A report prepared for
CASSEX RESOURCES LTD.
LES RESSOURCES CASSEX LTEE.
Nepean, Ontario

RECENT GEOPHYSICAL WORK ON THE THERESA LAKE CLAIMS HEMLO AREA, DISTRICT OF THUNDER BAY PROVINCE OF ONTARIO

by

Paul R. Phillips, B.Sc. (Hon)
Maisonneuve Energy Materials Inc.
Nepean, Ontario

April 25, 1984

CONTENTS

ILLUSTRATIONS

CERTIFICATE

I, PAUL R. PHILLIPS, of Ottawa, Ontario do hereby declare that:

- I am a geologist, residing at 413 Sunnyside Ave., Ottawa, Ontario, K1S 0S5;

- I am a graduate of Carleton University, Ottawa, 1983, and hold the degree of Bachelor of Science with Honours, in Geology;

- I am presently employed as a geologist-geophysicist with Maisonneuve Energy Materials Inc., Ottawa;

- I personally performed the field work and all information, interpretations, and conclusions given in the report are my responsibility and must be credited so. For any comments or alterations, I must be consulted personally;

- I concur to the use of my report on the properties of Cassex Resources Ltd. for any securities purposes. However, no part of the report may be reproduced or deleted without my written consent.

DATED AND SIGNED,

Paul Phillips

Paul R. Phillips, B.Sc. (Hon)
Maisonneuve Energy Materials Inc.
Nepean, Ontario
April 25, 1984

SUMMARY

Several companies have recently completed geological, geochemical, and geophysical surveys in the vicinity of the property owned by Cassex Resources Ltd. in the Hemlo area. Recently, magnetometer and VLF electromagnetic surveys were completed on a 9 line mile grid, laid at 400 foot line spacing and 50 foot stations.

Of the 81 claims owned by Cassex, 19 were covered during this survey. During the surveys, a total of 1,744 geophysical observations including 872 magnetometer readings and 872 electromagnetic observations were made. The magnetic survey confirmed the existence of a peridotite unit reported earlier, revealed new shear zones, and helped in demarcation of the contact between metavolcanics, metasediments, and the Dotted Lake granodiorite. The electromagnetic survey led to the identification of 7 sulphide zones.

It is recommended that the entire property should be covered by geological, geochemical, and geophysical surveys as recommended earlier by Mr. Harald Wolf, an independent geologist. Only then should further intensive and extensive exploration effort be spent on the well defined target areas.

RECENT GEOPHYSICAL WORK
ON THE THERESA LAKE CLAIMS
HEMLO AREA, DISTRICT OF THUNDER BAY
PROVINCE OF ONTARIO

INTRODUCTION

The Theresa Lake property optioned by Cassex Resources Ltd. consists of 81 contiguous claims located in the Hemlo region of northcentral Ontario. These claims cover an area of approximately 1161 hectares (2869 acres). Various factors of regional and specific geology suggest a favorable environment for possible gold mineralization. Following the recommendations made in an earlier report by Mr. Harald Wolf, an independent geologist, an exploration program was conducted. The objectives of the program were 1) to report on any recent exploration work done in the immediate vicinity of the Cassex property, 2) to perform magnetometer and VLF electromagnetic surveys on the area covered by water, and 3) to make recommendations for future programs.

The Theresa Lake claims were optioned by Cassex Resources Ltd. from prospectors Costy Bumbu of Thunder Bay, and Peter Moses of Marathon, Ontario. The list of claims optioned is provided in Appendix A.

The following claims were covered by the geophysical surveys in this report:

674017	674044	686220
674038	674045	686240
674039	674046	686241
674040	686208	686242
674041	686213	686243
674042	686214	686256
674043		

LOCATION AND ACCESSIBILITY

The Theresa Lake claims are located in northern Ontario, 45 kilometers east of Marathon by road near the shore of Lake Superior, and 20 kilometers northeast of the recently discovered Hemlo gold deposits on the Trans Canada Highway (Hwy. 17). Manitouwadge is approximately 40 kilometers to the north via Highway 614 (Fig. 1).

About 84 percent of the property is land with about 185 hectares (457 acres or 16 percent) covered by waters of Theresa Lake on the southern part of the property and Dotted Lake on the northwest corner of the property.

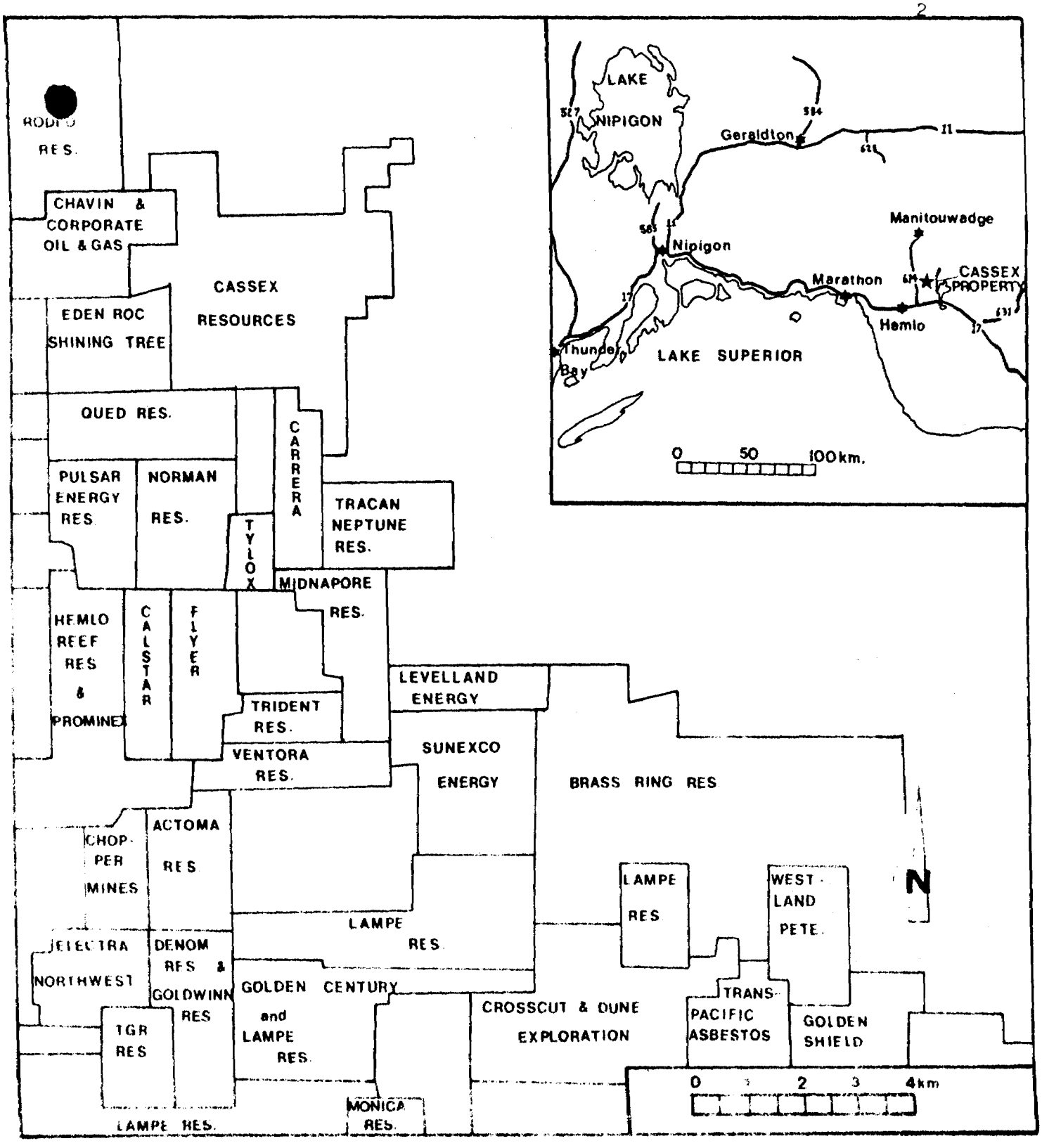


FIGURE 1 : LOCATION OF MINING PROPERTY IN HEMLO AREA, ONTARIO.

