2.19875

# REPORT
# ON
# MAGNETOMETER & HLEM SURVEYS
# PD-MANN OPTION
# FOR
# FALCONBRIDGE LIMITED
# TIMMINS ON.

Quad. # 2.5244

P. NIELSEN, EXPLORATION GEOLOGIST



Thunder Bay, ON.

Oct. 1999

# TABLE OF CONTENTS

| | | |
|---|---|---|
| 7- | HLEM Survey Profiles and Postings- Tielines-440 Hz | Scale 1:5000 |
| 8- | HLEM Survey Profiles and Postings- Tielines-1760 Hz | Scale 1:5000 |

## 1.0 Introduction

This report presents and discusses the results of magnetometer and HLEM survey conducted on the PD-Mann Option claims.

The surveys were carried out by Mtec Geophysics Inc. under the direction of Mike Milani, between August 16-30, 1999.

The author was requested to interpret and report on these surveys for Mtec Geophysics Inc. in his capacity as an independent consulting geologist.

## 2.0 Location and Access

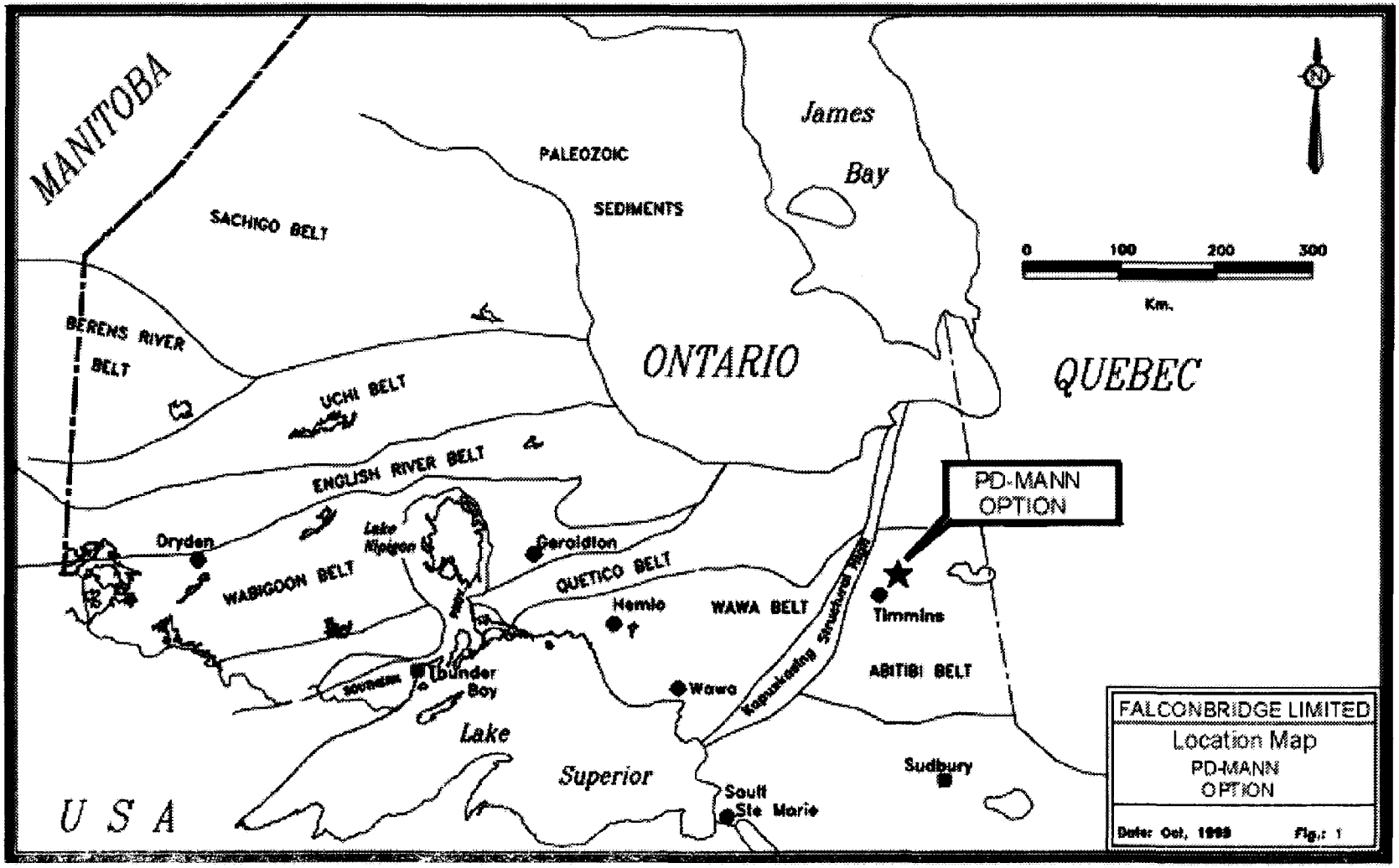
The property is located in Mann Township approximately 46 km. Northeast of Timmins Ontario. The claims are accessed directly from Highway 11, near Potter. All weather and seasonal roads allow access to the property due west from Highway 11 a distance of about 12 km. A logging road extends south from the seasonal road and transects the eastern part of the property.

