



52F13SE0009 2.8312 BRIDGES

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N.T.S. 52-F-13
Game Lake Project
Bridges Township, Ontario
Report on A Total Field
Magnetometer Survey

July 1985

By: H. Beckmann

RECEIVED

JUL 30 1985

MINING LANDS SECTION

KENORA
MINING DIV.
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JUL 19 1985
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM



52F13SE0009 2.8312 BRIDGES

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N.T.S. 52-F-13
Game Lake Project
Bridges Township, Ontario

Report on A Total Field Magnetometer Survey

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GAME LAKE PROJECT
BRIDGES TOWNSHIP, ONTARIO
N.T.S. 52-F-13

Report On A Total Field
Magnetometer Survey

INTRODUCTION

Following an examination of reported mineral showings and an evaluation of previous geophysical surveys in the Game Lake area of Bridges Township, it was determined that the use of modern geophysical equipment could lead to the detection of additional mineral concentrations and thereby enhance the potential of the area.

In order to protect approximately 6 kilometres of potential strikelength of the sedimentary formations north of the Trans Canada Highway, 54 mineral claims were staked and recorded on behalf of Rio Algom Exploration Inc. on August 8, 1984.

A metric survey line grid was established over the claim block and target area in January 1985 with a central baseline at an azimuth of 070° located as close as possible to the various mineral showings. In all, 60 survey lines were turned off perpendicular to this baseline at measured spacings of 100 metres.

Geophysical surveys which included a VLF-EM and Total Field magnetometer surveys as well as a horizontal loop max-min survey on dual frequency were carried out during the following month of February and March 1985. Certain portions of the line grid are fairly rugged and progress was slow and tedious at times but this also meant good outcrop exposure to correlate with the geophysical data.

This report describes the results and interpretation of the total field magnetometer survey.

LOCATION AND ACCESS

The property held by Rio Algom Exploration Inc. consists of 54 contiguous mineral claims numbered K802827, K803829 to K803844 inclusive, K818145 to K818162 inclusive and K818165 to 818183 inclusive.

They are located in the west central part of Bridges Township, Kenora Mining Division, approximately 25 km west of Vermillion Bay, Ontario as shown on drawing L2877.

Highway No. 17 passes through the southern portion of the claim group and accommodation can be had at a motel located on the western part of the claims.

GENERAL GEOLOGY

Since the original discovery of near surface sulphide mineralization by prospectors of Noranda Mines Limited in 1967 the area has been mapped by the Ministry of Natural Resources and map 2303, Bridges and Docker Townships by A. P. Pryslak (1968) shows the general geological setting at a scale of 1 inch to $\frac{1}{2}$ mile.

As well, Geoscience Report 130, Geology of the Bruin Lake - Edison Lake Area, District of Kenora, by A. P. Pryslak dated 1976 describes the Noranda showings (page 46-48) very well.

The published Aeromagnetic Map 1171G "Feist Lake" N.T.S. 52-F-13 shows a noticeable magnetic anomaly of 61,000 gamma plus, north and west of Gake Lake within the area covered by this survey.

PREVIOUS WORK

While investigating the general area for its uranium potential in 1967, a prospector employed by Noranda Mines discovered a rusty sulphide zone that proved to contain minor sphalerite, chalcopyrite, galena, gold, silver, pyrite-pyrrhotite and magnetite mineralization.

This led to a magnetic and electromagnetic (Crone JEM) survey and eventually 5 test drill holes in 1969 the results of which are available in the assessment files.

Unfortunately these results do not lend themselves to proper correlation and the penetration capabilities of the EM survey are very much questioned considering the rugged topography.

Resampling of the showings by Rio Algom Exploration Inc. in 1984 confirmed the earlier results and physical examination showed the sulphides to be conductive as well as magnetic notwithstanding the presence of sphalerite.

SURVEY PROCEDURE

Linecutting

The linecutting was carried out on contract by Mid-Canada Exploration Services Limited, 189 Preston St., Timmins, Ontario.

The 00 point of the line grid is located just north off Highway 17 from which point the baseline was cut very accurately at an azimuth of 070° , 5600 metres to the east and 300 metres to the west.

Survey lines were cut at 100 metre interval perpendicular to the baseline, they vary in length from 500 metres to 1550 metres with survey stations measured and picketed at an interval of 25 metres.

Finally additional control or tie lines were established parallel to the baseline at 500m S, 500m N and 1000m N to measure any variations of the survey lines.

In total 75.25 km of survey lines and 19.0 km of tie lines were cut during the month of January 1985.

While the line grid was designed to cover most of the claim block its primary function was to establish survey stations over the most favoured geological formations.

Magnetometer Survey

A Scintrex IGS-2 integrated geophysical system was employed for the field survey carried out during the period of March 2 to 19, 1985 by D. N. Sexsmith, a member of the geophysical staff of Rio Algom Exploration Inc. during which time an identical instrument was set-up on the western line grid portion as a base station recorder.