March 30. 1984

Paul Phillips B.Sc.

The area is covered with Boreal forest and is characterised by moderate relief. Bedrock is usually not exposed in flat-lying areas. A lichen and moss cover is common on rock surfaces.

The property is quite accessible, with good gravel roads reaching both Theresa Lake and Dotted Lake from Highway 614. These claims are readily accessible by boat from either the southern or northern ends (Fig. 2). The Canadian Pacific Railway runs parallel to Highway 614. Both Theresa Lake and Dotted Lake are sufficiently large on which to land planes.

POWER, WATER, LABOUR, SUPPLIES

Water is conveniently at hand on the property. Hydro-electric power is available closeby. Experienced labour, equipment, and supplies for mining are all readily available in the Hemlo area.

HISTORY

Very little exploration work is on record for the area actually covered by the claims belonging to Cassex. A summary of the work done in the immediate vicinity of the property before 1983 has been provided by Mr. H. Wolf, an independent geologist[1].

The Hemlo camp, located off the northeast tip of Lake Superior, now appears to be the largest Canadian mineral discovery in decades. Since the discovery of the main orebody in 1981 by International Carona Resources Ltd., more than 150 companies have become active in the area and a reserve of close to 100 million tons of ore grading about 0.23 oz/ton Au has been estimated[2].

Several companies, namely Chavin of Canada Ltd., Rodeo Resources Ltd., Qued Resources Corporation, and Eden Roc Mineral Corporation and Shiningtree Gold Resources Ltd., reported results from their surveys. All of these companies share the western boundary of the Cassex property. Rodeo Resources has completed a 2,000 foot drilling program which has shown anomalous gold values. This has prompted Rodeo Resources to begin a more intensive exploration program[3]. Chavin of Canada, located immediately west of the Cassex property, reports that geological mapping and geochemical sampling on its property has identified four areas with anomalous gold values (up to 1,000 parts per billion). These are currently being evaluated by ground geophysics, trenching, and stripping. Rock samples grading up to 0.10 oz/ton Au have been reported[4]. Shiningtree Gold Resources has

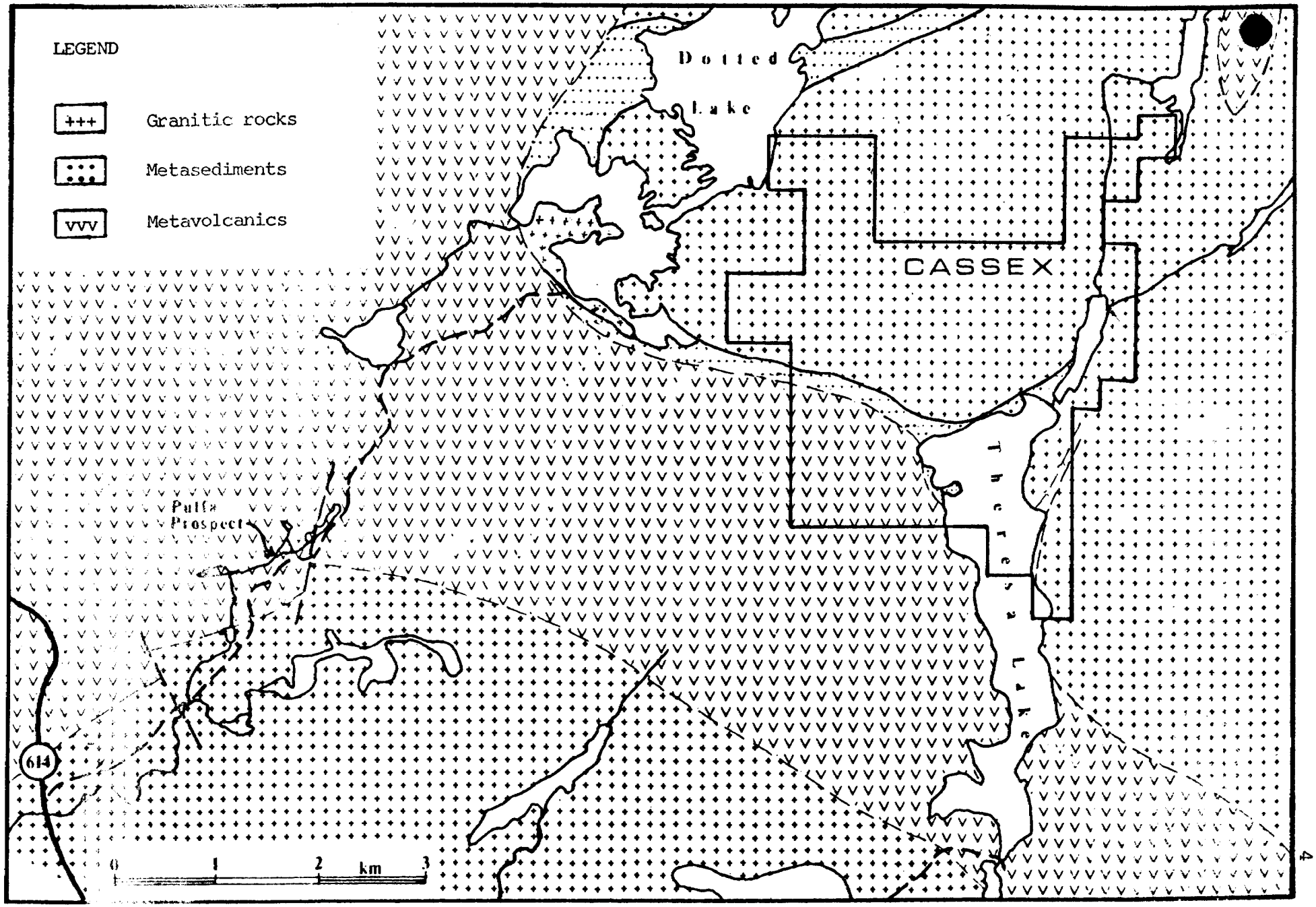


Figure 2 Regional geological setting of Theresa Lake property

outlined several drill targets including an anomalous zone 4,000 feet long. A drilling program is planned in the near future[5].

Qued Resources, which shares Cassex' southwestern boundary, has to date completed a program of geological mapping, geochemical soil and rock sampling, trenching, and numerous geophysical surveys. Geochemical analyses have returned anomalous values outlining a 700 meter long trend with gold values ranging up to 2,370 parts per billion[6]. Surface samples from 2,500 feet of north-south trenching in the middle of the property have assayed 0.012-0.081 oz/ton Au over a 5 meter width[7].

Much exploration work is presently underway as Cassex Resources participates in the largest gold rush in recent Canadian history.

GENERAL GEOLOGY

The Theresa Lake area is located within the Superior Province of the Canadian Shield at the border of one of the many greenstone belts that have long been known for the prodigious base and precious metal deposits.

The area is underlain by Archean mafic metavolcanics which are topped off by a section of clastic sediments. Granitic rocks later intruded this sequence, as did a variety of mafic to leucocratic dykes. The greenstone belt has a suboval surface expression and is believed to be a synclinal basin[8]. The Hemlo gold deposits are located at the southern edge of this basin. Ideally situated on the northern edge of this same basin, northeast of the Hemlo deposits, is the Cassex property. Since the Hemlo gold occurrence appears to be a stratabound-type deposit, the location of the Cassex claims is quite good.

The southern portion of the property is underlain by intermediate to basic volcanics (Fig. 2). An ultramafic intrusion, possibly peridotite, within the volcanics has been identified by a strong aeromag expression[9]. The southern portion of the property is underlain by the Dotted Lake Batholith, composed of massive and coarse granodiorite. Between the Dotted Lake Batholith and the metavolcanics exists a metasedimentary unit made up mostly of well foliated biotite-quartz-feldspar gneiss. The extent of this unit is yet to be clearly established. Several diabase dykes are reported to intrude all of the formations, with the exception of the peridotite[10].

