

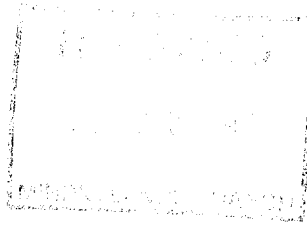
NTS: 42 A/2
41 P/15

2.17510

MAGNETOMETER SURVEY

CAMPBELL PROJECT

Powell Township
Abitibi Mining Corp.



June 1997



42A02SE0048 2.17510 POWELL

010

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Magnetometer contour map with posting



42A02SE0048 2.17510 POWELL

010C

Campbell Project

1.0 INTRODUCTION:

From June 1 to 15 of 1997, a program of linecutting and magnetometer surveying was carried out on the Campbell Project held by Abitibi Mining Corp., 21 Goodfish Rd., P.O. Box 1146, Kirkland Lake, Ontario P2N 3M7. The work was executed and reported on by David Laronde of Meegwich Consultants Inc., P.O. Box 482, Temagami, Ontario POH 2H0.

A total of 19.09 km was surveyed for magnetics from a 1900 metre long baseline trending due east-west.

2.0 PROPERTY:

The 160 hectare property in Powell Twp. consists of 10 contiguous claims numbered as follows:

442493	387777	442491	441845	442490
442492	387778	442489	441846	442488

3.0 LOCATION AND ACCESS:

The property is situated 1 km north of Log Lake about 7 km north-northwest of the town of Matachewan, Ontario, which is 50 km west of Kirkland Lake. The property can be accessed from a bush originating from Hwy 566 just north of Log Lake. The bush road is not maintained and a 4-wheel drive vehicle is recommended especially in spring.

4.0 MAGNETOMETER SURVEY:

A total of 19.09 km (1530 readings) was surveyed with a station spacing of 12.5 meters. The sensor was mounted on a 7 ft. aluminum staff to ensure a constant elevation and orientation throughout the survey.

4.1 Instrumentation: Gem Systems GSM-19 magnetometers were used for the survey. A base station was set up near the property to monitor and correct for diurnal variation. These instruments are micro-processor based and measure the earth's total magnetic field to an accuracy of one-hundredth of a gamma.

4.2 Survey Results: The results are presented on contoured plans at 1:2500 scale.

Several linear low trends and high trends are apparent from the magnetometer survey. Values range from 57096 to 60060 gammas. The southwest corner is a low except for a few isolated highs. The east half of the grid is made up of three easterly trending linear highs.

The east trending highs are the most noticeable features outlined by the mag survey. A series of highs in the east sector of the survey area are in close proximity and appears more massive. However there are also low trends apparent also. Lows are linear and could represent faulting in some cases.

A sharp contrast in background can be seen in the values toward the southwest corner. Actually the whole corner is a low area probably representing a low magnetic mineral content geologic unit.

Campbell Project

A group of isolated highs can be seen in the northwest corner of the grid. There are four diabase dikes mapped in this area and most of the highs can be attributed to this younger mafic intrusive. Especially where the highs line up in a north-south direction. Two lows in the northwest corner trend in a southeast direction.

5.0 GEOLOGY :

The property is underlain by Archean volcanics, sedimentary rock and silicic intrusive rock classified as granite or syenite. Matachewan swarm diabase dikes are present in a finger pattern. Differentiated syenite is gold bearing to the south of the lake centre and north on the grid.

The western extension or Matachewan Branch of the Larder-Cadillac Break is located 6 km to the south. This feature is adjacent to the prolific Young-Davidson Mines which produced 585,690 ounces of gold from 1934-1957 and the Matachewan Consolidated Mine which produced 370,427 ounces of gold from 1934-1954.

6.0 CONCLUSIONS AND RECOMMENDATIONS:

The contrast in the magnetics is due to varying rock types just south of the baseline. The low area in the southwest is suggestive of sediment geology which usually lacks magnetic mineral content.

The rock types encountered in the west and east parts of the grid seem to carry a fair amount of magnetic mineral (magnetite). The values range up to 4000 gammas above background. Mafic syenite (a phase of the regular

Campbell Project

syenite) contains abundant magnetite and may be responsible for the high readings encountered.

Low linear trends are suggestive of faulting in southeast and northeast directions.

Further work should target the syenite intrusive bodies as outlined by the magnetometer survey. The contrast is quite sharp and follow-up in the field can take on the form of general **mapping, sampling and prospecting** since outcrop exposure is fair particularly in the west. The east side is low lying in general. Outcrop exposures difficult to detect by normal field prospecting are indicated on the survey plans with an "x". A geochemical survey is warranted here also. Good soil coverage was noted in several places in the center and west sectors of the grid.

