

GEOCHEMICAL AND GEOPHYSICAL REPORT

ON

FOGGY A GROUP

Kamloops Mining Division
NTS 82M/12W
Latitude 59°32'N by Longitude 119°53'W

by

C. C. EVERETT and W.G. COOPER

August 25, 1983

Owner: Barrier Reef Resources Ltd.
904-675 West Hastings St.
Vancouver, B.C.
V6B 1N2

Operator: Esso Resources Canada Limited
600-1281 West Georgia St.
Vancouver, B.C.
V6G 3J7

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,503

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ESSO MINERALS CANADA	
LOCATION MAP	
FOGGY A GROUP	
KAMLOOPS MINING DIVISION, B.C.	
Drawn By: C. E.	Date: AUG. 1983
Scale: 1cm. = 87km.	Fig No. 1

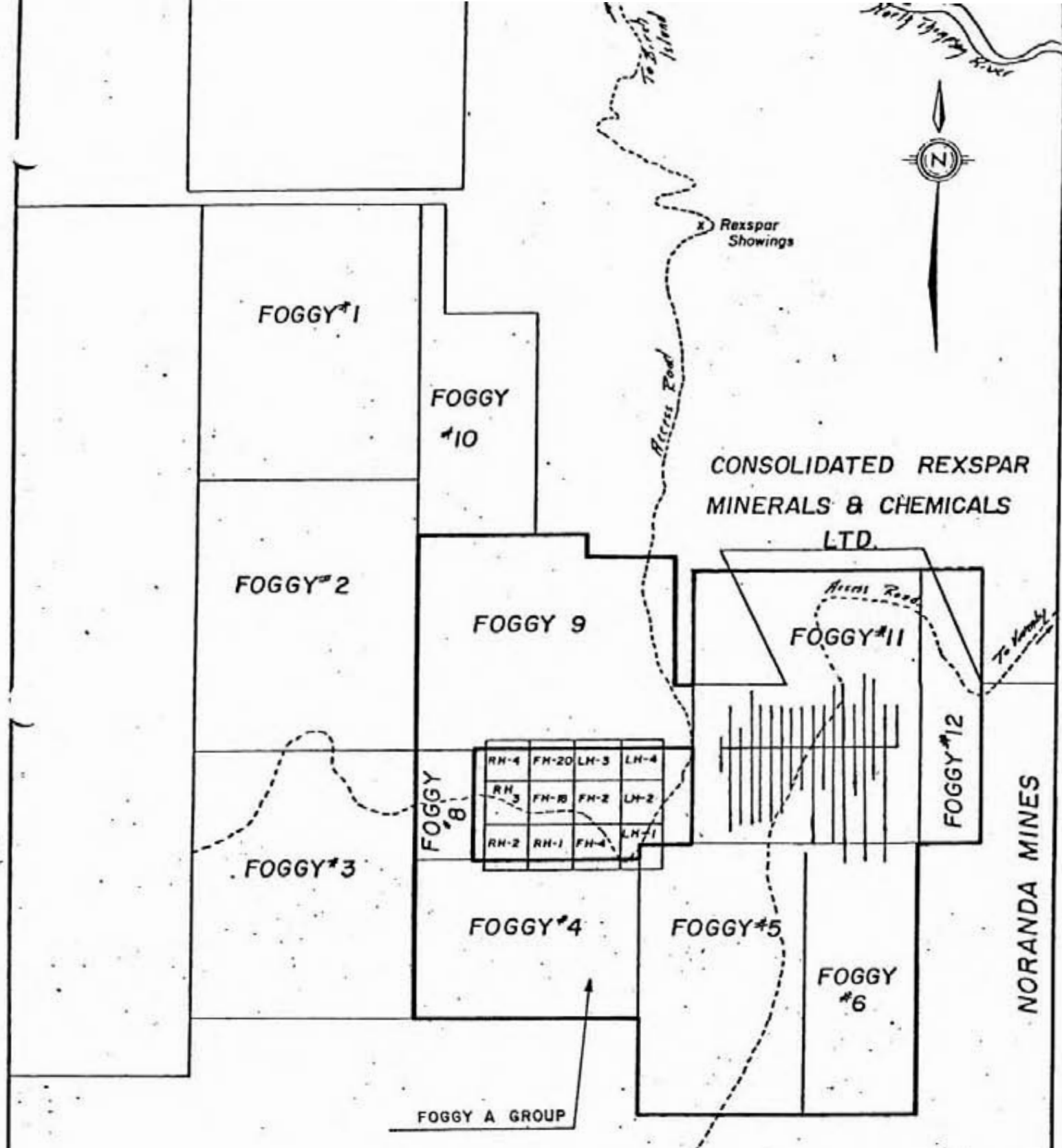
Summary

The Foggy A Group mineral claims are located about 100 km north-northeast of the city of Kamloops and 11 km south of the village of Birch Island, B.C.

This report covers detailed soil geochemical and geophysical surveying of a semi-massive pyrite horizon within Eagle Bay formation quartz-sericite schists, sericite schists, sericitic quartzites and chlorite pyrite schists. All field exploration was completed in the Foggy #11 claim.

Soil geochemical results indicate that the main sulphide zone may have a minimum 900 metre strike length and a 3-10 metre width. It is possible that other parallel horizon(s) may be present. The sulphides (pyrite) appear to be encased by silica and chlorite. There is no EM or magnetic expression from this zone.

Induced polarization and surface trenching are recommended to fully evaluate this showing.



ESSO MINERALS CANADA	
CLAIM MAP	
FOGGY A GROUP	
KAMLOOPS MINING DIVISION, B.C.	
NTS 82 M / 12 W	Scale: 1:50,000
Drawn By: C. E.	Date: AUG. 1983
LAT 51° 32' N LONG. 119° 53' W	Fig No. 2

1.0 Introduction

1.1 Location and Access

The Foggy A group is located in south-central British Columbia about 100 km NNE of the city of Kamloops and 11 km south of the village of Birch Island. Approximate geographic center of the property is at 51°32' north latitude and 119°54' west longitude.

Access to the property is gained by driving 15 km, east from Birch Island along the south side of the North Thompson River and thence 20 km south and west along the Jones Creek logging road.

1.2 Property

The Foggy A Group consists of 7 mineral claims aggregating 84 contiguous units. Claim names, units, month of record, record numbers and expiry dates are listed below in Table #1.

(Table #1)

Land Record

<u>Claim</u>	<u>Units</u>	<u>Month of Record</u>	<u>Record #</u>	<u>Anniv. Date</u>
Foggy 4	12	1	1680	Jan. 5, 1985*
Foggy 5	15	1	1681	Jan. 5, 1985*
Foggy 6	10	1	1682	Jan. 5, 1985*
Foggy 8	2	1	1684	Jan. 5, 1985*
Foggy 9	28	1	1685	Jan. 5, 1985*
Foggy 11	20	8	2023	Aug. 23, 1984*
Foggy 12	5	11	3071	Nov. 13, 1986*
	84			

*Pending notification for approval of assessment work credits

1.3 History of Property

This district has seen several bursts of exploration activity. First in the early 1950's during the original work on the Rexspar deposit (approximately 4 km to the north-northwest) and then in the late 1960's and early 1970's with the discovery of the Harper Creek copper property (approximately 4 km to the east). Several old roads and cut picket lines remain from the earliest Rexspar activity.

In the spring of 1979, a Dighem II airborne geophysical survey was flown over the area of the Foggy A Group. One area of lower resistivity was outlined on the claim. Ground investigation of this area revealed one outcrop of semi-massive sulphides.

