010

REPORT ON THE GEOPHYSICAL SURVEYS ON THE GHOST RIVER PROPERTY GARRISON AND HARKER TOWNSHIPS FOR GRANDAD RESOURCES LTD.

NTS 32D/5, 12

DERRY, MICHENER, BOOTH & WAHL

R. W. Woolham, P.Eng.
Geophysicist

REF.: 84-55

Toronto, Canada
December 10, 1984

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LIST OF MAPS

MAP NO.		SCALE
84-55-1	Magnetometer Survey, West Sheet	1:2500
84-55-2	Magnetometer Survey, East Sheet	1:2500
84-55-3	VLF Electromagnetic Survey, West Sheet	1:2500
84-55-4	VLF Electromagnetic Survey, East Sheet	1:2500
84-55-5	VLF Fraser Filter Contours, West Sheet	1:2500
84-55-6	VLF Fraser Filter Contours, East Sheet	1:2500
84-55-7	Interpretation Compilation Map	1:5000
84-55-8	Claim and Grid Map	1:5000

SUMMARY

Magnetic and VLF electromagnetic surveys, consisting of approximately 80 line km each, have been completed on the Grandad Resources Ltd. Ghost River property. The surveys were designed to identify prospective auriferous interflow sediment/tuff horizons, which sometimes occur associated with a magnetic/non-magnetic basalt flow contact zone.

Two such horizons were indicated in a very general way by the magnetic results. A single obvious narrow contact zone was not indicated by the magnetic results. Two wide "transition" zones of possible interest were identified on the north side of magnetic zones A and B. The VLF electromagnetic results were inconclusive, reflecting many short east-west conductive trends subparallel to the magnetic strike that might be associated with conductive overburden. One long VLF conductor had a definite relationship to a contact zone, as indicated by the magnetic responses seen at the west end of Zone A, south side. Other more subtle conductors may be associated with bedrock sources.

Geochemical soil sampling of the prospective horizons has been completed as part of another phase of the exploration program. It is recommended that any anomalous areas from this survey be correlated with the magnetic interpretation compilation map. Structural and/or specific magnetic response characteristics may have corresponding anomalous geochemical halos. Prospective areas, where thick overburden cover precludes reliable soil geochemical results, could then be identified

for more definitive bedrock sediment sampling techniques. Further detailed geochemical, geophysical and geological surveys may also be warranted in prospective areas prior to the initiation of a drill program.

Respectfully submitted,

DERRY, MICHENER, BOOTH & WAHL

R. W. Woolham, P.Eng.
Geophysicist

INTRODUCTION

This report, prepared by Derry, Michener, Booth & Wahl, is an evaluation and interpretation of magnetometer and VLF electromagnetic surveys performed on the Ghost River property for Grandad Resources Ltd.

The surveys were carried out by R. Moore, a private contractor, during the period July 1st to August 15th. This work was under the supervision of F. Sharpley, who consulted with the author from time to time regarding survey implementation and specifications.

LOCATION AND ACCESS

The property is located 44 km east of Matheson, Ontario. Accessibility is via Highway 101 east from Matheson and south for a distance of 5 km from the highway along a logging road. A small portion of the west part of the claim block straddles the boundary of Garrison and Harker Townships, with the major part of the claims situated in the southwest quadrant of Harker Township. A location map is shown on the survey maps 84-55-1, 3 or 5.

PROPERTY

The property consists of 45 contiguous claims. They are numbered as follows:

Garrison Township: 9 claims

L737509 to L737517, inclusive

Harker Township: 36 claims

L737529 to L737548, inclusive

L738103 to L738112, inclusive

L738114 to L738119, inclusive

A claim map is shown on each of maps 84-55-1, 3 and 5.

HISTORY

In 1946, Northland Mines (1940) Limited carried out geological mapping and ground magnetometer surveys covering a portion of the present property. Their work involved investigations over a strike length of 13 km in Garrison and Harker Townships.

GEOLOGY AND MINERALIZATION

The property is predominately underlain by mafic metavolcanics consisting of andesite and basalt. An iron-rich mafic unit has been recognized and mapped as unit 6 on OGS Map P. 2434. A separate magnesium-rich unit is also designated on the geology map as unit 5. These strike generally 070° and have a dip of 80° south.

Narrow bands of auriferous interflow sediments and tuffs are sometimes intercalated with the metavolcanic flows. They are stratigraphically associated with the contact horizon between unit 5 to the north and unit 6 to the south. One, and possibly two, of these prospective contact zones are thought to cross the property. They are on the same stratigraphic horizon as the McDermott deposit located 10 km to the northeast in Holloway Township (OGS Map 1951-4).

There is no known mineralization on the property, although an old pit is noted in one outcrop. On the old Imperial Reserve Mines Ltd. property, located 3 km to the northeast, grab samples from pyritized sediments assayed 0.01 to 0.17 oz. of gold per ton (ODM Vol. LX, part VII, 1951).

SURVEY PARAMETERS AND PRESENTATION

Magnetometer Survey

A Scintrex Model MP-2 Proton magnetometer was used to measure the total magnetic field (see Instrument Specifications, Appendix I). Readings were taken every 12.5 m along the grid lines. Diurnal correction control was obtained by looping through pre-established base stations at intervals that did not exceed one and one half hours. Survey line separation was 100 m. A total of approximately 80 line km of magnetic data were obtained in this way.

The results were corrected for diurnal variations. A regional total field value of 57,000 nanotesla (nT) was subtracted from all readings. The resulting

values were plotted and contoured at an interval of 200 nT and are shown on maps 84-55-1 and 2 at a scale of 1:2500 (see maps in pocket).

VLF Electromagnetic Survey

The VLF EM survey utilized a Geonics EM-16 instrument to measure the secondary field components produced by the VLF transmitter station at Cutler Maine (NAA). Measurements of the in-phase and quadrature values were taken every 25 m along the survey lines. A total of approximately 80 line km of data were collected in this way.

The results were plotted in profile at a scale of 1:2500. A conductive response is indicated in a change of gradient from a positive to negative proceeding in the north direction, as shown on maps 84-55-3 and 4. The Fraser filter values were calculated for the in-phase profiles. The values were then plotted and contoured at a 20 unit interval. The results are presented on maps 84-55-5 and 6 also at a scale of 1:2500.

RESULTS

Magnetometer Survey (Maps 84-55-1 and 2)

The regional magnetic responses within the claim block are characterized by two major magnetic horizons, which strike almost east-west across the property (See compilation Map 84-55-7). They are designated as Zone "A" and Zone "B".

Zone "A", the southern horizon, occurs south of the 8 south tie line centered at about 1200 south. It is approximately 200 to 350 m wide. The horizon consists of narrow sinuous linear anomalies having average amplitudes ranging from 500 to 2,000 nT above a regional background of 58,800 nT. On the west side of the property, from line 12 E westwards, there are sharp anomaly gradients with significant amplitude changes sometimes occurring within one station interval along the line. On the east side of line 12E, however, anomaly peaks are much smoother and have broader flanks.

Throughout the whole horizon, identifiable anomaly trends are often interrupted or displaced. The south side of the horizon reduces in amplitude gradually, not reaching background levels until several hundreds of metres south of the main higher amplitude horizon boundary. Except for line 6E, background level magnetic values having few perturbations are present right to the south boundary of the south central claim block. On line 6E, values are elevated almost to the south end of the line. The north boundary of the magnetic horizon at 1200 south, Zone "A", is marked by a very abrupt change in magnetic response along most of its length going from anomalous to below background values within one or two station readings (12.5 to 25 metres). This lower amplitude region, which parallels the high magnetic zone, is about 100 to 300 nT below background. It is about 300 metres wide and generally straddles or is slightly south of the tie line. Within this lower level zone, there are several narrow, magnetically high lineaments having amplitudes of about 200 to 500 nT above background. These lineaments generally occur on the south half of the lower level zone close to the major magnetic horizon, described previously, and form a type of transition zone between the two magnetically distinctive high and low amplitude horizons.

The northern major magnetic horizon, zone "B", has similar regional magnetic amplitude characteristics to the southern horizon, with a sharp anomaly cutoff on the north side and a slowly reducing anomaly level on the south side. The zone partly covers the main base line area. Zone "B" is wider than zone "A," having a width of 400 to 600 metres. The anomaly characteristics are also slightly different. In the north central part of zone "B", a large, complex, very high amplitude series of semi-continuous localized anomalies are present. These anomalies are 3,000 nT above background and form a distinctive magnetic feature between lines 4 east and 10 east north of the base line.

North of zone "B", there is a low amplitude horizon 200 to 400 nT below background with a width of about 300 metres. On the west side, it is not immediately adjacent to the higher magnetic zone to the south, but is separated by a magnetically quiet area interspersed with a few local magnetic linears. On the east side, it is bounded to the south by the high amplitude magnetic complex mentioned previously. North of this low amplitude zone, the magnetic field slowly increases to average background levels until a third high amplitude horizon is encountered at the northwest corner of the claim group. This latter horizon is only partly covered by the survey grid.