Respectfully submitted,



David Laronde
Geology Engineering Technologist

Campbell Project

References

1964 Ontario Department of Mines - Geology of Powell and Cairo Townships - Map 2110

1967 Lovell H.D. Ontario Department of Mines - Geology of the Matachewan Area GR 51

Campbell Project

CERTIFICATE OF AUTHOR

I, David Laronde of the town of Temagami, Ontario hereby certify:

1. That I am a consulting technologist and have been engaged in my profession for the past 18 years.
2. That I am a graduate of Cambrian College in Sudbury with a diploma in Geology Engineering Technology 1979.
3. That my knowledge of the property described herein was acquired by field work and documentation.

Dated at Temagami this 16th day of June 1997.

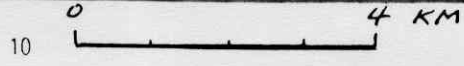
David Laronde



Qual #
2.8343

1:100,000

LOCATION MAP



PROPERTY

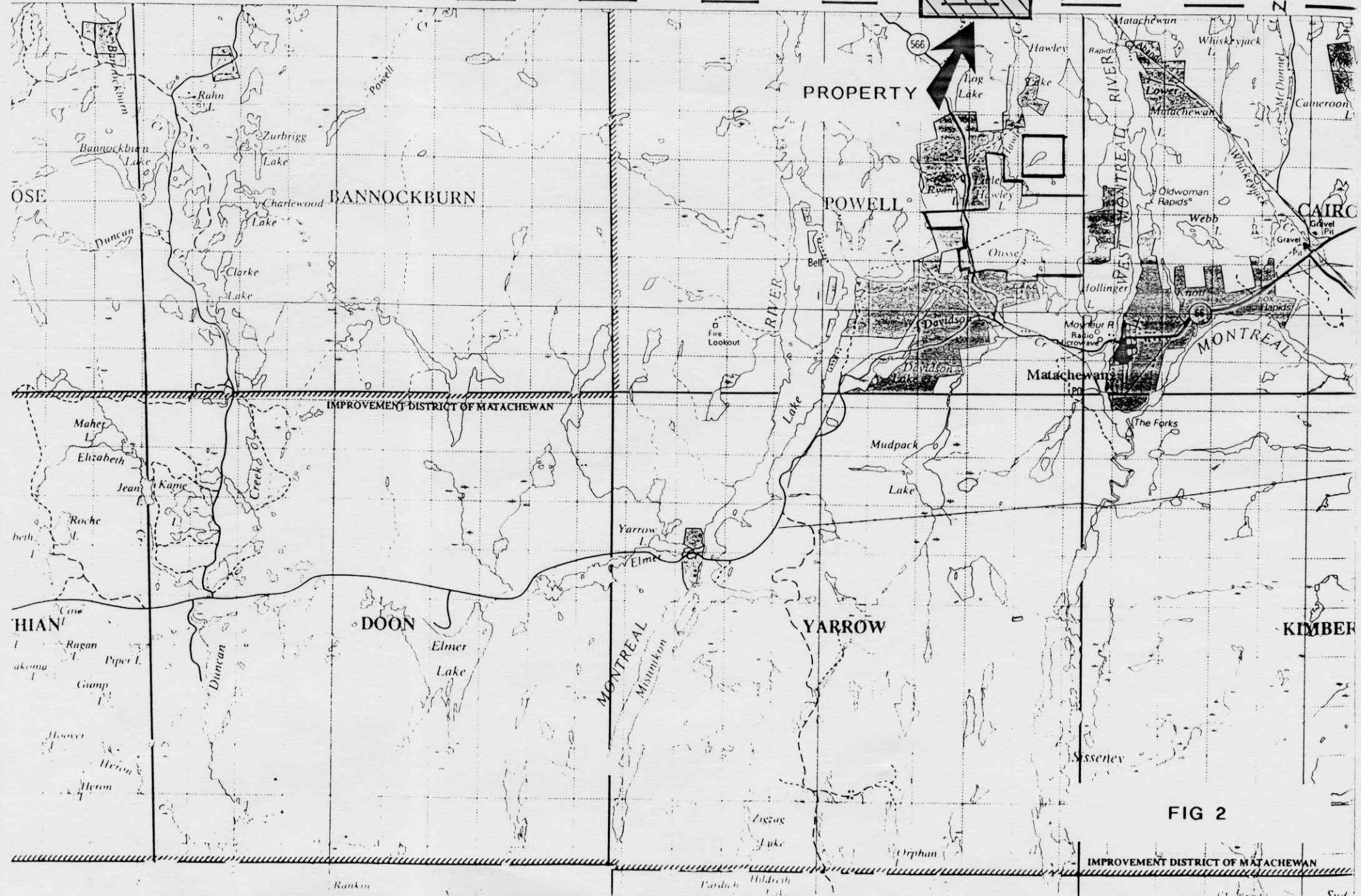


FIG 2

IMPROVEMENT DISTRICT OF MATACHEWAN



Marathon

POWELL

FIG 3

GEOLOGY MAP

1 IN TO 1/2 MI

Box 10: Geological area in the upper right quadrant, containing units 1b, 2b, 4e, and 5. Mineral symbols for Au, S, and PIR are present. A circled '10' is located in the center of the box.