MAGNETIC SURVEY

A ground magnetic survey has been carried out on part of the Cassex property (Fig. 3). The technical details of this survey are given in Appendix B. The survey has revealed more anomalies than expected.

The highest magnetic zone of the surveyed area is located next to the southern boundary of the property. This zone, denoted as anomaly 1 in Fig. 3, ranges from 4,000 to 7,674 gammas. It has two maxima consisting of 5,758 gammas in the southern part and 7,674 gammas in the northern part. This may simply be due to the variation in thickness of this ultramafic unit. Magnetic highs similar to those of anomaly 1 have been reported by earlier authors in the region and have been identified as serpentinized peridotite[10]. This unit is roughly lens-shaped and may represent a hypabyssal vent pipe associated with the surrounding volcanic flows.

Anomaly 2 consists of five narrow dyke-like zones 100 feet wide. Three of them are open ended to the west, whereas the other two are 600 feet and 800 feet long. These zones have magnetic values between 73 and 3,000 gammas and trend approximately N20^{o}E. They may be underlain by shears or narrow bands of acidic intrusive rocks.

Between the magnetically weak zones and surrounding anomaly 1, the magnetic values range from 3,000 to 5,000 gammas and probably represent altered mafic volcanics intercalated by tuffs, breccia, and sediments.

North of the baseline, an extension of the mafic volcanic unit forms an inverted S shape magnetic pattern with values between 3,000 and 5,000 gammas (anomaly 3). Anomalies 4 and 5 are magnetically weak zones which range between 2,350 and 2,500 gammas. They may represent acidic volcanic rocks or granite-type intrusions. Between these weak zones and the mafic volcanics, magnetic values increase steadily suggesting the presence of an intermediate volcanic unit or a differentiated part of an acidic intrusion.

The northern end of lines 8W, 4W, and 00 establishes the main contact between the lavas to the south and the Dotted Lake Batholith to the north. The weak magnetic intensity in the northern part of lines 4E, 8E, and 12E further reflects that the area is underlain by the Dotted Lake Batholith.

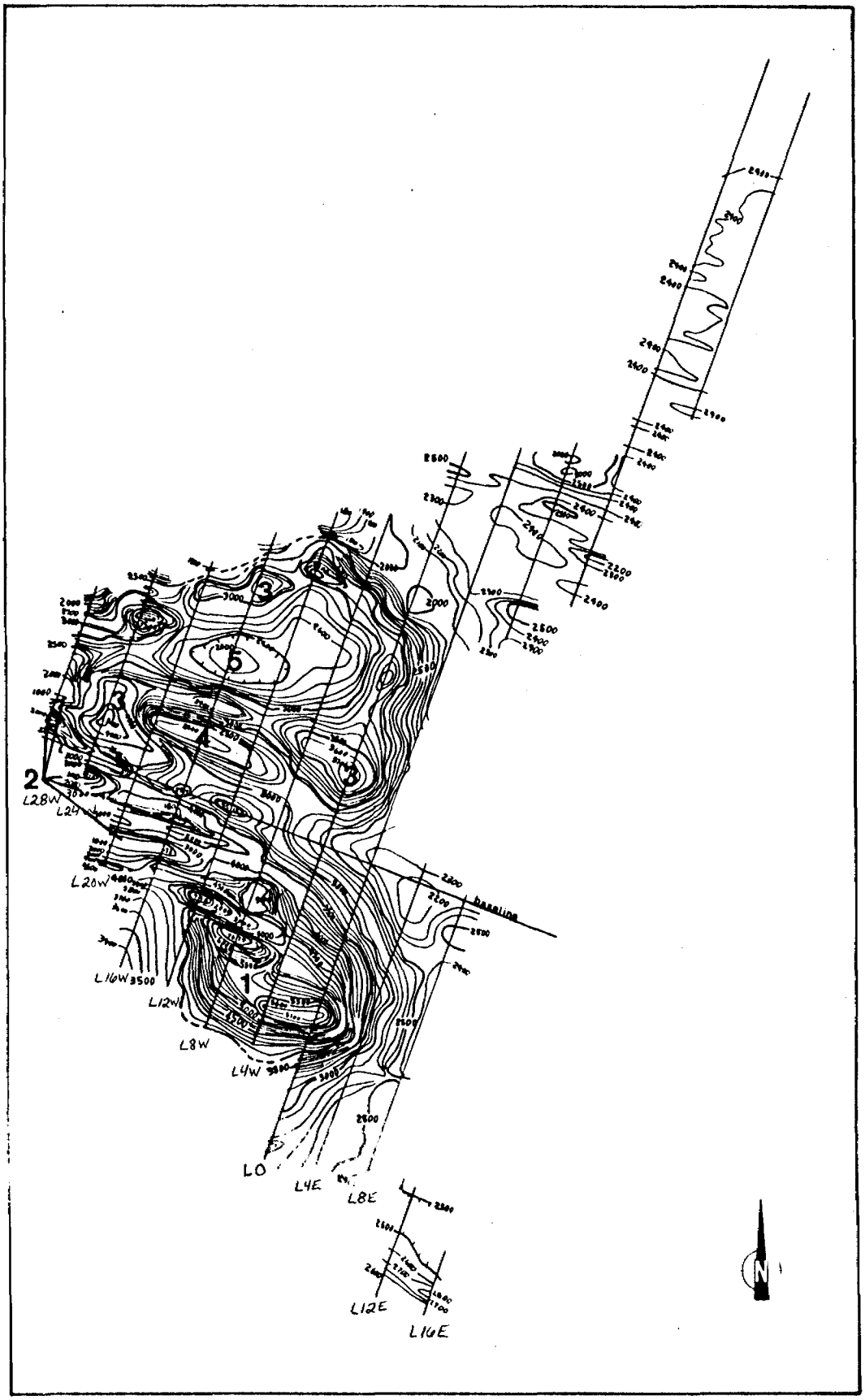


Figure 3

Contour Interval

100 gammas

500 gammas

Scale

400 0 400 800 1200 ft.

HEMLO EXPLORATION PROJECT

Magnetometer Contour Map

Data collected with GEM-8 system using MR-10 base station.

Total magnetic field 57,000 gammas

April 4, 1984

Paul Phillips B.Sc.

VLF ELECTROMAGNETIC SURVEY

A ground VLF (very low frequency) electromagnetic survey has been performed on part of the Cassex property (Fig. 4 and 5). The technical details of this survey are given in Appendix B. To interpret the electromagnetic data for establishing sulphide mineralization, inphase data was filtered by using Fraser's mathematical calculations and contour lines were drawn based on the filtered data.

Seven major conductive zones have been identified on the surveyed area. Zone I is a conductive area in the southeast corner of the surveyed area. It contains a maximum value of 30 on line 12E. This zone is an open ended structure up to 800 feet wide and can be attributed to increased sulphide content within the underlying volcanic unit.

Zone II, slightly north of Zone I, is a conductive zone which is open ended to the west and extends to the south beyond the property boundary. This zone has values up to 53, but averages a value of 10. The maximum value of 53 is located in the western part of Zone II and corresponds to a magnetically weak area.

Zone III is an open ended structure up to 1,200 feet wide. It appears to be connected with Zone II by a narrow conductive channel. This zone shows a maximum value of 34, but averages to a value of 10. Zone III probably consists of interbedded volcanics and sediments with varying sulphide concentrations. Once more, the stronger conductive areas are magnetically weak.

Zone IV is a weak conductive zone, 800 feet wide and open ended to the east. It has an average value of 5 and possibly reflects a minor sulphide concentration within intermediate to basic volcanics.

Zone V is the strongest conductive zone of the surveyed area. It is open ended and extends to the north beyond the surveyed area. This zone has several isolated high values, including those of 50, 63, and 94. All of these higher values occur near the shoreline of Lake Theresa and correspond to magnetically weak areas. This zone represents sulphide mineralization in acidic volcanic rock, or it lies within part of the Dotted Lake Batholith.