VLF Electromagnetic Survey (Maps 84-55-3 and 4)

The conductive trends, interpreted from the maximum amplitude peak positions of the Fraser filter values, lacked any extensive continuity, except in the south-central part of the grid. Trends were generally terminated or displaced along a few hundred metres of strike direction, except for a major feature that will be

discussed later. Most of the trend directions are east-west paralleling the regional drainage directions and crosscutting the magnetic trends, which are oriented east-northeast. There appears to be very few conductive structural patterns associated with magnetic features that can be recognized. There is a preponderance of conductors in the central portion of the grid, which terminate rather abruptly east of line 14 east.

One exception to the EM/Mag relationships is the conductor at about 1350 south occurring from line 0 to line 10 east. This conductor very closely parallels the southern edge of the Zone "A" major magnetic horizon, described earlier in the magnetic survey section.

CONCLUSIONS

The magnetic and conductive trends, which define the major structures in the area, have been indicated on an interpretation compilation map at a scale of 1:5000 (Map 84-55-7). The boundaries which demarcate the magnetic domains, as described previously, have also been designated in addition to interpreted fold/fault breaks.

The two main high amplitude magnetic complexes, designated as zones A and B, are shown on the compilation map. They are no doubt the magnetic signature of the iron-rich mafic flow complexes mapped in the area as unit 6. Their magnetic signatures, consisting of sharp north boundaries and gradually sloping south flanks, are indicative of a south-dipping source. The less pronounced narrow magnetic linears just to the north of these zones, probably represent a "transition" zone

between the iron-rich and magnesium-rich mafic flows. Diabasic lavas have been mapped in the area just to the north of the south zone complex. Note that the broader contour patterns in the northern and eastern parts of the survey grid suggest that a deeper overburden cover is present in these regions. Overburden depths of a few metres to a few tens of metres are indicated by the magnetic responses.

The below background horizons, which occur on the north flanks of zones A and B, could be related to a combination of sources. A magnetic dyke, dipping to the south at 70 to 80°, will have a significant negative north flank. Figure 1 illustrates this effect. Near-surface, narrow magnetic bodies, within unit 6, tend to obliterate the regional response of unit 6. Careful inspection of the actual magnetic values in profile shows that Figure 1 could be considered to be a good representation of the average positive and negative components associated with the zone "A" and "B" horizons. At the same time, however, the width and characteristics of the low amplitude horizons, flanking zones A and B, suggest that non-magnetic sources could also be contributing to the effects seen. These ambiguities mean that it is not possible to accurately define the width or differentiate between non-magnetic basalt flow rocks and similarly non-magnetic interflow sediments that might be present. Two broad prospective horizons have been identified however, where interflow sediments may occur based on the geological model indicated earlier. This area occurs along the north boundaries of zones 1 and 2 as far north as the north boundaries of the transition zones.

The fold/fault breaks, shown on the map, are interpreted from the magnetic trend displacements and anomaly amplitude changes. In some instances, these breaks

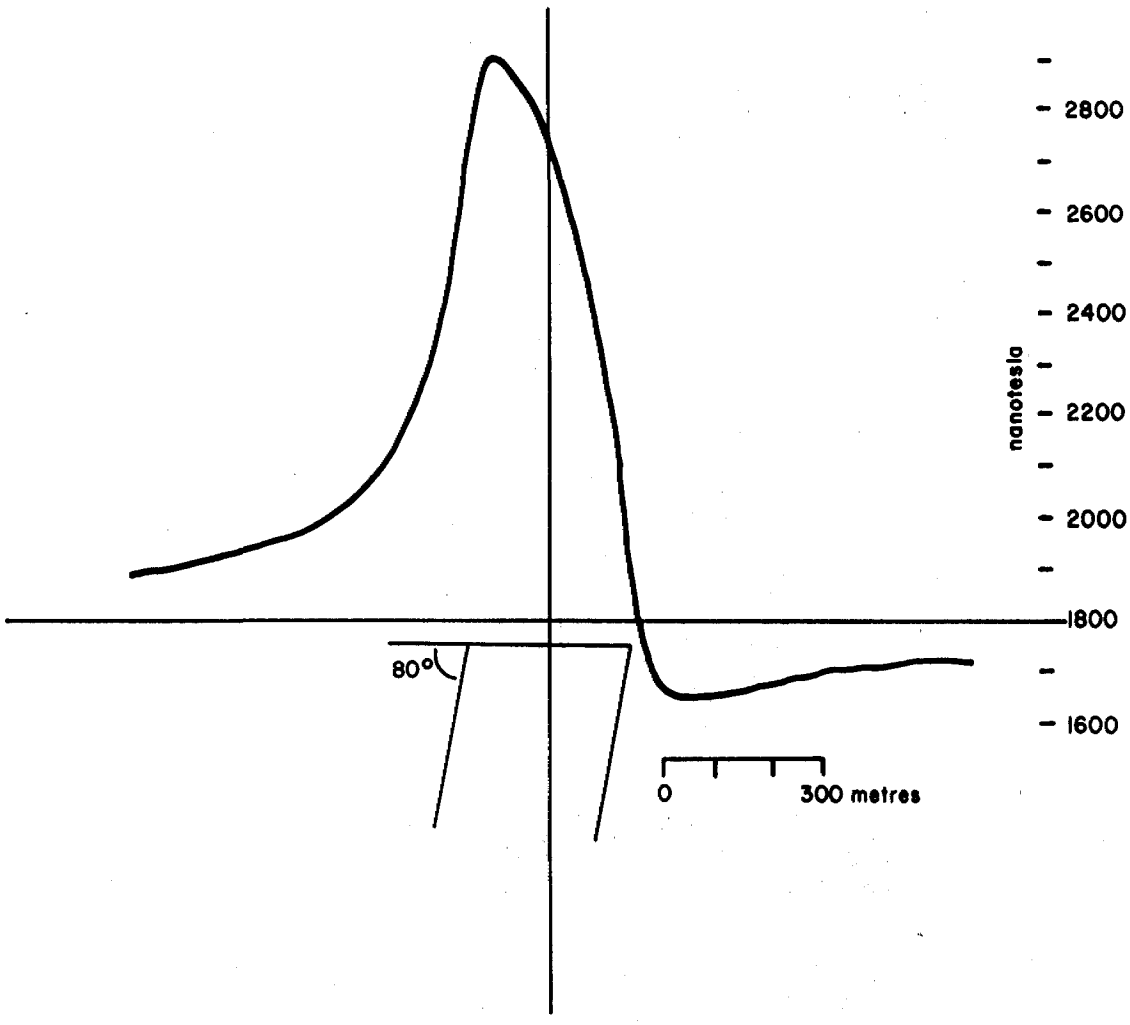

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FIGURE 1

MAGNETIC MODEL PROFILE FOR SOUTH DIPPING DYKE

300 metres wide

Section Looking West

may relate to folding and, in others, they may actually represent fault structures. The inherent nature of the magnetic method makes definite identification of the source of the structure difficult to determine. Also shown on the map are north and northwest-trending linears interpreted as diabase dyke sources. They are very difficult to recognize where they intersect magnetic complexes because they are parallel to the survey line direction. The dyke shown parallel to line 6E at its south end is a regional feature, which is shown on the OGS 1 in. = 4 mi. geological compilation map #2205.

RECOMMENDATIONS

The two potentially prospective horizons, demarcated by the magnetic/non-magnetic transition zone, are recommended for further investigation. Geochemical soil sampling has recently been completed along the horizons of interest indicated by the magnetics and geology. In the areas of deep overburden, which occur to the north and east of the property, bedrock sediment investigations using percussion-type sampling methods are suggested.

Anomalous areas of interest, if indicated, should be correlated with the structural magnetic interpretation compilation map. Some relationship between structure and/or magnetic response characteristics may be evident. This information could guide further exploration efforts consisting of detailed geochemical sampling, geophysical surveys and geological mapping followed by drilling.

CERTIFICATE OF QUALIFICATIONS

I, Roderick W. Woolham of the town of Pickering, Province of Ontario, do hereby certify;

(1) That I am a geophysicist and reside at 1463 Fieldlight Blvd., Pickering, Ontario, L1V 2S3.

(2) That I graduated from the University of Toronto in 1961 with a degree of Bachelor of Applied Science, Engineering Physics, Geophysics Option.

(3) That I am a member in good standing of the following organizations: The Association of Professional Engineers of the Province of Ontario (Mining Branch); Society of Exploration Geophysicists; South Africa Geophysical Association.

(4) That I have been practising my profession for a period of more than 20 years.

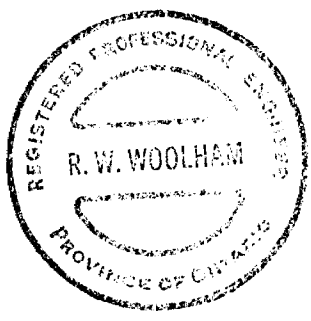
(5) That I am an Associate with Derry, Michener, Booth & Wahl, Consulting Geologists and Engineers.