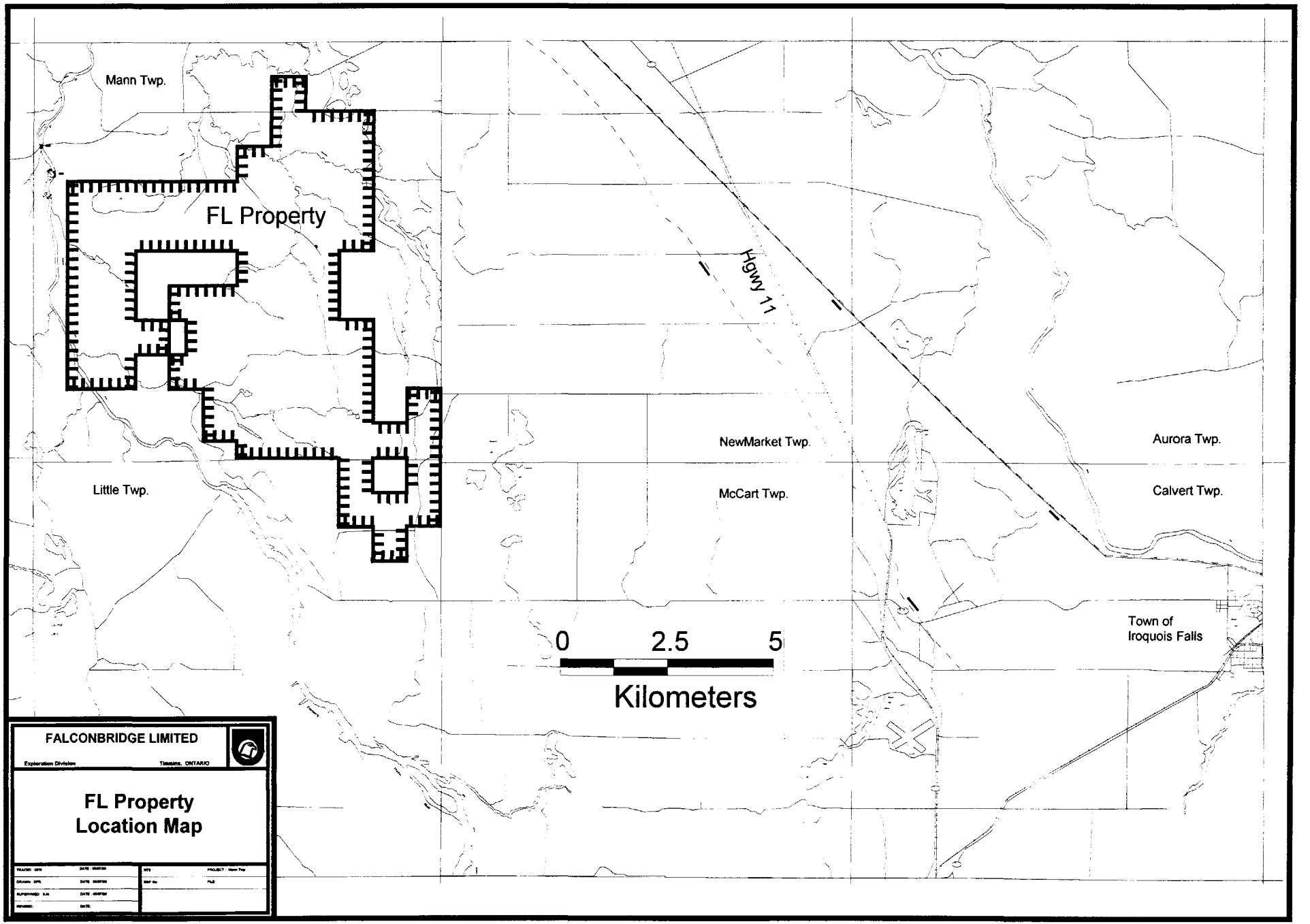
## 3.0 Property Description

The PD-Mann Option currently consists of a combination of patent, leased and recently staked mining claims located within the Porcupine Mining Division. Claims traversed during the present surveys are listed as follows:

| | |
|---|---|
| 485NEC | P |
| 543NEC | P |
| 61335-337 | L |
| 446053-054 | L |
| 446057-058 | L |
| 446062 | L |
| 446075 | L |
| 446079-086 | L |
| 446090 | L |
| 446092-106 | L |
| 1190189 | S |
| 1200920 | S |
| 1200938 | S |
| 1201901 | S |
| 1211736-737 | S |

S-staked
L- lease
P- patent


MANITOBA
PALEOZOIC
SEDIMENTS
James
Bay
SACHIGO BELT
BERENS RIVER
BELT
UCHI BELT
ENGLISH RIVER BELT
ONTARIO
QUEBEC
0
100
200
300
Km.
PD-MANN
OPTION
Dryden
Lake
Nipigon
Geraldton
WABIGOON BELT
QUETICO BELT
Hemlo
WAWA BELT
Timmins
ABITIBI BELT
Thunder
Bay
Wawa
Kapuskasing Structural Zone
Lake
Superior
Sudbury
Sault
Ste Marie
U S A
FALCONBRIDGE LIMITED
Location Map
PD-MANN
OPTION
Date: Oct, 1998
Fig.: 1


Mann Twp.
FL Property
Hgwy 11
NewMarket Twp.
Aurora Twp.
Little Twp.
McCart Twp.
Calvert Twp.
Town of
Iroquois Falls
0
2.5
5
Kilometers
FALCONBRIDGE LIMITED
Exploration Division
Timmins, ONTARIO
FL Property
Location Map

## 4.0 Regional Geology

A suite of metavolcanic, metasedimentary and mafic-ultramafic intrusive rocks underlies the property, part of the Abitibi Subprovince of the Superior Structural Province. The Abitibi greenstone belt is one of the largest, best preserved and most economically productive greenstone belts in the world. South of the property lies the Porcupine mining camp one of the pre-eminent lode gold mining districts in the world. Significant base metal production has also come from the Timmins camp mainly from the Kidd Creek VMS deposit. Komatiite-associated nickel deposits have also been intermittently mined in the camp.

In the immediate property area intermediate to felsic metavolcanic rocks composed of massive flows, and tuff, lapilli-tuff bands are the predominant rock types. Intruding these rocks is an ultramafic body composed of peridotite and pyroxenite . Chemical sedimentary rocks including graphite facies iron formation and conglomerate or pebblestone underlie the west central part of Mann Township.

