

PART

2 of 2

A GEOPHYSICAL REPORT

ON

A GROUND MAGNETIC & ELECTROMAGNETIC SURVEY

Hagas Claims, Omenica M.D., B.C.

FOR

CATRE - BEN JOINT VENTURE

BY

PETER E. WALCOTT & ASSOC. LIMITED
Vancouver, British Columbia

OCTOBER 1980

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INTRODUCTION.

Between August 12th and 28th, 1980, at the request of Holt Engineering Ltd., Peter E. Walcott and Associates Limited undertook the ground follow-up magnetic and electromagnetic work on the Hagas claims in accordance with the recommendations of Mr. J. B. Boniwell of Excalibur International Consultants Ltd., the interpreter of the previously flown airborne magnetic and electromagnetic surveys.

This former survey showed the area covered to be replete with conductors, most if not all of which in this writer's opinion are due to conductive material of glacial origin.

From these using the normal means of elimination six mediocre - in the sense of conductivity - anomalous features were chosen as being possible geophysical expressions of sulphide mineralization and recommended for ground investigation follow-up.

Accordingly a grid was laid out with a N 45°E baseline and cut and chained by Holt Engineering, who incidentally are to be commended for the excellent job of linecutting.

Readings of the inphase and quadrature responses of the secondary field were made every 50 metres along the lines at frequencies of 444 and 1777 Hz. using a Max-Min horizontal loop electromagnetic system with a coil separation of 200 metres.

In addition some additional work was carried out where deemed necessary at frequencies of 222 and 888 Hz. as well as some with a 100 metre coil separation at all four frequencies.

Readings of the relative vertical intensity of the earth's magnetic field were also measured at the respective pickets.

The data are presented on Maps W-286-1 to 5 that accompany this report.

SURVEY SPECIFICATIONS.

The basic principle of any electromagnetic survey is that when conductors are subjected to primary alternating fields secondary magnetic fields are induced in them. Measurements of these secondary fields give indications as to the size, shape and conductivity of conductors. In the absence of conductors no secondary fields are obtained.

The electromagnetic survey was carried out using a Max-Min electromagnetic unit with the coils in the horizontal plane i.e. maximum coupled.

Readings of the in-phase and quadrature components of the secondary field were made every 50 metres along the picket lines at frequencies of 444 and 1777 Hz. respectively employing coil separation of 200 metres.

All stations were equally spaced on the horizontal plane by using the secant method of chaining so as to have low inphase noise.

Some additional readings of 222 and 888 Hz. work were also carried out over certain designated areas as well as some work employing the previously mentioned four frequencies at a 100 metre separation.

Readings of the relative vertical intensity of the earth's magnetic field were also obtained using a McPhar M-700 fluxgate magnetometer.

Corrections for diurnal variations were made by tying-in to previously established base stations at intervals not exceeding two hours.

In all some 36 kms. of basic E.M. coverage and 39 kms. of magnetic coverage were carried out.

DISCUSSION OF RESULTS.

Although to this date the writer has not studied the results of the magnetic survey in detail it is readily apparent from a comparison with the known geology that the areas of high magnetic activity correspond with the more mafic andesitic rocks of the Hazelton group.

Similarly high magnetic responses were also obtained over the two windows of Buck Creek volcanics on the eastern and western corners of the grid.

The results of the E.M. work on the grid were very disappointing. The anomalous responses obtained although numerous in quantity were poor in quality - i.e. of response not of data. In fact only on Line 32 N at 29 E was a significant depression detected on the 444 Hz. inphase response.

This is not altogether surprising in view of the fact that no trace of sulphides was observed on the grid area and similarly low metal values were obtained from the soil sampling programme.

All of the anomalies obtained generally strike across the grid lines and are of poor conductivity as indicated by the in-phase to quadrature ratio on their respective frequencies as well as the nature of their response to decreasing frequencies.

They are in the writer's opinion due to conductive material within the glacial cover or to material of glacial origin.