(6) That I personally was involved with the technical supervision of the survey and wrote the report.

(7) That I have no direct or indirect interest or expect to receive any in the properties or securities of Grandad Resources Ltd. or any affiliate.

(8) Permission is given to use this report for assessment and/or qualification requirements.

R. W. Woolham
B.A.Sc., P.Eng.



Toronto, Canada
December 10, 1984

APPENDIX I

INSTRUMENT SPECIFICATIONS

EM16

VLF Electromagnetic Unit

Pioneered and patented exclusively by Geonics Limited, the VLF method of electromagnetic surveying has been proven to be a major advance in exploration geophysical instrumentation.

Since the beginning of 1965 a large number of mining companies have found the EM16 system to meet the need for a simple, light and effective exploration tool for mining geophysics.

The VLF method uses the military and time standard VLF transmissions as primary field. Only a receiver is then used to measure the secondary fields radiating from the local conductive targets. This allows a very light, one-man instrument to do the job. Because of the almost uniform primary field, good response from deeper targets is obtained.

The EM16 system provides the *in-phase* and *quadrature* components of the secondary field *with the polarities indicated.*

Interpretation technique has been highly developed particularly to differentiate deeper targets from the many surface indications.

Principle of Operation
The VLF transmitters have vertical antennas. The magnetic signal component is then horizontal and concentric around the transmitter location.

Specifications

Source of primary field	VLF transmitting stations.
Transmitting stations used	Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.
Operating frequency range	About 15-25 kHz.
Parameters measured	(1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid). (2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).
Method of reading	In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.
Scale range	In-phase ± 150%; quadrature ± 40%.
Readability	± 1%.
Reading time	10-40 seconds depending on signal strength.
Operating temperature range	—40 to 50° C.
Operating controls	ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature, dial ± 40%, inclinometer dial ± 150%.
Power Supply	6 size AA (penlight) alkaline cells. Life about 200 hours.
Dimensions	42 x 14 x 9 cm (16 x 5.5 x 3.5 in.)
Weight	1.6 kg (3.5 lbs.)
Instrument supplied with	Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional), set of batteries.
Shipping weight	4.5 kg (10 lbs.)

GEONICS LIMITED
Designers & manufacturers of geophysical instruments

subsidiary of
Deering Milliken Inc.

2 Thorncliffe Park Drive
Toronto/Ontario/Canada
M4H 1H2
Tel: (416) 425-1821
Cables: Geonic's

TECHNICAL DESCRIPTION OF MP-2 MAGNETOMETER

SCINTREX

RESOLUTION	1 Gamma.
TOTAL FIELD ACCURACY	± 1 Gamma over full operating range.
RANGE	20,000 to 100,000 gammas in 25 overlapping steps.
INTERNAL MEASURING PROGRAMME	Single reading — 3.7 seconds. Recycling feature permits automatic repetitive readings at 3.7 seconds intervals.
EXTERNAL TRIGGER	External trigger input permits use of sampling intervals longer than 3.7 seconds.
	5 digit LED (Light Emitting Diode) readout displaying total magnetic field in gammas or normalized battery voltage.
DATA OUTPUT	Multiplied precession frequency and gate time outputs for base-station recording using interfacing optionally available from Scintrex.
GRADIENT TOLERANCE	Up to 5000 gammas/metre.
POWER SOURCE	8 alkaline "D" cells provide up to 25,000 readings at 25° C under reasonable signal/noise conditions (less at lower temperatures). Premium carbon-zinc cells provide about 40% of this number.
SENSOR	Omnidirectional, shielded, noise-cancelling dual coil, optimized for high gradient tolerance.
HARNESS	Complete for operation with staff or back pack sensor.
OPERATING TEMPERATURE RANGE	−35°C to +60°C.
SIZE	Console, with batteries: 80 x 160 x 250mm. Sensor: 80 x 150mm. Staff: 30 x 1550mm. (extended) 30 x 600 mm. (collapsed)
WEIGHTS	Console, with batteries: 1.8kg. Sensor: 1.3kg. Staff: 0.6kg.

SCINTREX LIMITED
222 Snidercroft Road,
Concord, Ontario, Canada L4K 1B5
TELEPHONE (416) 669-2280. TELEX 06-964570

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APPENDIX II

TECHNICAL DATA STATEMENT

900

Mining Lands Section

File No 2.7608

Control Sheet

TYPE OF SURVEY ✓ GEOPHYSICAL

____ GEOLOGICAL

____ GEOCHEMICAL

____ EXPENDITURE

MINING LANDS COMMENTS:

Dany

Signature of Assessor

28/12/84

Date

LD

Ministry of Natural Resources
Ontario

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

Mining Act

2.7608

#539

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

(Cheque L737509)

Type of Survey(s)	Township or Area
VLF-EM, Magnetometer	Garrison, Harker

Claim Holder(s)	Prospector's Licence No.
Grandad Resources Limited	T-1685

Address: 185 Bay Street, Suite 709, Toronto, Ontario M5J 1K6

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
Ghost River Mining Company	11 6 84 (Day Mo. Yr.) 2 10 84 (Day Mo. Yr.)	65.53

Name and Address of Author (of Geo-Technical report)
R. Woolham, c/o Derry, Michener, Booth and Wahl, Suite 410, 20 Richmond St. E., Toronto, Ontario M5C 2R9

Credits Requested per Each Claim in Columns at right

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

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	

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

RECEIVED
DEC 20 1984
MINING LANDS SECTION

LABRET LAKE
RECEIVED
NOV 2, 1984
AM PM
7 8 9 10 11 12 1 2 3 4 5 6

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.

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	737509	60
	737510	60
	737511	60
	737512	60
	737513	60
	737514	60
	737515	60
	737516	60
	737517	60
	737529	60
	737530	60
	737531	60
	737532	60
	737533	60
	737534	60
	737535	60
	737536	60
	737537	60
	737538	60
	737539	60
	737540	60
	737541	60
	737542	60

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	737543	60
	737544	60
	737545	60
	737546	60
	737547	60
	737548	60
	738103	60
	738104	60
	738105	60
	738106	60
	738107	60
	738108	60
	738109	60
	738110	60
	738111	60
	738112	60
	738114	60
	738115	60
	738116	60
	738117	60
	738118	60
	738119	60

Total number of mining claims covered by this report of work. 45

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
2700	NOV 26 1984	
	Date Approved as Recorded 85.1.4	Branch Director

Date	Recorded Holder or Agent (Signature)
November 20/84	F Sharpley

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
F. J. Sharpley, 2372 Sinclair Circle, Burlington, Ontario L7P 3C3

Date Certified	Certified by (Signature)
November 20/84	F Sharpley

1362 (81/9)

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) Geophysical

Township or Area Harker and Garrison Townships

Claim Holder(s) Grandad Resources Limited

Survey Company R. Moore

Author of Report R. W. Woolham

Address of Author 20 Richmond St. E., Toronto

Covering Dates of Survey July 1 to August 15, 1984
(linecutting to office)

Total ~~Miles~~ of Line Cut 91.0 km

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: December 10/84 SIGNATURE: R. W. Woolham
Author of Report or Agent

Res. Geol. _____ Qualifications 63.1718

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

If space insufficient, attach list

(prefix)	(number)
L	737509
	to
	517
	737529
	to 548
	738103
	to 112
	738114
	to 119

TOTAL CLAIMS _____

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 Mag/6400 VLF/3200 Number of Readings Mag 6400/VLF6400

Station interval Mag 12.5 m/VLF 25 m Line spacing 100 m

Profile scale 1" = 30%

Contour interval 200 nT

MAGNETIC

Instrument Scintrex MP2 See appendix I

Accuracy – Scale constant

Diurnal correction method Base station looping from pre-established base station on base lines and tie lines

Base Station check-in interval (hours) 1.5 to 2.0 hours

Base Station location and value N.A.