## 5.0 Survey Description

The magnetometer (69.00 line km.) and HLEM (58.78 line km.) surveys were conducted on the property on previously cut-line grids. Cross line spacing was 100m.

The magnetic survey was carried out using an EDA/Scintrex OMNI PLUS proton precession magnetometer measuring variations in the total field at 12.5m intervals on the cross lines as well as all tielines and the baseline of the grid, with a sensitivity of 0.1 nT. Readings were recorded digitally, as were the corresponding diurnal variations which were monitored and recorded using an OMNI base station.

The HLEM survey employed a MaxMin I instrument with a coil separation of 150m, with measurements of the in-phase and quadrature values at 220, 440 and 1760 Hz at 25m station intervals, with an intrinsic resolution of +/-1%. Readings were also taken along tielines 8800N, 9000N and 9200N.

## 6.0 Data Processing and Presentation

The digitally recorded magnetic data were corrected for diurnal variations by subtracting the base station values. The resulting corrected data were gridded and contoured using Geosoft software. The posted magnetic data are presented on Map 1 at a scale of 1:5000, while the contoured data may be found on Map2.

The HLEM data are presented in standard fashion as in-phase and quadrature profiles, with a profile scale of 1cm = 25% for the 220 and 440 Hz frequencies and 1cm=40% for the 1760 Hz frequency. The results can be seen on Maps 3-5 at a scale of 1:5000 for the cross line surveys and Maps 6-8 for the tieline surveys.

## 7.0 Personnel

The following Mtec Geophysics Inc. personnel where employed in conducting the geophysical surveys on the property:

| | |
|---|---|
| Magnetometer Survey: | Mike Milani |
| | Cal Debnam |
| MaxMin I Survey: | Mike Milani |
| | Cal Debnam |

## 8.0 Results of Surveys

Magnetic Survey

The magnetic survey outlined 6 significant features, together with several weak subsidiary anomalies. The resultant features have been summarized in the following table.

| Location | Length | Trend | Comments |
|---|---|---|---|
| L9300E – 8000N to L9700E - 8200N | 400m + | 085 deg. AZ. | 1400 nT above background, broad up to 300 m wide |
| L11200E – 8600N to L10900E – 10000N | 1700m+ | 065-315 deg. AZ. | 3300 nT above background, up to 200 m wide, possible folded feature. |
| L11400E – 9950N to L11100E – 10000N | 350m | 310 deg. AZ | 2700 nT above background, 30 m wide |
| L10400E – 10500N to L9900E – 10200N | 500m+ | 080 deg. AZ. | Broad feature up to 400 m wide, up to 8000 nT above background, may extend west to L8900E – 9800N, possible intensely folded feature. |
| L10000E – 10700N to L10400E – 10750N | 250m | 090 deg. AZ | 6300 nT above background, up to 70 m wide |
| L9900E – 10925N to L10300E – 11125N | 450m | 085 deg. AZ | 2300 nT above background, 25m wide |

HLEM Survey

The HLEM survey outlined 7 significant features, together with several subsidiary anomalies. The resultant HLEM anomalies have been summarized in the following table.

| Location | Length | Trend | Comments |
|---|---|---|---|
| L9700E – 8600N to L9800E – 8650N | 100m+ | 090 deg. AZ | Depth <10m, Conductivity thickness 1.9 mhos, Dip near vertical to steeply north (1760Hz.). |
| L10700E – 8650N to L11300E – 8500N | 600m+ | 310 deg AZ. | Depth 40m, Conductivity thickness 30.3 mhos, Dip 50 deg. North (440 Hz.) |
| L10200E – 9000N to L10400E – 8950N | 200m+ | 310 deg AZ. | Depth 67.5m, Conductivity thickness 38 mhos, Dip 45 deg. North (440 Hz.) |
| L10300E – 9550N to L10700E – 9625N | 450m | 290 deg AZ. | Depth 35m, Conductivity thickness 32.6 mhos, Dip 35-40 deg. South (440 Hz.) |
| L10100E – 9750N to L10400E – 9800N | 350m+ | 275 deg AZ. | Depth 36m, Conductivity thickness 15.0 mhos, Dip 40 deg. South (440 Hz.) |
| L9900E – 10300N to L10200E – 10500N | 450m+ | 080 deg AZ. | Depth 22.5m, Conductivity thickness 61.1 mhos, Dip 40 deg. North (440 Hz.) |