The writer conducted rough conductivity tests using an ohm meter on the core of a previously drilled hole set up to investigate an anomaly that had exhibited both in and out of phase responses on the 222 Hz. and concluded that its response was due to similar glacial material abetted by a fault zone.

Similar results were also obtained from a cat cut on the Owen Lake road.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

Between August 12th and 28th, 1980, Peter E. Walcott & Associates Limited carried out ground E.M. and magnetic follow-up on the Hagas Claims in accordance with the recommendations of the Catre-Ben Joint Venture geophysical consultant.

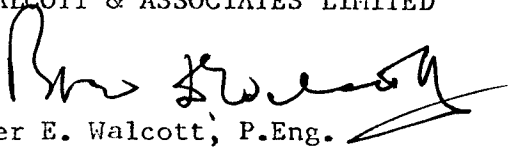
The six so appointed anomalies were subjected to testing with a horizontal loop system operating at frequencies of 444 and 1777 Hz. respectively with the coils 200 metres apart.

The results of the above indicated the causative sources to be of poor conductivity which together with other evidence suggested the sources to be within material of glacial origin.

As a result the writer recommends that on the basis of the geophysical work no further work be done on the property at this time.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED


Peter E. Walcott, P.Eng.
Geophysicist

Vancouver, B.C.

October 15th, 1980

A P P E N D I X
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COST OF SURVEY.

Peter E. Walcott & Associates Limited undertook the E.M. survey on a daily basis and the magnetic work on a line kilometre basis. Mobilization and draughting costs were extra so that the total cost of services excluding mobilization expenses to date was \$8,310.00.

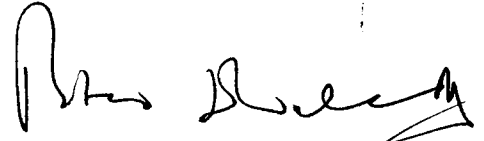
PERSONNEL EMPLOYED ON SURVEY.

<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Dates</u>
Peter E. Walcott	Geophysicist	Peter E. Walcott & Assoc. 605 Rutland Court, Coquitlam, B.C. V3J 3T8	Aug. 12th - 31st, Sept. 4th, Oct. 13 - Oct. 15th, 1980
J. Walcott	Typing	" "	Oct. 15th, 1980
J. Winfield	Draughting	J.W. Drafting Services Ltd.	" 6th - 15th, 1980

CERTIFICATION.

I, Peter E. Walcott, of the Municipality of Coquitlam, British Columbia, hereby certify that:

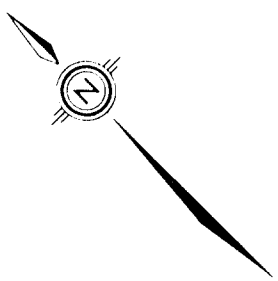
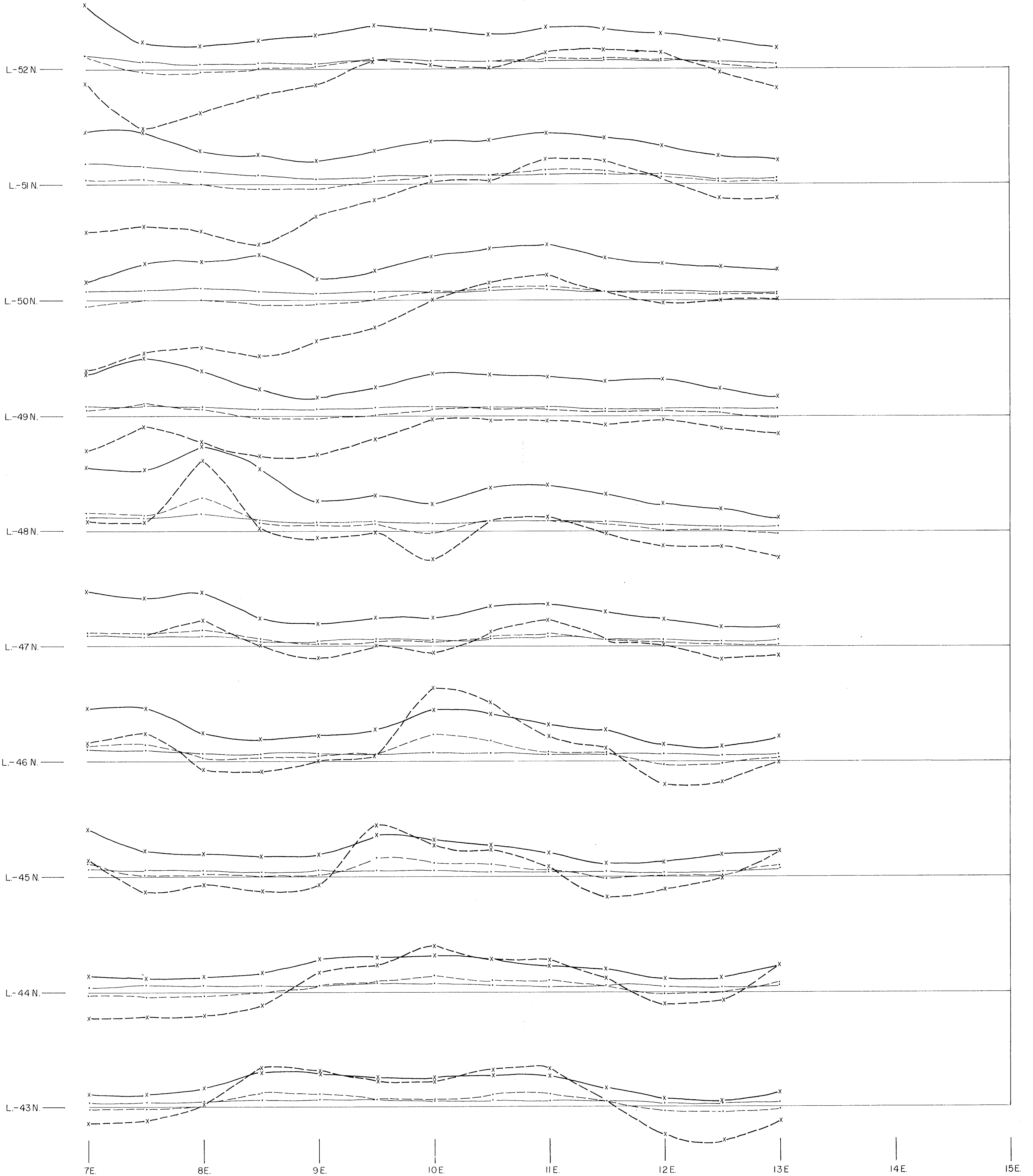
1. I am a Graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.
2. I have been practising my profession for the last eighteen years.
3. I am a member of the Association of Professional Engineers of British Columbia, Ontario and the Yukon Territory.
4. I hold no interest, direct or indirect, in the securities or properties of Catre - Ben Joint Venture, nor do I expect to receive any.



Peter E. Walcott, P.Eng.

Vancouver, B.C.

