



42H08NE0061 2.9849 NEWMAN

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Suite 905, 121 Richmond Street West, Toronto, Canada M5H 2K1, Telephone (416) 869-0010

REPORT ON AN
AIRBORNE MAGNETIC AND VLF-EM SURVEY
BRAGG & NEWMAN TOWNSHIPS
LARDER LAKE MINING DIVISION, ONTARIO

for
CASAU EXPLORATION LTD.

RECEIVED

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MINING LANDS SECTION

by

TERRAQUEST LTD.
Toronto, Canada

February 27, 1987



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010C

111 Richmond Street West, Toronto, Canada, M5H 2K1, Telephone (416) 869-0010

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LIST OF FIGURES

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- Figure 3 - Sample Record
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LIST OF MAPS IN JACKET

- No. A-653-1, Total Magnetic Field
- No. A-653-2, Vertical Magnetic Gradient
- No. A-653-3, VLF-EM Survey, East-West Grid
- No. A-653-4, VLF-EM Survey, North-South Grid
- No. A-653-5, Interpretation



1. INTRODUCTION

This report describes the specifications and results of a geophysical survey carried out for Casau Exploration Ltd. of 1458 Rupert Street, North Vancouver, B.C., V7J 1E9 by Terraquest Ltd., 905 - 121 Richmond Street West, Toronto, Canada. The field work was performed on December 15, 1986 and the data processing, interpretation and reporting from December 16, 1986 to February 27, 1987.

The purpose of a survey of this type is two-fold. One is to prospect directly for anomalously conductive and magnetic areas in the earth's crust which may be caused by, or at least related to, mineral deposits. A second is to use the magnetic and conductivity patterns derived from the survey results to assist in mapping geology, and to indicate the presence of faults, shear zones, folding, alteration zones and other structures potentially favourable to the presence of gold and base-metal concentration. To achieve this purpose the survey area was systematically traversed by an aircraft carrying geophysical instruments along parallel flight lines spaced at even intervals, 100 metres above the terrain surface, and aligned so as to intersect the regional geology in a way to provide the optimum contour patterns of geophysical data.

2. THE PROPERTY

The property is located in the northeast corner of Bragg township and in the northwest corner of Newman township, in the Larder Lake Mining Division of Ontario about 70 kilometres northeast of the town of Cochrane. The claims can be approached by bush roads which come to the western side of Bragg township.

The latitude and longitude are 49 degrees 26 minutes, and 80 degrees 12 minutes respectively, and the N.T.S. reference is 42H/8.

The claim numbers are shown in figure 2 and listed below:

Bragg Township	L 882642-882657	(16)
	L 882667-882670	(4)
Newman Township	L 832803-832809	(7)
	L 877941-877953	(13)...total 40 claims