In 1980 and 1981 Barrier Reef Resources carried out limited soil sampling, VLF-EM and induced polarization surveys over the showing. Esso Resources Canada Limited became operator of the property in 1982.

1.4 Regional Geology

The Foggy A Group is underlain by Upper Paleozoic Mississippian and earlier? rocks of the Eagle Bay Formation. The formation consists of rusty weathering, greenish grey feldspathic chlorite-schists, chlorite schists, sericite schists, quartz sericite schists and sericitic quartzites. These units comprise a relatively flat lying plate, occurring as a slight north plunging synform.

The Eagle Bay formation rocks appear to be in thrust contact with Early Pennsylvanian-Permo Triassic Fennel Formation basalts, basic fragmentals, cherts, limestones and argillites approximately 5 km to the east and west.

1.5 Details of 1983 Program

Field work completed in 1983 (July 1-18, and August 11 and 21) included linecutting, soil sampling, HLEM and proton magnetometer surveying. Table #2 is a summary of the work directly applied to the Foggy A Group.

(Table #2)

	<u>1983 Work Summary</u>	
<u>Samples</u> <u>(geochemical)</u>	<u>Linecutting</u> <u>(km)</u>	<u>Geophysics</u> <u>(km)</u>
290 soils (Cu,Pb,Zn,Ag)	10.6 km picket line	17.7 km HLEM
72 soils (Au)	11.0 km (flagged)	11.7 km proton mag

Soil samples were taken at 25 and 50 metre intervals on 100 and 200 metre linespacings. Geochemical sampling methods are described in detail in Appendix A. Baseline 20+00N and the even numbered crosslines are cut and picketed. Odd numbered crosslines are flagged at 20 metre intervals. All results are plotted at a 1:2500 scale.

The HLEM survey was carried out with a Scintrex SE88 Genie EM system, using a coil spacing of 100.m and transmitting frequency ratios of 3037.5 HZ/112.5 HZ, 1012.5 HZ/112.5 HZ and 337.5 HZ/112.5 HZ. The magnetometer survey was carried out with a Geometrics G816 proton precession magnetometer.

2.0 Technical Data and Interpretation of Results

2.1 Introduction

The gridded area shown on maps 1-7 is underlain by typical buff-coloured chlorite-sericite phyllite, chlorite schist, chlorite-ankerite-pyrite schist, sericite schist, quartz-sericite-hematite schist and sericitic quartzites of the Eagle Bay Formation. Outcrop are scarce on the property. The overall attitude of the units is northeast-southeast, gently 10-35° dipping to the northwest.

Soil geochemistry and geophysical surveying was concentrated on a 200 x 1700 metre band of sericitic schists, phyllites and quartzites, trending 045° and centered at grid location 20+00N:0+00. At this point an outcrop of semi-massive pyrite with minor chalcopyrite and sphalerite is exposed along a logging road. The objective of the 1983 exploration program was to test this showing for base and precious metals and evaluate the horizon for possible massive concentrations of sulphides.

2.2 Soil Geochemistry

A total of 290 soil samples were taken along the sericite dominated horizon. Selected samples, near sulphide bearing float occurrences, were analyzed for gold. Soil sample locations and results are presented on maps 1-5. Estimated background and threshold values for each element are listed below.

	<u>Background</u>	<u>Threshold</u>
Copper	20-50 ppm	120 ppm
Lead	15-40 ppm	100 ppm
Zinc	50-125 ppm	250 ppm
Silver	0.8-1.2 ppm	2.0 ppm
Gold	1-8 ppb	65 ppb

2.2.1 Geochemical Results

(A) L5+00W to 3+00E: semi-massive pyrite horizon

Anomalous copper, (126-277 ppm), lead (116-320 ppm), zinc (257-1080 ppm), silver (2.2-4.3 ppm) and gold (16-123 ppb) results crudely parallel the pyrite horizon from line 5+00W to 3+00E. The anomaly has an apparent strike length of 900 metres. Results tend to be higher along lines 1+00W-3+00E where soils have not been disturbed by recent logging operations.

Spotty copper, lead, zinc and silver values parallel this zone approximately 100 metres to the southeast. This may represent a second mineralized horizon.

(B) L3+00W:22+75N

Soils testing the HLEM conductor on L3+00W are moderately anomalous in copper (142-246 ppm), lead (140-170 ppm), zinc (322-380 ppm) and silver (2.6-3.0 ppm). No soils were analyzed for gold. The source of the anomaly has not been defined.

(C) L6+00W-L4+00W: Baseline 20+00N

Copper (120-240 ppm), lead (220-280 ppm), zinc (252-482) and silver (2.3-3.6 ppm) highs occur along baseline 20+00N, line 6+00W-4+00W. Minor amounts of pyrite and chalcopyrite

were noted along the foliation of samples within this zone. Sulphides appear to be erratically distributed in this area. The anomaly does not warrant further work.

(D) 8+00W-9+00W:19+00N 21+00N

Soils testing an irregular quartz stockwork-carbonatized zone containing minor amounts of chalcopyrite, sphalerite and galena are moderately anomalous in copper (120-240 ppm), lead (102-260 ppm) and zinc (328-340 ppm) and highly anomalous in silver (2.0-10.4 ppm). The zone appears to have a narrow width and limited strike. It does not warrant further exploration.

2.3 Geophysics

In July and August 1983, 17.7 km of HLEM surveying and 11.4 km of magnetometer surveying were carried out on the Foggy 11 mineral claim. The purpose of the HLEM survey was to outline EM conductors caused by massive sulfides. The objective of the magnetometer survey was to provide additional information to aid in geological mapping.

2.3.1 HLEM and Magnetometer Surveys

The HLEM survey was carried out with a Scintrex SE-88 Genie EM system, using a coil spacing of 100 m and transmitting frequency ratios of 3037.5 HZ/112.5 HZ, 1012.5 HZ/112.5 HZ and 337.5 HZ/112.5 HZ (description found in Appendix B). The results of the survey are presented on map #6. A weak conductor is located on line 3+00W at 22+75N. The estimated

depth to the top of the conductor is 40 m. The remaining lines are featureless.

The magnetometer survey was carried out using a Geometrics G-816 proton precession magnetometer (description found in Appendix). The data was corrected for diurnal variations and is presented on map #7. The results show weak anomalous responses (100 γ 's) occurring in rocks mapped as chlorite schists. These responses are isolated features which reflect local variations of magnetite content within this geological unit. The magnetic survey does not provide any additional information to aid in geological mapping.

It is recommended that induced polarization surveying be carried out over the mineralized horizon (A) to try and outline trenching or diamond drilling targets.

STATEMENT OF QUALIFICATION

I am a Bachelor of Science graduate from the University of New Brunswick (May 1977) and have been employed as an exploration geologist within the mining industry for six years; the last 3 years with Esso Resources Canada Limited.

A handwritten signature in black ink, appearing to read 'C. Everett', with a stylized flourish at the end.

CAL C. EVERETT

STATEMENT OF QUALIFICATIONS

I attended the University of Waterloo, Waterloo, Ontario between 1975 - 1979 graduating with a B.Sc. (Honours) degree in Earth Sciences. From 1975 to 1979 I was employed during the summer months by Esso Minerals Canada to conduct Magnetic, Electromagnetic, Gravity and Induced Polarization surveys. Since graduating I have been employed by Esso Minerals as a geophysicist.