October 15th, 1980

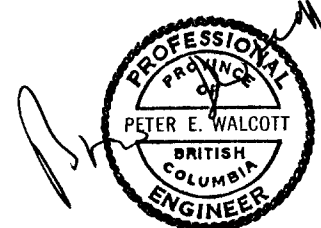


LEGEND

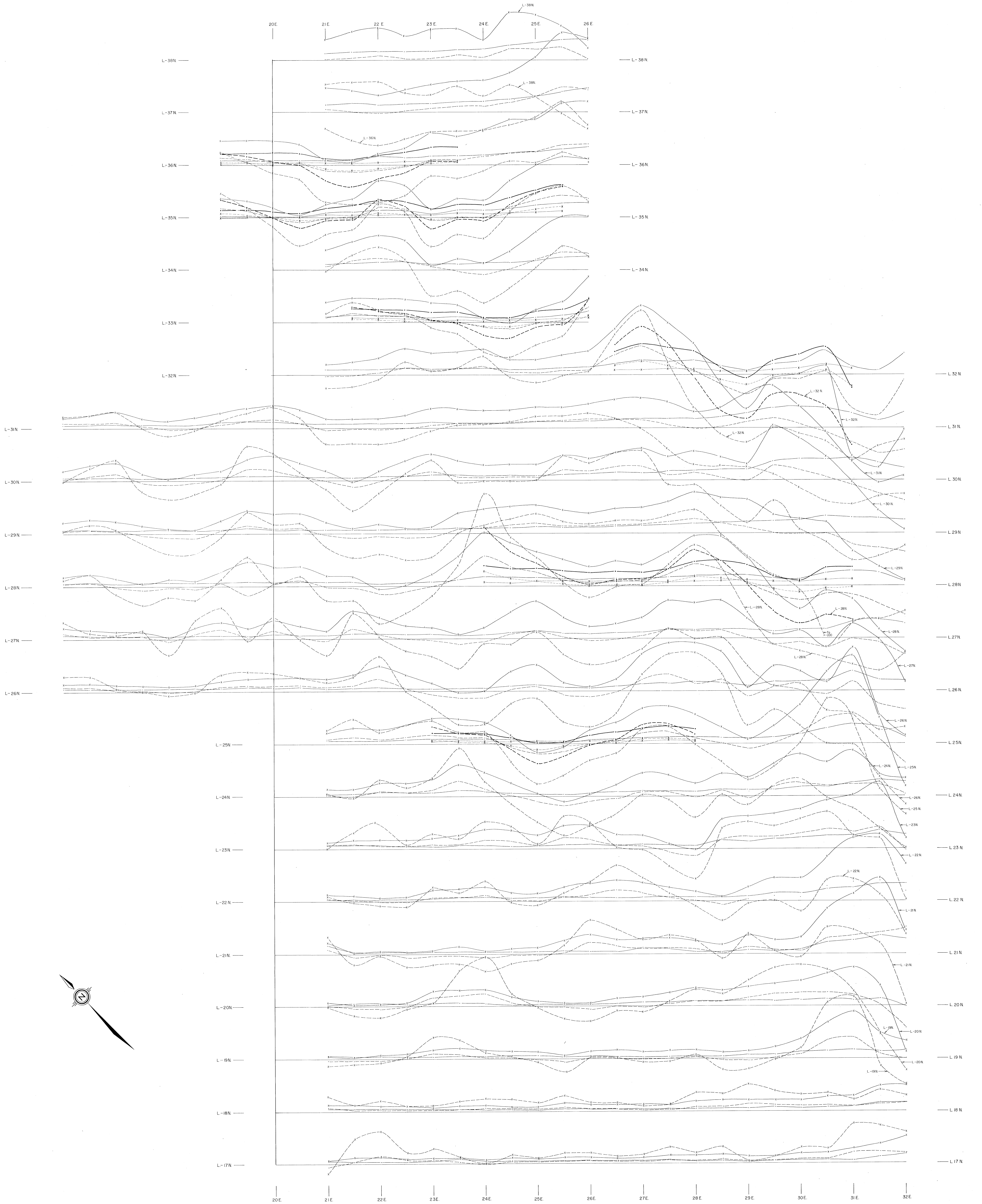
200 METRE COIL SEPARATION

IN PHASE		OUT OF PHASE	
—x—	1777 Hz	-x-	
—x-	444 Hz	-x-	

MINERAL DEVELOPMENT BRANCH
ASSESSMENT REPORT
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CATRE-BEN JOINT VENTURE
HAGAS CLAIMS, HOUSTON AREA, OMENICA M.D., B.C.
MAX-MIN HORIZONTAL LOOP ELECTROMAGNETIC SURVEY
PROFILES OF IN PHASE & QUADRATURE COMPONENTS
SCALE 1:2000
m 40 20 0 40 80 120 m
MAP NO W-286-1
PETER E WALCOTT & ASSOC LTD.
AUGUST 1980