Zones VI and VII are both open ended and are 400 feet and 1,200 feet wide respectively. Both represent conductive areas within the Dotted Lake Batholith. Zone VI has a maximum value of 35 with an average of 20. Zone VII is slightly weaker with a maximum value of 24 and an average of 15.

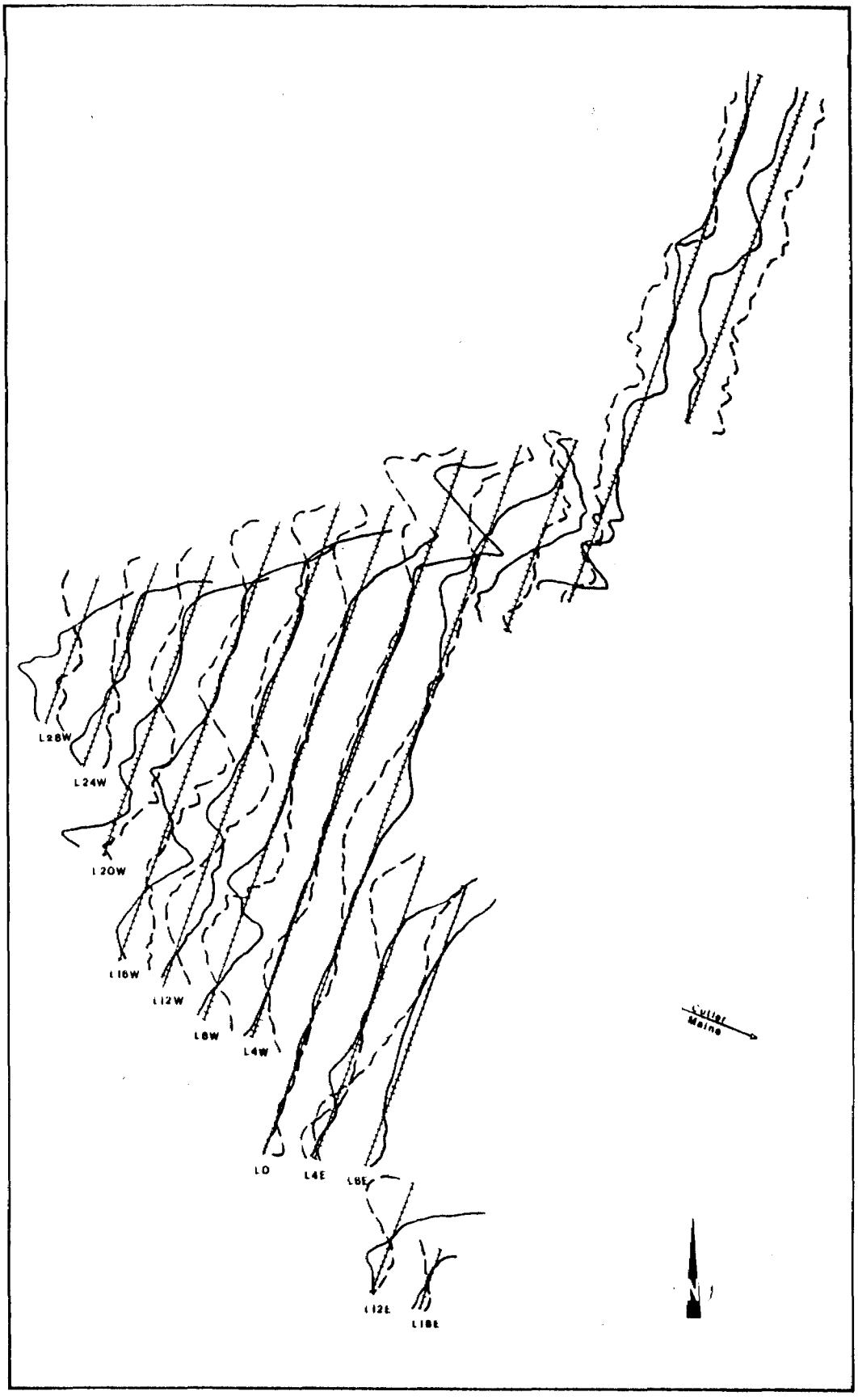


Figure 4

HEMLO EXPLORATION PROJECT

VLF in-phase and quadrature profile map

(Data collected with Geonics EM 16 system)

MARCH 26, 1984

PAUL PHILLIPS B.Sc.

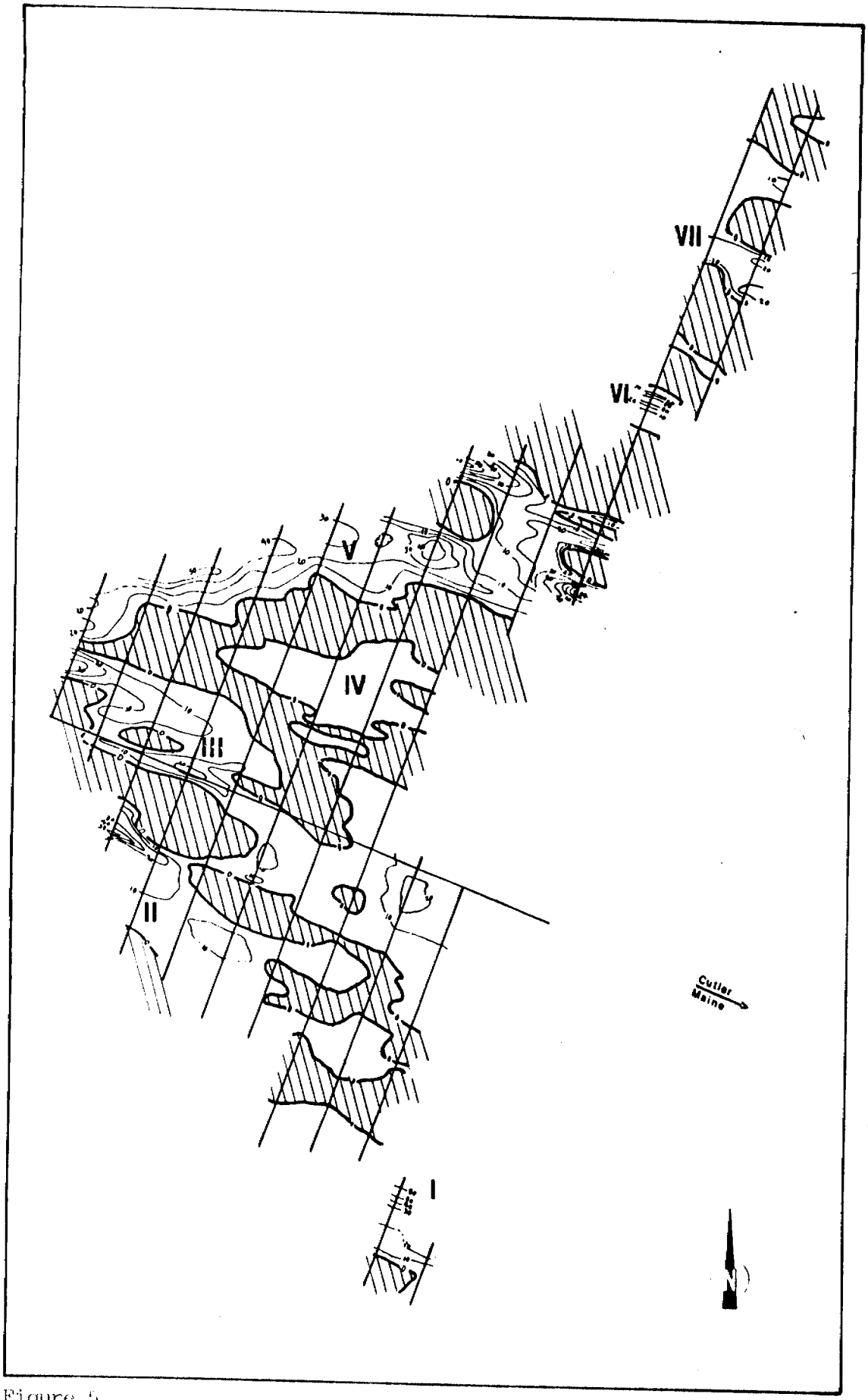


Figure 5

HEMLO EXPLORATION PROJECT

Filtered in-phase data

using modified Fraser model (1969)

Data collected with Geonics EM 16 system

Non-conductive area

Scale 400 0 400 800 1200ft.