6

10

Box 5: Geological area on the right side, containing units 1a, 1b, 2c, 4d, and 5. Mineral symbols for Au, carb, and PIR are present. A circled '5' is located in the center of the box.

Box 8: Geological area in the lower right, labeled 'Little Hawley Lake'. It contains units 1a, 2b, 4e, and 5. Mineral symbols for Au, carb, and PIR are present. A circled '8' is located in the center of the box.

Box 9: Geological area in the lower center, containing units 2a, 2b, 4e, and 5. Mineral symbols for Au, carb, and PIR are present. A circled '9' is located in the center of the box.

Box 3: Geological area in the lower right, containing units 2b, 4e, and 5. Mineral symbols for Au, carb, and PIR are present. A circled '3' is located in the center of the box.

Box 12: Geological area in the lower center, containing units 2a, 2b, 4e, and 5. Mineral symbols for Au, carb, and PIR are present. A circled '12' is located in the center of the box.

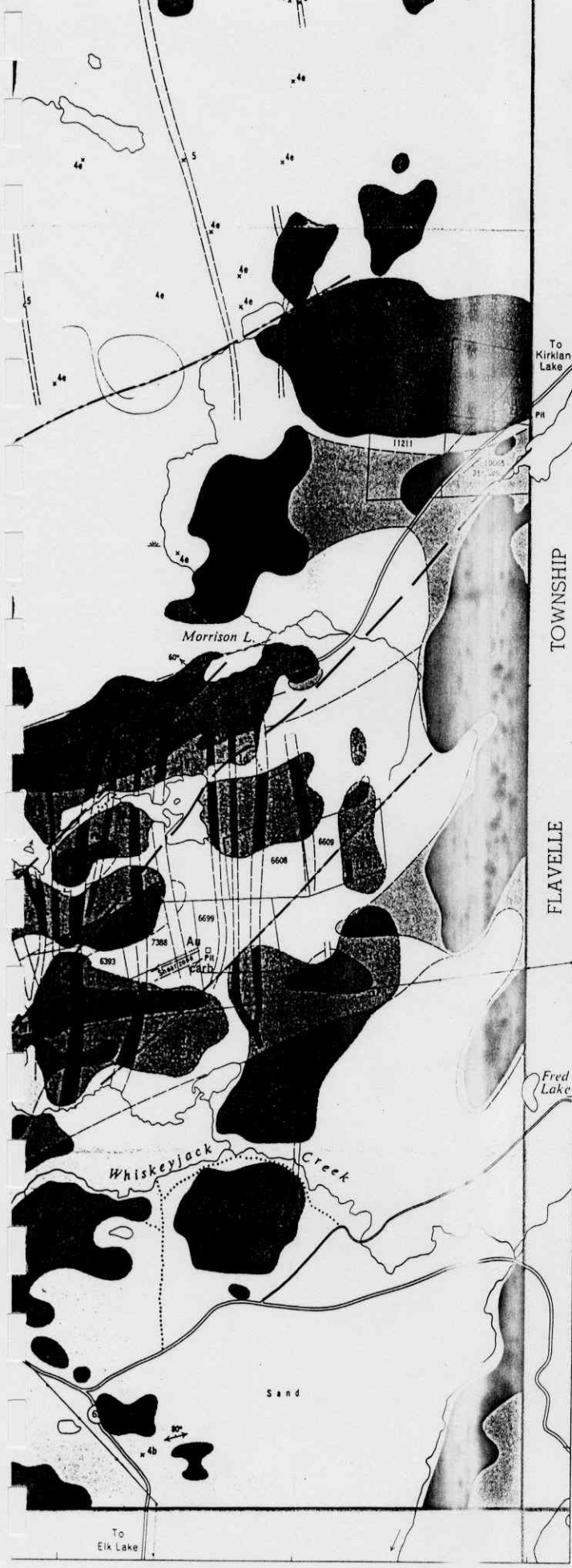
Box 5: Geological area in the lower right, containing units 2a, 2b, 4e, and 5. Mineral symbols for Au, carb, and PIR are present. A circled '5' is located in the center of the box.