## 9.0 Conclusions

The conductive zones previously summarized are consistent with bedrock source anomalies. The conductive zones located in the east central part of the property L11000E-8550N and L10500N-9600N indicate they may be part of a fold feature, which in part contains a flanking magnetic signature. The anomalous zones would appear to dip towards each other consistent with a synformal structure.

The conductive zone centered at L10000E-10350N is highly conductive with coincident magnetic anomaly. This is consistent with a sulphide source within altered rocks and/or graphitic layered unit.

## 10.0 Recommendations

Considering the favourable geological setting and high potential for VMS and or Cu-Ni mineralization in the area it is recommended that drill testing be carried out on four of the anomalous zones outlined in the previous table if the source cannot be explained through surface expression or by previous work. The zones are centred at:

L10000E-10350N
L10500E-9600N
L10400E-8950N
L11000E-8550N

## 11.0 References

Ayer, J.A. and Trowell, N.F. 1998. Geological compilation of the Timmins area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P 3379, scale 1:100,000

## CERTIFICATE OF QUALIFICATIONS

**THIS IS TO CERTIFY THAT:**

- I am a Canadian Citizen and reside at 170 Inglewood Crescent, Thunder Bay, Ontario, CANADA P7C 2E9.
- I have been engaged in base and precious metal exploration throughout Canada since 1974.
- I am a graduate of Lakehead University, Thunder Bay Ontario (HBSc. Geology, 1974)
- I have no interest, direct or indirect in the "PD-Mann Option" property or any of Falconbridge Limited's other holdings.

Signed in Thunder Bay, October 7, 1999

**PAUL NIELSEN**
**GEOLOGIST, BSc**

APPENDIX 1

# Specifications

## OMNI System Specifications

**Operating Environment** -40C to +55C; 0-100% relative humidity; weatherproof

**Power Supply** Non-magnetic rechargeable sealed lead-acid battery or belt; alkaline battery belt; or 12V DC power source option for base station operation.

**Battery Life** 1,700 to 5,000 readings, for sealed lead acid power supply, depending upon ambient temperature and rate of readings.

**Weights and Dimensions**

*Instrument Console*
3.8 kg, 122 x 246 x 210 mm

*VLF Sensor Head*
0.9 kg, 140 dia. x 130 mm

*VLF Electronics Module*
1.7 kg, 280 x 190 x 75 mm

*Standard Rechargeable Battery*
1.8 kg, 138 x 95 x 75 mm

*Standard Rechargeable Battery Belt*
1.8 kg, 540 x 100 x 40 mm

*Heavy Duty Rechargeable Battery*
2.0 kg, 138 x 115 x 75 mm

*Alkaline Battery Belt*
1.2 kg, 540 x 100 x 40 mm

*Magnetometer Sensor*
1.2 kg, 56mm dia. x 200mm

*Gradient Sensor*
*(0.5m separation - standard)*
2.1 kg, 56mm dia. x 790mm

*Gradient Sensor*
*(1.0m separation - optional)*
2.2 kg, 56mm dia. x 1300mm

**Display**
Custom designed, rugged liquid crystal display with an operating temperature range from -40C to +55C. The display contains six numeric digits, decimal point, battery status monitor, signal decay rate and signal amplitude monitor and function descriptors.

## Magnetometer Component Specifications

**Dynamic Range** 18,000 to 110,000 gammas. Roll-over display feature suppresses first significant digit upon exceeding 100,000 gammas.