3. GEOLOGY

Map References

1. Map 2161: Coral Rapids - Cochrane Sheet. scale 1:253,440.
O.D.M. 1968

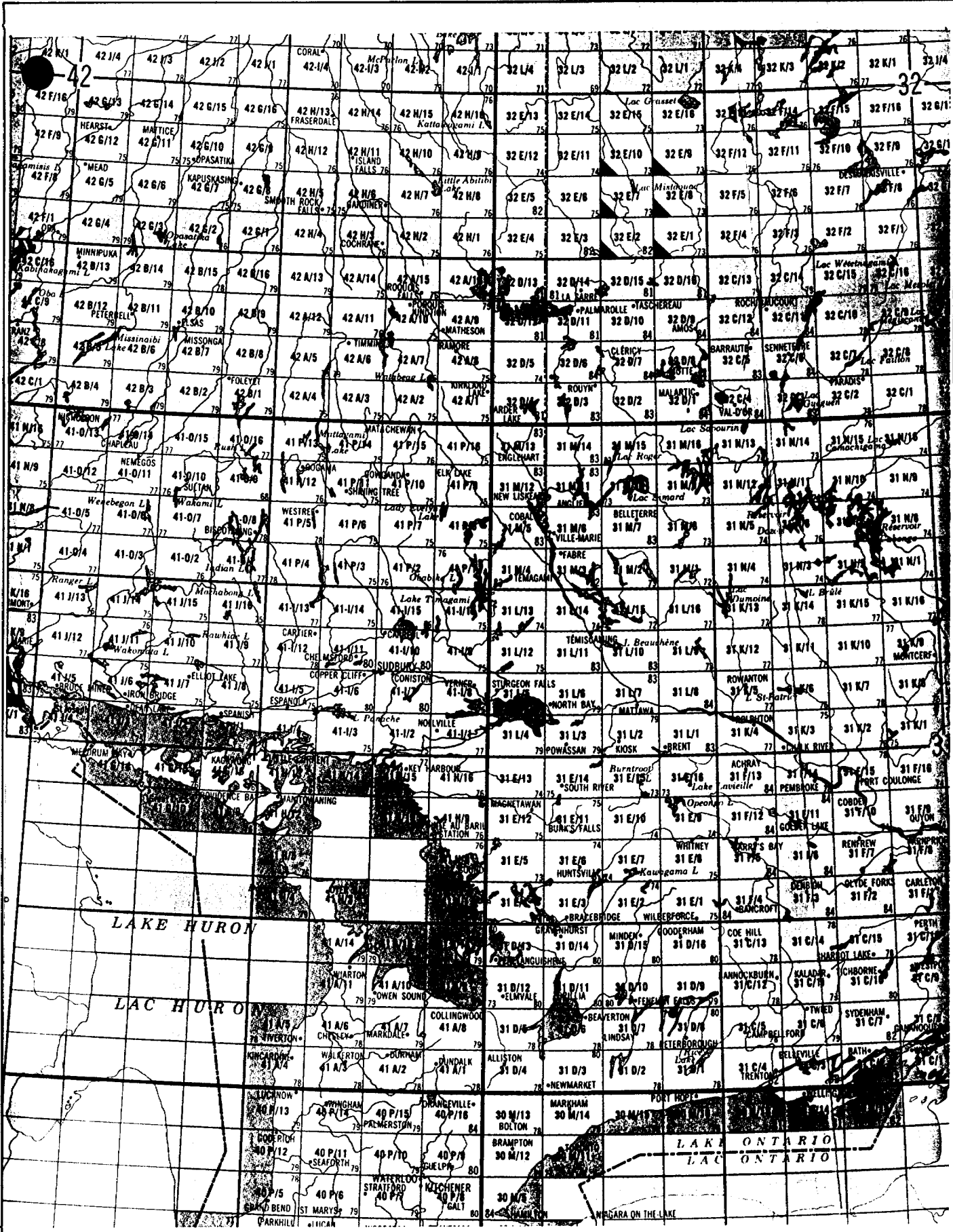


FIGURE 1. General Location



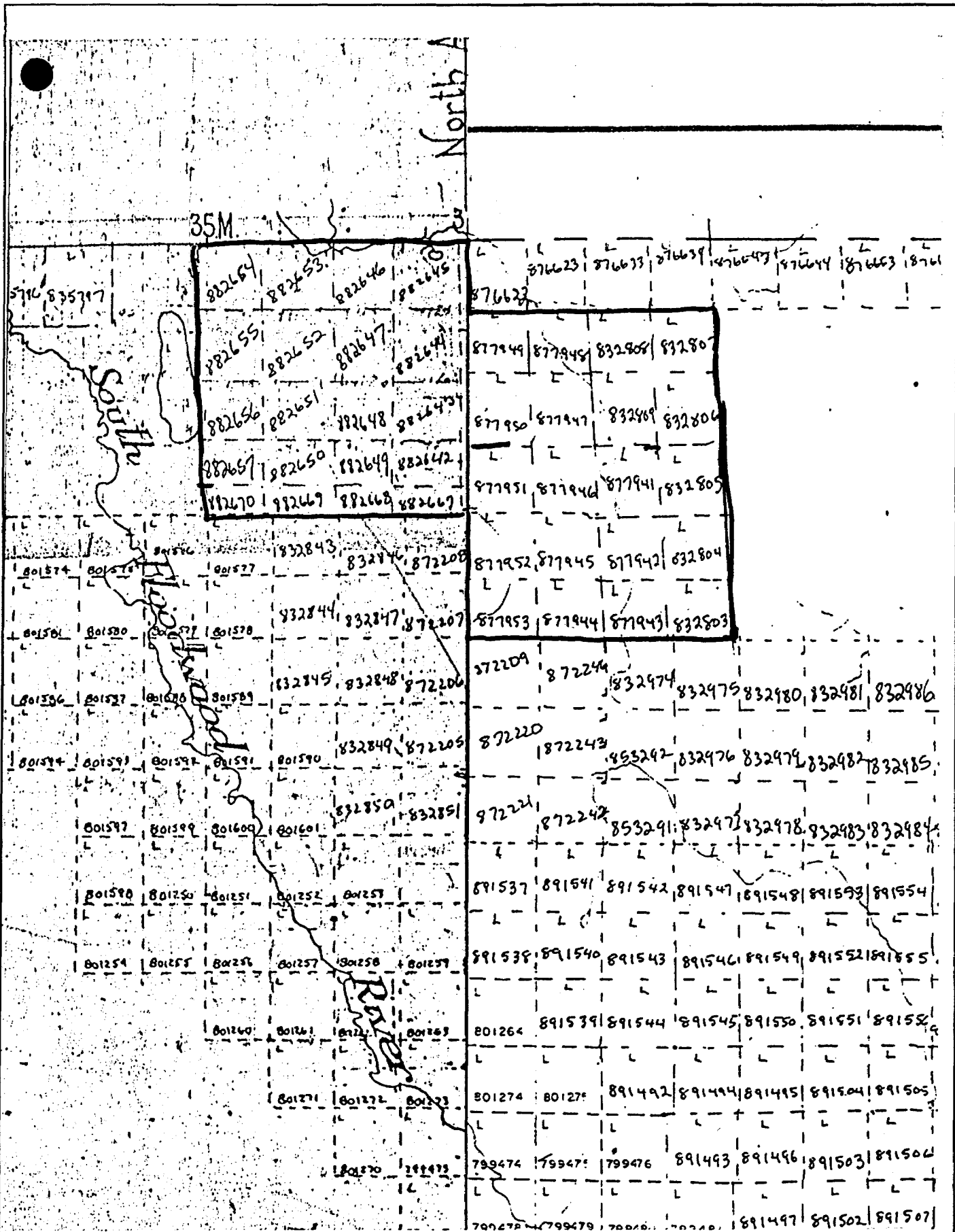


FIGURE 2. Claim Location Map
(exact locations not certified)



2. Map 2410: Twopeak Lake. scale 1:31,680. O.G.S. 1978

There are no mapped outcrops within the survey area; the geology is extrapolated from adjacent outcrops. The western half of the claim block is thought to be underlain by mafic metavolcanics. The eastern half is underlain by a tongue of felsic intrusives surrounded by clastic metasediments. Iron formations, pyrrhotite, pyrite and chalcopyrite occur in both the metasediments and metavolcanics. North trending diabase dykes cut through the region.

This geology is not entirely consistent with the regional aeromagnetic maps which indicate an east-west trending, strong anomaly that extends across the entire northern part of the survey area.

4. SURVEY SPECIFICATIONS

4.1 Instruments

The survey was carried out using a Cessna 182 aircraft, registration C-FAKK, which carries a magnetometer and a VLF electromagnetic detector.

The magnetometer is a proton precession type based on the Overhauser effect. The Overhauser effect allows for polarization of a proton rich liquid of the sensor by adding a "free radical" to it and irradiating it by RF magnetic field. Strong precession signals are generated with modest RF power. The sensor element is mounted in an extension of the right wing tip. It's specifications are as follows:

Resolution:	0.5 gamma
Accuracy:	0.5 gamma
Cycle time:	0.5 second
Range:	20,000 - 100,000 gammas in 23 overlapping steps
Gradient tolerance:	Up to 5000 gammas per metre
Model:	GSM-9BA
Manufacturer:	GEM Systems Inc., 105 Scarsdale Rd., Don Mills, Ontario, M3B 2R5

The VLF-EM unit uses three orthogonal detector coils to measure (a) the total field strength of the time-varying EM field and (b) the phase relationship between the vertical coil and both the "along line" coil (LINE) and the "cross-line" coil (ORTHO). The LINE coil is tuned to a transmitter station that is ideally positioned at right angles to the flight lines, while the ORTHO coil transmitter should be in line with the flight lines. It's specifications are:

Accuracy:	1%
Reading interval:	1/2 second
Model:	TOTEM 2A
Manufacturer:	Herz Industries, Toronto

The VLF sensor is mounted in the left wing tip extension.

Other instruments are:

- . King KRA-10A Radar altimeter
- . UDAS-100 data processor with Digidata nine track tape recorder, manufactured by Urtec Ltd., Markham, Ontario.
- . Geocam video camera and recorder for flight path recovery, manufactured by Geotech Ltd., Markham, Ontario.

4.2 Lines and Data

- a) Line spacing: 200 metres
- b) Line direction: 360 & 090 degrees
- c) Terrain clearance: 100 metres
- d) Average ground speed: 156 km/hr.
- e) Data point interval:
 - Magnetic: 27 metres
 - VLF-EM: 27 metres
- f) Tie Line interval: not applicable in bidirectional survey
- g) Channel 1 (LINE):
 - E-W Grid: NAA Cutler, 24.0 kHz
 - N-S Grid: NLK Seattle, 24.8 kHz
- h) Channel 2 (ORTHO):
 - E-W Grid: NLK Seattle, 24.8 kHz
 - N-S Grid: NSS Annapolis. 21.4 kHz
- i) Line km over total survey area including overrun: 105 line km
- j) Line km over claim groups: Magnetic survey totals.... 83 line km
VLF-EM survey totals..... 83 line km

4.3 Tolerances

- a) Line spacing: Any gaps wider than twice the line spacing and longer than 10 times the line spacing were filled in by a new line.
- b) Terrain clearance: Portions of line which were flown above 125 metres for more than one km were reflown if safety considerations were acceptable.
- c) Diurnal magnetic variation: Less than twenty gammas deviation from a smooth background over a period of two minutes or less as seen on the base station analogue record.
- d) Manoeuvre noise: Approximately +/-5 gammas.

4.4 Photomosaics

For navigating the aircraft and recovering the flight path, mosaics of aerial photographs were made from existing air photos.

5. DATA PROCESSING

Flight path recovery was carried out in the field using a video tape viewer to observe the flight path as recorded by the Geocam video camera system. The flight path recovery was completed daily to enable reflights to be selected where needed for the following day.

The magnetic data was levelled in the standard manner by tying survey lines to the tie lines. The IGRF has not been removed. The total field was contoured by computer using a program provided by Dataplotting Services Inc. To do this the final levelled data set is gridded at a grid cell spacing of 1/10th of an inch at map scale.

The vertical magnetic gradient is computed from the total field data using a method of transforming the data set into the frequency domain, applying a transfer function to calculate the gradient, and then transforming back into the spatial domain. The method is described by a number of authors including Grant, 1972 and Spector, 1968. The computer program for this purpose is provided by Paterson, Grant and Watson Ltd. of Toronto

The VLF data was treated automatically so as to normalize the non conductive background areas to 100 (total field strength) and zero (quadrature). The algorithms to do this were developed by Terraquest and will be provided to anyone interested by application to the company.

All of these dataprocessing calculations and map contouring were carried out by Dataplotting Services Inc. of Toronto.