W. A. Copper

W. GORDON COPPER

COST STATEMENT
FOGGY A GROUP

<u>Type of Work</u>	<u>Man Days</u>	<u>Cost/Man Day</u>	<u>Cost</u>	<u>Total</u>
Geochemistry	(KS) 1	\$ 142.00	142.00	<hr/>
	(KA) 7	\$71.00	497.00	
	(JR) 7	\$71.00	497.00	
				\$1136.00
Geophysics	(KS) 6	\$142.00	852.00	<hr/>
	(JH) 6	86.00	516.00	
	(SL) 11	73.00	803.00	
				2171.00
Linecutting	(CE) 1	\$157.00	157.00	<hr/>
	(MJ) 1	96.00	96.00	
	(KS) 1	142.00	142.00	
	(SL) 1	73.00	73.00	
	(KA) 2	71.00	142.00	
	(JR) 2	71.00	142.00	
			\$752.00	
- contracted Hewmac Resources				<hr/>
5.0 km @ 275.00 per km			\$1375.00	
- contracted Ashworth Explorations				<hr/>
5.6 km @ 330.00 per km			1848.00	
				\$3975.00
Laboratory:				<hr/>
290 soils (Cu,Pb,Zn,Ag) @ \$4.70 per unit			1363.00	
72 soils (Au) @ \$6.50 per unit			468.00	
				1831.00
Transportation:				<hr/>
Vehicle Rental:				
3/4 ton pickup 0.5 month @ \$700.00/month			350.00	
G.M.C. Jimmy 0.5 month @ \$900.00/month			450.00	
Fuel			267.00	
				1067.00

Travel Expenses:		
Hewmac Resources (Linecutters)	800.00	
Ashworth Explorations (Linecutters)	800.00	
		<hr/> 1600.00
Food and Accommodation:		
July 1, 3-7, 10, 12, 14, 17-18		
39 man days @ \$35.00 per man/per day		1365.00
Freight Charge (Samples to Vcr.)		80.00
Cook: 10 man days @ \$85.00 per day		\$850.00
Materials and Supplies		1227.00
Report Preparation:		
CE GC Writing 4 man days @ \$157.00 per day	628.00	
KS Drafting 6 man days @ \$142.00 per day	852.00	
Map Reproduction	150.00	
		<hr/> 1630.00
TOTAL		<hr/> <hr/> 16932.00



Cost Distribution

Geochemistry	\$ 1136.00
Geophysics	2171.00
Linecutting	3975.00
Analysis	1831.00
Transportation	1067.00
Freight Charge	80.00
Travel Expenses	1600.00
Food and Accommodation	1365.00
Supplies	1227.00
Cook	850.00
Report Preparation	<u>1630.00</u>
	\$16932.00
TOTAL APPLIED	\$16,800.00

Contractors (Linecutting)

Ashworth Explorations Limited
1545 Marine Drive
West Vancouver, B.C.
V7V 1H9

Hewmac Resources
P.O. Box 555
Agassiz, B.C.
VOM 1A0

APPENDIX A

Geochemical Methods

Soil samples were taken at the B horizon with hand tools, stored in brown gusset bags, dried and shipped to Min En Laboratories in North Vancouver for geochemical analysis. Each sample was oven dried, sieved to obtain the -80 mesh fraction and then subjected to nitric perchloric acid digestion. Measurement of trace element concentrations was done by Atomic Absorption Analysis. Samples were analyzed for Cu, Pb, Zn and Ag. Selected samples, over the projected semi-massive pyrite horizon, were analyzed for Au. Au values were obtained by fire assay. Pulps for all samples are stored at the Esso Minerals Canada office in Vancouver, B.C.

APPENDIX B

GEOPHYSICAL SURVEYS

THEORY AND PROCEDURES

MAGNETICS:

A Geometrics G816 portable proton precession magnetometer was used. This instrument measures the total magnetic field strength, by measuring the frequency at which protons (hydrogen atoms) precess about the axis of the earth's magnetic field. The magnetic field strength, which is directly proportional to the frequency, is digitally displayed.

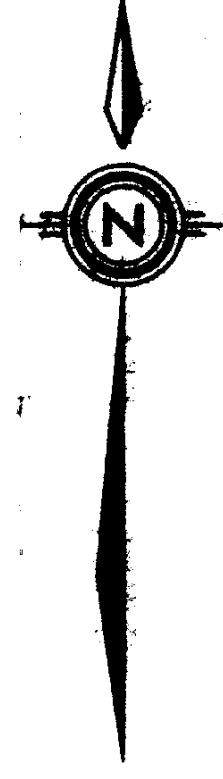
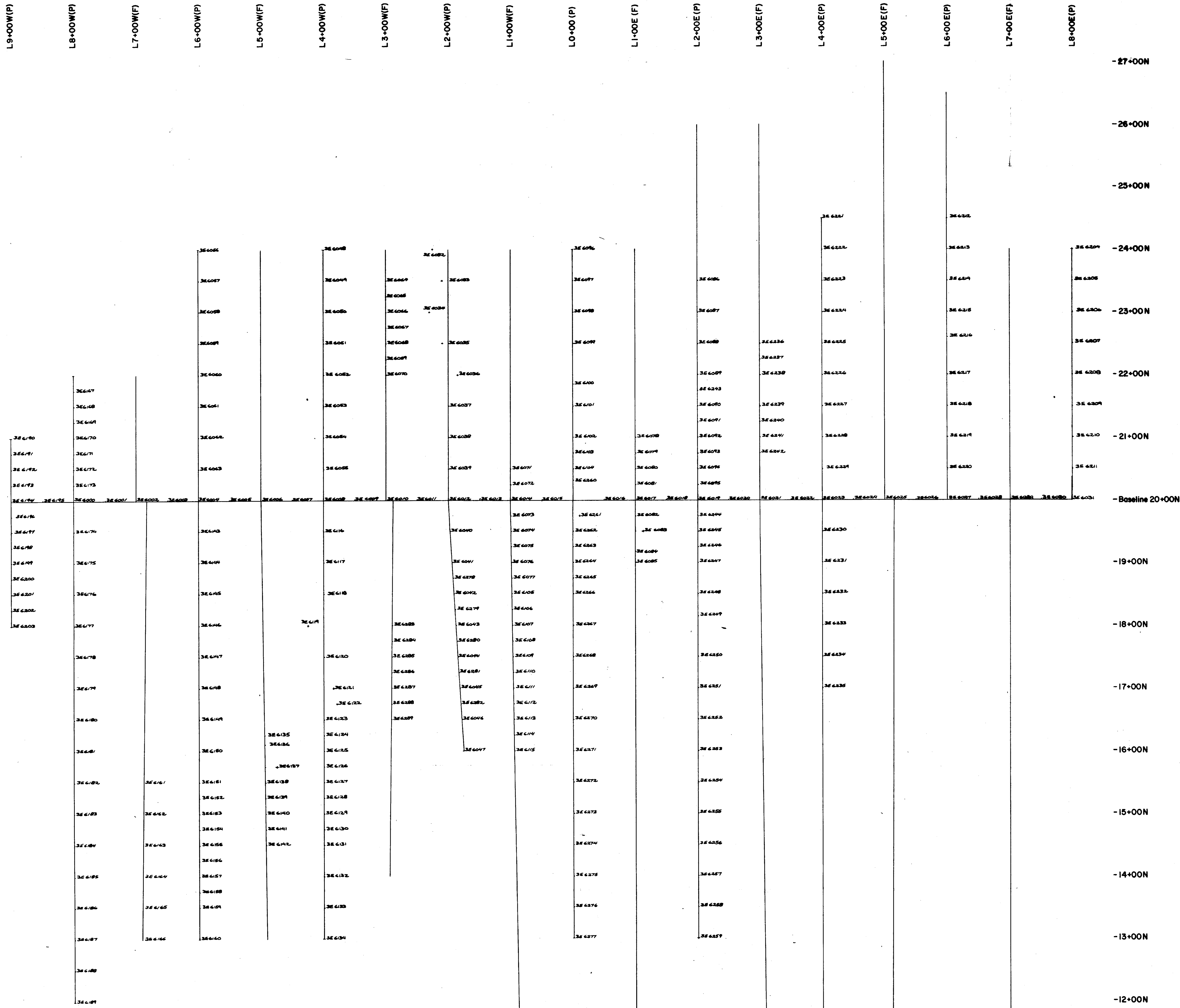
Readings were taken at 25 meter intervals along the survey lines. To correct time variations of the magnetic field (diurnal), base stations were first established within the survey area. Readings were taken at these base stations at the beginning and end of each traverse. The difference in the readings at these base stations were linearly distributed over the other readings along the traverse.