The IGS-2 consists of a battery powered, 3.6 kg, field compatible microprocessor programmed to operate a variety of geophysical sensors, either individually or in combination and to record, edit, correct, print and or plot data obtained from such sensors or manually entered by the operator.

This particular survey combined a total field magnetometer with a range of 20,000 to 100,000 gammas and an accuracy of + or -1 gamma with a VLF EM receiver tuned to the Seattle, Washington station NLK at 24.8 KHz.

Daily data retrieval, combined with the base station recorder resulted in a diurnal corrected printout, including suitable profiling for field analysis.

Throughout, readings were obtained on an in-line spacing of 12.5 metres for a total of 6532 readings on 81.15 kilometres of survey lines.

The resolution of the field magnetometer ranges from + or -0.1 gamma to + or -10 gammas depending on the sensor mounting and the battery packs used. There were 12 reported incidences where this resolution was not obtainable due to abnormal high magnetic gradients.

Presentation and Discussion of Results

All magnetic data are presented following diurnal correction and deduction of 60,000 gammas, considered background values for this area, from the total value on drawings M-3832 and M4824-1,2, contoured at 200 gamma interval at a scale of 1:2500.

The majority of the presented readings range from 00 to 1,000 gammas (60,000 to 61,000) which is consistent with the published aeromagnetic values for the area but there are isolated readings or short strike lengths trends with measured variations from -2,000 to +18,000 gammas.

From north to south, an area of low magnetic contrast (mostly negative or below 60,000 gammas) can be seen at the northern end of lines 26E to 40E and 49E to 56E, is underlain by sediments with a low magnetite content and any positive anomalies probably indicate the presence of pyrrhotite rather than magnetite.

This is bounded to the south by a 400 metre wide band of sediments containing appreciable amounts of magnetite, locally approaching lean iron formations and becoming more massive on a segment that can be traced from line 33E at 8+25N to line 35E at 7+25N.

The combined effect of these parallel anomalies that can be traced from the northeast end of the line grid, north of Game Lake, up to line 23E is interpreted to be the source of the Aeromagnetic anomaly and its western extension is recognized by the magnetic activity at the northern end of lines 8E to 15E.

Traceable magnetic lows within this anomalous horizon might indicate minor faulting or local lineaments but more likely the association will be with bedrock topography rather than widespread alteration.

Such alteration or changes from oxide to sulphide iron formations or the presence of pyrrhotite might occur over the rest or southern part of the line grid which contains many isolated, short strikelength positive as well as negative magnetic anomalies too numerous to discuss individually.

No doubt some of the dipolar magnetic anomalies can be attributed to the rugged surface topography and it is not always possible to distinguish anomalies caused by pyrrhotite from others due to narrow concentrations of magnetite iron formations.

Following the mineralized trend investigated previously by Noranda, an obvious magnetic anomaly was located south of the baseline and traced from 18E to 23E, it contains a combination of magnetite as well as pyrrhotite and was drill tested at or near line 21E (Noranda hole 4).

Some distance to the west on line 9E and 10E a positive magnetic anomaly near or north of the baseline was found to correlate with the original Noranda showing which was also drill tested by hole 5 on or near line 10E.

Average magnetic values for this anomaly range from 3000 to 4000 gammas were it not for one reading on line 10E at BL + 12.5m N which is 23,822 gammas or a total field value of 83,822 which does suggest a major magnetite presence rather than the indicated combination of magnetite and pyrrhotite. An almost identical anomaly on a separate or offset horizon can be seen on lines 6E and 7E at 1+50N.

Magnetic contouring can be very subjective and although the stacked profiles have been very helpful, it does not take too much imagination to line up or project several lineaments.

Considering fair outcrop exposure, all promising magnetic anomalies with some potential strike length should be mapped in detail to obtain some explanation.

H. Beckmann

H. Beckmann

July 8, 1985

CERTIFICATE

I, HERWART K. F. BECKMANN, of the County of Peel, City of Mississauga, Province of Ontario do hereby certify:

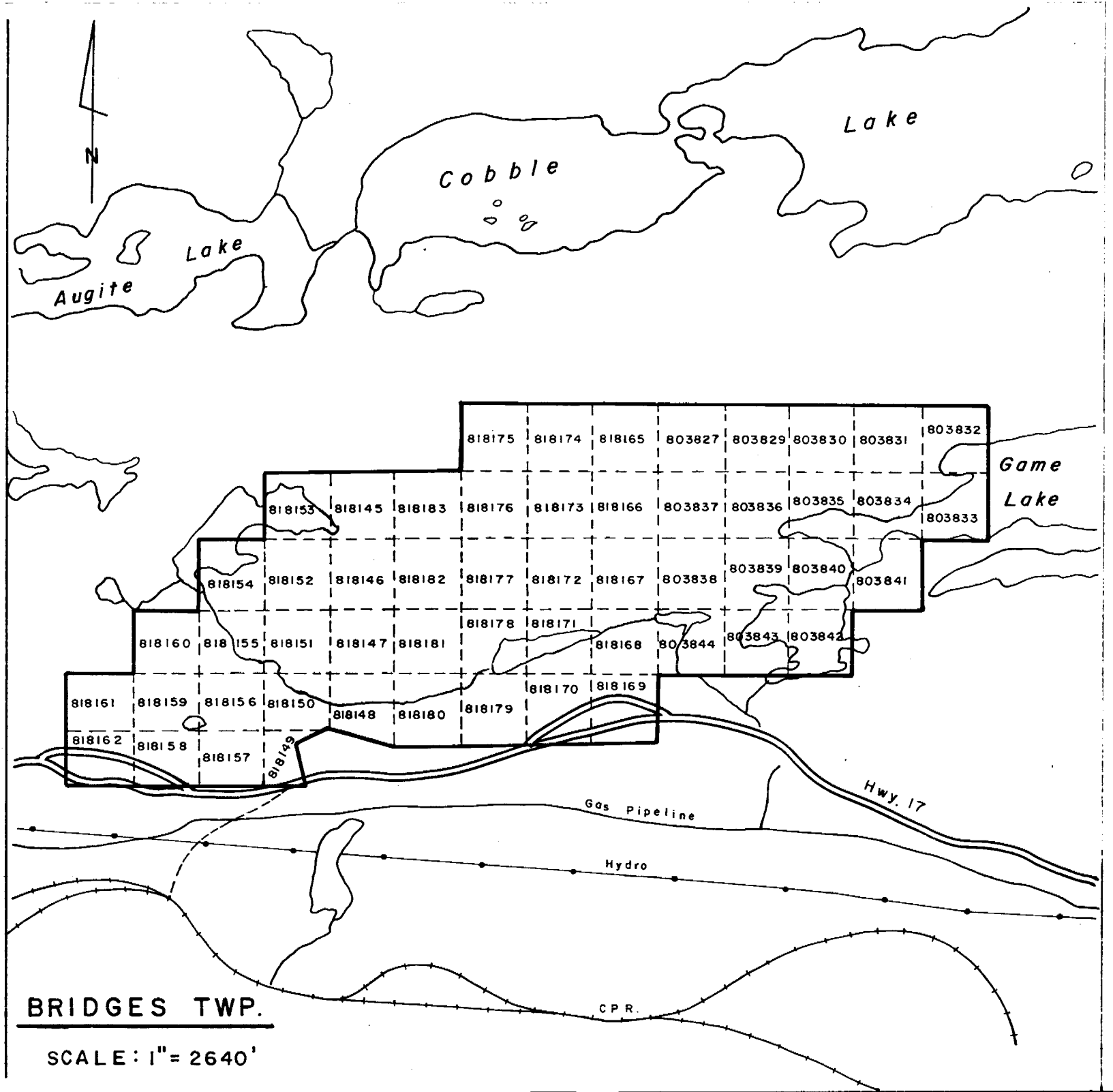
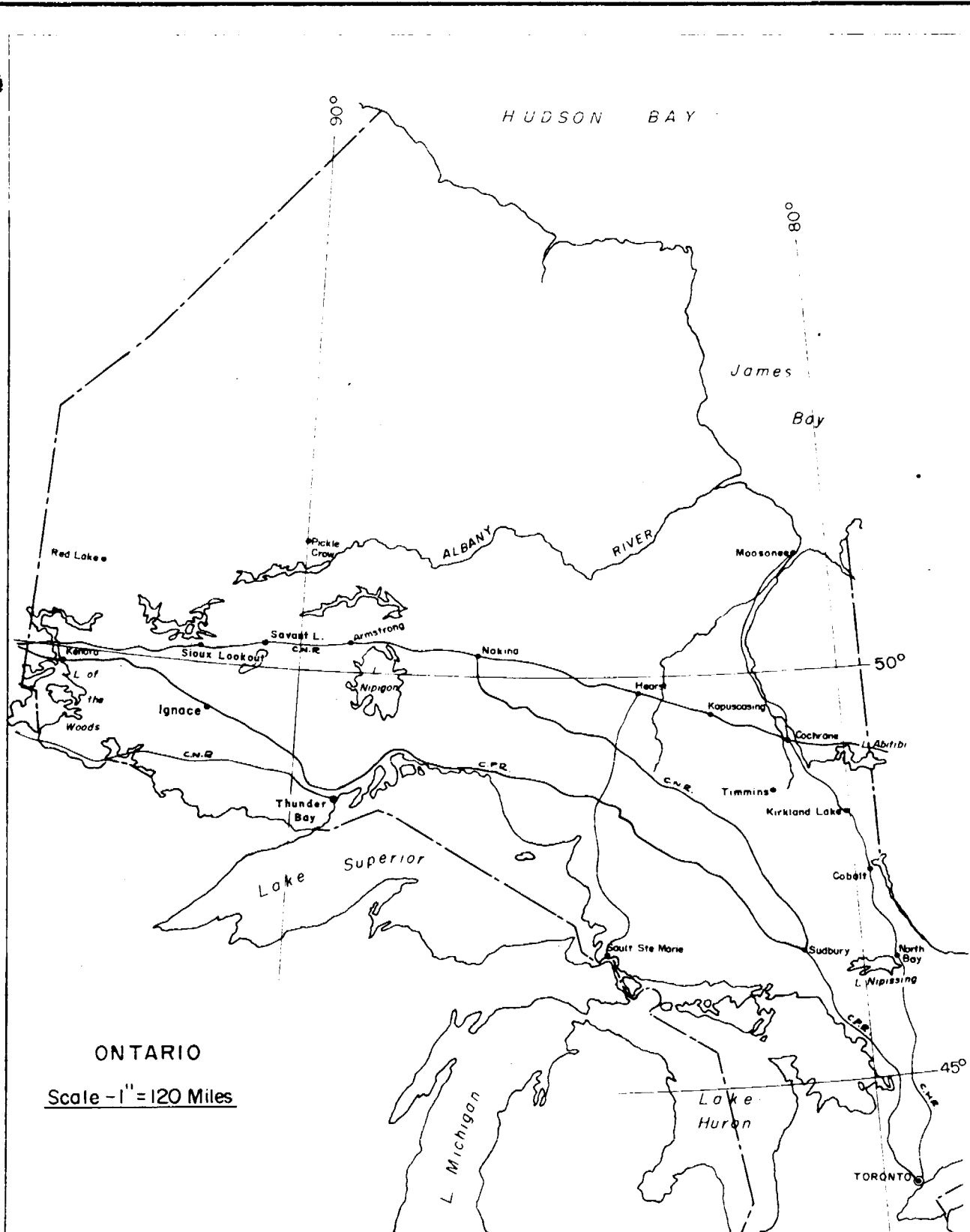
1. That I am a geophysical technician and reside at 1086 Albertson Crescent, Mississauga, Ontario.
2. That I graduated from the Radio College of Canada at Montreal in 1955 with a degree in Electronic Engineering.
3. That I am a member of the European Association of Exploration Geophysicists.
4. That I am an associated member of the American Society of Exploration Geophysicists.
5. That I have been practising my profession for a period of twenty-five years.
6. That I am employed by Rio Algom Exploration Inc., as Geophysicist, Eastern Region.
7. That I supervised this survey.