Hollister

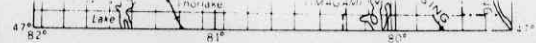
Davidson Creek

Log Lake

WEST



48° 00'



Scale, 1 inch to 50 miles

N.T.S. reference 42 A/2, 42 A 3, 41 P 14, 42 P 15

LEGEND

CENOZOIC*

RECENT
Swamp and stream deposits

PLEISTOCENE
Sand, gravel, clay.

UNCONFORMITY

PRECAMBRIAN**

PROTEROZOIC

MAFIC INTRUSIVE ROCKS
(Nipissing)

7 *Diabase.*

INTRUSIVE CONTACT

HURONIAN

COBALT GROUP

Gowganda Formation

6a *Argillaceous and arkosic quartzite.*
 6b *Conglomerate.*
 6c *Argillite.*
 6d *Arkose.*

UNCONFORMITY

ARCHEAN

MAFIC INTRUSIVE ROCKS
(Matachewan)

5 *Diabase, undifferentiated.*

INTRUSIVE CONTACT

SILICIC INTRUSIVE ROCKS
(Algonian)

4a *Granite*
 4b *Granodiorite and granitic gneiss.*
 4c *Syenite.*
 4d *Mafic syenite and lamprophyre*
 4e *Syenite porphyry and coarse grained syenite.*
 4f *Quartz diorite and diorite.*

INTRUSIVE CONTACT

ULTRAMAFIC AND MAFIC
INTRUSIVE ROCKS
(Haileyburian)

3a *Serpentinite.*
 3b *Diorite.*

INTRUSIVE CONTACT

SEDIMENTARY ROCKS
(Timiskaming)

2a *Conglomerate*
 2b *Greywacke, interbedded argillite and quartzite.*
 2c *Arkose.*

UNCONFORMITY

VOLCANIC ROCKS
(Keewatin)

1a *Basalt and andesite.*
 1b *Bleached, silicified, sericitized volcanic rocks.*
 1c *Andesite porphyry.*
 1d *Tuff (banded, and massive types).*
 1e *Agglomerate.*
 1f *Rhyolite and dacite.*
 1g *Carbonatized and amygdaloidal rocks.*
 1h *Amphibolite.*

TOWNSHIP

FLAVELLE

asb *Asbestos.*
 Au *Gold.*

INSTRUMENT SPECIFICATIONS

MAGNETOMETER / GRADIOMETER

Resolution:	0.01 nT (gamma), magnetic field and gradient.
Accuracy:	0.2 nT over operating range.
Range:	20,000 to 120,000 nT.
Gradient Tolerance:	Over 10,000 nT/m
Operating interval:	3 seconds minimum, faster optional. Readings initiated from keyboard, external trigger, or carriage return via RS-232-C.
Input/Output:	6 pin weatherproof connector, RS-232C, and (optional) analog output.
Power Requirements:	12 V, 200 mA peak (during polarization), 30 mA standby. 300mA peak in gradiometer mode.
Power Source:	Internal 12 V, 2.6 Ah sealed lead-acid battery standard, others optional. An External 12V power source can also be used.
Battery Charger:	Input: 110 VAC, 60 Hz. Optional 110/220 VAC, 50/60 Hz. Output: dual level charging.
Operating Ranges:	Temperature: -40 °C to +60 °C. Battery Voltage: 10.0 V minimum to 15V maximum. Humidity: up to 90% relative, non condensing.
Storage Temperature:	-50°C to +65°C
Display:	LCD: 240 x 64 pixels, or 8 x 30 characters. Built in heater for operation below -20°C
Dimensions:	Console: 223 x 69 x 240mm. Sensor staff: 4 x 450mm sections. Sensor: 170 x 71mm dia. Weight: Console 2.1kg, Staff 0.9kg, Sensors 1.1kg each.