**Tuning Method** Tuning value is calculated accurately using a specialty developed tuning algorithm.

**Automatic Fine Tuning** ±15% relative to ambient field strength of last stored value

**Display Resolution** 0.1 gamma

**Statistical Error Resolution**
0.01 gamma

**Absolute Accuracy** ± 1 gamma at 50,000 gammas at 23C • ±2 gamma over total temperature range

**Memory Capacity**

*Standard Memory Capacity* 1300 data blocks (48K) or 5200 data blocks (128K)

*Total Field or Gradient* 100 data blocks

*Base Station* 4000 data blocks (48K) or 16,000 data blocks (128K)

**RS-232C Serial I/O Interface** Variable baud rate from 300 to 9600 baud, 8 data bits, 2 stop bits, no parity

**Gradient Tolerance** 6,000 gammas per metre (field proven)

**Test Mode** A. Diagnostic testing (data and programmable memory)
B. Self Test (hardware)

**Sensor** Optimized miniature design. Magnetic cleanliness is consistent with the specified absolute accuracy.

**Gradient Sensors** 0.5 metre sensor separation (standard) normalized to gammas/metre. Optional 1.0 metre sensor separation available.

**Sensor Cable** Remains flexible in temperature range specified including strain relief connector

**Cycling Time (Base Station)**
Programmable from 5 seconds up to 60 minutes in 1 second increments.

## VLF Component Specifications

**Frequency Tuning Range** 15 to 30 kHz in 100 Hz increments with bandwidth of 150 Hz; tuning range accommodates new Puerto Rico station at 28.5 kHz.

**Transmitting Stations** Up to 3 stations can be automatically measured at any given grid location within frequency tuning range.

**Recorded VLF Magnetic Parameters**
Vertical in-phase, vertical quadrature (out-of-phase), total field strength (or optional horizontal amplitude), dip angle

**Channel Separation** 80 dB at 600 Hz frequency separation

**Standard Memory Capacity** 1300 combined VLF magnetic and VLF electric measurements as well as gradiometer and magnetometer readings

SCINTREX

222 Snidercroft Road
Concord,Ontario,Canada
L4K 1B5

Telephone: (416) 669-2280
Telex: 06-964570
Telefax: (416) 669-6403
(416) 669-5132