INTERPRETATION

6.1 General Approach

To satisfy the purpose of the survey as stated in the introduction, the interpretation procedure was carried out on both the magnetic and VLF data. On a local scale the magnetic gradient contour patterns were used to outline geological units which have different

Grant, F.S. and Spector A., 1970: Statistical Models for Interpreting Aeromagnetic Data; Geophysics, Vol 35

Grant, F.S., 1972: Review of Data Processing and Interpretation Methods in Gravity and Magnetics; Geophysics Vol 37-4

Spector, A., 1968: Spectral Analysis of Aeromagnetic maps; unpublished thesis; University of Toronto



magnetic intensity and patterns or "signatures". Where possible these are related to existing geology to provide a geological identity to the units. On a regional scale the total field contour patterns were used in the same way.

Faults and shear zones are interpreted mainly from lateral displacements of otherwise linear magnetic anomalies but also from long narrow "lows". The direction of regional faulting in the general area is taken into account when selecting faults. Folding is usually seen as curved regional patterns. Alteration zones can show up as anomalously quiet areas, often adjacent to strong, circular anomalies that represent intrusives. Magnetic anomalies that are caused by iron deposits of ore quality are usually obvious owing to their high amplitude, often in tens of thousands of gammas.

VLF anomalies are categorized according to whether the phase response is normal, reverse, or no phase at all. The significance of the differing phase responses is not completely understood although in general reverse phase indicates either overburden as the source or a conductor with considerable depth extent, or both. Normal phase response is theoretically caused by surface conductors with limited depth extent.

Areas showing a smooth response somewhat above background (ie. 110 or so) are likely caused by overburden which is thick enough and conductive enough to saturate at these frequencies. In this case no response from bedrock is seen.

The VLF-EM conductor axes have been identified and evaluated according to the Terraquest classification system (Figure 4). This system correlates the nature and orientation of the conductor axes with stratigraphic, structural and topographic features to obtain an association from which one or more origins may be selected. Alternate associations are indicated in parentheses.

6.2 Interpretation

The magnetic and VLF-EM data are shown in contoured format on maps in the back pocket. A first pass interpretation map is also provided. The following notes are intended to supplement these maps.

The total magnetic field has a relief of approximately 415 gammas and shows the general trend of the lithology. It is consistent with the regional aeromagnetic survey but shows considerably more detail. The vertical magnetic gradient provides further resolution of minor stratigraphic trends and dykes.

The weakest magnetic responses to the southeast are interpreted to represent the felsic intrusives (Unit 4). It is difficult to determine

FIGURE 4

TERRAQUEST CLASSIFICATION OF VLF-EM CONDUCTOR AXES

<u>SYMBOL</u>	<u>CORRELATION</u>	<u>ASSOCIATION: Possible Origins</u>
a , A	Coincident with magnetic stratigraphy	Bedrock magnetic horizons: stratabound mineralogic origin or shear zone
b , B	Parallel to magnetic stratigraphy	Bedrock non-magnetic horizons: stratabound mineralogic origin or shear zone
c , C	No correlation with magnetic stratigraphy	Association not known: possible small scale stratabound mineralogic origin, fault or shear zone, overburden
d , D	Coincident with magnetic dyke	Dyke or possible fault: mineralogic or electrolytic
f , F	Coincident with topographic lineament or parallel to fault system	Fault zone: mineralogic or electrolytic
ob , OB	Contours of total field response conform to topographic depression	Most likely overburden: clayey sediments, swampy mud
cul , CUL	Coincident with cultural sources	Electrical, pipe or railway lines

NOTES

- 1 - Upper case symbols denote a relatively strong total field strength
- 2 - Underlined symbols denote a relatively strong quadrature response
- 3 - Mineralogic origins include sulphides, graphite, and in fault zones, gouge
- 4 - Electrolytic origins imply conductivity related to porosity or high moisture content

the contacts of weakly magnetic units. However, the lack of a definite fold nose suggests that this intrusive may be a conformable feature rather than a structural fold.

The strongest magnetic responses are interpreted to be iron formation. These may be broad lean iron formations or narrow, strongly magnetic horizons, possibly as multiple horizons. The responses from strongly magnetic rocks generally overwhelm the magnetic fields from adjacent lithologies, hence the magnetically interpreted widths of iron formations are often exaggerated.

Alternatively these strongly magnetic horizons may represent alteration zones associated with the felsic intrusive. These may occur at or beyond the intrusive contact and are often characterized by alteration of nonmagnetic iron minerals to their magnetic forms. Such a model is hypothetical at this stage and would require ground verification.

The intermediate to low magnetic responses are interpreted to represent the clastic metasediments (Unit 2). This is a subjective interpretation as they occur next to and are overwhelmed by the iron formations. Horizons of higher magnetic activity (Unit 2m) may be related to increased concentrations of pyrrhotite or magnetite, or possibly to mafic volcanic intercalations.

The moderate to strong magnetic responses to the north are interpreted to be mafic metavolcanics (Unit 1). The more magnetic areas (Unit 1m) probably represent more mafic metavolcanics or mafic intrusives, or possibly horizons with increased concentrations of pyrrhotite or magnetite.

The crosscutting moderate to strong anomaly to the east is interpreted to be a diabase dyke (Unit 5). It does not appear to cut the felsic intrusives.

Magnetically interpreted faults trend to the north northwest parallel to the diabase dyke.

The VLF-EM responses are weak to moderate and in general possess poor definition. The lack of good responses may be related to masking by conductive overburden.

The north trending conductor axes have been interpreted as faults, suggesting that there may be more faulting than detected by magnetic methods. Conductivity in faults may be related to (a) mineralogical sources such as gouge, graphite or sulphides, or to (b) ionic sources such as porosity within the fault or clay in a topographic depression over the fault. Faults identified by magnetic or VLF-EM methods may provide the primary structural for epithermal mineralization.

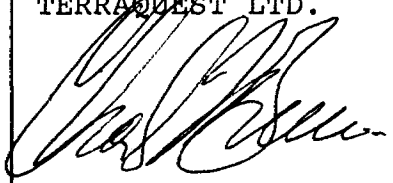
Several weak conductor axes coincide with or parallel the magnetic stratigraphy. These possess potential for stratabound, mineralogic sources and should be followed up on the ground using EM or IP techniques.

7. SUMMARY

An airborne combined magnetic and VLF-EM survey has been done on the property at line intervals of 200 metres in two directions. The total field and vertical gradient magnetic data, VLF-EM data and interpretation maps are produced at a scale of 1:10,000.

The magnetic data has been used to modify and update the existing geology and has shown a number of new contacts and faults. A number of VLF-EM conductor axes were found of which some are believed to have potential sulphide origins and have been recommended for additional investigation.

TERRAQUEST LTD.