HLEM:

The Scintrex SE88 Genie EM system consists of a portable transmitter, with two transmitting coils and power supply, and a receiver with signal detection electronics. The transmitter and receiver coils are normally maintained in the vertical axis co-planar mode, commonly referred to as the horizontal loop mode.

The transmitter generates two alternating magnetic fields simultaneously - one referred to as the "signal frequency" and the other as the "reference frequency". The electromagnetic fields produced at these frequencies penetrates the earth and are detected by the receiver coil. The receiver measures the ratio of the received "signal frequency" amplitude, H_s , over the received "reference frequency" amplitude, H_r . The value of $(H_s/H_r - 1) \times 100$ is then digitally displayed on the receiver.

A constant separation is maintained between the two units by means of a signal meter located on the receiver. This signal meter is calibrated to the amplitude of the reference frequency in free space. The survey plotting point is considered to be at the mid-point of the transmitter-receiver separation (L). Readings were taken at station intervals of $1/2 L$ if no conductor was present and $1/4 L$ if a conductor was present.



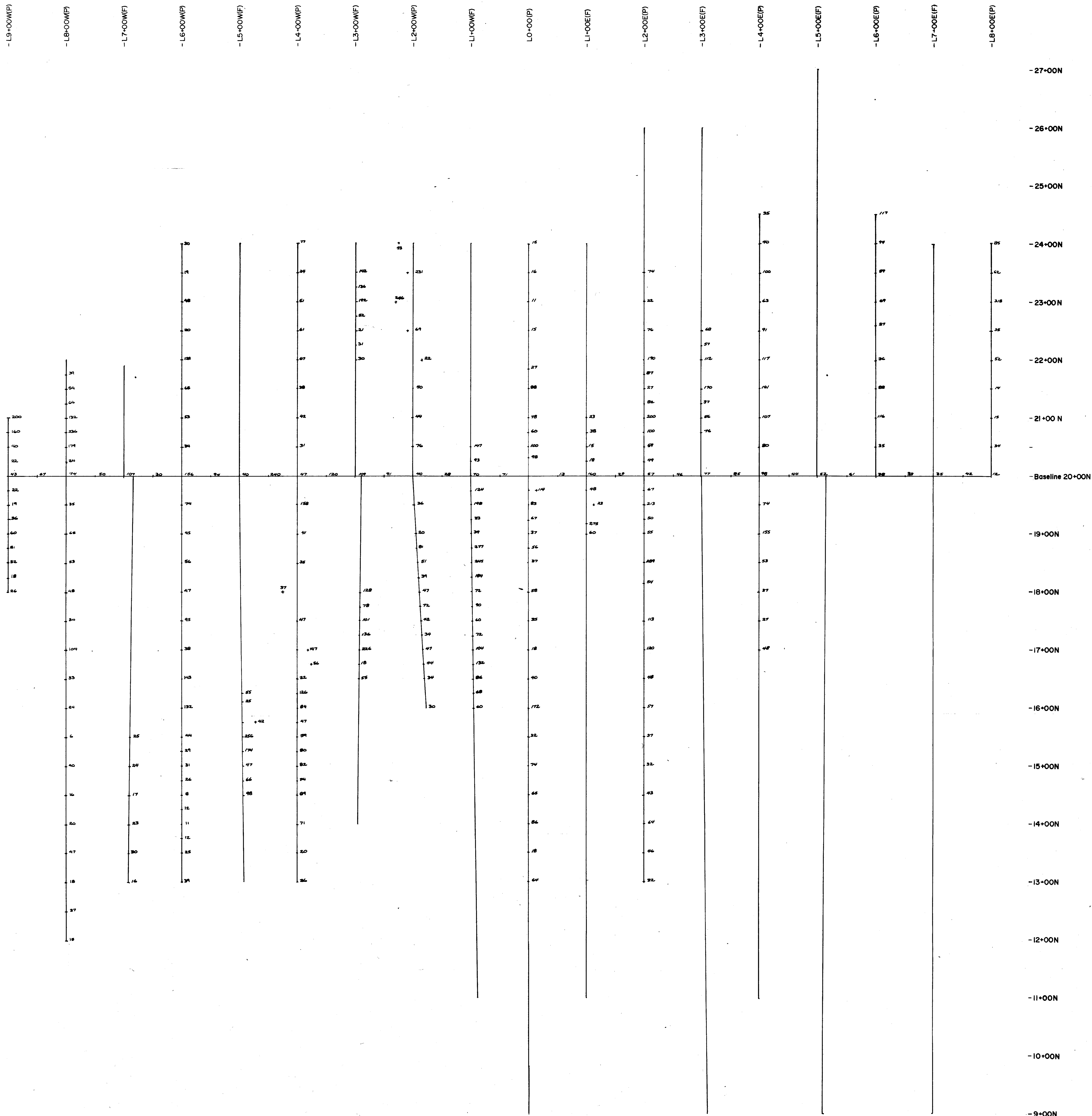
LEGEND

- out picket line
- flagged compass line

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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ESKO MINERALS CANADA DIV. OF ESKO RESOURCES CANADA LIMITED		
PROSPECT: BARRIER FOGGY A GROUP SAMPLE LOCATION MAP		
ACCOUNT NO 2189		
DRAWN BY: C.E.	DATE: JULY 1983	HTS 82M
DWG. NO	MAP. NO 1	LAT. 19°56'N LONG. 104°52'W
SCALE 1:2500 0 100m/328ft		
TO ACCOMPANY A REPORT BY: C. EVERETT and G. COOPER DATED: JULY 1983		