OMNI/2

# APPENDIX II

## MAXMIN I-8 ELECTROMAGNETIC SYSTEM SPECIFICATIONS:

| | |
|---|---|
| FREQUENCIES: | 110, 220, 440, 880, 1760, 3520, 7040 & 14080 Hz. |
| COIL SEPARATIONS: | SET NO. 1: 12.5, 25, 50, 75, 100, 125, 150, 200, 250, 300 and 400 metres (the standard set).<br>SET NO. 2: 10, 20, 40, 60, 80, 100, 120, 160, 200, 240 and 320 metres (selected with grid switch in receiver).<br>SET NO. 3: 50, 100, 200, 300, 400, 500, 600, 800, 1000, 1200 and 1600 feet (selected with grid switch in receiver). |
| TRANSMITTER DIPOLE MOMENTS: | 110 Hz: 220 Atm²  1760 Hz: 160 Atm²<br>220 Hz: 215 Atm²  3520 Hz: 80 Atm²<br>440 Hz: 210 Atm²  7040 Hz: 40 Atm²<br>880 Hz: 200 Atm²  14080 Hz: 20 Atm² |
| MODES OF OPERATION: | MAX 1: Horizontal loop or slingram - transmitter and receiver coil planes horizontal and coplanar.<br>MAX 2: Vertical coplanar loop mode transmitter and receiver coil planes vertical and coplanar.<br>MIN 1: Perpendicular mode 1 - transmitter coil plane horizontal and receiver coil plane vertical.<br>MIN 2: Perpendicular mode 2 - transmitter coil plane vertical and receiver coil plane horizontal. |
| PARAMETERS MEASURED: | In-phase and quadrature componets of the secondary magnetic field, in % of primary field. |
| READOUTS: | Analog direct edgewise meter readouts for in-phase, quadrature and tilt. Additional digital LCD readouts provided in the optional MMC computer. Interfacing and controls are provided for ready plug-in of the MMC. |
| RANGES OF READOUTS: | Switch activated analog in-phase and quadrature scales: 0±4 %, 0±20 % and 0±100 %, and digital 0±199.9 % autorange with optional MMC. Analog tilt 0±75 % and 0±99 % grade with MMC. |
| RESOLUTION: | Analog in-phase and quadrature 0.1 to 1 % of primary field, depending on scale used, digital 0.01 % with autoranging MMC; tilt 1 % grade. |
| REPEATABILITY: | 0.01 to 1 % of primary field, typical, depending on frequency, coil separation and conditions. |
| SIGNAL FILTERING: | Powerline comb filter, continuous spheric noise clipping, autoadjusting time constant, and more. |
| WARNING LIGHTS: | Receiver signal and reference warning lights to indicate potential error conditions. |
| SURVEY DEPTH PENETRATION: | From surface down to 1.5 times coil separation for large horizontal target and 0.75 times coil separation for large vertical target, values typical. |
| REFERENCE CABLE: | Lightweight unshielded 4/2 conductor teflon cable for maximum operating temperature range and for minimum pulling friction. |
| INTERCOM: | Voice communication link provided for operators via the reference cable. |
| TEMP. RANGE: | Minus 40 to plus 60 degrees Celsius, operating. |
| RECEIVER BATTERIES: | Four standard 9 V - 0.6 Ah alkaline batteries. Life 25 hours continuous duty, less in cold weather. Optional 1.2 Ah extended life lithium batteries available (recommended for very cold weather). |
| TRANSMITTER BATTERIES: | Standard rechargeable gel-type lead-acid 12V-14Ah batteries (4 x 6 V - 7.2 Ah) in nylon belt pack. Optionally rechargeable long life 12 V - 14 Ah nickel-cadmium batteries (20 x 1.2 V - 7 Ah) with ni-cad chargers - best choice for cold climates. |
| TRANSMITTER BATTERY CHARGERS: | Lead acid battery charger: 14.4 V @ 1.25 A, Ni-cad battery charger: 1.4 A @ 16 V, nominal output. Operation from 110 - 120 and 220 - 240 VAC, 50 - 60 Hz, and 12 - 15 VDC supplies. |
| RECEIVER WEIGHT: | 8 Kg carrying weight (including the two ferrite cored antenna coils), 9 Kg with MMC computer. |
| TRANSMITTER WT: | 16 Kg carrying weight. |
| SHIPPING WEIGHT: | 60 Kg plus weight of reference cables at 2.6 Kg per 100 metre, plus optional items if any. Shipped in two aluminum lined field / shipping cases. |
| STANDARD SPARES: | Spare transmitter battery pack, spare transmitter battery charger, two spare transmitter retractile connecting cords, spare set of receiver batteries. |
| OPTIONS AND ACCESSORIES, PLEASE SPECIFY: | • MMC, Maxmin Computer option<br>• Data interpretation and presentation programs<br>• Reference cables, lengths as required<br>• Reference cable extension adapter<br>• Handheld inclinometer for rough terrain<br>• Receiver extended life lithium batteries<br>• Transmitter ni-cad battery & charger option<br>• Minimal, regular or extended spare parts kit |

Specifications subject to changes without notification

93 - 10 - 15

Telephone: (1) 905 852 5875  Facsimile: (1) 905 852 9688  P. O. Box 818, Uxbridge, Ontario, Canada L9P 1N2

APEX PARAMETRICS LIMITED  Airport: Toronto International

Ontario Ministry of Northern Development and Mines

# Declaration of Assessment Work Performed on Mining Land

**Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990**

| Transaction Number (office use) |
|---|
| W9760.00129 |
| Assessment Files Research Imaging |

42A15SW2009 2.19875 MANN 900

subsection 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, ssesment work and correspond with the mining land holder. Questions about this orthern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury,

2.19875

Instructions: - For work performed on Crown Lands before **recording** a claim, use form 0240.
- Please type or print in ink.