Charles Q. Barrie, M.Sc.
Geologist

2nd 28305



547/86
Mining Act



Type of Survey: **Air Mag & VLF-EM**

Claim Holder(s): **George Harkin** K19712

Address: **c/o Casau Exploration Ltd., 1458 Rupert St., North Vancouver, B.C. V7J 1G1**

Survey Company: **Terraquest Ltd.** Date of Survey (from & to): **15 12 86** to **15 12 86** Total Miles of line Cut: **.**

Name and Address of Author (of Geo-Technical report): **Charles Q. Barrie, M.Sc. 905-121 Richmond St. W., Toronto, Ontario M5H 2K1**

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
For each additional survey: using the same grid: Enter 20 days (for each)	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete report to be submitted within 10 business days of completion of field work.	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	40
	Magnetometer	40
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	882642				
	882643				
	882644				
	882645				
	882646				
	882647				
	882648				
	882649				
	882650				
	882651				
	882652				
	882653				
	882654				
	882655				
	882656				
	882657				
	882667				
	882668				
	882669				
	882670				

Expenditures (excludes power stripping)

Type of Work Performed: **RECEIVED**

Performed on Claim(s): **JAN - 7 1987**

Calculation of Expenditure: **MINING LANDS SECTION**

Total Expenditures: \$ + 15 = Total Days Credits

Total number of mining claims covered by this report of work. **20**

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: **1600** Date Recorded: **DEC 18 1986** Mining Recorder: **M.A. Giermeir**

Date Approved as Reported: **87.3.19** Mining Director: **[Signature]**

Recorded Holder's Agent (Signature): **[Signature]** Date: **Dec 16/86**

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: **C. Q. BARRIE, TERRAQUEST LTD, 905-121 RICHMOND STREET WEST, TORONTO, ONTARIO M5H 2K1**

Date Certified: **Dec 16/86** Certified (Signature): **[Signature]**

548186
29849

Type of Survey: **Airborne Mag & VLF-EM** Township or Area: **Newman**

Claim Holder(s): **Earnest Sicard** Prospector's Licence No.: **M19643**

Address: **c/o Casau Exploration Ltd., 1458 Rupert St., North Vancouver, B.C. V7J 1G1**

Survey Company: **Terraquest Ltd.** Date of Survey (from & to): **15 12 86** Total Miles of line Cut: **15 12 86**

Name and Address of Author (of Geo-Technical report): **Charles Q. Barrie, M.Sc. 905-121 Richmond St. W., Toronto, Ontario M5H 2K1**

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
For each additional survey: using the same grid: Enter 20 days (for each)	- Other	
	Geological	
	Geochemical	

Man Days	Geophysical	Days per Claim
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>RECEIVED DEC 18 1986 10:35am</p> </div> <p>Complete reverse side and enter totals here</p>	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	

Airborne Credits	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	
Electromagnetic	40
Magnetometer	40
Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	832803				
	832804				
	832805				
	832806				
	832807				
	832808				
	832809				
	877941				
	877942				
	877943				
	877944				
	877945				
	877946				
	877947				
	877948				
	877949				
	877950				
	877951				
	877952				
	877953				

Expenditures (excludes power and shipping)

Type of Work Performed: **JAN - 7 1987**

Performed on Claim(s): **MINING LANDS SECTION**

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.

Date: **Dec 16/86** Recorder, Holder or Agent (Signature): *[Signature]*

For Office Use Only

Total Days Cr. Recorded: **1600** Date Recorded: **DEC 18 1986** Mining Recorder: *[Signature]*

Date Approved as Recorded: **87.3.19** Inspector: *[Signature]*

Total number of mining claims covered by this report of work: **20**

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: **P. Q. BARRIE, TERRAQUEST LTD, 905-121 RICHMOND STREET WEST TORONTO, ONTARIO M5H 2K1**

Date Certified: **Dec 16/86** Certified by (Signature): *[Signature]*



Ministry of
Northern Development
and Mines

Order of
the Minister

2-9849

Room 6610, Whitney Block
Queen's Park
Toronto, Ontario
M7A 1W3
416/965-4888
mar
18

Mining Act

In the matter of mining claims:

L 832803, et al,
in the Township
of Newman as listed
on Report of Work
No. 548.

On consideration of an application from the recorded holder, Earnest Sicard
under Section 77 Subsection 22 of the Mining Act, I hereby order that the time for filing reports and plans in support of
Airborne Geophysical (Electromagnetic & Magnetometer) assessment work recorded on December 18, 19 86
be extended until and including March 18, 19 87.

1987 02 11
Date

J. Q. Sherman
Signature of Director, Land Management Branch

Copies:

Earnest Sicard
c/o Casau Exploration Ltd
1458 Rupert Street
North Vancouver, B.C.
V7J 1G1

Terraquest Ltd
Suite 905
121 Richmond Street West
Toronto, Ontario
M5H 2K1
Attention: Charles Q. Barrie

Mining Recorder
Kirkland Lake, Ontario

AB



Ministry of
Northern Development
and Mines

Order of
the Minister

29849

Room 8810, Whitney Block
Queen's Park
Toronto, Ontario
M7A 1W3
416/965-4888
mar
18

Mining Act

In the matter of mining claims:

L 882642, et al,
in the Township
of Bragg as listed
on Report of Work No.547.

On consideration of an application from the recorded holder, George Harkin
under Section 77 Subsection 22 of the Mining Act, I hereby order that the time for filing reports and plans in support of
Airborne Geophysical (Magnetometer & Electromagnetic) Assessment work recorded on December 18, 1986
be extended until and including March 18, 1987.

1987 02 11

Date

J. J. Sherman

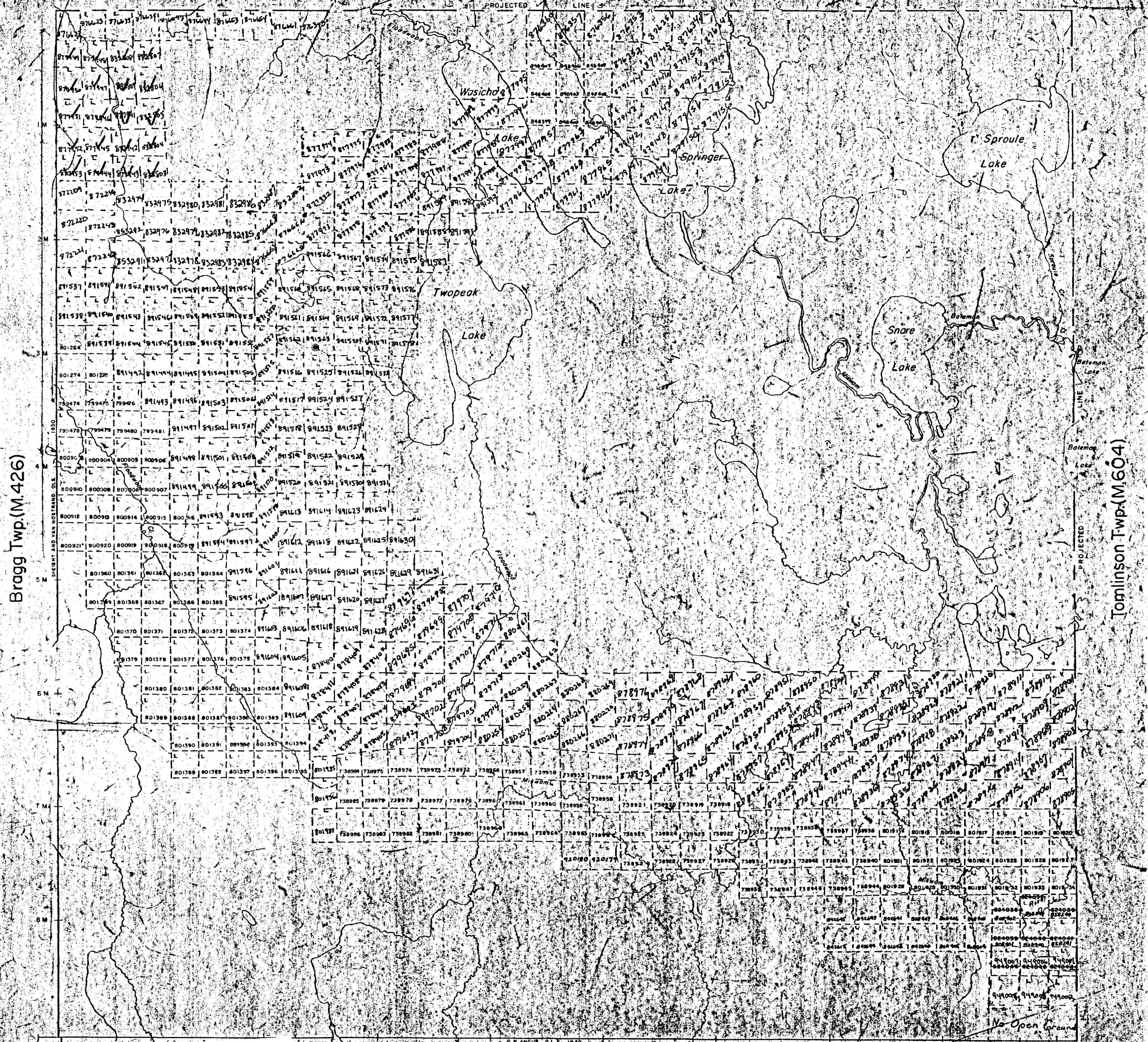
Signature of Director, Land Management Branch