VLF

Frequency Range:	15 - 30.0 kHz.
Parameters Measured:	Vertical In-phase and Out-of-phase components as percentage of total field. 2 components of horizontal field. Absolute amplitude of total field.
Resolution:	0.1%.
Number of Stations:	Up to 3 at a time.
Storage:	Automatic with: time, coordinates, magnetic field/gradient, slope, EM field, frequency, in- and out-of-phase vertical, and both horizontal components for each selected station.
Terrain Slope Range:	0° - 90° (entered manually).
Sensor Dimensions:	14 x 15 x 9 cm. (5.5 x 6 x 3 inches).
Sensor Weight:	1.0 kg (2.2 lb).

the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
eg TB 7627	16 ha	\$26,825	N/A	\$24,000	\$2,825
eg 1234567	12	0	\$24,000	0	0
eg 1234568	2	\$8,892	\$4,000	0	\$4,892
1 L 1217572	1	—			
2 1217807	4	—			
✓ 3 387777	1	\$299			\$299
✓ 4 387778	1	1193			1193
✓ 5 441845	1	598			598
✓ 6 441846	1	1196			1196
✓ 7 442488	1	1196			1196
✓ 8 442489	1	1196			1196
✓ 9 442490	1	897			897
✓ 10 442491	1	897			897
✓ 11 442492	1	1196897-2/5			1196
✓ 12 442493	1	897			897
13					
14			2.17510		
15					
Column Totals		\$9565			\$9565

I, Larry J. Stoliker, do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing: [Signature] Date: July 04/97

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- 3. Credits are to be cut back equally over all claims listed in this declaration; or
- 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only
 Received Stamp 26
 MINE DIVISION
 1217572

Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Recorder (Signature) <u>[Signature]</u>	



ABB. Campbell Claims

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of Work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Line cutting	21.852 Km	265.00/km	6196.13
Magnetics	19.09 km	90.00/km	1838.37
	2.17510		
Associated Costs (e.g. supplies, mobilization and demobilization).			
Report Writing, Drafting, Photocopying and Materials			802.50
Orienting Line cutting Crew & Checking Grid	2 days		400.00
Report & Form Preparation	1 day		200.00
Transportation Costs			
	428	30/km	128.40
Food and Lodging Costs			
Total Value of Assessment Work			89565.40

Calculations of Filing Discounts:

- Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
- If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK \times 0.50 = Total \$ value of worked claimed.

Note:

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

I, Larry J. Staliker (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as Agent I am authorized (recorded holder, agent or state company position with signing authority) to make this certification.

Signature: Randy Staliker Date: July 04/97

September 23, 1997

DONALD JOSEPH CAMPBELL
P.O. BOX 1146
KIRKLAND LAKE, Ontario
P2N 3M7

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (888) 415-9846
Fax: (705) 670-5863

Dear Sir or Madam:

Submission Number: 2.17510

Status

Subject: Transaction Number(s): W9780.00710 Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. **WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.**

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice.

Please note any revisions must be submitted in **DUPLICATE** to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Steve Beneteau by e-mail at beneteau_s@torv05.ndm.gov.on.ca or by telephone at (705) 670-5855.

Yours sincerely,



ORIGINAL SIGNED BY
Blair Kite
Supervisor, Geoscience Assessment Office
Mining Lands Section

Work Report Assessment Results

Submission Number: 2.17510

Date Correspondence Sent: September 23, 1997

Assessor: Steve Beneteau

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9780.00710	387777	POWELL	Approval	September 23, 1997

Section:

14 Geophysical MAG

Correspondence to:

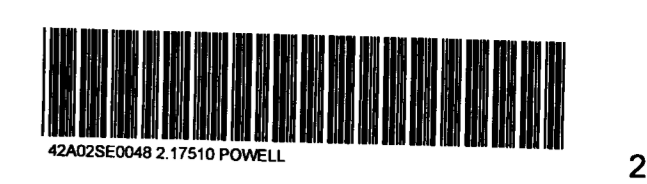
Resident Geologist
Kirkland Lake, ON

Recorded Holder(s) and/or Agent(s):