ELECTROMAGNETIC

Instrument Geonics EM 16 See Appendix I

Coil configuration

Coil separation

Accuracy

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

Frequency 24.0 K Hz NAA, Cutler Maine
(specify V.L.F. station)

Parameters measured In-phase and quadrature field

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 _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

GRANDAD RESOURCES LIMITED
SUITE 709, 185 BAY STREET
TORONTO ONTARIO
M5J 1K6

December 15,1984

Land Management Branch
Mining Lands Section
Ministry of Natural Resources
Rm 6610, Whitney Block
Queen's Park
Toronto, Ontario
M7A 1W3

Re: Assessment Work
45 Claims - Garrison & Harker Township
Larder Lake Mining Division

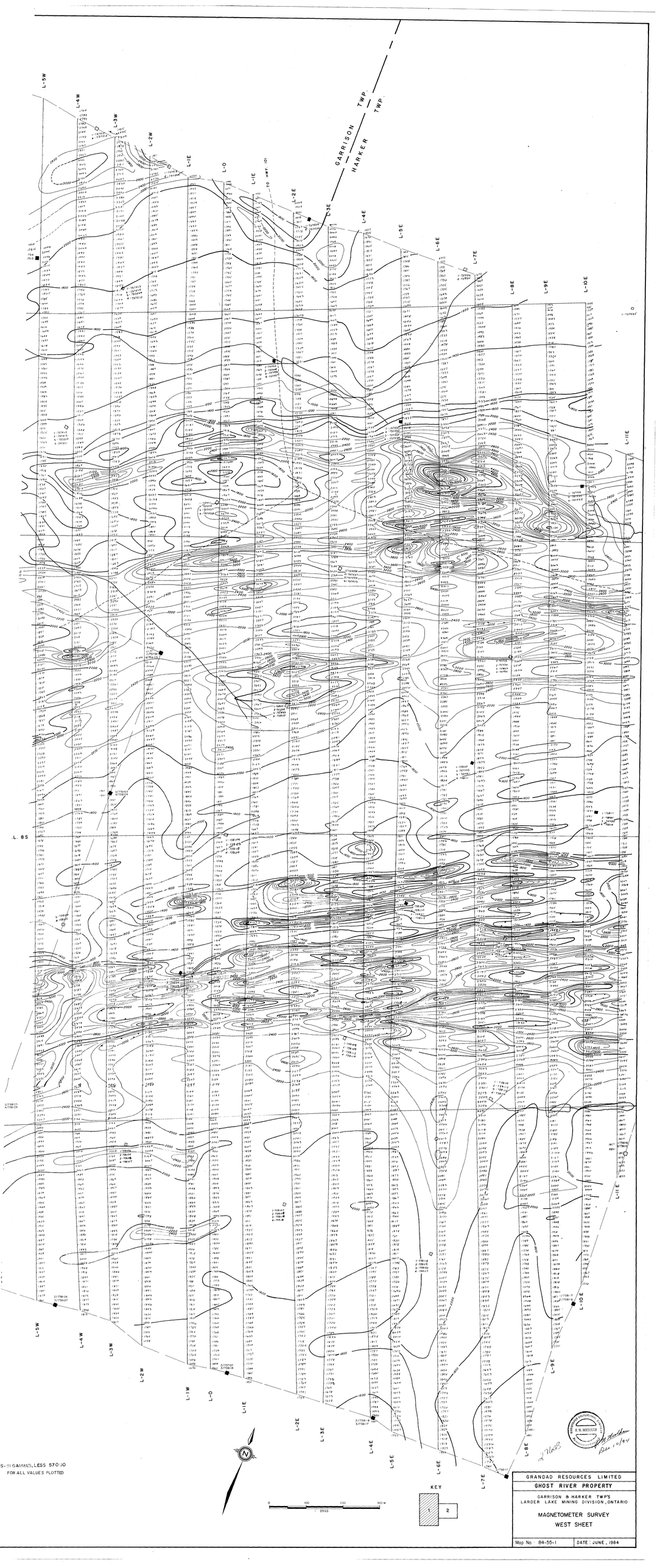
Gentlemen:

Enclosed are two copies of a Technical Report by R. Woolham, geophysicist, covering geophysical surveys on the Ghost River property in Garrison & Harker Townships, Ontario which we are submitting for assessment work.