Copies: George Harkin
c/o Casau Exploration Ltd
1458 Rupert Street
North Vancouver, B.C.
V7J 1G1

Terraquest Ltd
Suite 905
121 Richmond Street West
Toronto, Ontario
M5H 2K1
Attention: Charles Q. Barrie

Mining Recorder
Kirkland Lake, Ontario

Blakelock Twp (M.419)



THE TOWNSHIP OF
NEWMAN

DISTRICT OF
COCHRANE

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

- PATENTED LAND ⊕
- CROWN LAND SALE CS
- LEASES ⊙
- LOCATED LAND Loc
- LICENSE OF OCCUPATION L.O.
- MINING RIGHTS ONLY M.R.O.
- SURFACE RIGHTS ONLY S.R.O.
- ROADS —
- IMPROVED ROADS —
- KING'S HIGHWAYS —
- RAILWAYS —
- POWER LINES —
- MARSH OR MUSKEG —
- MINES CANCELLED —

NOTES

400' Surface Rights Reservation Around All Lakes & Rivers.

AREAS WITHDRAWN FROM DISPOSITION

S.R. - SURFACE RIGHTS M.R. - MINING RIGHTS

Description Order No. Date Distribution

DEC 11 1986

PLAN NO. M.556

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

Bragg Twp. (M.426)

Tomlinson Twp. (M.604)

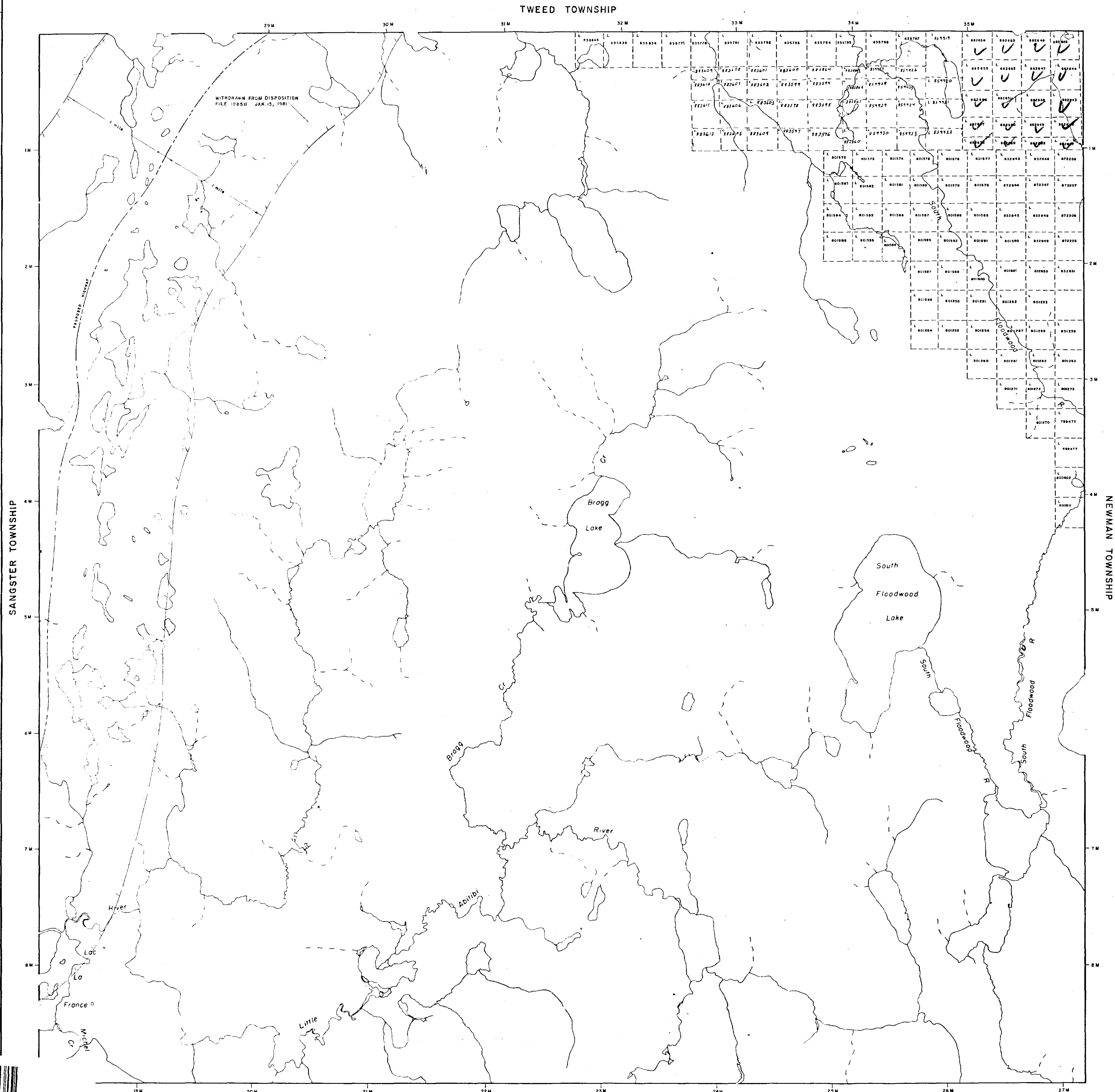
Sequin Twp. (M.587)



AREAS WITHDRAWN FROM DISPOSITION

M.R.O. - MINING RIGHTS ONLY
 S.R.D. - SURFACE RIGHTS ONLY
 M.S. - MINING AND SURFACE RIGHTS

Description Order No. Date Disposition File



WITHDRAWN FROM DISPOSITION
 FILE 188511 JAN. 15, 1981

LEGEND

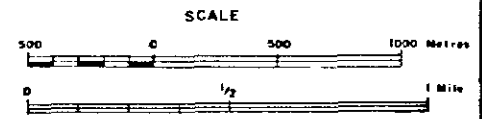
- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES
- TOWNSHIPS, BASE LINES, ETC.
- LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES
- LOT LINES
- PARCEL BOUNDARY
- MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

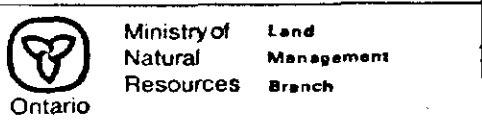
TYPE OF DOCUMENT	SYMBOL
PATENT SURFACE & MINING RIGHTS	
SURFACE RIGHTS ONLY	
MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	
SURFACE RIGHTS ONLY	
MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
ORDER IN COUNCIL	
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 8, 1912, SET OUT IN ORIGINAL PATENTS BY THE PUBLIC LANDS ACT, R.S.O. 1910, CHAP. 180, SEC. 63, SUBSEC. 1.