March 28, 1984

Paul Phillips B.Sc.

INTERPRETATION AND CONCLUSIONS

Considering that no more than 15 percent of the Theresa Lake property has been geophysically surveyed, numerous magnetic and electromagnetic anomalies have been identified. The VLF electromagnetic survey has identified seven sulphide zones leaving many drilling targets to investigate.

The magnetic survey confirmed the existence of magnetic highs recorded previously by airborne surveys[9]. The strongest magnetic zone defines a peridotite unit. The survey also establishes the boundary of the Dotted Lake Batholith with the volcanic country rock. In the west part of the surveyed area, a number of linear magnetic lows have been identified. These probably reflect shear zones which may be worth investigating.

Upon the completion of geophysical surveys on the remaining area of the property, a much more comprehensive geophysical interpretation will be possible since rock samples can be collected and related to magnetic and electromagnetic data. Nevertheless, this report has clearly shown the complexity of the underlying geology as well as the numerous zones that must be explored further.

RECOMMENDATIONS

The general recommendations made by Mr. Wolf in an earlier report are still quite valid. Initially, picket lines 400 feet apart with 50 foot stations should be established on the entire land area of the property. On these lines, a magnetometer survey and a VLF electromagnetic survey must be taken at 50 foot intervals. Furthermore, outcrops should be plotted in relation to the grid lines to produce a suitable geological map. The new geological and geophysical information should then be used to develop the most suitable trenching and drilling program to follow.

REFERENCES

1. H. Wolf, Cassex Resources Ltd.-Theresa Lake Claims, an unpublished report prepared for Cassex Resources Ltd., Nepean, Ont., August 8, 1983.

2. K. Knoll, "Hemlo deposit to produce 100m tons of ore", The Northern Miner, October 20, 1983.

3. Rodeo Resources Ltd., "Hemlo Update", The Northern Miner, September 22, 1983.

4. Chavin of Canada Ltd., "Hemlo Update", The Northern Miner, September 22, 1983.

5. Shiningtree Gold Resources Inc., "Shiningtree active across Ontario", The Northern Miner, September 29, 1983.

6. Qued Resources Corporation, Advertisement, The Northern Miner, January 19, 1984.

7. Qued Resources Corporation, "Hemlo Update", The Northern Miner, April 5, 1984.

8. T.L. Muir, "Geology of the Hemlo-Heron Bay area", in The Geology of Gold in Ontario, ed. A.C. Clouine, OGS misc. paper 110, 1983, pp. 230-239.

9. W. Domzalski, Caravelle Mines Ltd., Report on combined airborne geophysical survey over Pulfa group of claims, AFR 63.1698, 1965.

10. V.G. Milne, Geology of Black River Area, Ontario Department of Mines, Geological Report 72 (Toronto, 1968).

11. D.C. Fraser, "Contouring of VLF-EM data", Geophysics, Vol. 34, No. 6, 1969, pp. 958-967.

APPENDIX A

LIST OF CLAIMS

The following are the claims optioned from Costy Bumbu:

674017	686220	686244
674037	686222	686245
674038	686223	686246
674039	686224	686247
674040	686225	686256
674041	686226	701922
674042	686227	701944
674043	686228	701945
674044	686229	701946
674045	686230	701947
674046	686231	701948
686208	686232	701949
686209	686233	701950
686210	686234	701951
686211	686235	701952
686212	686236	701953
686213	686237	701954
686214	686238	701955
686215	686239	701956
686216	686240	701957
686217	686241	701958
686218	686242	701959
686219	686243	701960

The following are the claims optioned from Peter Moses:

658749	675061	675065
658750	675062	675066
675059	675063	675067
675060	675064	675068

All these claims are recorded in the District Office at Thunder Bay.

APPENDIX B

GEOPHYSICAL SURVEYS

GEOPHYSICAL SURVEYS

NETWORK OF MEASUREMENT STATIONS

Geophysical data were recorded between February 3 and February 26, 1984 on 12 traverse lines cut N21°E, spaced 400 feet apart. The establishment of new stations and completion of geophysical surveys were done by contractor Maisonneuve Energy Materials Inc., Nepean, Ontario. These surveys consisted of setting up observation stations at 50 foot intervals and providing magnetic and electromagnetic coverage on a cut grid of 9 line miles. A total of 1,744 geophysical observations were made consisting of 872 magnetometer readings and 872 VLF electromagnetic observations.

MAGNETOMETER SURVEY

The magnetometer survey was carried out by using two GSM-8 proton magnetometers equipped with an MR-10 base station. This unit has an accuracy of ±1 gamma. All values presented in Fig. 3 are expressed in gammas (1 gamma is equal to 1/100,000 Gauss) with a total magnetic field of 58,000 gammas. The base station was located on line 4W at station 1,650N near the northern shoreline of Lake Theresa.

VLF ELECTROMAGNETIC SURVEY

The electromagnetic survey was performed with a Geonics EM16 instrument which measures inphase and quadrature components of vertical magnetic field as a percentage of horizontal primary field. This instrument has a resolution of ± 1%. The NAA transmission station in Cutler, Maine, USA with a frequency of 24 kHz was used since it has a magnetic field at approximately right angles to the main strike of the geological structure of the Cassex claim block. The direction of the survey lines was selected approximately along the line of the primary magnetic field at right angles to the direction of the NAA station.

For easy interpretation of the results, the actual EM profile were plotted directly on the survey line map using a scale of 1cm = 10% quadrature and 1cm = 20% inphase (Fig. 4). A numerical filtering technique described by Fraser[11] was used to facilitate the evaluation of the data. The filtered values were contoured on a second VLF-EM map (Fig. 5). An example of the calculations are given below.

Location	Inphase values	Apply sign and form the moving sum of pairs of entries		Take first differences of alternate entries	
3+00S	-6	-6			
			(-6)+(-7)= -13		
3+50S	-7	-7			
			(-7)+(-8)= -15	(-23)-(-13)=	-10
4+00S	-8	-8			
			(-8)+(-15)= -23	(-39)-(-15)=	-24
4+50S	-15	-15			
			-39	(-16)-(-23)=	+7
5+00S	-24	-24			
			-16		
6+00S	+8	+8			

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

Lab #136

W8404-136

42C13SE0033 2.6768 WHITE LAKE (NORTH)

900

Mining Act — Do not use shaded areas below.

Type of Survey(s)	Township or Area
Geophysical surveys	White Lake (north part)

Claim Holder(s)	Prospector's Licence No.
Cassex Resources Ltd.	T1514

Address: 9B Caesar Avenue, Nepean, Ont. K2G 0A8

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
Maisonneuve Energy Materials Inc.	03 02 84 / 26 02 84 (Day / Mo. / Yr.)	9

Name and Address of Author (of Geo-Technical report): Paul Phillips, B.Sc., 413 Sunnyside Avenue, Ottawa, Ont. K1S 0S5

Credits Requested per Each Claim in Columns at right

		Days per Claim
Special Provisions For first survey: Enter 40 days. (This includes line cutting) For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical - Electromagnetic	40
	Geophysical - Magnetometer	20
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.		Days per Claim
	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
T.B.	674017				
	674038				
	674039				
	674040				
	674041				
	674042				
	674043				
	674044				
	674045				
	674046				
	686213				
	686214				
	686240				
	686256				

See reports and work statements

RECEIVED
MAR 27 1984
MINING LANDS SECTION

Total number of mining claims covered by this report of work: 14

Expenditures (excludes power stripping)

Type of Work Performed:

Performed on Claim(s):