Yours truly,

Grandad Resources Limited

F.J. Sharpley



GRANDAD RESOURCES LIMITED

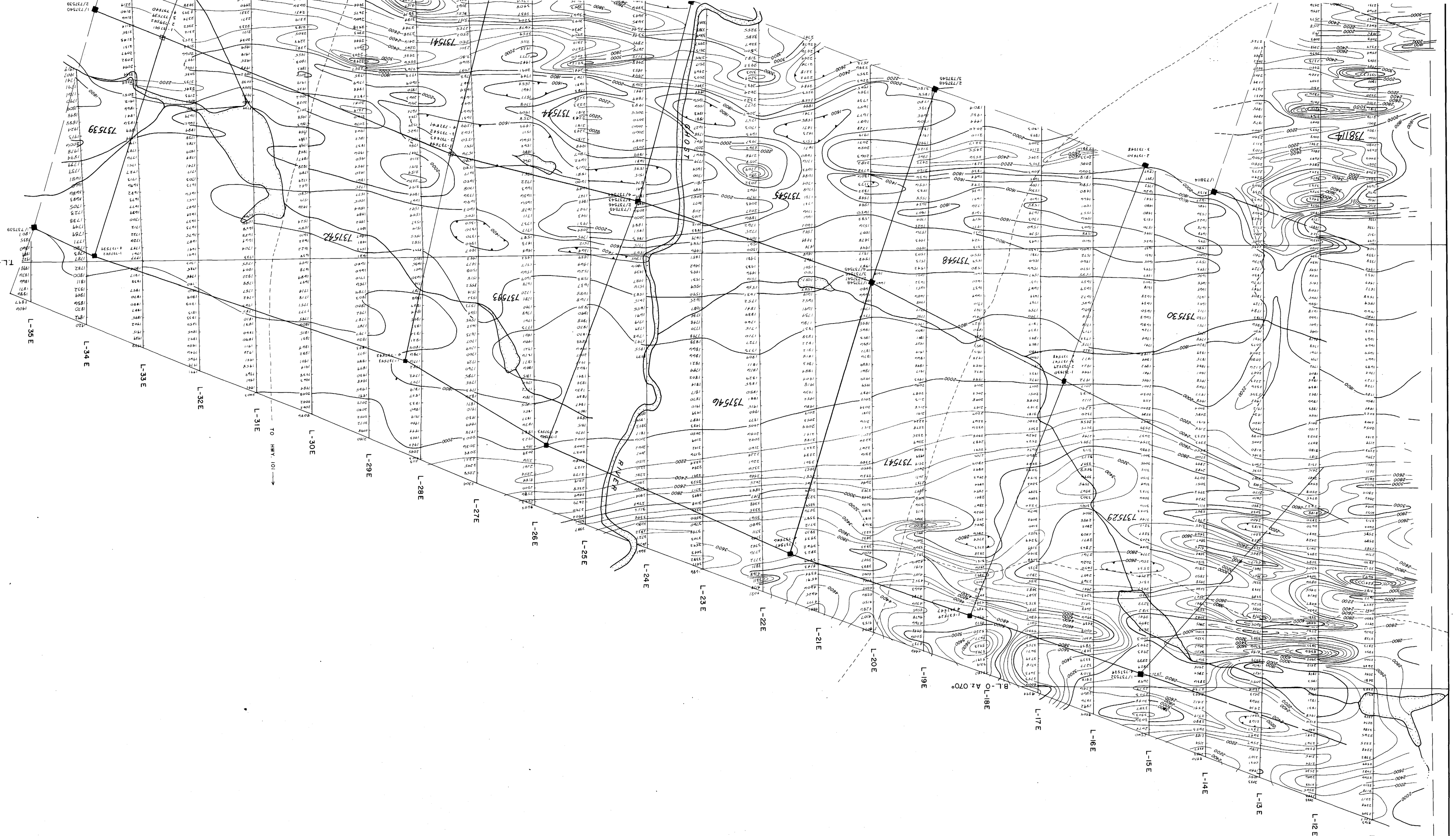
GHOST RIVER PROPERTY

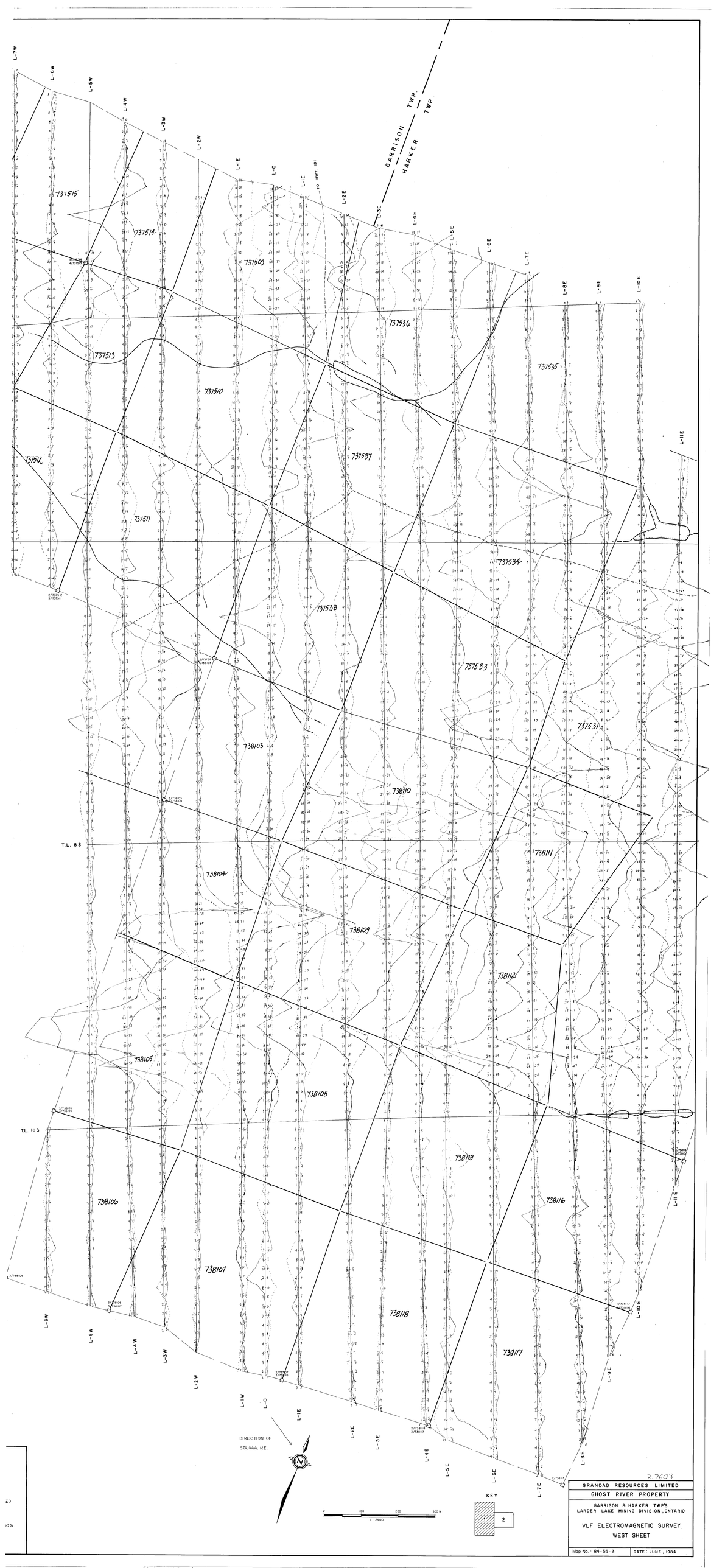
GARRISON & HARKER TWP'S
LARDER LAKE MINING DIVISION, ONTARIO

MAGNETOMETER SURVEY

WEST SHEET

Map No. 84-55-1 | DATE: JUNE, 1984


TL-8S
L-35E
L-34E
L-33E
L-32E
L-31E
L-30E
L-29E
L-28E
L-27E
L-26E
L-25E
L-24E
L-23E
L-22E
L-21E
L-20E
L-19E
L-18E
L-17E
L-16E
L-15E
L-14E
L-13E
L-12E
L-11E
TO HWY 101
RIVER
B.L.-0 Az. 070°
737539
737540
737541
737542
737543
737544
737545
737546
737547
737548
737549
737529
737530
738114