Larry J. Stoliker
KIRKLAND LAKE, ONTARIO, CANADA

Assessment Files Library
Sudbury, ON

DONALD JOSEPH CAMPBELL
KIRKLAND LAKE, Ontario

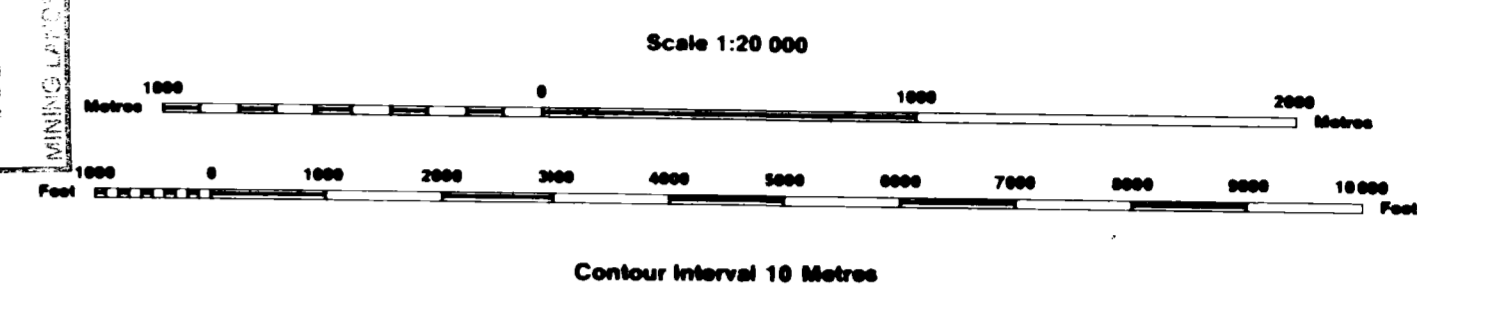
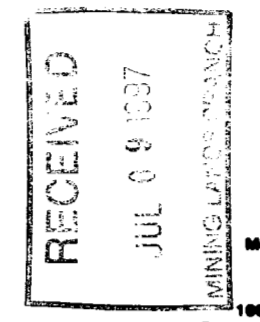


INDEX TO LAND DISPOSITION

PLAN G-3218 TOWNSHIP

M.N.R. ADMINISTRATIVE DISTRICT KIRKLAND LAKE MINING DIVISION LARDER LAKE LAND TITLES/REGISTRY DIVISION TIMISKAMING

POWELL



2.17510

AREAS WITHDRAWN FROM DISPOSITION

Description	Order No.	Date	Disposition	File
W-L-18/95	MAR. 30/95	M+S		
W-L-19/95	MAR. 30/95	M+S		
W-L-20/95	MAR. 30/95	M+S		