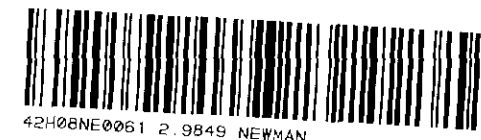
OCT 31 1986



TOWNSHIP
BRAGG
 M.N.M. ADMINISTRATIVE DISTRICT
COCHRANE
 MINING DIVISION
LARDER LAKE
 LAND TITLES / REGISTRY DIVISION
COCHRANE



Date OCTOBER 1986 Number **G-3480**

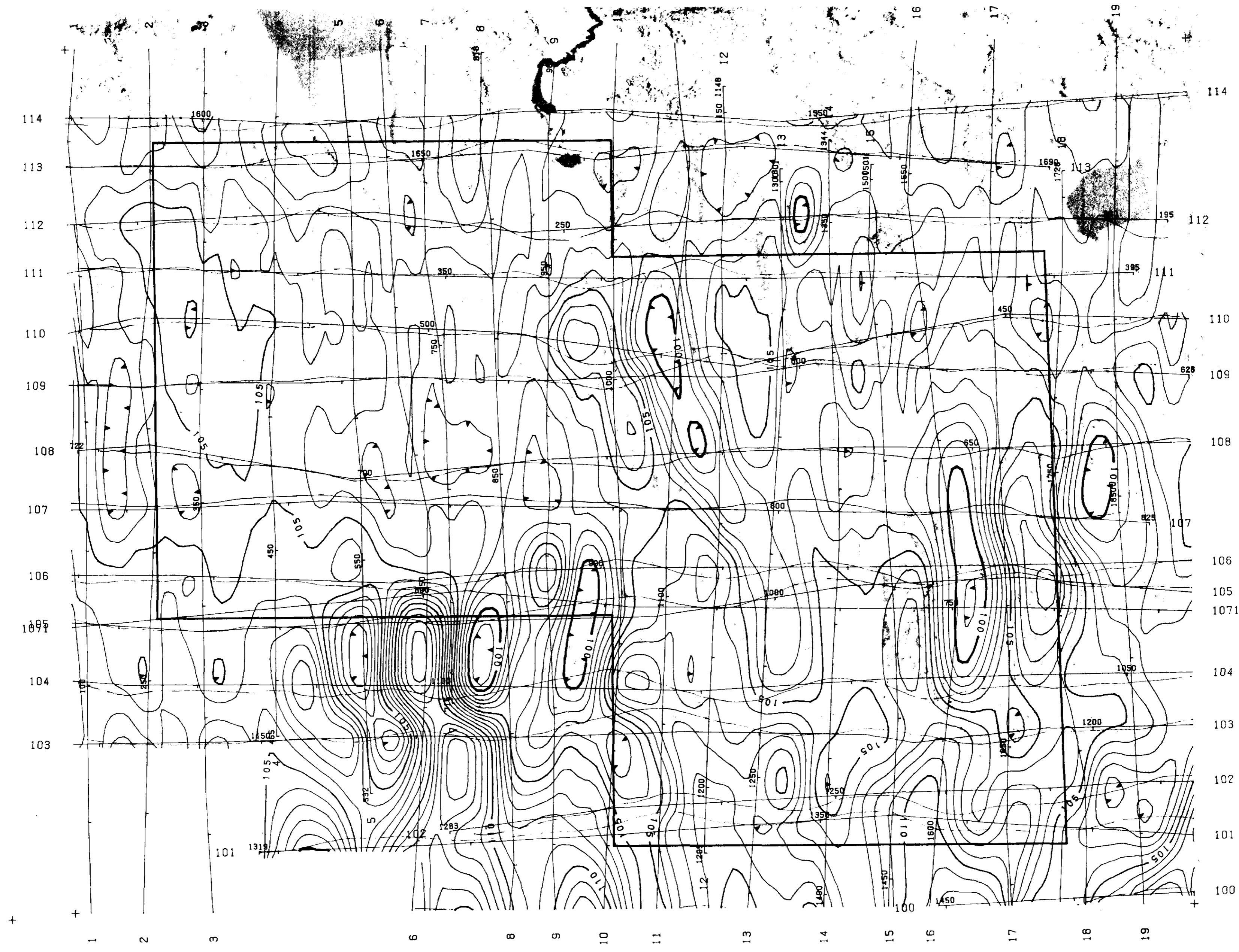


Revised "Oct 28/86"

TERRAQUEST
MAP 100



220



VLF Transmitter
NAA Cutler, 24.0 kHz
Azimuth 114

LEGEND

Terrain Clearance 100 meters
Line Spacing 100 meters

TOTAL FIELD STRENGTH (Contours)
50%
10%
2%

QUADRATURE (Profiles)
Normal Slope Reverse Slope

-10% +10% -10% +10%

CASAU EXPLORATION LTD.

AIRBORNE VLF-EM SURVEY
CONTOURS OF TOTAL FIELD STRENGTH
PROFILES OF QUADRATURE

BRAGG & NEWMAN TOWNSHIPS
ONTARIO

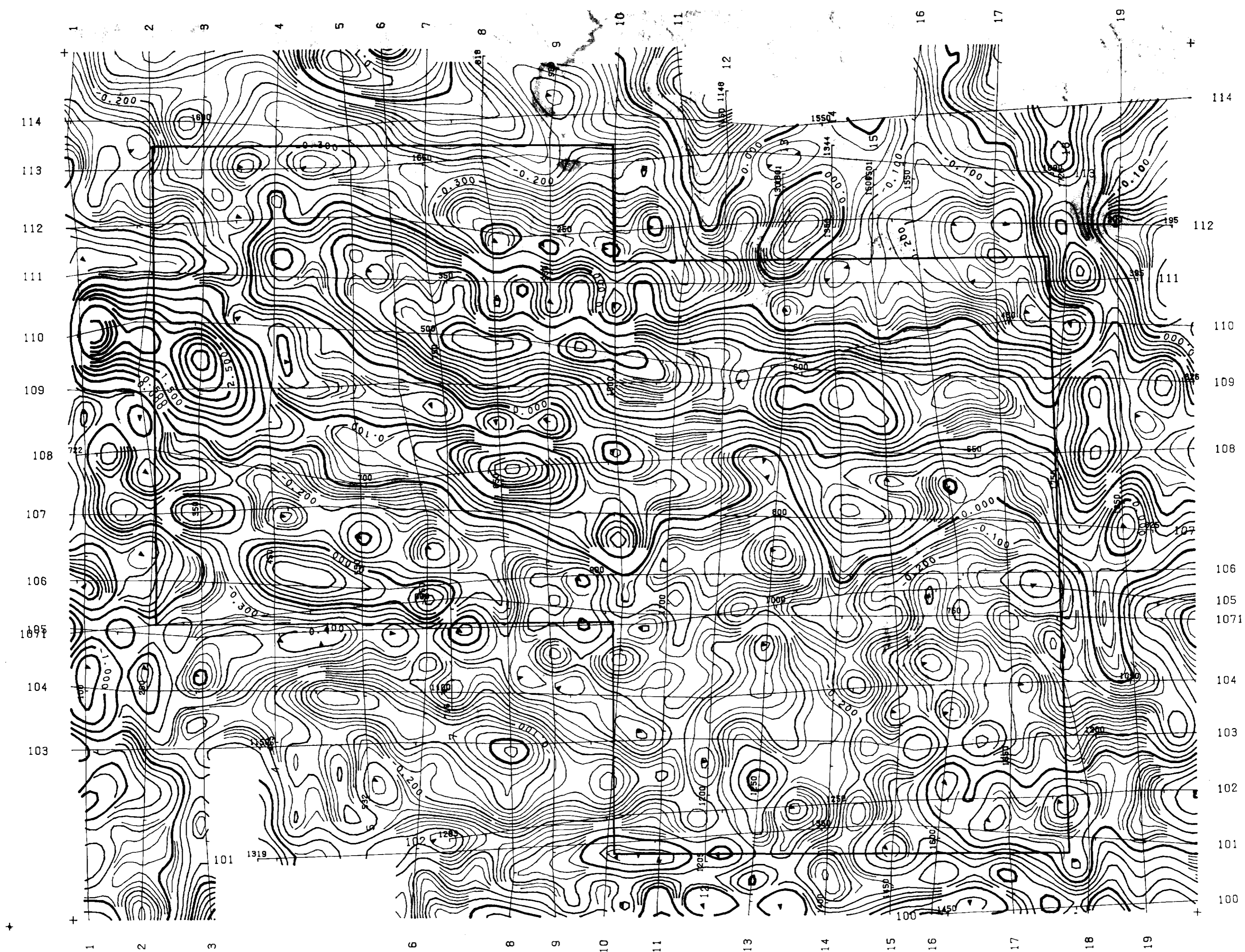
N.T.S. NO	42H/8	DRAWING NO.	A-653-3
SCALE	1:10,000	DATE	February 1987