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LEGEND

SAMPLE NUMBER (P) CUT PICKET LINE (F) PLANNED CHANGE LINE

ESKO MINERALS CANADA
DIV'N OF ESSO RESOURCES CANADA LIMITED

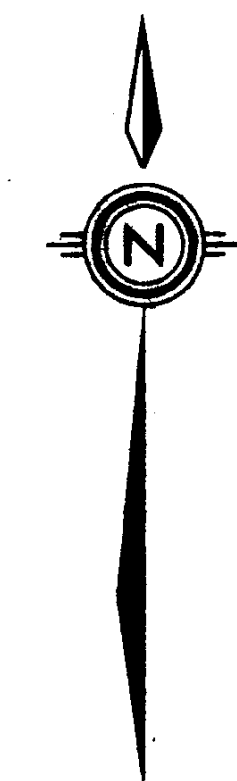
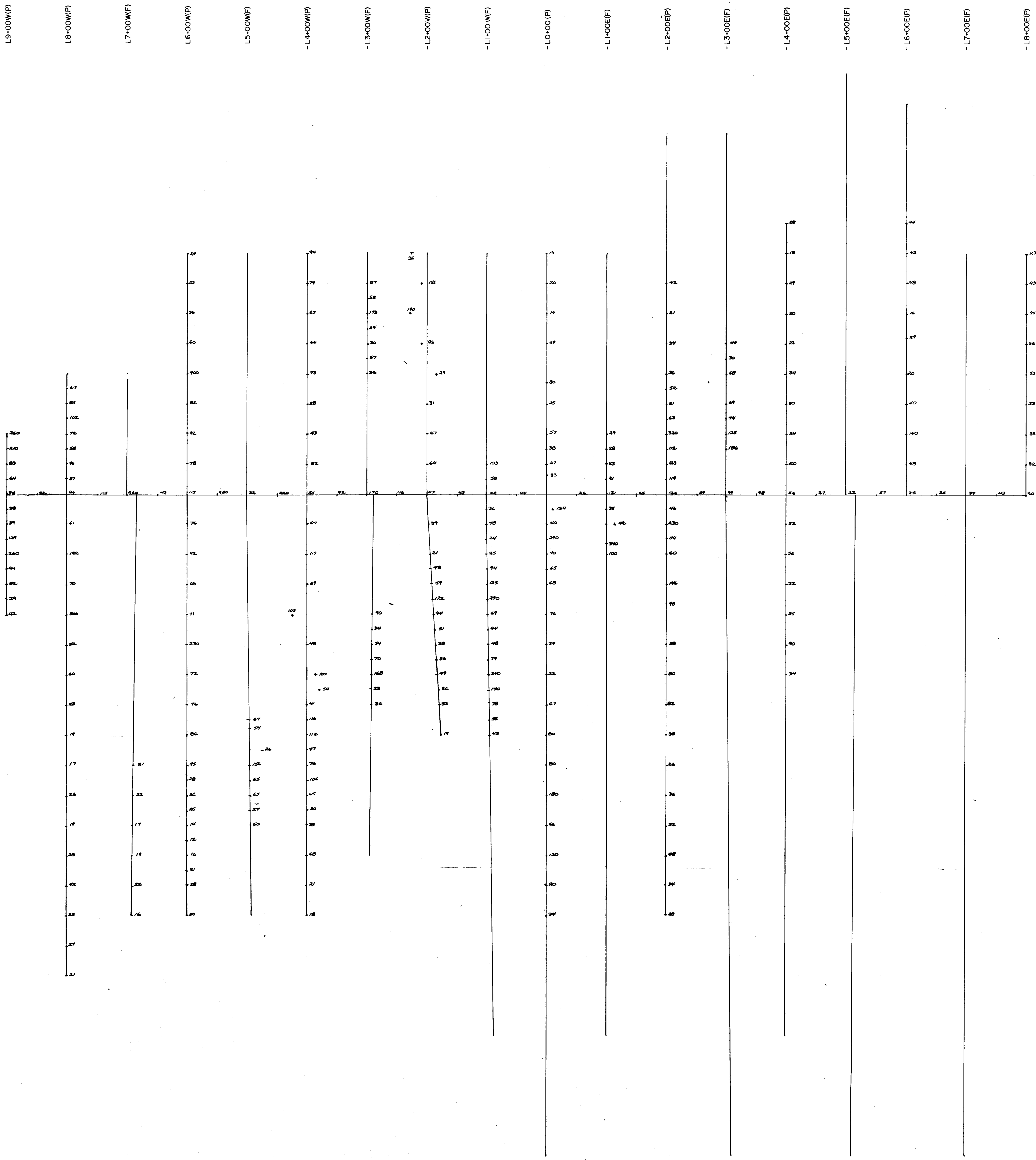
PROSPECT: **BARRIER**
FOGGY A GROUP
CU SOIL GEOCHEMISTRY

ACCOUNT No 2189

DRAWN BY: C.E.	DATE: JULY 1983	NTS B2M
DWG. No.	MAP No 2	LAT. 119°54'W LONG. 51°32'N

SCALE 1:2500 100metres

TO ACCOMPANY A REPORT BY: C. EVERETT and G. COOPER
DATE: JULY 1983



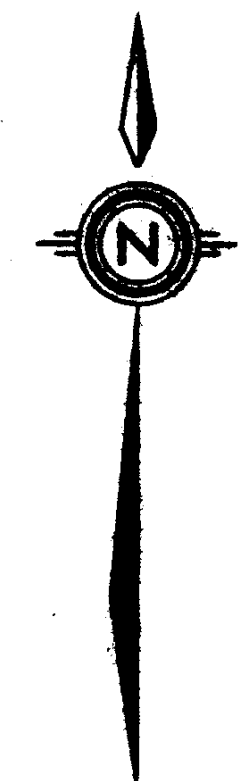
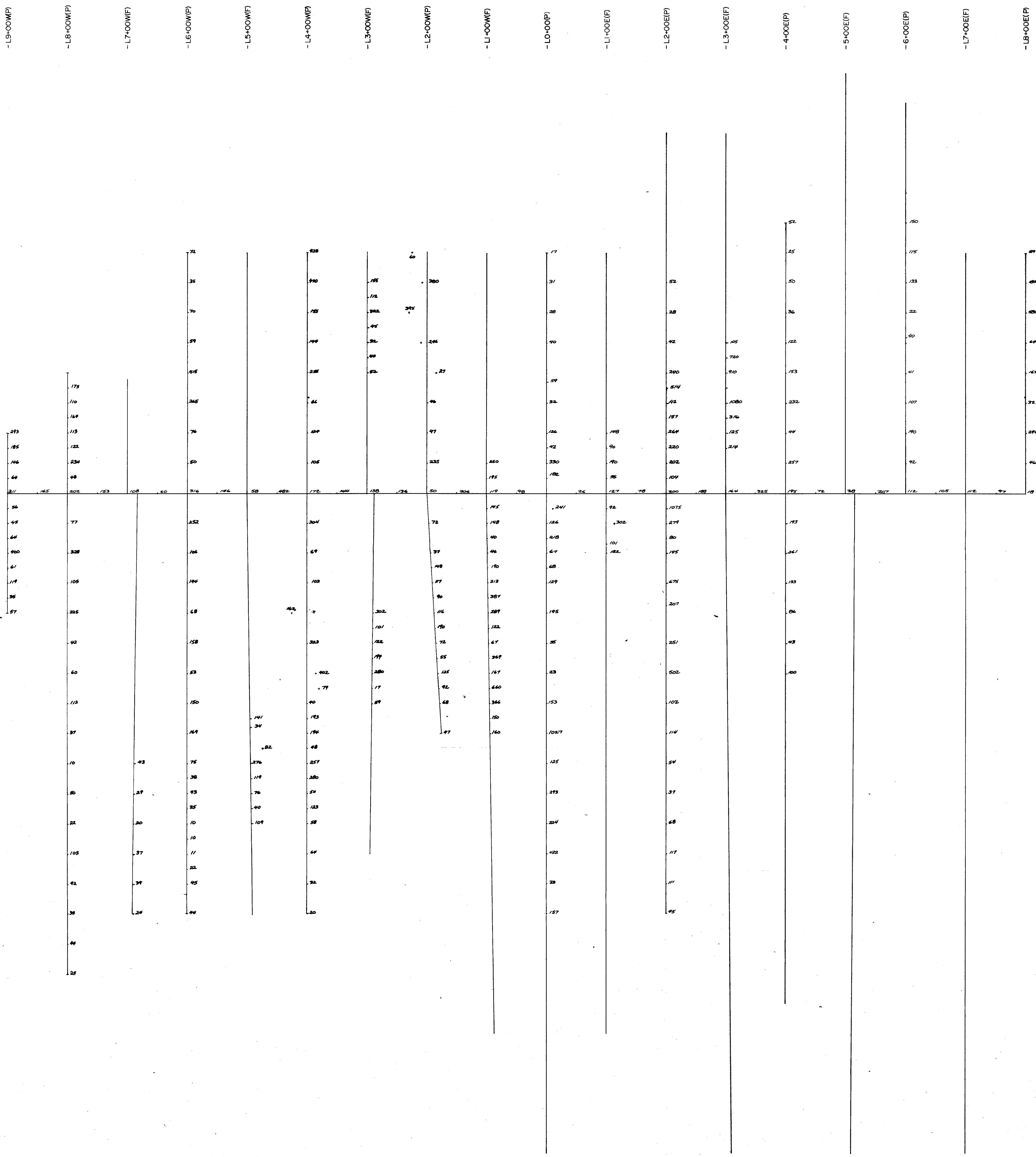
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11,503