July 10, 1985

Date

H. Beckmann

H. Beckmann
Geophysicst Eastern Region



Note: All Claims have prefix 'K'

N.T.S.
52-F-13

July 16, 1985
A. Beckmann

RIO TINTO CANADIAN EXPLORATION LTD.

GAME LAKE PROJECT - ONT.

LOCATION MAP

Aug. - 1984

W.B / e.b.

DWG. L 2877

#150-85

Mining Claims Traversed

Mining Claim

Prefix

K

Number

803827

803829

803830

803831

803832

803833

803834

803835

803836

803837

803838

803839

803840

803841

803843

803844 -

818145

818146

818147

818148

818149

818150

818151

818152

818153

818154

818155

Mining Claim

Prefix

K

Number

818156

818157

818158

818159

818160

818161

818162

818165

818166

818167

818168

818170

818171

818172

818173

818174

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818176

818177

818178

818179

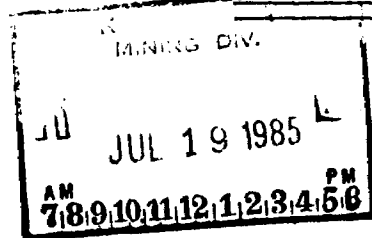
818180

818181

818182

818183

Total Claims 52



W. B. [Signature]
16/7/85



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) Total Field Magnetometer
Township or Area Bridges Township, Ontario
Claim Holder(s) Rio Algom Exploration Inc.
2400/120 Adelaide St.W., Toronto M5H 1W5
Survey Company Rio Algom Exploration Inc.
Author of Report H.K.F. Beckmann
Address of Author 2400/120 Adelaide St.W., Toronto, Ontario
Covering Dates of Survey Jan.2/85 to June 28/85
(linecutting to office)
Total Miles of Line Cut 58.54 (94.25 km)

MINING CLAIMS TRAVERSED
List numerically

K	803827
(prefix)	(number)
K	803829 *
K	803830 *
K	803831
K	803832
K	803833
K	803834
K	803835
K	803836
K	803837
K	803838
K	803839
K	803840
K	803841*
K	803843*
K	803844*
See Attached List.....	
*Claims only partially covered > 50%	
TOTAL CLAIMS	52

If space insufficient, attach list

SPECIAL PROVISIONS
CREDITS REQUESTED

DAYS
per claim

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

ENTER 20 days for each
additional survey using
same grid.