Calculation of Expenditure Days Credits

Total Expenditures: $ ÷ 15 = Total Days Credits

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only		
Total Days Cr. Recorded: 840	Date Recorded: March 13, 1984	Mining Recorder: Audrey M. Hayes
	Date Approved as Recorded	Branch Director

Date	Recorded Holder or Agent (Signature)
March 8, 1984	Audrey M. Davis

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: Paul Phillips, B.Sc., 413 Sunnyside Avenue, Ottawa, Ont. K1S 0S5

Date Certified	Certified by (Signature)
March 8, 1984	Paul Phillips

Ministry of Natural Resources
Ontario

Technical Assessment Work Credits

File 2.6768

Date 1984 11 02

Mining Recorder's Report of Work No. 136

Recorded Holder: CASSEX RESOURCES

Township or Area: WHITE LAKE AREA (NORTH)

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic 32 days	TB 674017
Magnetometer 16 days	674038 to 46 inclusive
Radiometric ____ days	686213-14
Induced polarization ____ days	686240
Other ____ days	686256
Section 77 (19) See "Mining Claims Assessed" column	
Geological ____ days	
Geochemical ____ days	
Man days ☐ Airborne ☐	
Special provision ☒ Ground ☒	
☒ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 77(19)—80:

828 (83/8)

Ontario

Ministry of Natural Resources

File_____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) VLF-electromagnetic and magnetometer

Township or Area White Lake (north part)

Claim Holder(s) Cassex Resources Ltd.

9B Caesar Ave., Nepean, Ont. K2G 0A8

Survey Company Maisonneuve Energy Materials Inc.

Author of Report Paul Phillips, B.Sc.

Address of Author 413 Sunnyside Ave. Ottawa, Ont. K1S 0S5

Covering Dates of Survey February 3-26, 1984 (linecutting to office)

Total Miles of Line Cut 9 line miles

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	40
–Magnetometer	20
–Radiometric	
–Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer_____ Electromagnetic_____ Radiometric_____
(enter days per claim)

DATE: May 9, 1984 SIGNATURE: Paul Phillips
Author of Report or Agent

Res. Geol._____ Qualifications this file

Previous Surveys

File No.	Type	Date	Claim Holder

RECEIVED
MAY 18 1984
M.

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
	674017
	674038
	674039
	674040
	674041
	674042
	674043
	674044
	674045
	674046
	686213
	686214
	686240
	686256

If space insufficient, attach list

THUNDER BAY MINING DIVISION
RECEIVED
MAY 1 1 1984
AM 7 8 9 10 11 12 1 2 3 4 5 PM

THUNDER BAY MINING DIVISION
RECEIVED
MAY 1 1 1984
AM 7 8 9 10 11 12 1 2 3 4 5 PM

TOTAL CLAIMS 14

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations 872 (both surveys) Number of Readings 872 (both surveys)

Station interval 50 feet (both surveys) Line spacing 400 feet (both surveys)

Profile scale Quadrature - 1 cm=10% ; Inphase - 1 cm=20%

Contour interval 100 and 500 gammas

MAGNETIC

Instrument Two GSM-8 proton magnetometers equipped with an MR-10 base station

Accuracy – Scale constant ± 1 gamma

Diurnal correction method Our own MR-10 base station equipped with digital readout & printer

Base Station check-in interval (hours) 20 seconds

Base Station location and value Located on line 4W at station 1,650N near northern shoreline of Lake Theresa

ELECTROMAGNETIC

Instrument Geonics EM16 VLF instrument

Coil configuration

Coil separation

Accuracy ± 1%

Method: ☒ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency 24 kHz using NAA transmission station in Cutler, Maine, USA
(specify V.L.F. station)

Parameters measured Inphase and quadrature

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION
RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time Frequency

– Off time Range

– Delay time

– Integration time

Power

Electrode array

Electrode spacing

Type of electrode

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

_____

_____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

_____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

_____

Drainage Development _____

Estimated Range of Overburden Thickness _____

_____

_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

_____

_____

_____

General _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Ministry of
Natural
Resources

Ontario

May 11, 1984

Director
Land Management Branch
Whitney Block
Queen's Park
TORONTO, Ontario.

Att'n: Arthur BARR

SUBJECT: TECHNICAL DATA STATEMENT
TB674017 et al
CASSEX RESOURCES LTD.

Enclosed please find the above work report, which refers to our Report of Work #136 dated March 13th, 1984.

Audrey M. HAYES
Mining Recorder
Thunder Bay Mining Division
Ontario Government Building
435 South James Street
P.O. Box 5000
THUNDER BAY, Ontario.
P7C 5G6

Telephone: (807)475-1311

AMH:1
Encls.

1984 05 28

Your File: 136
Our File: 2.6768

Mrs. Audrey Hayes
Mining Recorder
Ministry of Natural Resources
P.O. Box 5000
Thunder Bay, Ontario
P7C 5G6

Dear Madam:

We have received reports and maps for a Geophysical (Electromagnetic & Magnetometer) Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims TB 674017 et al in the area of White Lake,(North Part).

This material will be examined and assessed and a statement of assessment work credits will be issued.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416) 965-6918

A. Barr:sc

cc: Cassex Resources Limited
9B Caesar Avenue
Nepean, Ontario
K2G)A8

cc: Paul Phillips
413 Sunnyside Avenue
Ottawa, Ontario
K1S 0S5

August 24, 1984 File: 2.6768

Cassex Resources Limited
9B Caesar Avenue
Nepean, Ontario
K2G 0A8

Dear Sir:

RE: Geophysical (Electromagnetic & Magnetometer) Survey submitted on Mining Claims TB 674017 et al in the Area of White Lake (North Part)

Enclosed are the plans, in duplicate, for the above-mentioned survey. In order to complete your submission, please provide:

1) the actual V.L.F. readings plotted at each station point

2) claim lines and numbers indicated on each plan

3) each plan signed by the author of the report

Please return the plans to this office, quoting file 2.6768.

For further information, please contact Mr. Ray Pichette at (416)965-4888.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-4888

D. Kinvig:mc

cc: Paul Phillips
413 Sunnyside Avenue
Ottawa, Ontario
K1S 0S5

cc: Mining Recorder
Thunder Bay, Ontario
File: 136

Encl.

CASSEX RESOURCES LTD.

2.6768

9B CAESAR AVENUE, NEPEAN, ONT. K2G 0A8 613 226 7598 / 7699

October 24, 1984

Mr. Ray Pichette
Ont. Min. of Nat. Resources
Land Management Branch
Whitney Block, Room 6643
Queen's Park
Toronto, Ont.
M7A 1W3

Dear Mr. Pichette:

Re: File #2.6768

Enclosed are the completed plans, in duplicate, of the geophysical surveys submitted to you on the mining claims TB 674017 et al in the north part of the White Lake Area. The plans have been completed in accordance with the requests in your letter of August 24, 1984.

We apologize for the delay in returning the material. The geologist who drafted these plans was working for three other companies and only became available to us this week to complete the work.

If you have any further question, don't hesitate to contact me at this office.

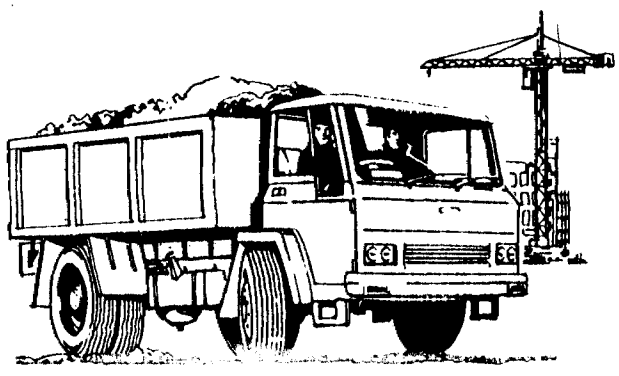
Yours sincerely,

CASSEX RESOURCES LTD.

Audrey M. Denis

Audrey M. Denis
Secretary

Encl.