SYMBOLS

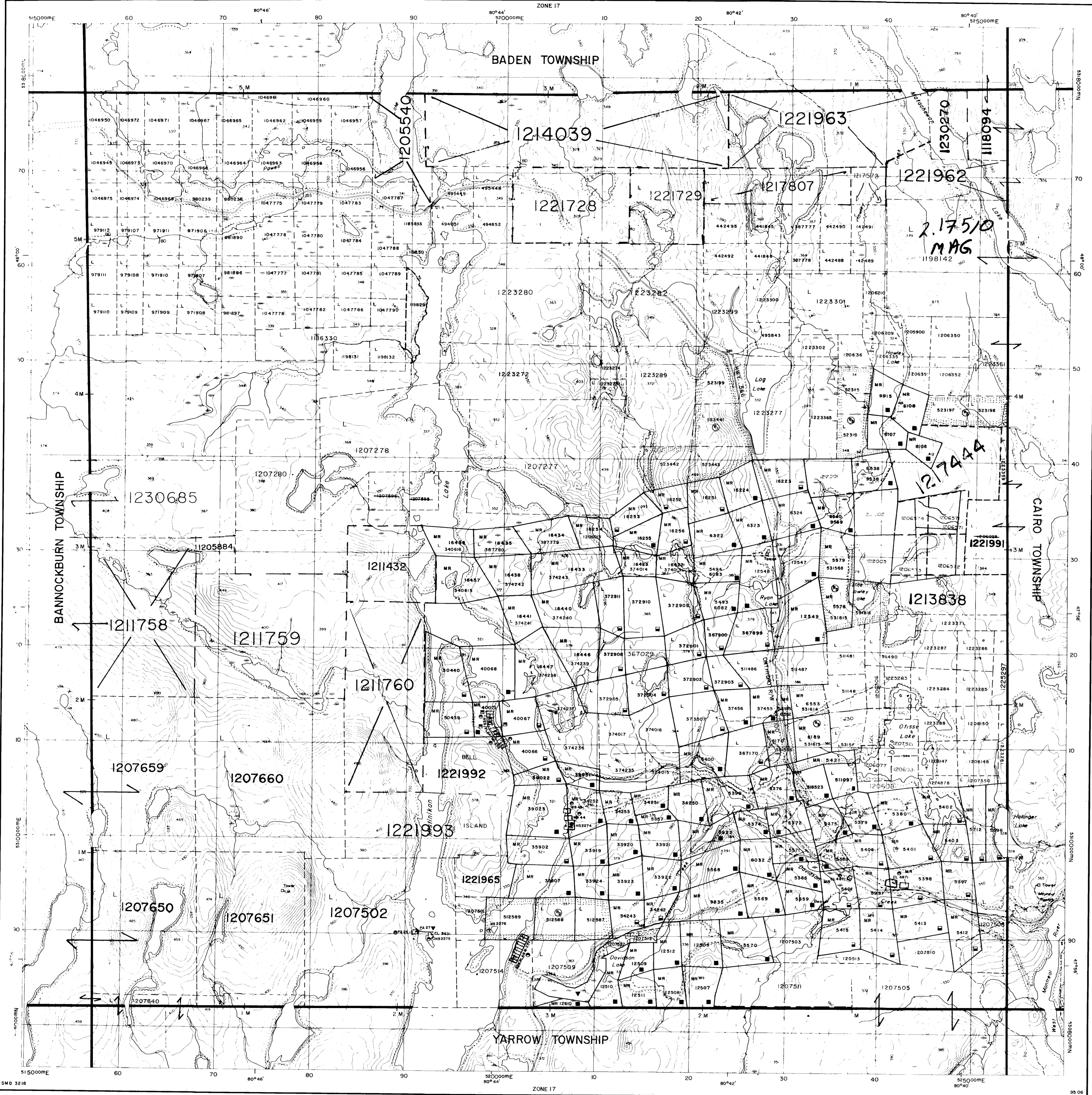
- Boundary
- Township, Meridian, Baseline
- Road allowance; surveyed
- shoreline
- Lot/Concession; surveyed
- unsurveyed
- Parcel; surveyed
- unsurveyed
- Right-of-way; road
- railway
- utility
- Reservation
- Cliff, Pit, Pile
- Contour
- Interpolated
- Approximate
- Depression
- Control point (horizontal)
- Flooded land
- Mine head frame
- Pipeline (above ground)
- Railway; single track
- double track
- abandoned
- Road; highway, county, township
- access
- trail, bush
- Shoreline (original)
- Transmission line
- Wooded area