LEGEND

SAMPLE NUMBER 26494-58 - ppm Lead

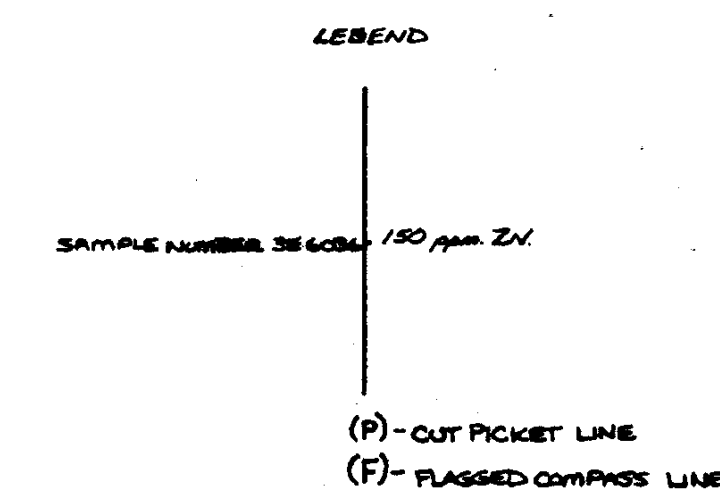
(P) SUV PRIORITY SAMPLE
(F) FLAGGED - CUMULUS LINE

ESKO MINERALS CANADA DIV OF ESKO RESOURCES CANADA LIMITED		
PROSPECT: BARRIER		
FOGGY A GROUP		
Pb SOIL GEOCHEMISTRY		
ACCOUNT No. 2189		
DRAWN BY: C.E.	DATE: JULY 1983	NTS 82M
DWG. No.	MAP No. 3	LAT. 19°04'N LONG. 80°12'W
SCALE 1:2500 0 100metres		
TO ACCOMPANY A REPORT BY: C. EVERETT and G. COOPER DATED: JULY 1983		

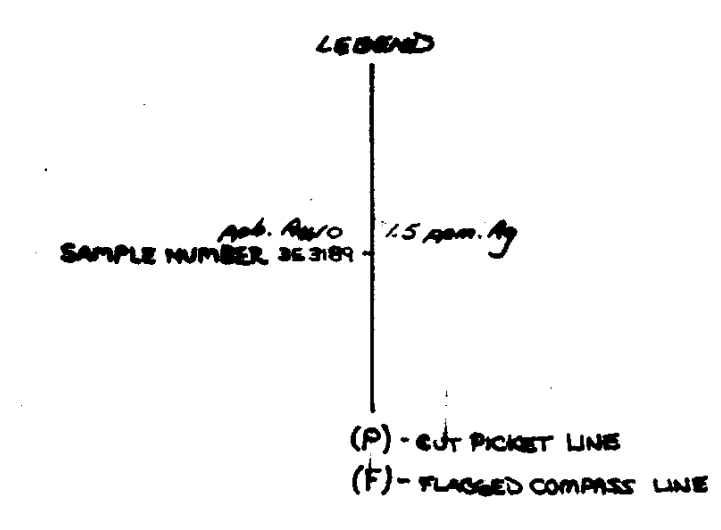
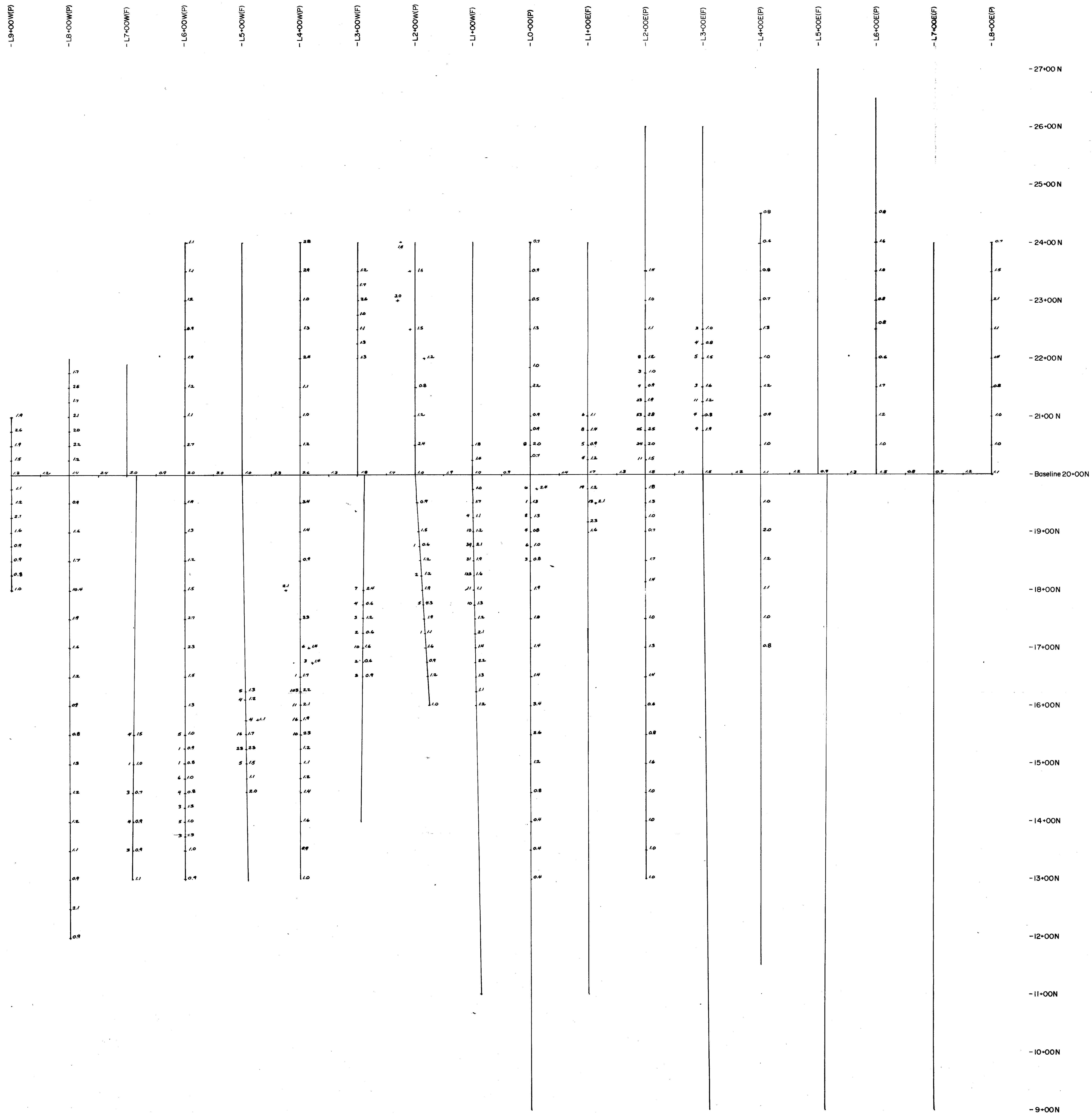