2.7603

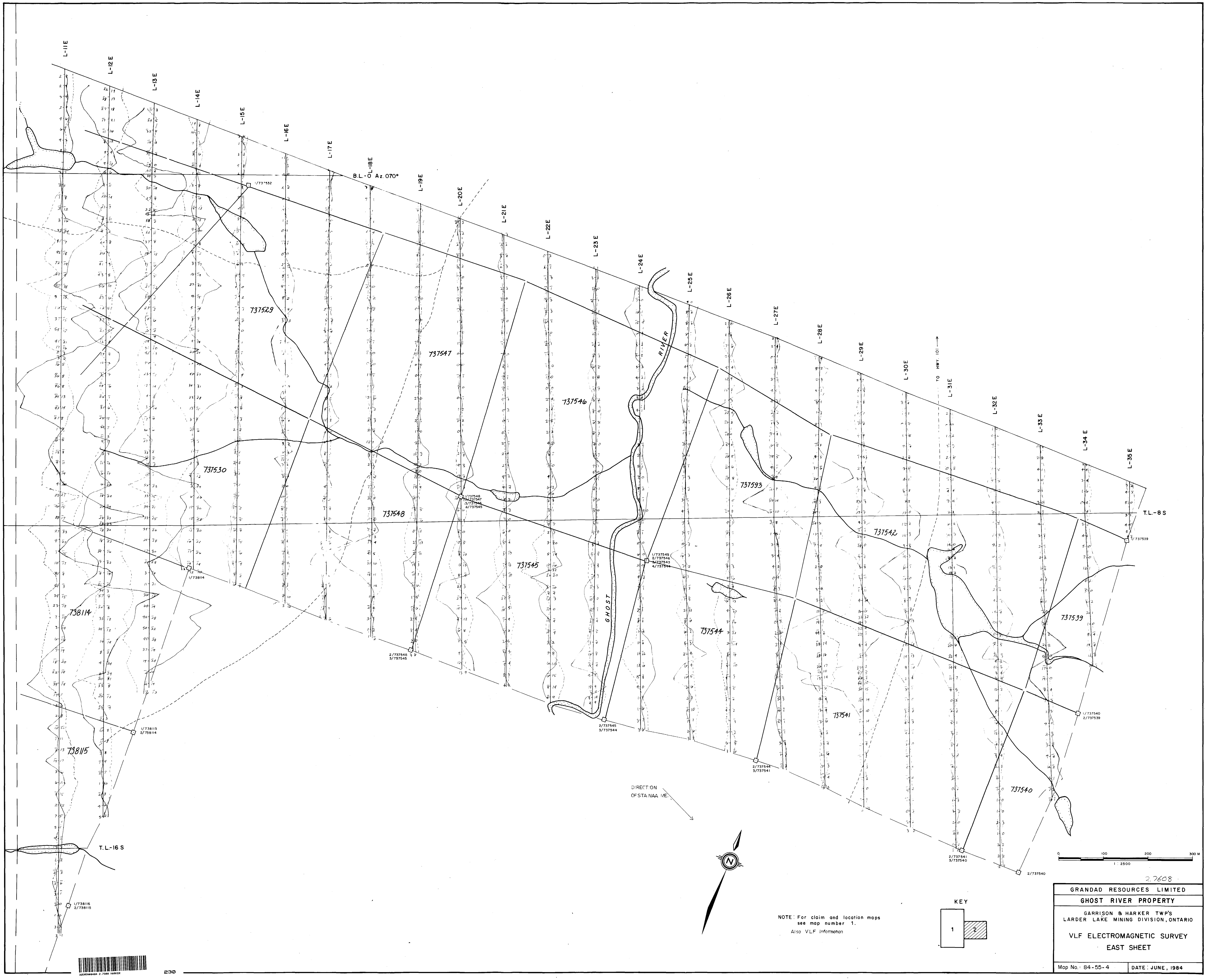
GRANDAD RESOURCES LIMITED

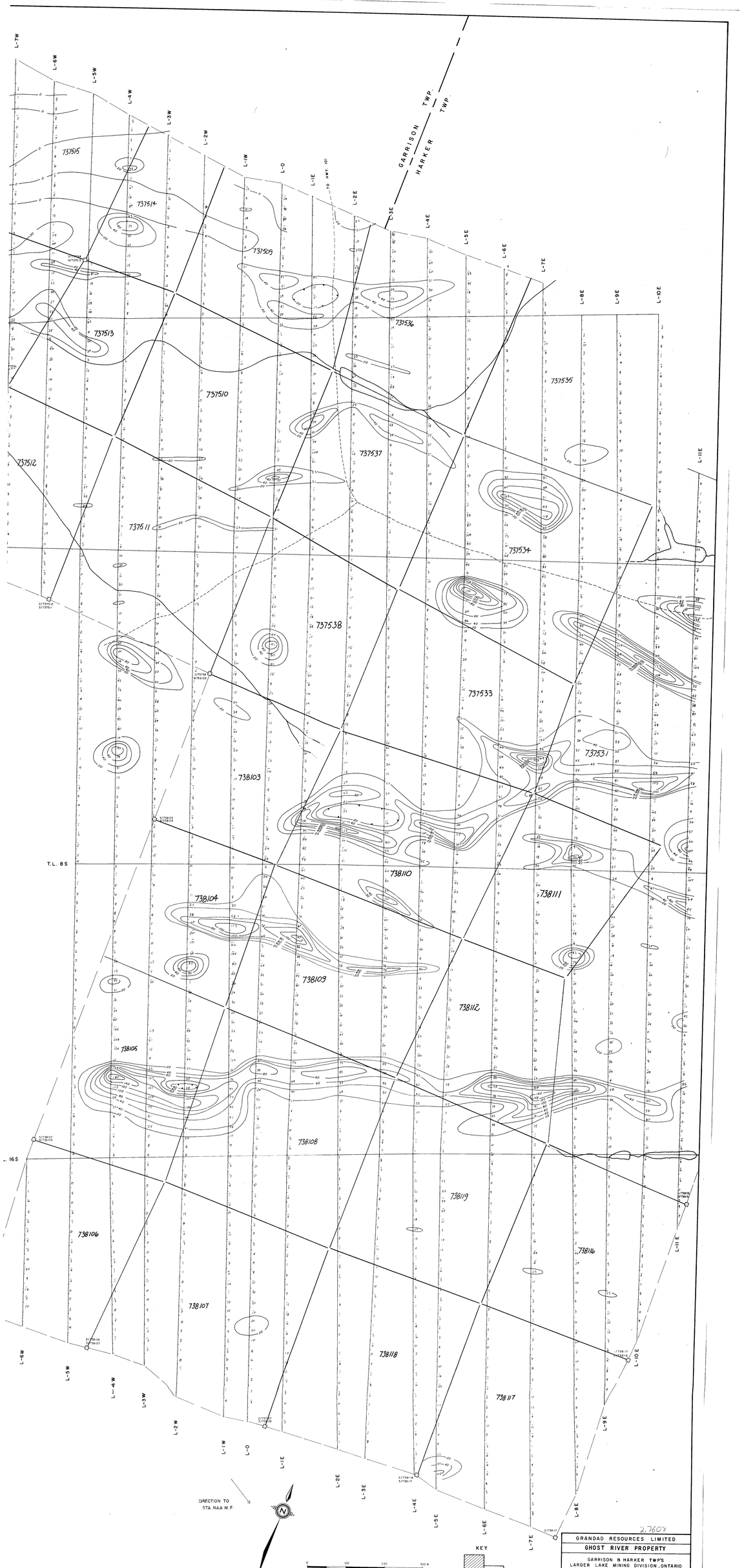
GHOST RIVER PROPERTY

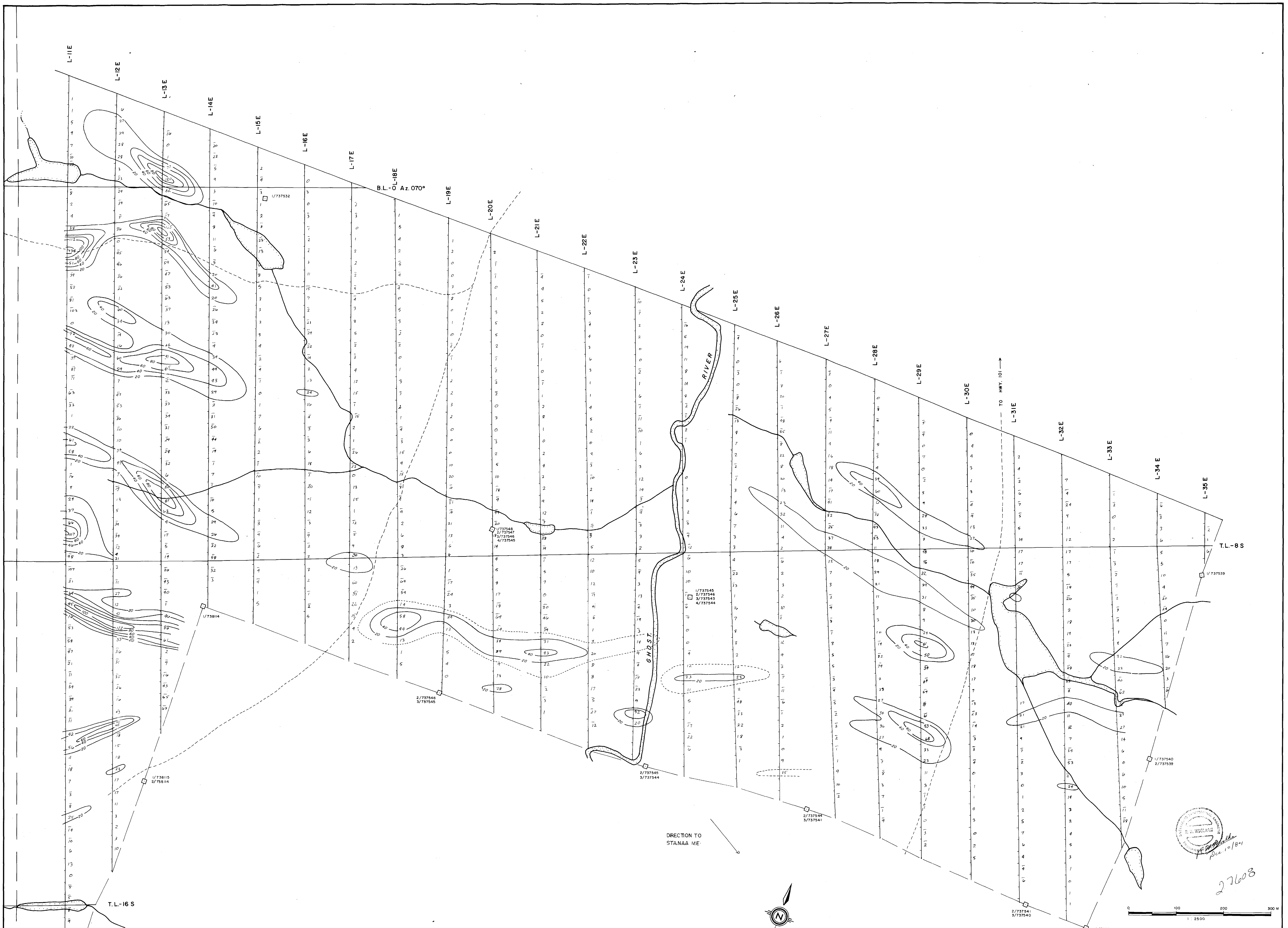
GARRISON & HARKER TWP'S
LARDER LAKE MINING DIVISION, ONTARIO

VLF ELECTROMAGNETIC SURVEY
WEST SHEET

Map No.: 84-55-3 | DATE: JUNE, 1984


L-11E
L-12E
L-13E
L-14E
L-15E
L-16E
L-17E
L-18E
L-19E
L-20E
L-21E
L-22E
L-23E
L-24E
L-25E
L-26E
L-27E
L-28E
L-29E
L-30E
L-31E
L-32E
L-33E
L-34E
L-35E
B.L.-0 Az. 070°
T.L.-8 S
T.L.-16 S
TO HWY. 101
GHOST RIVER
737529
737530
737547
737548
737546
737545
737544
737593
737541
737542
737539
737540
738114
738115
DIRECTION OF STA.NAA ME.
NOTE: For claim and location maps see map number 1.
Also VLF information
KEY
1
2
0 100 200 300 M
1 : 2500
2.7608
GRANDAD RESOURCES LIMITED
GHOST RIVER PROPERTY
GARRISON & HARKER TWP'S
LARDER LAKE MINING DIVISION, ONTARIO
VLF ELECTROMAGNETIC SURVEY
EAST SHEET
Map No.: 84-55-4
DATE: JUNE, 1984
230


L-7W
L-6W
L-5W
L-4W
L-3W
L-2W
L-1W
L-0
L-1E
L-2E
L-3E
L-4E
L-5E
L-6E
L-7E
L-8E
L-9E
L-10E
L-11E
GARRISON TWP.
HARKER TWP.
TO HWY. 101
737515
737514
737509
737513
737536
737510
737535
737512
737537
737511
737534
737538
737533
738103
737531
T.L. 8S
738110
738104
738111
738109
738112
738105
738108
738119
738106
738116
738107
738118
738117
DIRECTION TO STA. NAA M.E.
N
KEY
1
2
0
100
200
300 M
1:2500
2.7607
GRANDAD RESOURCES LIMITED
GHOST RIVER PROPERTY
GARRISON & HARKER TWP'S
LARDER LAKE MINING DIVISION, ONTARIO
VLF FRASER FILTER CONTOURS
WEST SHEET
Map No. : 84-55-5
DATE : JUNE, 1984