LEGEND

200 METRE COIL SEPARATION

IN PHASE OUT OF PHASE

— 1772 Hz - - - - -

— 888 Hz - - - - -

— 444 Hz - - - - -

— 222 Hz - - - - -

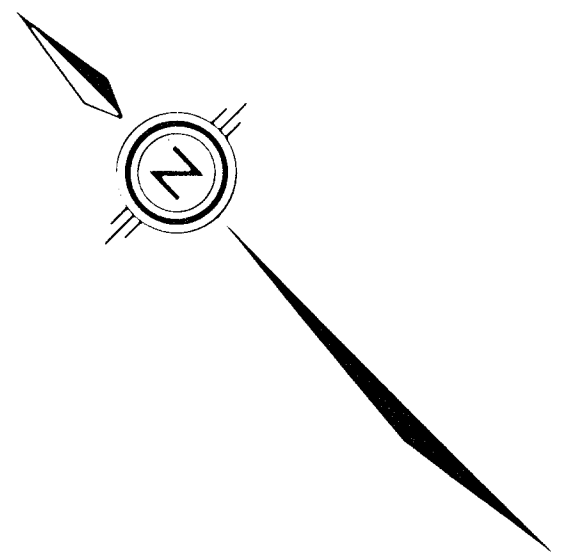
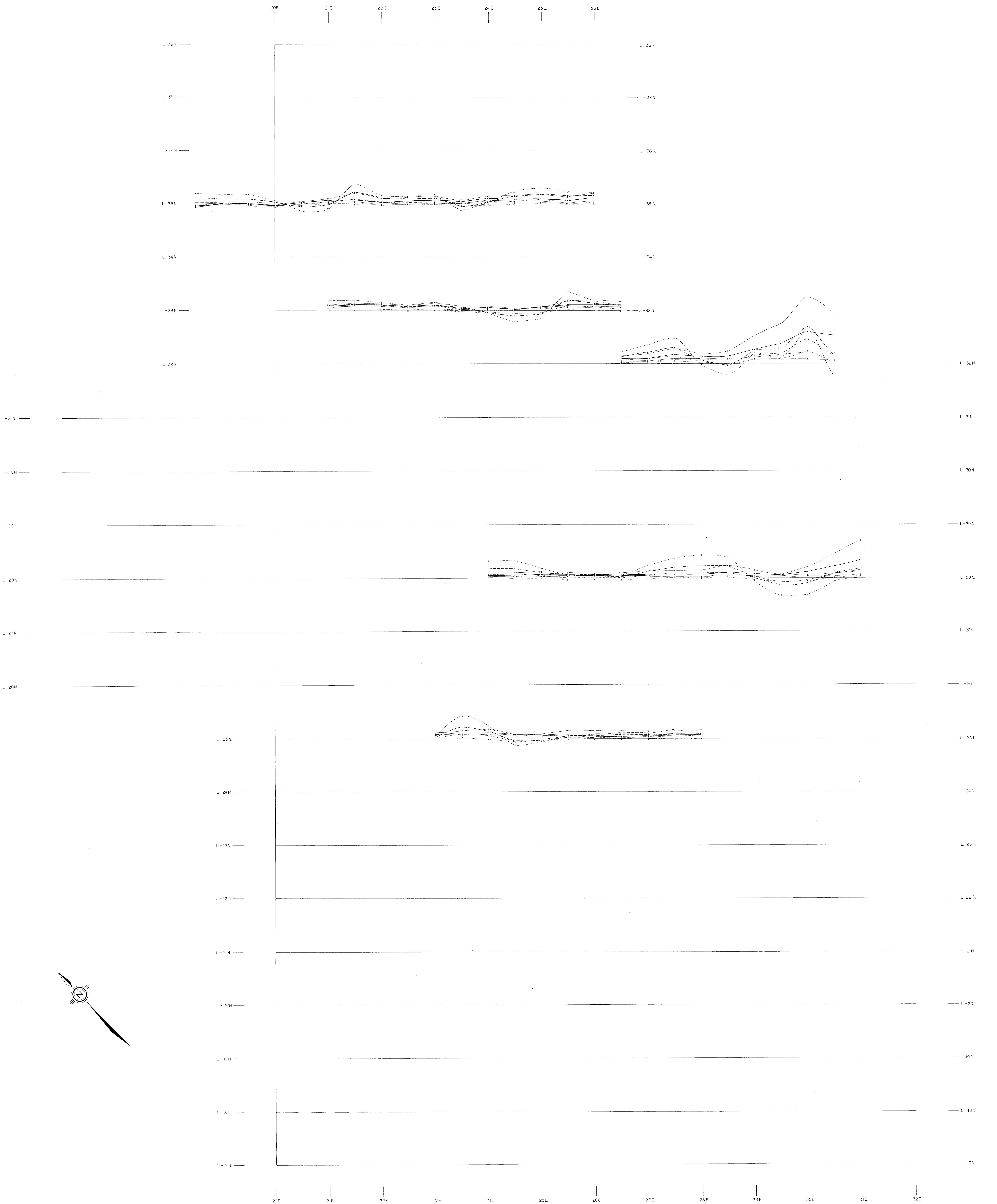
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CATRE - BEN JOINT VENTURE
 HAGAS CLAIMS, HOUSTON AREA, ONENCA M.D., BRITISH COLUMBIA