REGISTERED

October 5, 1984 File: 2.6768

Cassex Resources Ltd
9B Caesar Avenue
Nepean, Ontario
K2G 0A8

Dear Sir:

RE: Geophysical (Magnetometer & Electromagnetic) Survey submitted on Mining Claims TB 674017 et al in the Area of WhitéeLake (North Part)

Enclosed is a copy of our letter dated August 24, 1984 requesting additional information for the above-mentioned survey.

Unless you can provide the required data by October 15, 1984 the mining recorder will be directed to cancel the work credits recorded on March 13, 1984.

For further information, please contact Mr. Ray Pichette at (416)965-4888.

Yours sincerely,

– client called 84-10-12 advised that work Ray

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-4888

S. Hurst:mc

cc: Mining Recorder
Thunder Bay, Ontario

cc: Paul Phillips
413 Sunnyside Avenue
Ottawa, Ontario
K1S 0S5

Encl.

Ministry of Natural Resources

Ontario

Notice of Intent

for Technical Reports

1984 11 02

2.6768/136

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Land Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.

Ministry of
Natural
Resources

Nov. 19/84

1984 11 02

Your File: 136
Our File: 2.6768

Mining Recorder
Ministry of Natural Resources
P.O. Box 5000
Thunder Bay, Ontario
P7C 5G6

Dear Madam:

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, please contact Mr. R.J. Pichette at 416/965-4888.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3

D. Kinvig:mc

Encls.

cc: Cassex Resources Ltd
98 Caesar Avenue
Nepean, Ontario
K2G 0A8

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

1984 11 19

Your File: 136
Our File: 2.6768

Mining Recorder
Ministry of Natural Resources
P.O. Box 5000
Thunder Bay, Ontario
P7C 5G6

Dear Madam:

RE: Notice of Intent dated November 2, 1984.
Geophysical (Magnetometer & Electromagnetic)
Survey on Mining Claims TB 674017 et al in the
Area of White Lake (North Part)

The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-6918

D. Kinvig:sc

cc: Cassex Resources Limited
98 Caesar Avenue
Nepean, Ontario
K2G 0A8

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

cc: Resident Geologist
Thunder Bay, Ontario

Mining Lands Section

File No 2.6768

Control Sheet

TYPE OF SURVEY ✓ GEOPHYSICAL

____ GEOLOGICAL

____ GEOCHEMICAL

____ EXPENDITURE

MINING LANDS COMMENTS:

- must supply another set of maps (not reduced
- EM. maps need raw data

L.D.

Lgd.

Return to A.F.R.O.

Dennis Kinzig

Signature of Assessor

Oct. 26/94

Date

2.6768

	E.M.	Mag.		E.M.	Mag.			
TB.- 674017	↑	1/2	TB.- 674044	↑	✓			
674038		~✓	45		✓			
39		✓	674046		~✓			
40	8"	✓	686213	8"	1/2			
41	8"	✓	686214	8"	~1/2			
42		3/4	686240		1/2✓			
674043	↓	3/4	686256	↓	3/4			
Remark:		3/4			3/4	O.K.		
(20×14):(14-1/2)=1.37:1(16)								

686214

686213

686220

686209

686208

674017

674044

674043

674045

674046

674039

674040

674041

674042

686243

686242

686241

686240

686256

L28W

L24W

L20W

L16W

L12W

L8W

L4W

L0

L4E

L8E

L12E

L16E

baseline

674038

N

HEMLO EXPLORATION PROJECT

Magnetic value map

Data collected with GEM-8 system
using MR-10 base station

Total magnetic field 57,000 gammas

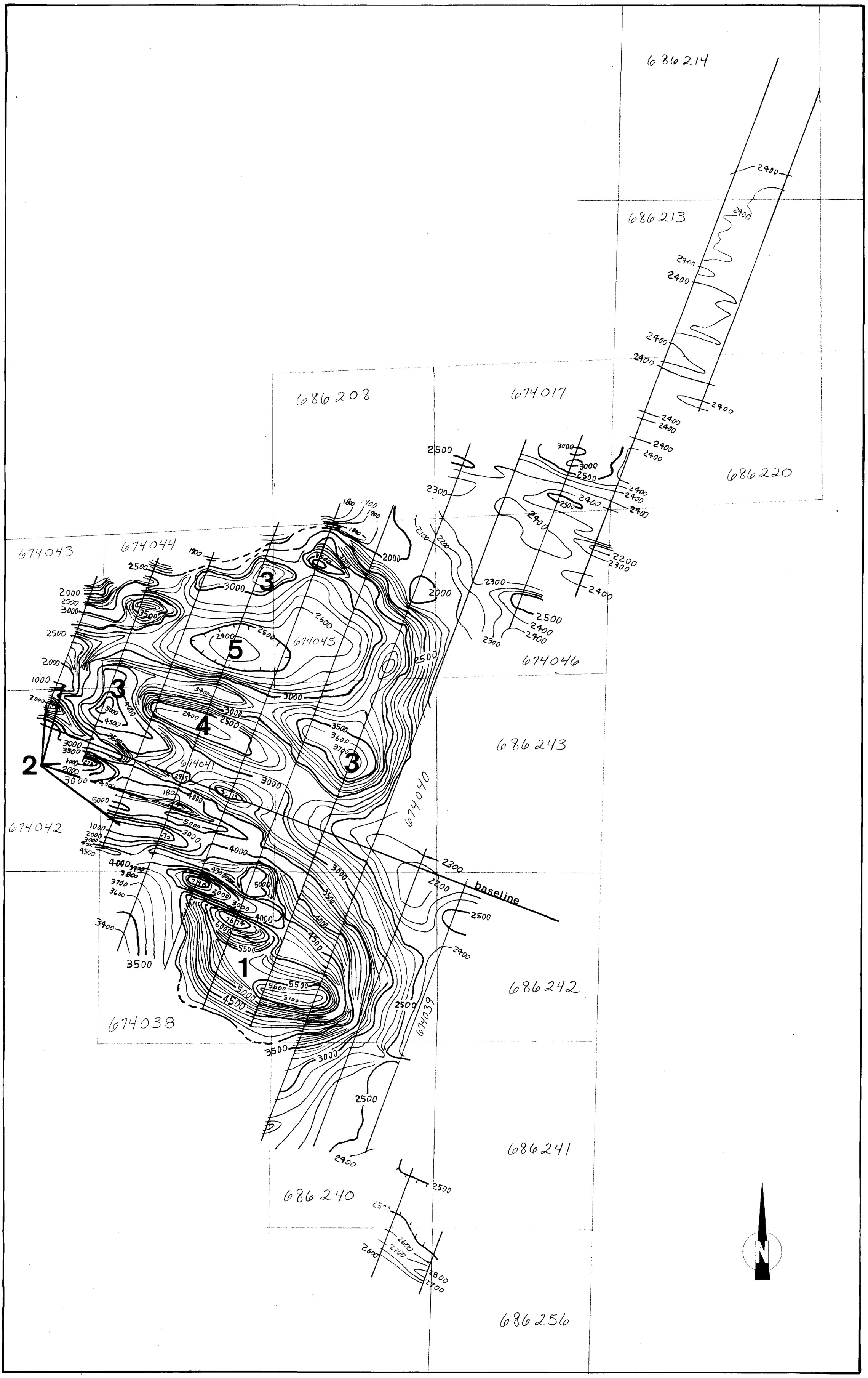
Scale

400 0 400 800 1200 ft.

Paul Phillips

200

2.6768



Contour interval

—— 100 gammas

—— 500 gammas

Scale

400 0 400 800 1200 ft.

HEMLO EXPLORATION PROJECT

Magnetometer Contour Map

Data collected with GEM-8 system using MR-10 base station.