GRANDAD RESOURCES LIMITED

GHOST RIVER PROPERTY

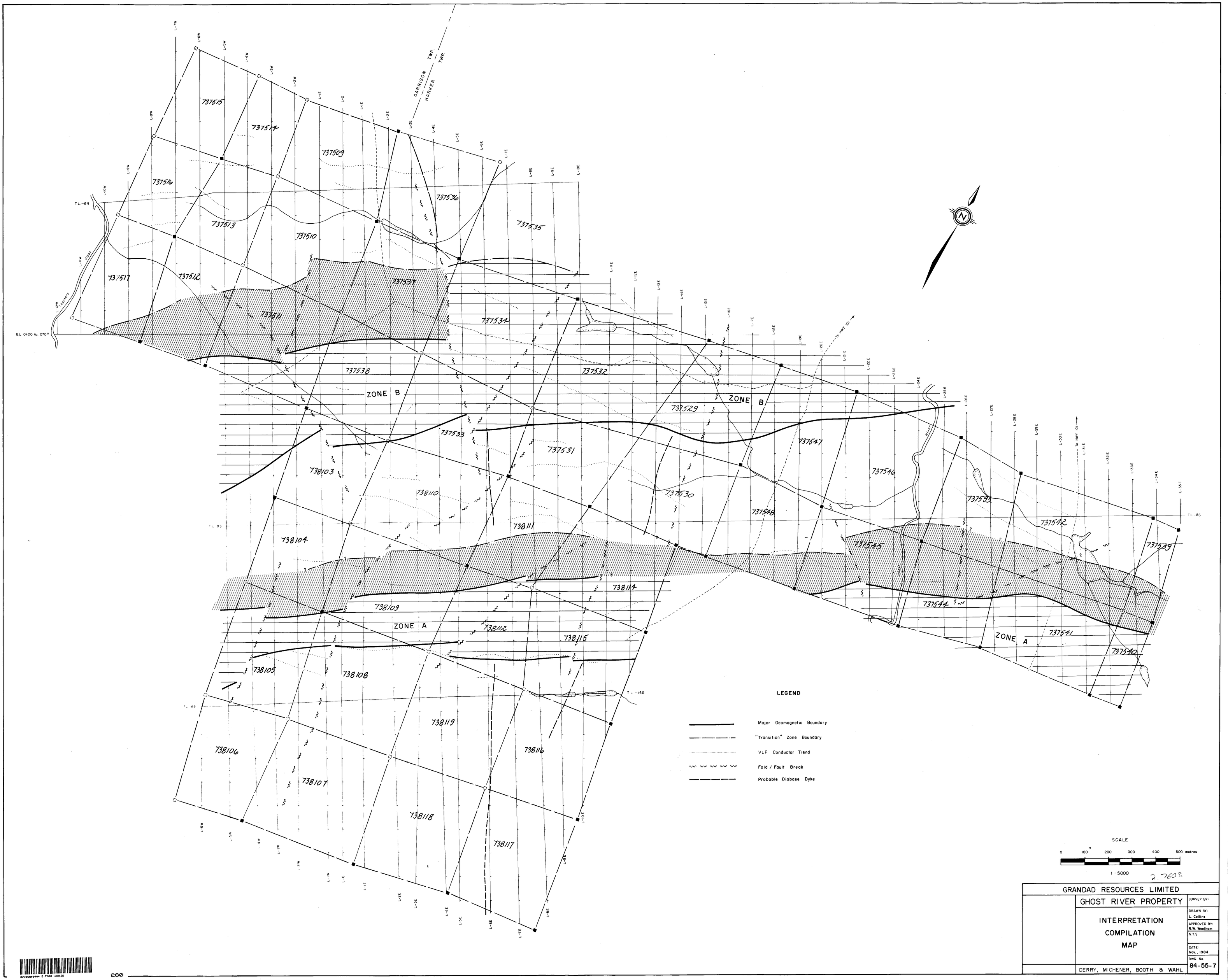
GARRISON & HARKER TWP'S
LARDER LAKE MINING DIVISION, ONTARIO

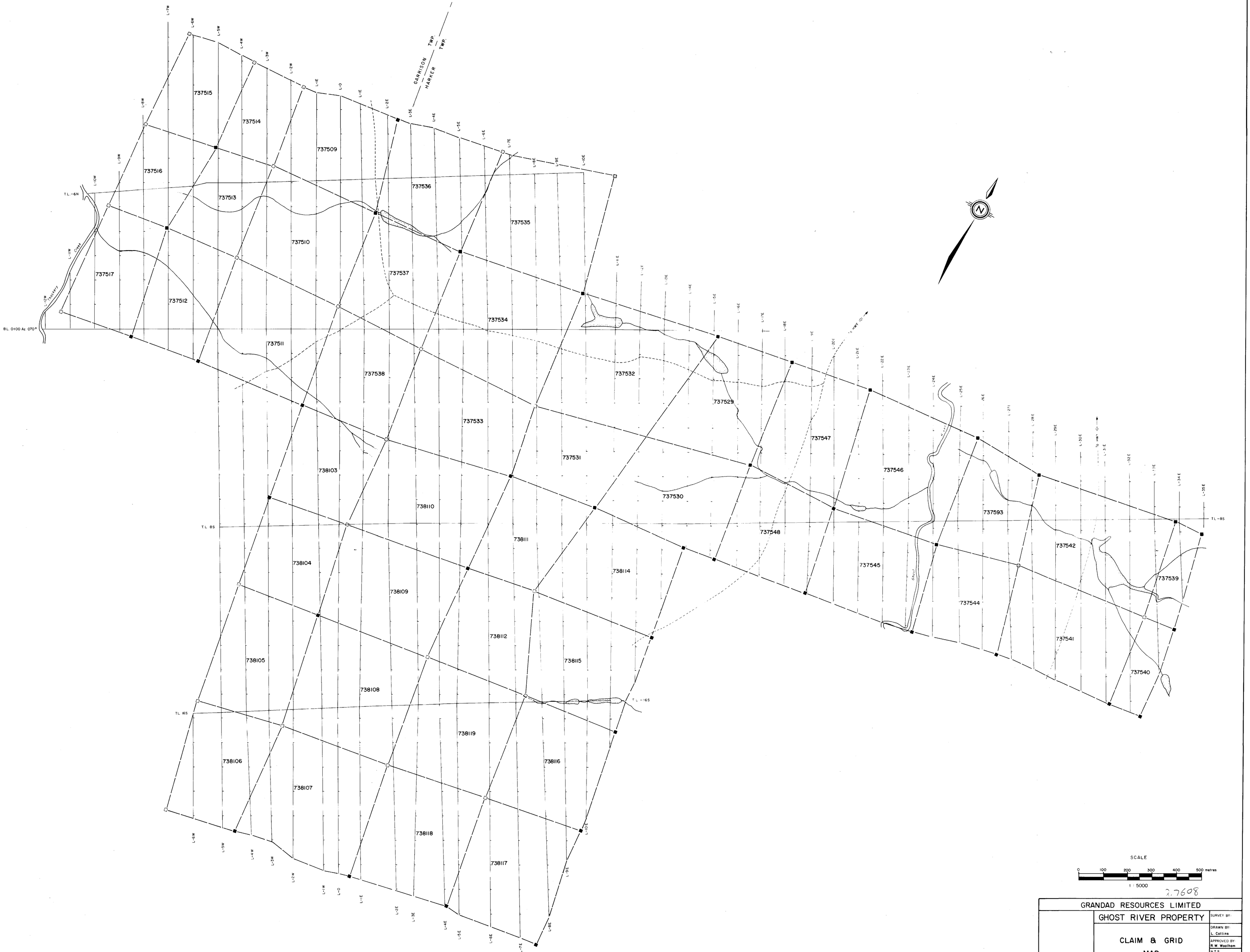
VLF FRASER FILTER CONTOURS

EAST SHEET

Map No. : 84-55-6 | DATE: JUNE, 1984

250





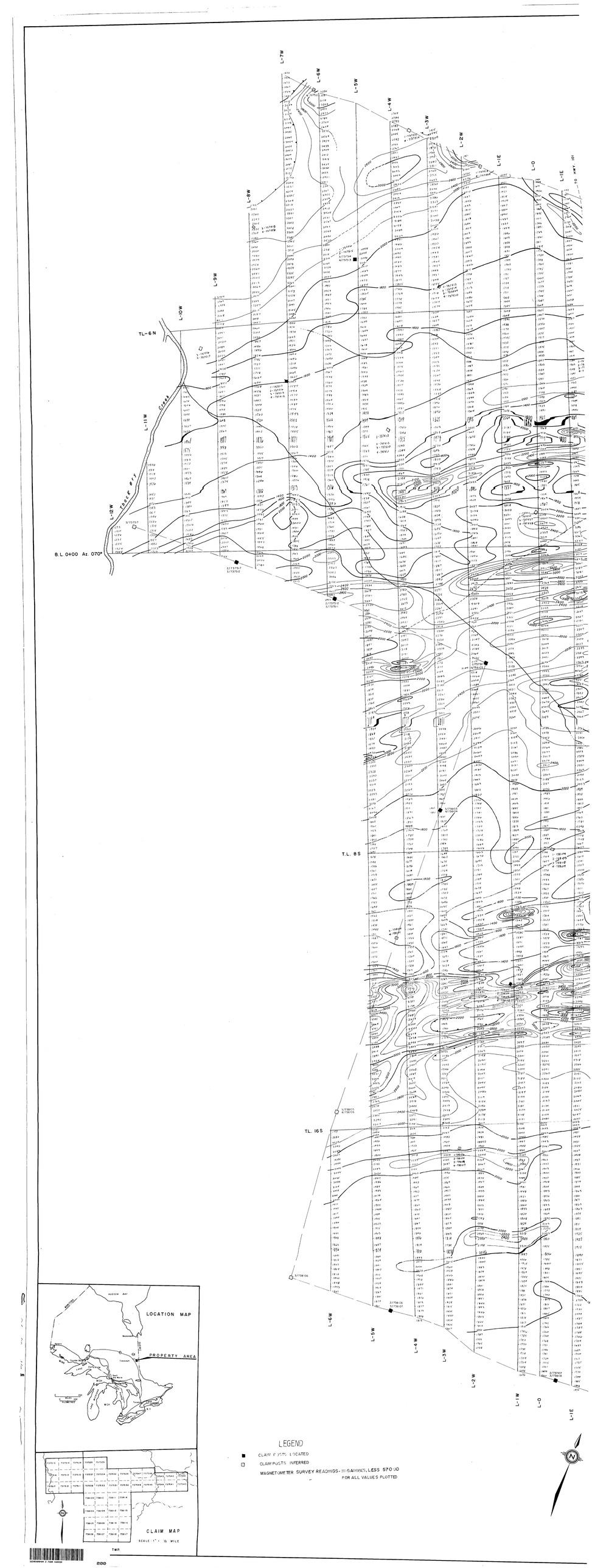
SCALE

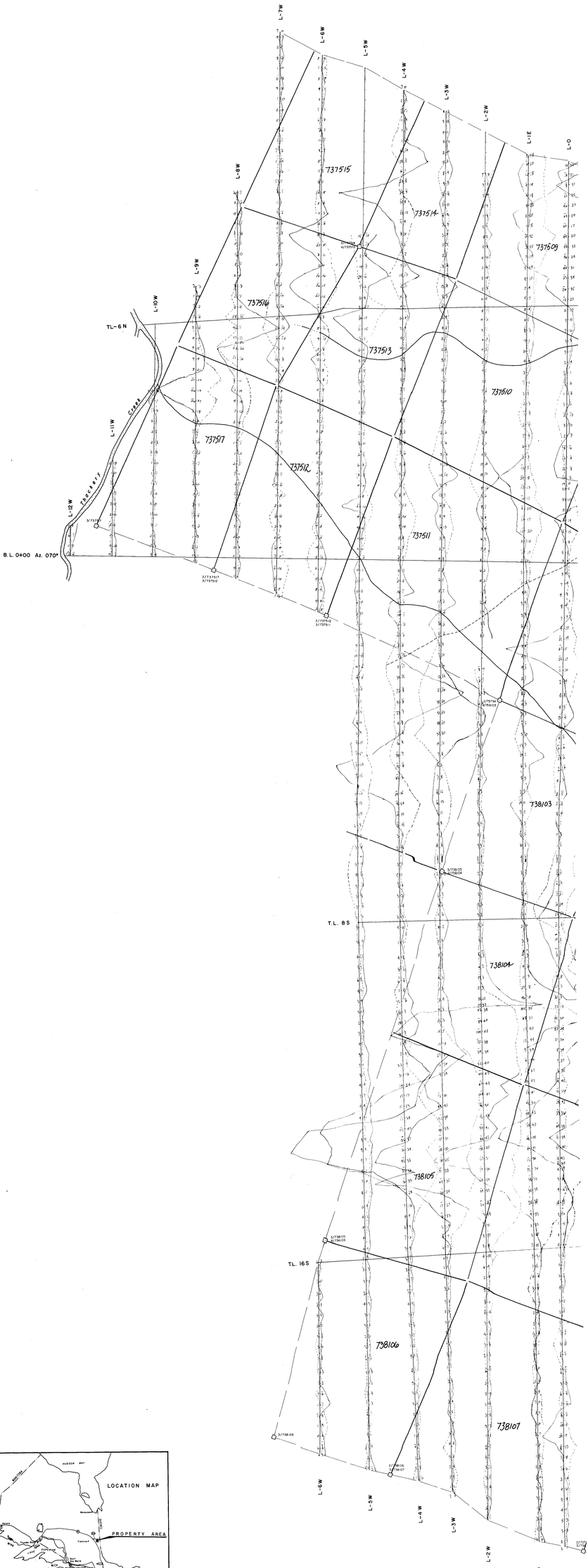
0 100 200 300 400 500 metres

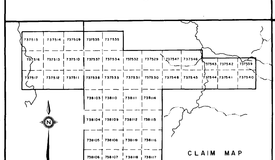
1 : 5000

2.7608

GRANDAD RESOURCES LIMITED		
	GHOST RIVER PROPERTY	SURVEY BY:
	CLAIM & GRID MAP	DRAWN BY: L. Collins
		APPROVED BY: R.W. Woolham
		N.T.S
		DATE: Nov., 1984
		DWG. No. 84-55-8
	DERRY, MICHENER, BOOTH & WAHL	


L-7W
L-6W
L-5W
L-4W
L-3W
L-2W
L-1E
L-0
L-1E
TO HWY. 101
L-8W
L-9W
L-10W
TL-6N
L-11W
Creek
L-12W
Indian Bay