MAX - MIN HORIZONTAL LOOP
ELECTROMAGNETIC SURVEY
 PROFILES OF IN PHASE & QUADRATURE COMPONENTS

SCALE 1:2000

MAP No W-286-2 PETER E WALCOTT & ASSOC. LTD
 AUGUST - 1980



LEGEND

100 METRE COIL SEPARATION

IN PHASE	OUT OF PHASE
—	- - - - -
—	- - - - -
—	- - - - -
—	- - - - -

1777 Hz
888 Hz
454 Hz
222 Hz

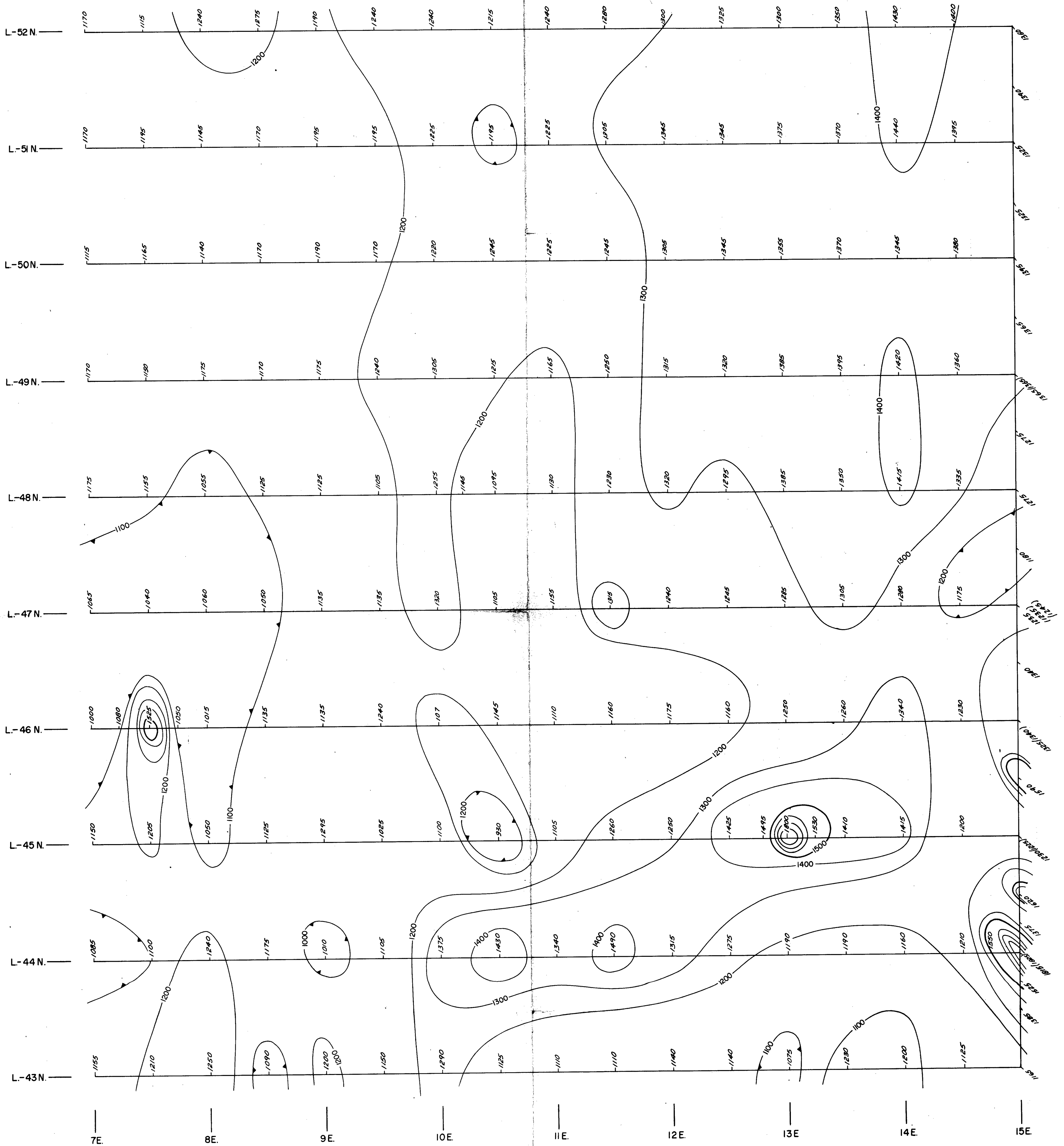
MINERAL RECORDS BRANCH
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CATRE-BEN JOINT VENTURE
HAGAS CLAIMS, HOUSTON AREA, OMEICA M.D., BRITISH COLUMBIA