Geophysical

-Electromagnetic _____

-Magnetometer 40 (*)

-Radiometric _____

-Other _____

Geological _____

Geochemical _____

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

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: July 16, 1985 SIGNATURE: H. Beckmann
Author of Report or Agent

Res. Geol. _____ Qualifications J. 1977

Previous Surveys

File No. _____ Type _____ Date _____ Claim Hold _____

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JUL 19 1985
MINING DIVISION

MINING DIV.
RECEIVED
JUL 19 1985
AM 8 9 10 11 12 1 2 3 4 5 6 PM

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 3307 Number of Readings 6532

Station interval 25 metres measured Line spacing 100 metres at Baseline

Profile scale _____

Contour interval 200 Gammas

MAGNETIC

Instrument Scintrex IGS-2 Total Field Magnetometer

Accuracy – Scale constant _____

Diurnal correction method Daily combined print out

Base Station check-in interval (hours) Base station readings 5 seconds interval

Base Station location and value 2 + 80E at 1+25S 60,200 gammas

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: Fixed transmitter Shoot back In line Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

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 _____

MINING CLAIMS TRAVERSED
List numerically

K	818145
(prefix)	(number)
K	818146
K	818147
K	818148
K	818149*
K	818150
K	818151
K	818152
K	818153*
K	818154
K	818155
K	818156
K	818157
K	818158
K	818159
K	818160
K	818161
K	818162

*Claims only partially
covered > 50%

TOTAL CLAIMS _____

MINING CLAIMS TRAVERSED
List numerically

K	818165
(prefix)	(number)
K	818166
K	818167
K	818168
K	818170*
K	818171
K	818172
K	818173
K	818174
K	818175*
K	818176
K	818177
K	818178
K	818179*
K	818180
K	818181
K	818182
K	818183

*Claims only partially
covered > 50%

TOTAL CLAIMS _____

RES. DIV.
JUL 19 1985
AM 7:8 9:10 11:12 1:2 3:4 5:6 PM

Recorded Holder
 RIO ALGOM EXPLORATION INC.

Township or Area
 BRIDGES TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ days Magnetometer _____ 40 _____ days Radiometric _____ days Induced polarization _____ days Other _____ days	K 803827 803830 to 41 inclusive 803844 818145 to 52 inclusive 818154 to 62 inclusive 818165 to 68 inclusive 818171 to 83 inclusive
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/> Airborne <input type="checkbox"/>	
Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/>	
<input type="checkbox"/> Credits have been reduced because of partial coverage of claims.	
<input type="checkbox"/> 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

20 DAYS MAGNETOMETER

K 803829
 803843
 818153
 818170

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)—60;

Mining Lands Section

File No 28312

Control Sheet

TYPE OF SURVEY

- GEOPHYSICAL
- GEOLOGICAL
- GEOCHEMICAL
- EXPENDITURE

MINING LANDS COMMENTS:

← Review →

L. J. D.

Signature of Assessor

Date

1985 09 17

Your File: 150-85
Our File: 2.8312

Mining Recorder
Ministry of Natural Resources
808 Robertson Street
Box 5080
Kenora, Ontario
P9N 3X9

Dear Sir:

RE: Notice of Intent dated August 19, 1985
Geophysical (Magnetometer) Survey on
Mining Claims K 803827, et al, in
Bridges Township

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)965-4888

D. Kinvig:mc

cc: Rio Algom Exploration Inc.
Eastern Canada Office
Suite 2400
120 Adelaide Street West
Toronto, Ontario
M5H 1W5
Attention: Wayne Benham
cc: Resident Geologist
Kenora, Ontario
Encl.

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



Ministry of
Natural
Resources

Sept. 3/85

1985 08 19

Your File: 150-85
Our File: 2.8312

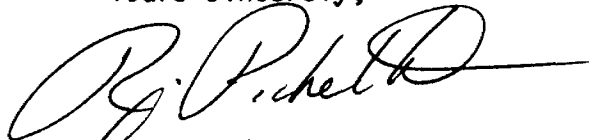
Mining Recorder
Ministry of Natural Resources
808 Robertson Street
Box 5080
Kenora, Ontario
P9N 3X9

Dear Sir:

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.K-D. Kinvig:mc

Encls.

cc: Rio Algom Exploration Inc.,
Eastern Canada Office
Suite 2400
120 Adelaide Street West
Toronto, Ontario
M5H 1W5
Attention: Wayne Benham

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner



Ministry of
Natural
Resources

Ontario

Notice of Intent
for Technical Reports

1985 08 19

2.8312/150-85

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.