TERRAQUEST LTD.
TORONTO, CANADA

21811 MB

TERRAQUEST
MAP 100

MAPNO=0



LEGEND

Terrain Clearance 100 meters
Line Spacing 100 meters

VERTICAL MAGNETIC GRADIENT

2.500 gammas/meter
.500 gammas/meter
.100 gammas/meter
.025 gammas/meter

CASAU EXPLORATION LTD.

AIRBORNE MAGNETIC SURVEY
VERTICAL MAGNETIC GRADIENT
Calculated From Total Field

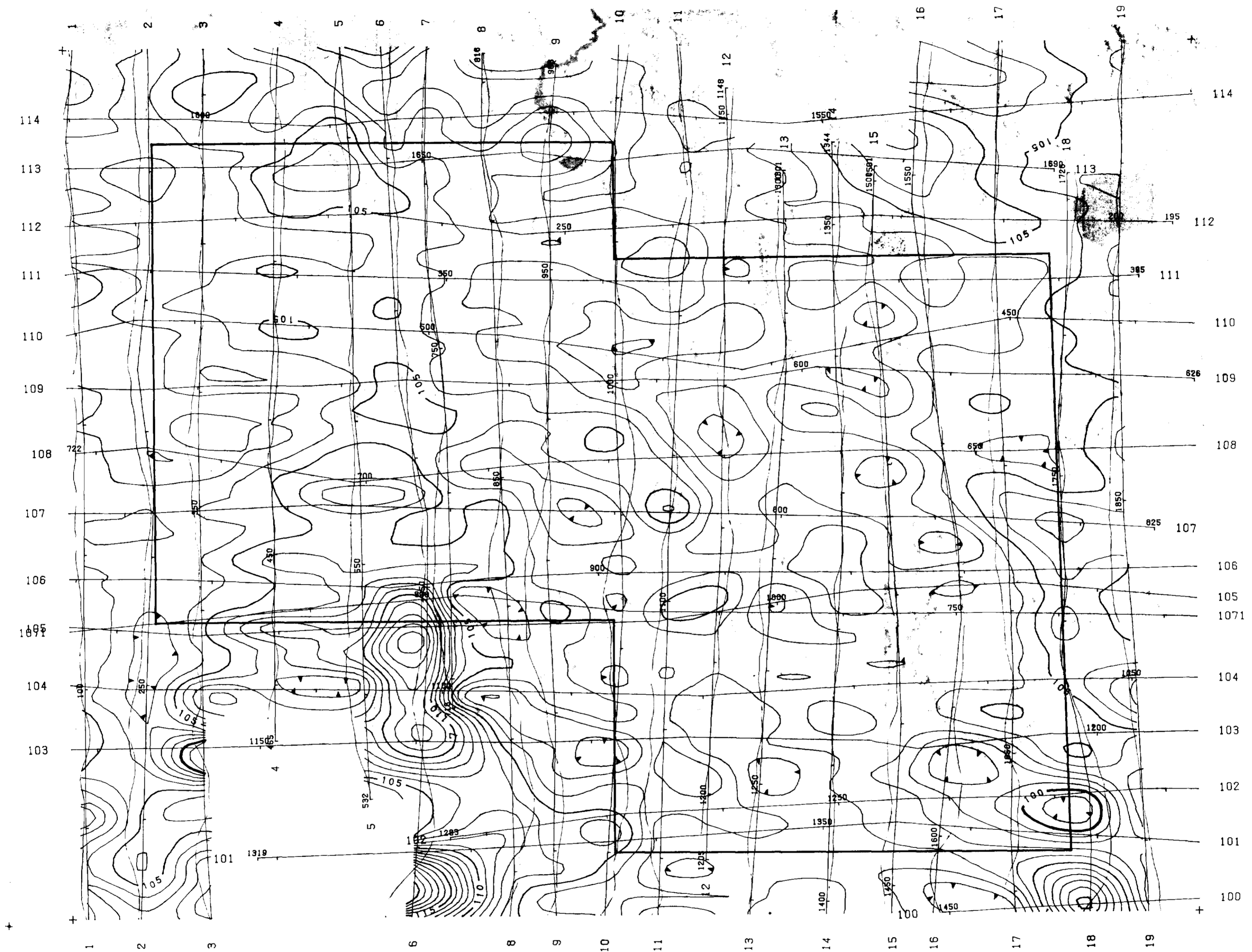
BRAGG & NEWMAN TOWNSHIPS
ONTARIO

N.T.S. NO	42H/8	DRAWING NO	A-653-2
SCALE:	1:10,000	DATE:	February 1987

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TORONTO, CANADA



TERRAQUEST
MAP 100
MAPND=0



VLF Transmitter
NLK Seattle, 24.8 kHz
Azimuth 284

LEGEND

Terrain Clearance 100 meters
Line Spacing 100 meters

TOTAL FIELD STRENGTH (Contours)
50%
10%
2%

QUADRATURE (Profiles)
Normal Slope Reverse Slope

-10% +10% -10% +10%

CASAU EXPLORATION LTD.