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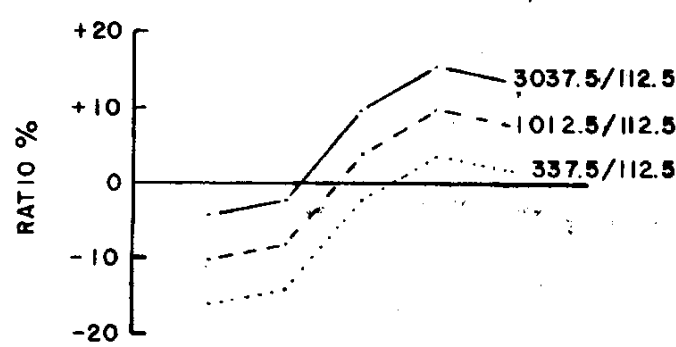
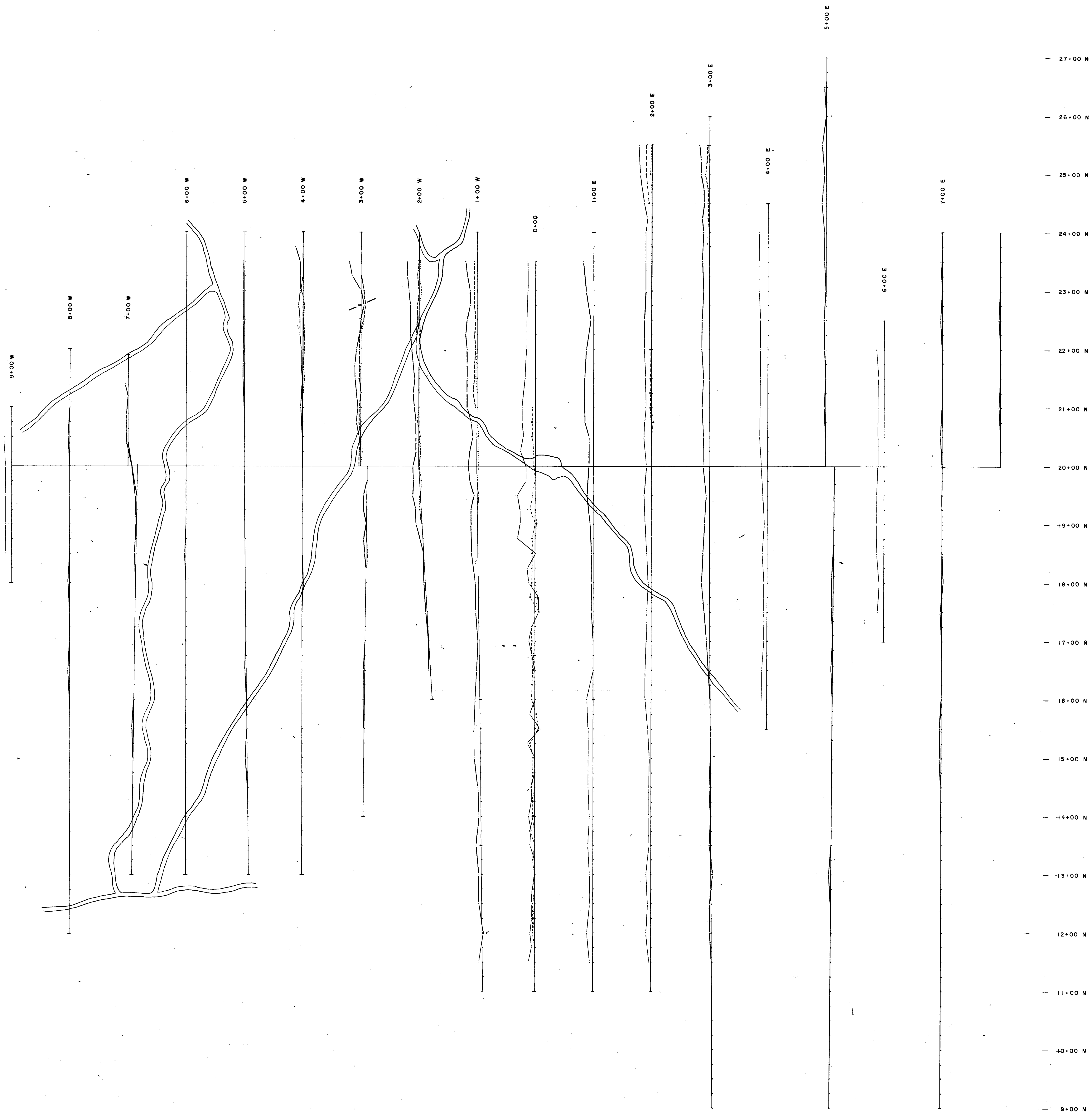
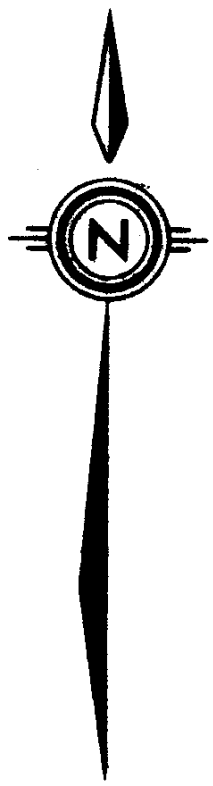


ESKO MINERALS CANADA DIV. OF ESKO RESOURCES CANADA LIMITED		
PROSPECT: BARRIER		
FOGGY A GROUP		
Zn SOIL GEOCHEMISTRY		
ACCOUNT No. 2189		
DRAWN BY: C.E.	DATE: JULY 1983	HTS B2M
DWG. No.	MAP No. 4	LAT. 115°54' W LONG. 61°32' N
SCALE 1:2500		
0 100metres		
THIS ACCOUNT AND REPORT BY: C. E. VENETT and S. COOPER DATE: JULY 1983		