2,8312

#150-85

Mining Claims Traversed

Mining Claim

Mining Claim

Prefix

Prefix

Number

Number

K

K

803827	✓
803829	1/2
803830	1/4
803831	✓
803832	✓
803833	✓
803834	✓
803835	✓
803836	✓
803837	✓
803838	✓
803839	✓
803840	✓
803841	✓
803843	1/2
803844	1/4
818145	✓
818146	✓
818147	✓
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818152	✓
818153	1/2
818154	✓
818155	✓

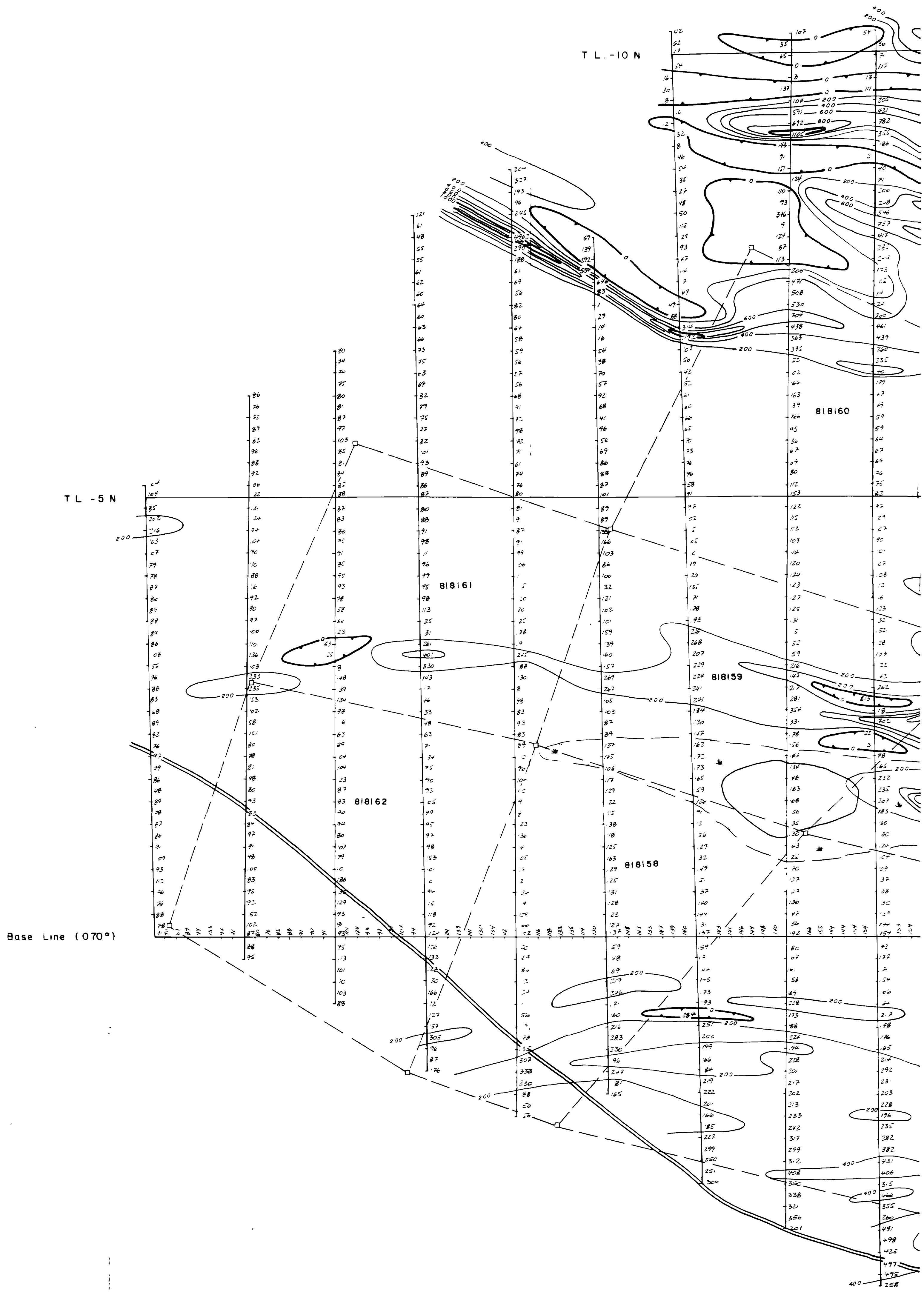
818156	✓
818157	✓
818158	✓
818159	✓
818160	✓
818161	✓
818162	✓
818165	✓
818166	✓
818167	✓
818168	✓
818170	1/2
818171	✓
818172	✓
818173	✓
818174	✓
818175	✓
818176	✓
818177	✓
818178	✓
818179	1/4
818180	✓
818181	✓
818182	✓
818183	✓