AIRBORNE VLF-EM SURVEY
CONTOURS OF TOTAL FIELD STRENGTH
PROFILES OF QUADRATURE

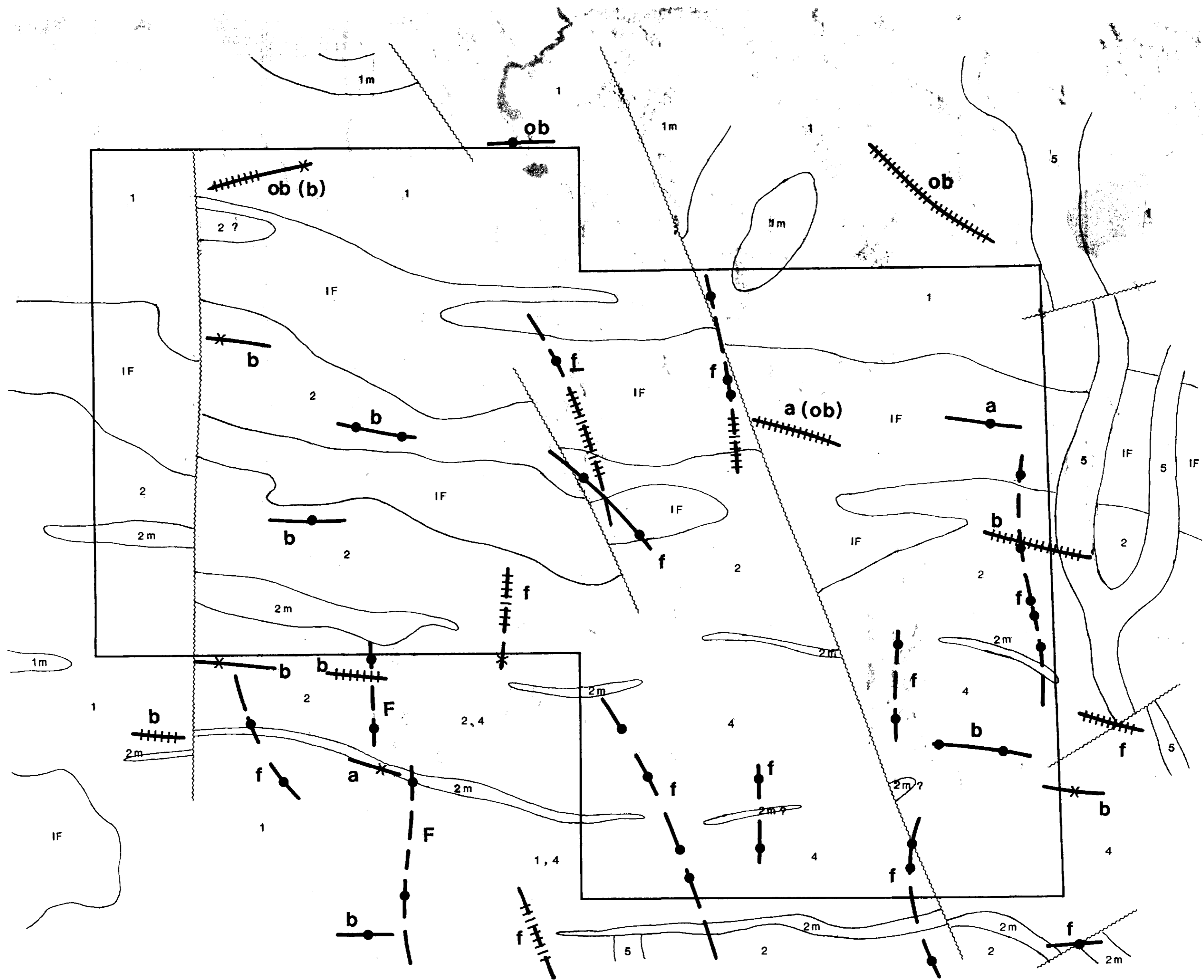
BRAGG & NEWMAN TOWNSHIPS
ONTARIO

N.T.S. NO	42H/8	DRAWING NO.	A-653-4
SCALE:	1:10,000	DATE:	February 1987

TERRAQUEST LTD.
TORONTO, CANADA



4PH0BAE0051 2,9849 NEWKAN



LITHOLOGY

- 5 Diabase Dyke
- 4 Felsic Intrusives
- 2m Magnetic unit within 2.
- 2 Clastic Metasediments
- 1m Magnetic unit within 1.
- 1 Mafic Metavolcanics
- IF Iron Formation

LEGEND

Terrain Clearance 100 meters
 Line Spacing 100 meters

INTERPRETATION

- Contact
- ~ Fault
- - - Property Boundary
- VLF-EM Conductor Axes**
- normal quadrature
- x—x— reverse quadrature
- +++++ total field only
- NLK Seattle, 24.8 kHz
- NAA Cutler, 24.0 kHz

See text for classification of VLF-EM conductor axes

CASAU EXPLORATION LTD.

INTERPRETATION

BRAGG & NEWMAN TOWNSHIPS
 ONTARIO

N.T.S. NO. 42H/6 DRAWING NO. A-653-5

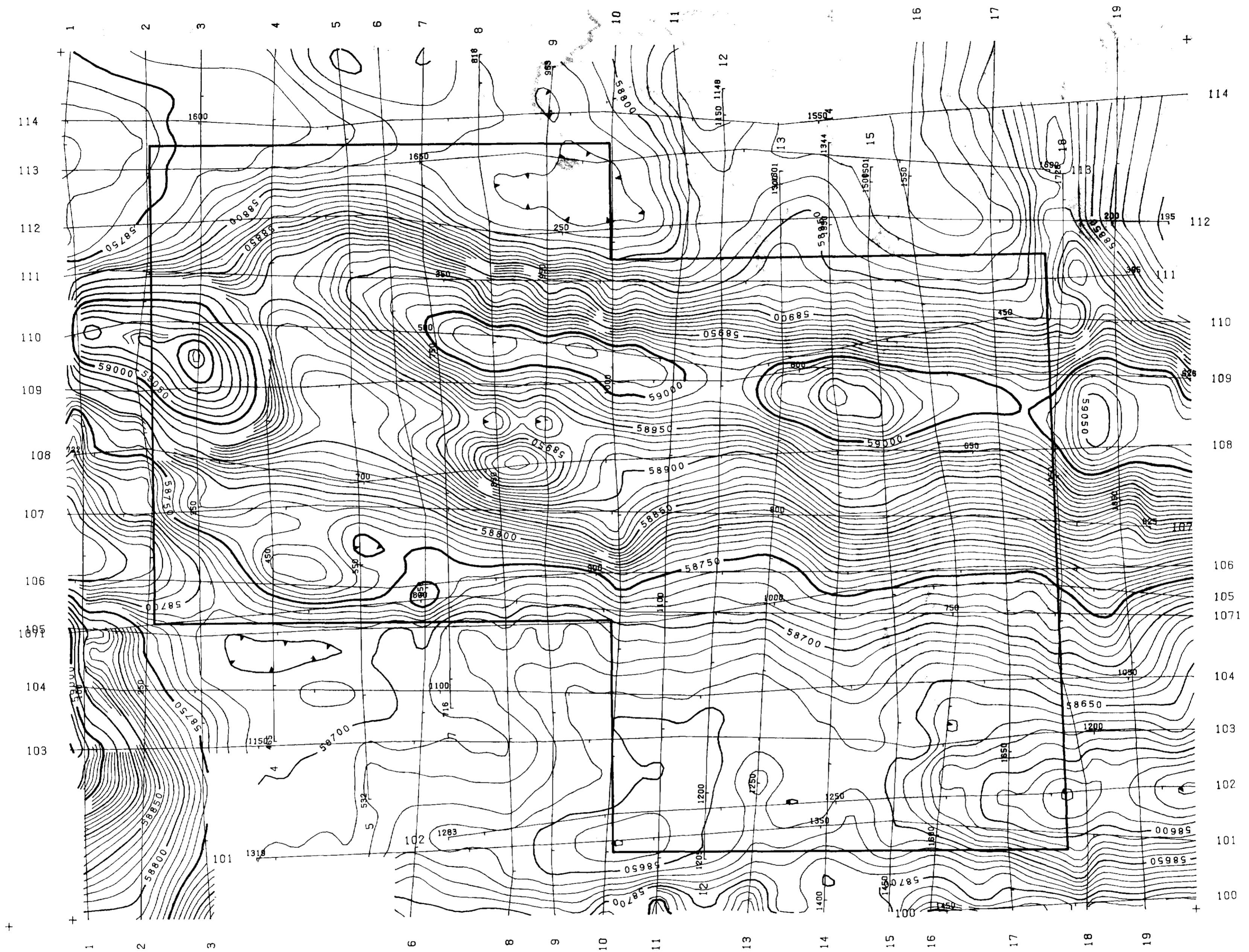
SCALE: 1:10,000 DATE: February 1987

TERRAQUEST LTD. 
 TORONTO, CANADA

NLK Seattle, 24.8 kHz
 Azimuth 284
 VLF Transmitter
 NAA Cutler, 24.0 kHz



TERRAQUEST
MAP 100
MAPND=0



LEGEND

Terrain Clearance 100 meters
Line Spacing 100 meters

TOTAL MAGNETIC FIELD

1000 gammas
250 gammas
50 gammas
10 gammas

CASAU EXPLORATION LTD.

AIRBORNE MAGNETIC SURVEY TOTAL MAGNETIC FIELD

BRAGG & NEWMAN TOWNSHIPS
ONTARIO

N.T.S. NO. 42H/8 DRAWING NO. A-653-1
SCALE: 1:10,000 DATE: February 1987

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TORONTO, CANADA

