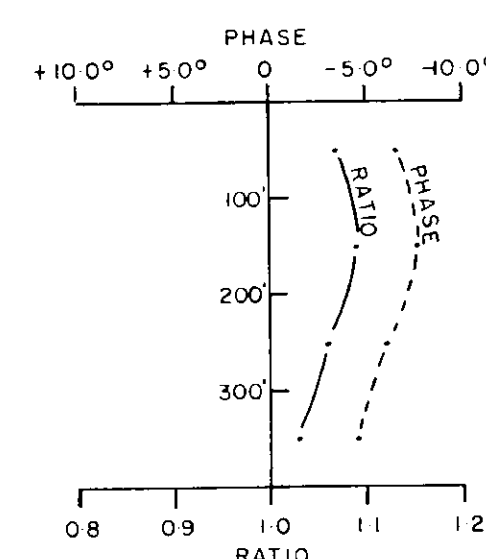
Scale: 1 inch = 200 feet

HUNTING SURVEY CORPORATION LIMITED, TORONTO, CANADA
AUGUST 1963

W. J. Scott.
W. J. Scott, Geophysicist



NOTE: In cases of overlap later work is indicated by heavy-weight lines.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 505 MAP 3

505

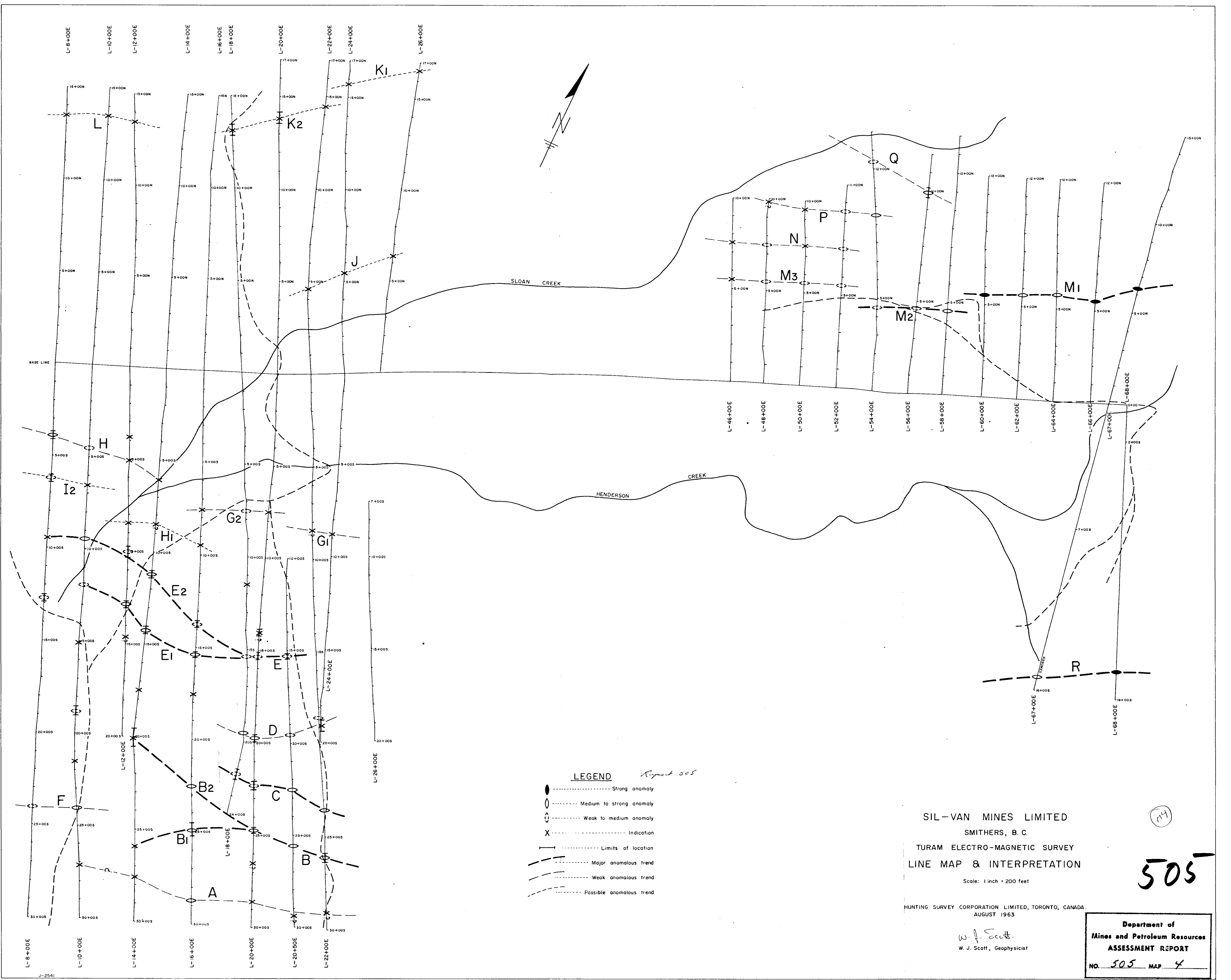
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Report 505
SIL-VAN MINES LIMITED
SMITHERS, B. C.
TURAM ELECTRO-MAGNETIC SURVEY
SURVEY RESULTS

Scale: 1 inch = 200 feet

HUNTING SURVEY CORPORATION LIMITED, TORONTO, CANADA
AUGUST 1963

W. J. Scott
W. J. Scott, Geophysicist



LEGEND *Report 505*

- Strong anomaly
- Medium to strong anomaly
- ⊙ Weak to medium anomaly
- X Indication
- Limits of location
- Major anomalous trend
- Weak anomalous trend
- Possible anomalous trend

SIL-VAN MINES LIMITED
 SMITHERS, B. C.
 TURAM ELECTRO-MAGNETIC SURVEY
 LINE MAP & INTERPRETATION

Scale: 1 inch = 200 feet

HUNTING SURVEY CORPORATION LIMITED, TORONTO, CANADA.
 AUGUST 1963

W. J. Scott
 W. J. Scott, Geophysicist

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 505 MAP 4

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