Total Claims 52

MINING DIV.
 JUL 19 1985
 AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

W. B. [Signature]
16/7/85

D. K.



July 16, 1985
J. Beckman

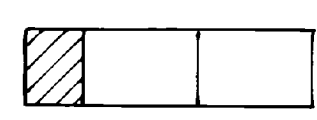
L - 2 W

L - 0

L - 2 E

L - 4 E

KEY



N.T.S.
 52 - F - 13

SCALE 1:2 500

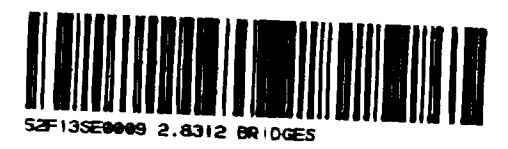


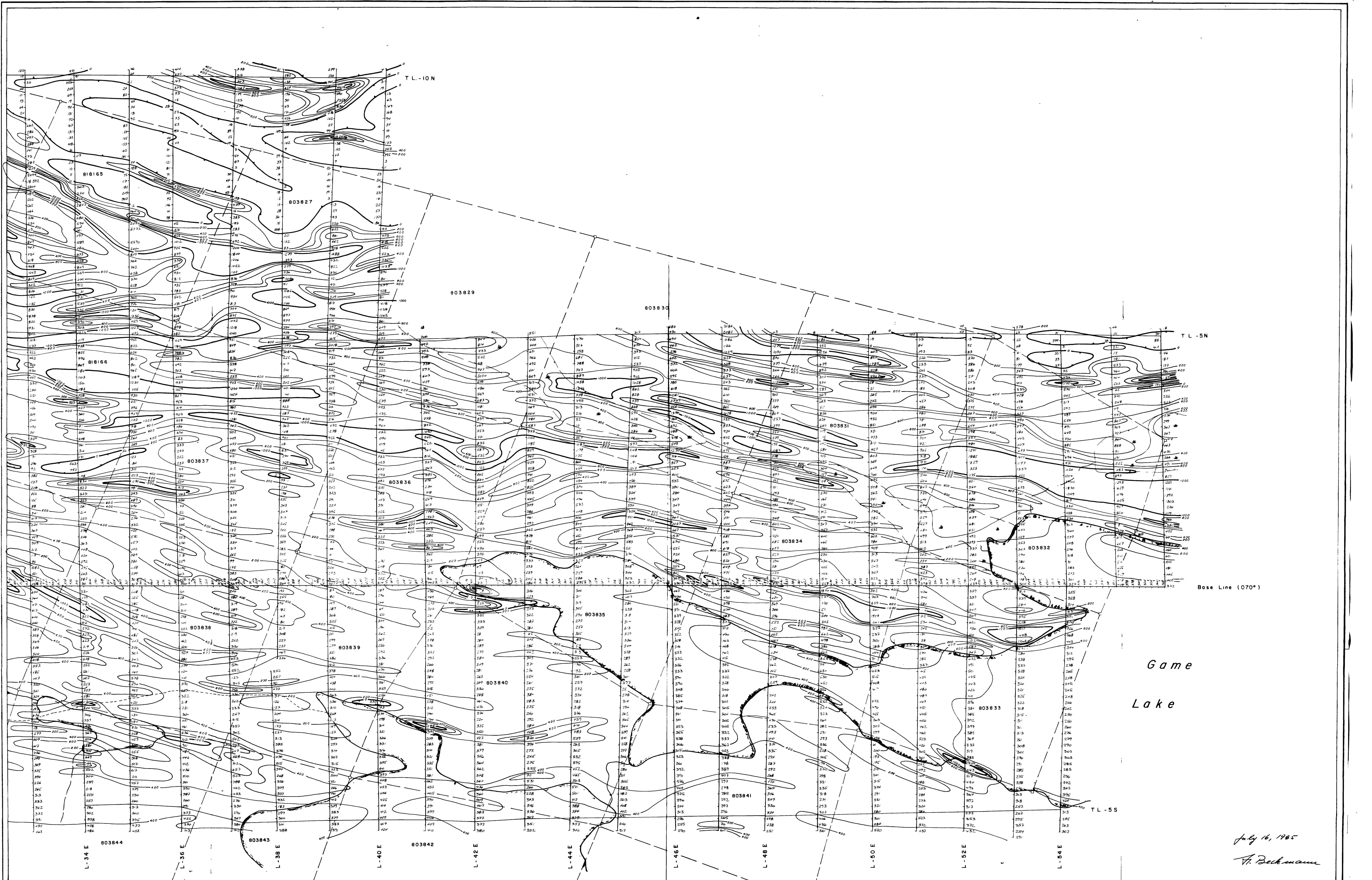
Rio Algom Exploration Inc.

GAME LAKE PROJECT - BRIDGES TWP - ONT.