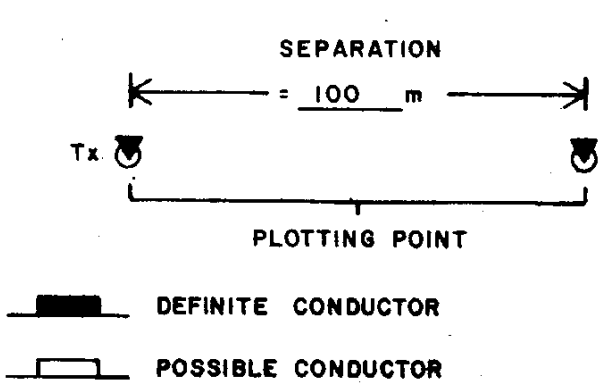


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ESSO MINERALS CANADA DIV'N OF ESSO RESOURCES CANADA LIMITED		
PROSPECT: BARRIER FOGGY A GROUP ANAL SOIL GEOCHEMISTRY		
ACCOUNT No 2189	DATE: JULY 1983	NTS 82M
DRAWN BY: C.E.	MAP No 5	LAT. 19° 54' W LONG. 51° 32' N
SCALE 1:2500 100 metres		
TO ACCOMPANY A REPORT BY: C. EVERETT and G. COOPER DATED: JULY 1983		



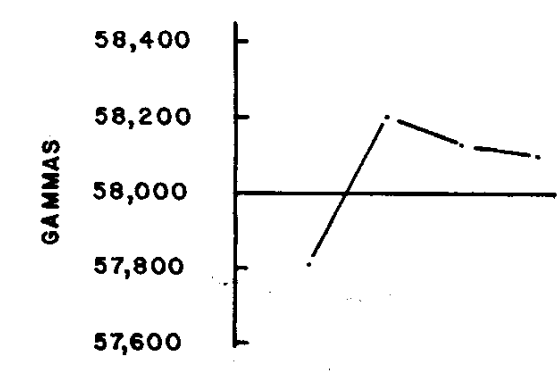
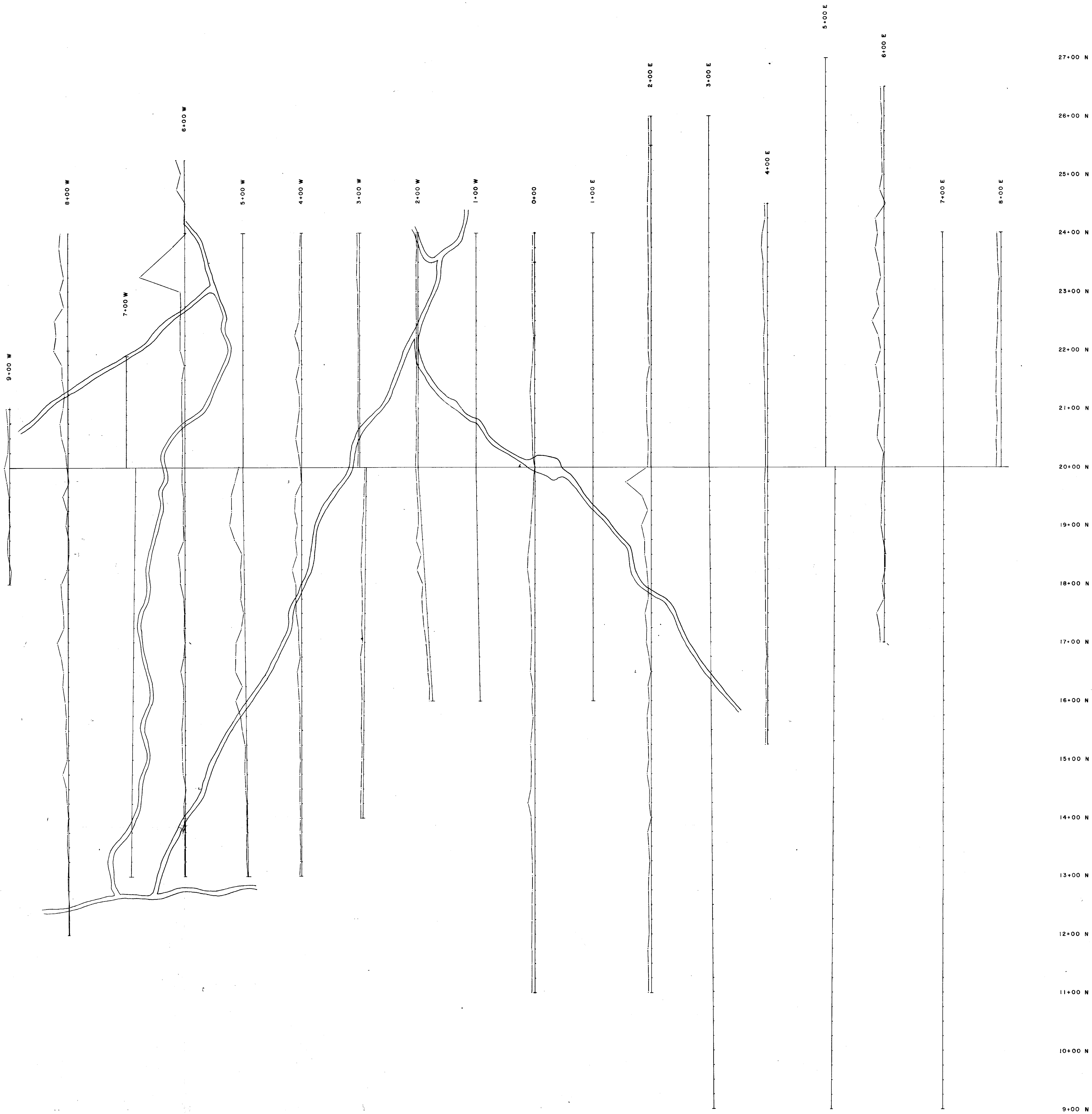
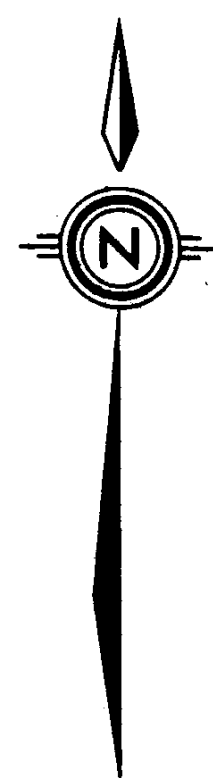
INSTRUMENT: SCINTREX SE-88 "GENIE" EM
RATIO: 3037.5 Hz / 112.5 Hz
1012.5 Hz / 112.5 Hz
337.5 Hz / 112.5 Hz



CEOLOGICAL BRANCH
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11.503

ESSO MINERALS CANADA DIV'N OF ESSO RESOURCES CANADA LIMITED		
PROSPECT: BARRIER FOGGY A GROUP HLEM SURVEY		
ACCOUNT NO MASS	FILE # 2189	TORONTO
DRAWN BY: K SIMPSON	DATE: JULY 1983	NTS 82 M
LAT. 51° 32'	MAP NO 6	
LONG. 119° 54'		
SCALE 0 50 100 m 1:500		
TO ACCOMPANY A REPORT BY: G. EVERETT & G. COOPER DATED: AUG. 1983		



INSTRUMENT: GEOMETRICS G-816 PROTON PRECESSION MAGNETOMETER
ACCURACY: ± 5 GAMMAS

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ESSO MINERALS CANADA DIV'N OF ESSO RESOURCES CANADA LIMITED			
PROSPECT: BARRIER FOGGY A GROUP MAGNETOMETER SURVEY			
ACCOUNT NO M889	FILE NO 2189	TORONTO	
DRAWN BY: K. SIMPSON J. HUNT	DATE: JULY 1983	NTS 82 M	
LAT. 51°32'	MAP NO 7		
LONG. 119°54'			
SCALE 0 50 100 M 1:500			
TO ACCOMPANY A REPORT BY: C. EVERETT & S. COOPER DATED: AUG. 1983			