**MAX-MIN HORIZONTAL LOOP
ELECTROMAGNETIC SURVEY**
PROFILES OF IN PHASE & QUADRATURE COMPONENTS

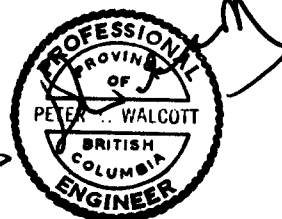
SCALE 1:2000

MAP No. W-286-3
PETER E. WALCOT,
AUGUST -1

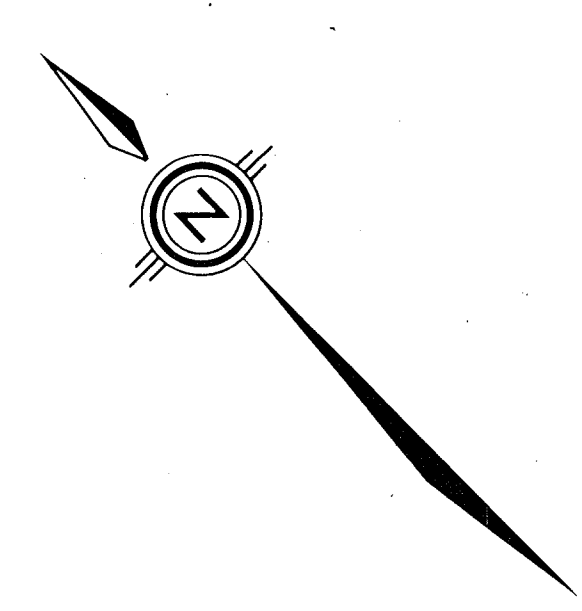
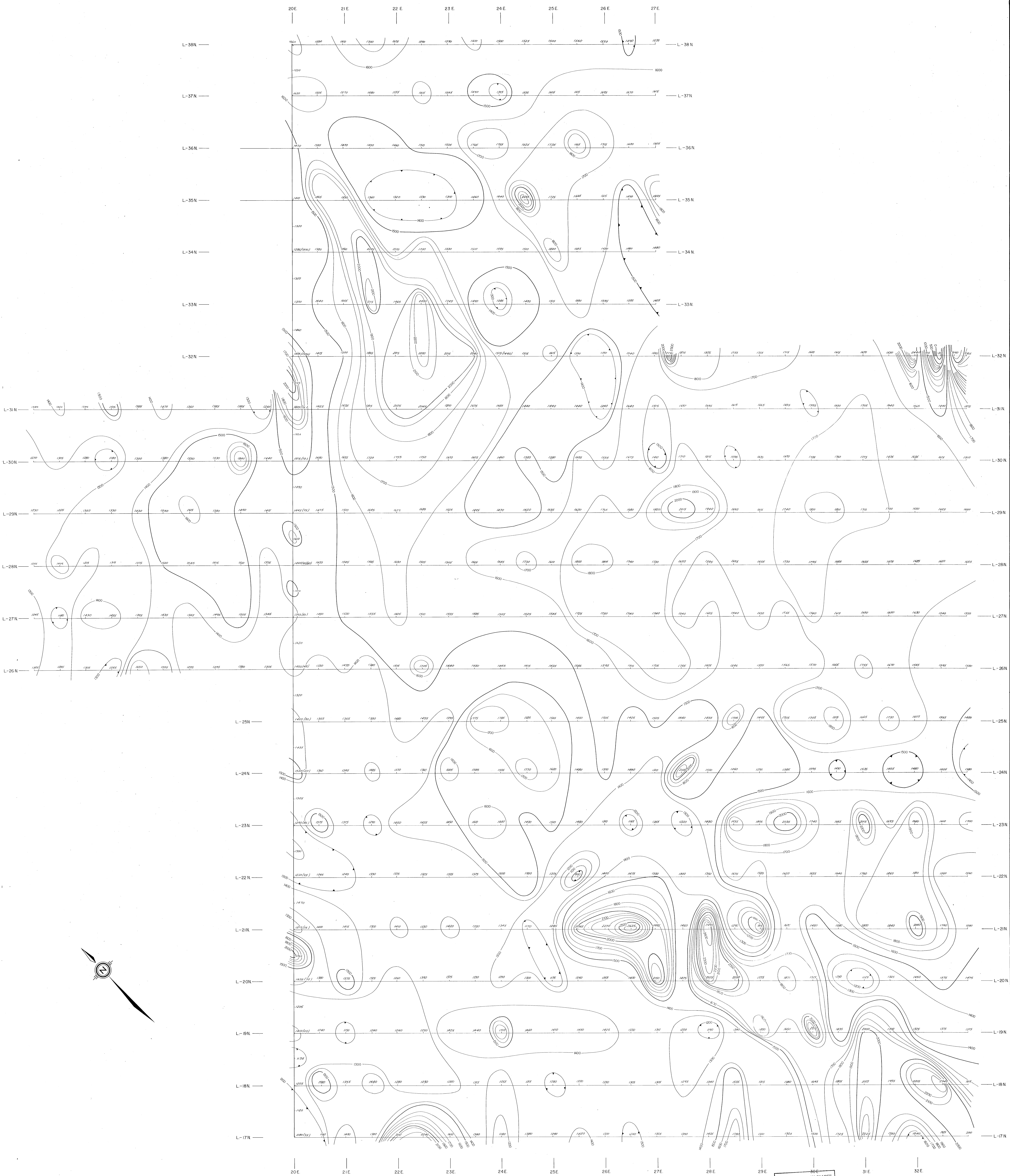


MAGNETOMETER SURVEY
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CATRE-BEN JOINT VENTURE
 HAGAS CLAIMS, HOUSTON AREA, OMENICA M.D., B.C.
MAGNETOMETER SURVEY
 CONTOURS OF RELATIVE VERTICAL INTENSITY
 (IN GAMMAS)
 SCALE 1 : 2000
 MAP NO. W-286-4
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 AUGUST 1980



MINERAL RESOURCES BRANCH
 ASSESSMENT DIVISION
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CATRE-BEN JOINT VENTURE
 HAGAS CLAIMS, HOUSTAN AREA, OMINICA M.D., BRITISH COLUMBIA
MAGNETOMETER SURVEY
 CONTOURS OF RELATIVE VERTICAL INTENSITY
 (IN GAMMAS)
 SCALE 1:2000
 MAP No W-286-5
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 AUGUST - 1980