MAGNETOMETER SURVEY

Feb - 1985 H B , D S / e b DWG. M 3832





LEGEND:
 + 865 Value in gammas
 Contour Interval: 200 gammas
 0 Gamma Contour
 200 " "
 400 " "
 600 " "
 Mag Depression

Base 60,000 gammas

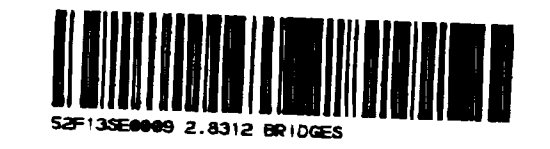
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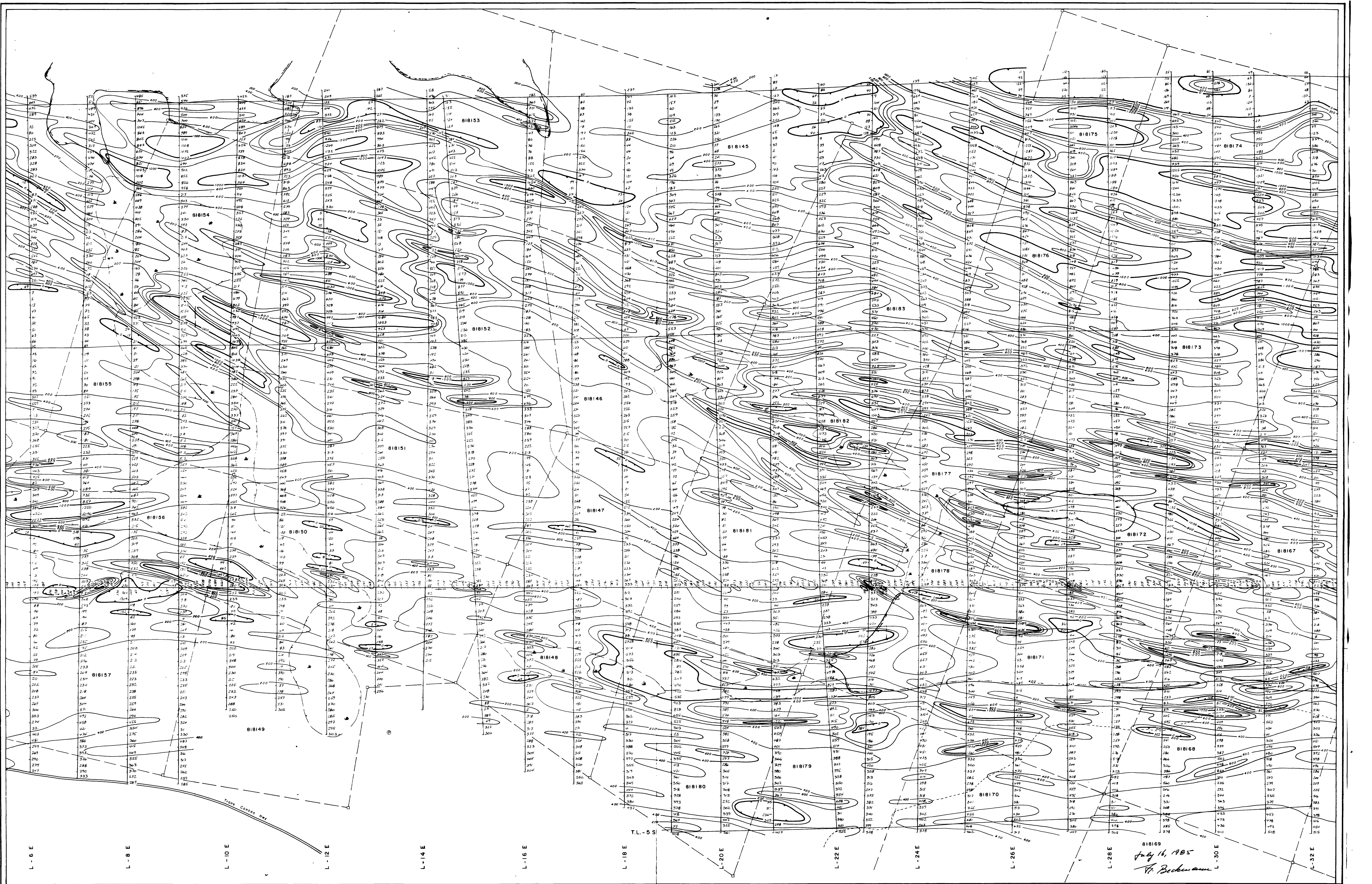
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 52 - F-13

SCALE 1:2500



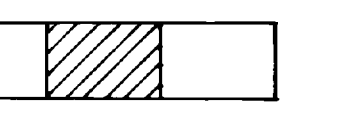
Rio Algom Exploration Inc.
 GAME LAKE PROJECT - BRIDGES TWP. ONT.
MAGNETOMETER SURVEY
 Feb. - 1985 H.B., D.S./e.b. DWG M 4824-1





July 16, 1985
H. Beckmann

KEY



N.T.S.
52 - F-13

SCALE: 1 2500



Rio Algom Exploration Inc.
GAME LAKE PROJECT - BRIDGES TWP. ONT.
MAGNETOMETER SURVEY
 Feb. - 1985 H.B. DS / e.b. DWG M 4824 - 2