NOTES

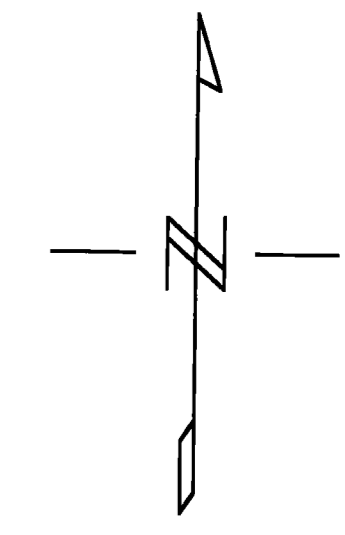
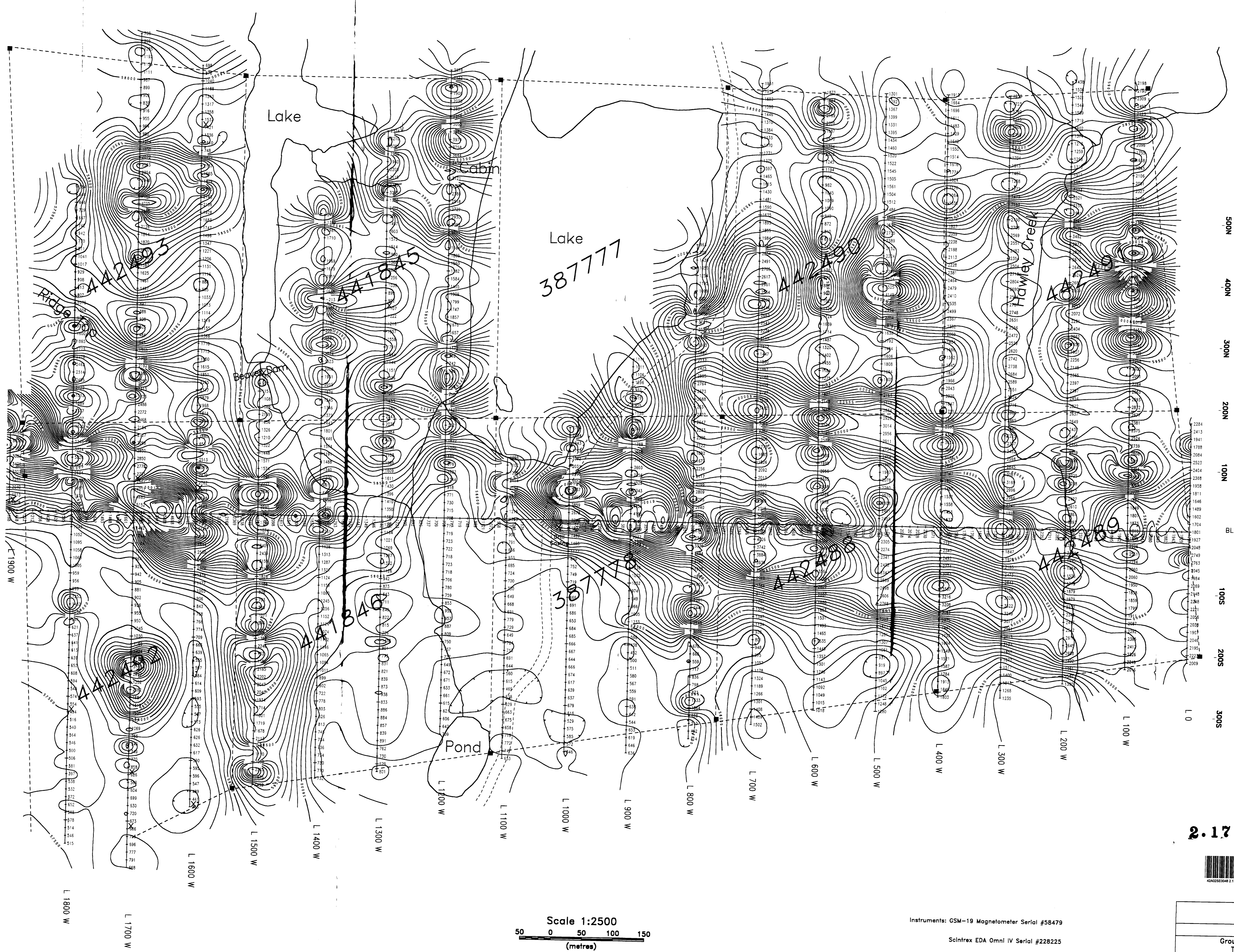
L.O. 7601 COVERS FLOODING RIGHTS IN THIS TOWNSHIP TO CONTOUR 870 TO ONTARIO HYDRO. FILE 12290 VOL. 2.

DISPOSITION OF CROWN LANDS

- 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
- Cancelled
- Reservation
- Sand & Gravel

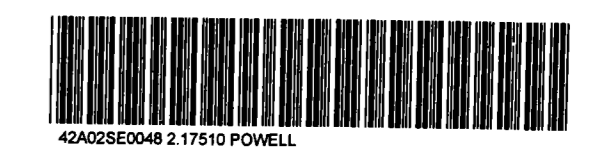
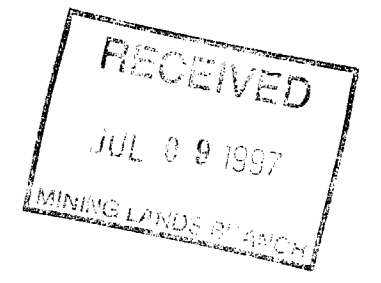


800N
700N
600N
500N
400N
300N
200N
100N
0
100S
200S
300S
400S
500S
600S



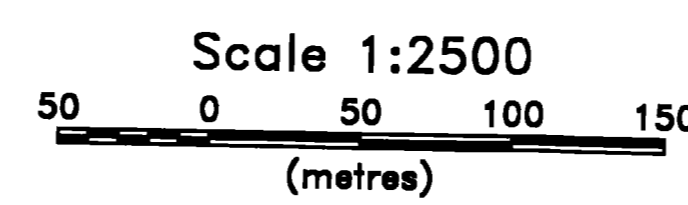
57000 subtracted from all readings

2.17510



210

June 1997



Instruments: GSM-19 Magnetometer Serial #58479

Scintrex EDA Omni IV Serial #228225

MEEGWICH INC.

Abitibi Mining Corp. Campbell Project	
Powell Township	
Ground Geophysical Survey Total Field Magnetics Contours	
Data processing and interpretation by: Meegwich Consultants Inc.	NTS 42 A/2 and 41 P/15 Scale 1:2500