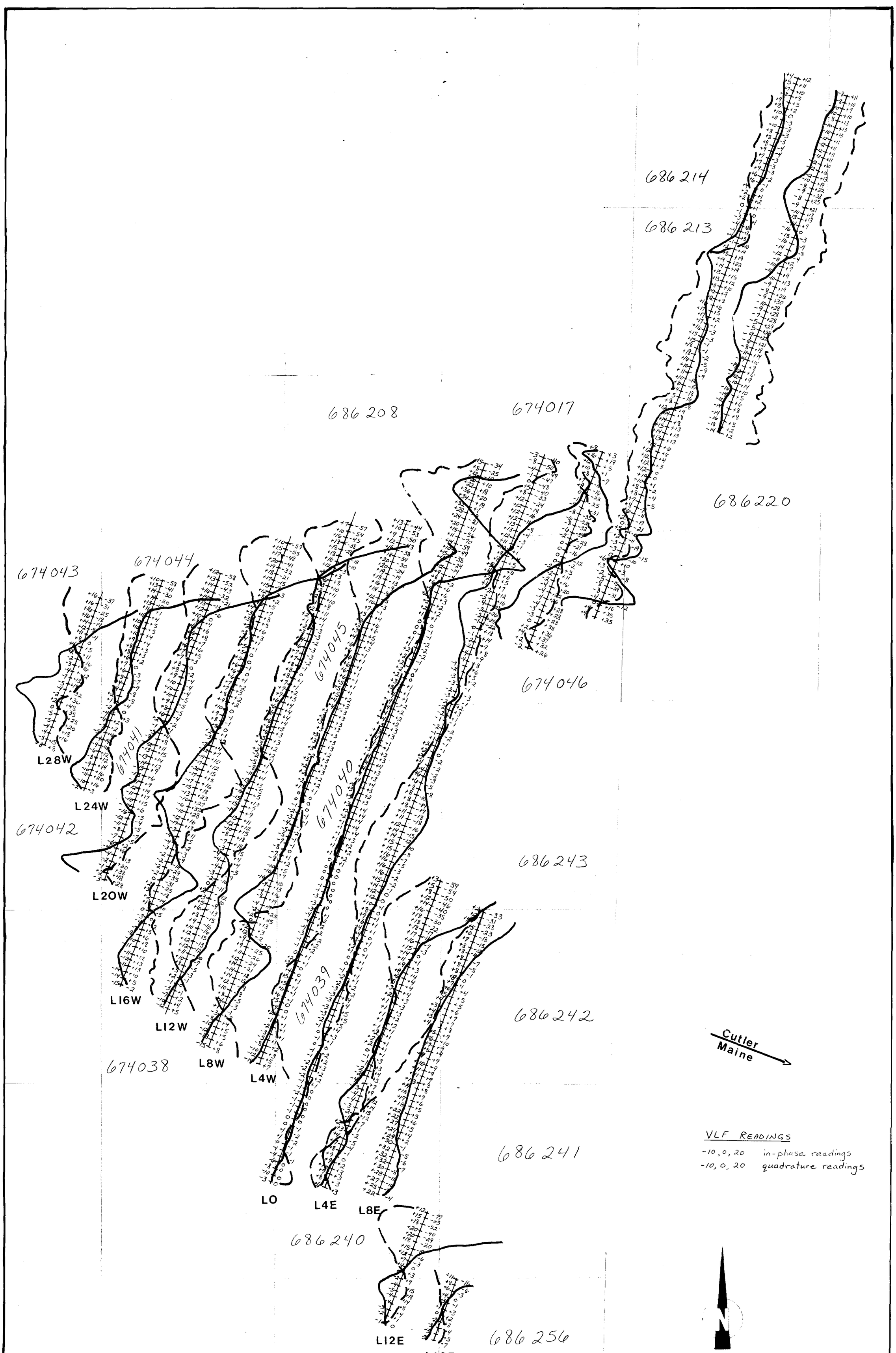
Total magnetic field 57,000 gammas

April 4, 1984

Paul Phillips B.Sc.

Paul Phillips

2.6768



HEMLO EXPLORATION PROJECT

VLF in-phase and quadrature profile map

(Data collected with Geonics EM 16 system)

Legend —— in-phase

— — quadrature

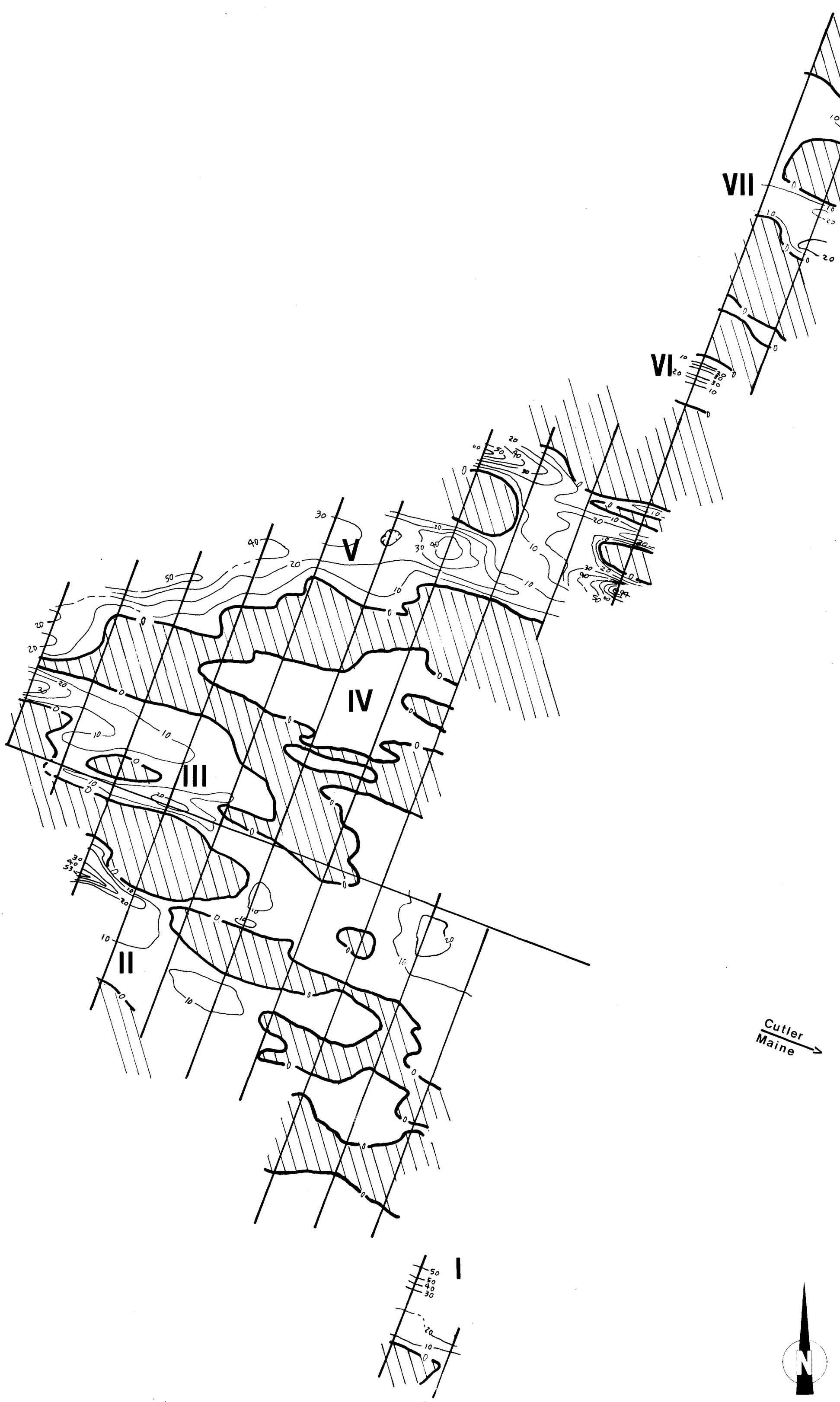
MARCH 26, 1984

PAUL PHILLIPS B.Sc.

Paul Phillips

26768

220



HEMLO EXPLORATION PROJECT

Filtered in-phase data

using modified Fraser model (1969)

Data collected with Geonics EM 16 system

Non-conductive area

Scale
400 0 400 800 1200ft.

March 28, 1984

Paul Phillips B.Sc.

26768