B.L. 0+00 Az. 070°
T.L. 8S
T.L. 16S
L-6W
L-5W
L-4W
L-3W
L-2W
L-1W
L-0
L-1E
LEGEND
CLAIM POSTS LOCATED
CLAIM POSTS INFERRED
MAGNETOMETER SURVEY READINGS-IN GAMMAS, LESS 57000
FOR ALL VALUES PLOTTED
LOCATION MAP
PROPERTY AREA
CLAIM MAP
SCALE 1" = ½ MILE
TMP





LEGEND

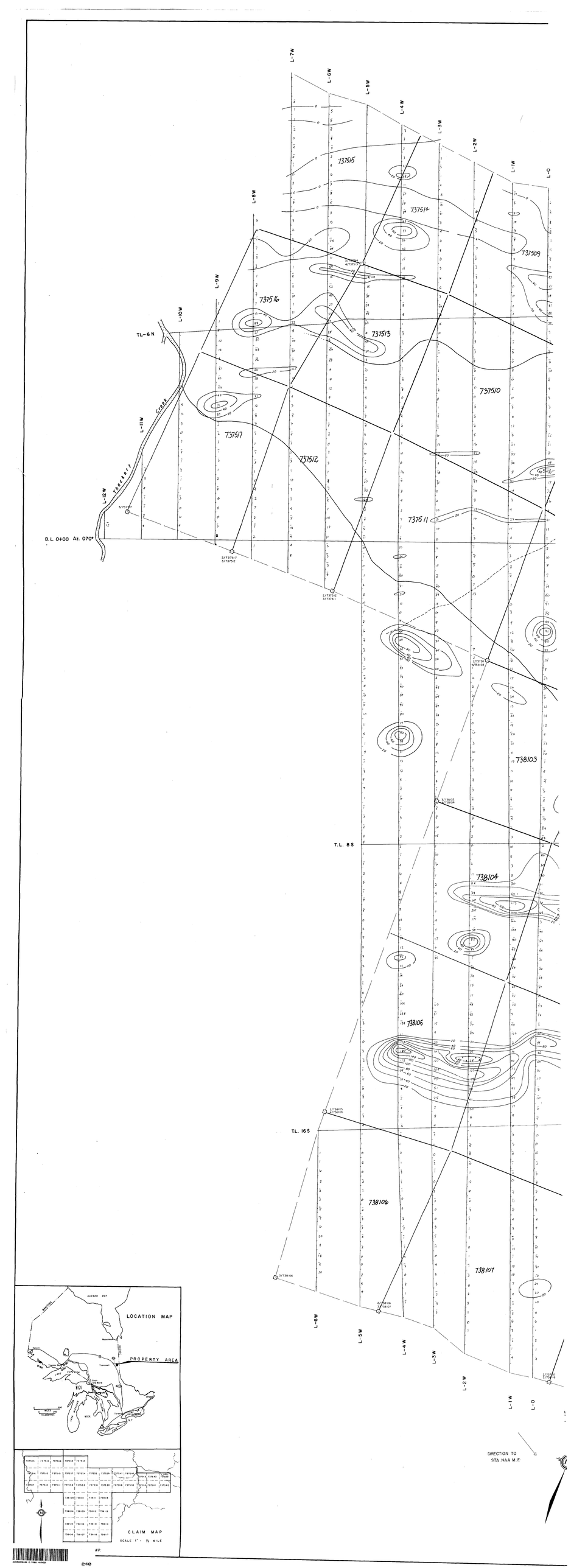
IP VALUES SHOWN LEFT, PLOTTED SOLID

OP VALUES SHOWN RIGHT, PLOTTED DASHED

POSITIVE VALUES RIGHT, NEGATIVE LEFT - 30%

DIRECTION OF STA. MAX. ME.

GARRISON


L-7W
L-6W
L-5W
L-4W
L-3W
L-2W
L-1W
L-0
L-8W
L-9W
L-10W
L-11W
L-12W
TL-6N
Creek
Tazkeroy
B.L. 0+00 Az. 070°
737515
737514
737509
737516
737513
737510
737517
737512
737511
738103
T.L. 8S
738104
738105
T.L. 16S
738106
738107
LOCATION MAP
PROPERTY AREA
CLAIM MAP
SCALE 1" = ½ MILE
DIRECTION TO
STA. NAA M.E.