## 1. Recorded holder(s) (Attach a list if necessary)

| Name | Field Office | Client Number |
|---|---|---|
| **Falconbridge Limited** | | 130679 |
| Address<br>Suite 1200, 95 Wellington St. West | Falconbridge Ltd.<br>Timmins Exploration Office | Telephone Number (416) 956-5700<br>(705) 264-5200 (Field Office) |
| Toronto, Ont. M5J 2V4 | P.O. Box 1140<br>Timmins, Ont. P4N 7H9 | Fax Number (416) 956-5757<br>(705) 267-8874 (Field Office) |
| Name | | Client Number |
| Address | | Telephone Number |
| | | Fax Number |

## 2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

☒ Geotechnical: prospecting, surveys, assays and work under section 18 (regs) ☐ Physical: drilling stripping, trenching and associated assays ☐ Rehabilitation

| Work Type | Office Use |
|---|---|
| Line cutting<br>Ground Magnetic and Horizontal Loop EM Geophysical Surveys | Commodity |
| | Total $ Value of Work Claimed **$36,052.00** |
| Dates Work Performed From 16 (Day) 08 (Month) 99 (Year) To 30 (Day) 08 (Month) 99 (Year) | NTS Reference **42-A/15** |
| *Global Positioning System Data (if available)* Township/Area **Mann Twp.** | Mining Division **Porcupine** |
| M or G-Plan Number **G-3537** | Resident Geologist District |

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

## 3. Person or companies who prepared the technical report (Attach a list if necessary)

| Name | Telephone Number |
|---|---|
| **L'Unik Explorer** (line-cutting) | (819) 747-2317 |
| Address<br>C.P. 531 Rouyn-Noranda, Quebec J9X 5C4 | Fax Number |
| Name<br>**Mtec Geophysics** (ground geophysical surveys) | Telephone Number<br>(807) 935-3146 |
| Address<br>P.O. Box 88, Murillo, Ont. P0T 2G0 | Fax Number<br>(807) 935-2009 |
| Name | Telephone Number |
| Address | Fax Number |

RECEIVED
NOV 03 1999
GEOSCIENCE ASSESSMENT OFFICE

## 4. Certification by Recorded Holder or Agent

I, Dean Rogers (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

| Signature of Recorded Holder or Agent | | Date |
|---|---|---|
| | | Oct. 28, 1999 |
| Agent's Address<br>Falconbridge Ltd. (As above) | Telephone Number<br>(705) 264-5200 | Fax Number<br>(705) 267-8874 |

0241 (03/97)

RECEIVED
NOV 8 1999
PORCUPINE MINING DIVISION

**5. Work to be recorded and distributed.** Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

W9960.00429

| | 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. 2.19875 | Bank. Value of work to be distributed at a future date |
|---|---|---|---|---|---|---|---|
| 1 | 358 | 446095 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 2 | 357 | 446097 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 3 | 356 | 446098 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 4 | 366 | 446082 | 16 Ha | $1,033.74 | 0 | $1,033.74 | 0 |
| 5 | 368 | 446075 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 6 | 363 | 446084 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 7 | 361 | 446093 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 8 | 359 | 446096 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 9 | 362 | 446092 | 16 Ha | $904.52 | 0 | $904.52 | 0 |
| 10 | 364 | 446083 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 11 | 365 | 446081 | 16 Ha | $387.65 | 0 | $387.65 | 0 |
| 12 | 360 | 446094 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 13 | 372 | 446080 | 16 Ha | $258.42 | 0 | $258.42 | 0 |
| 14 | 371 | 446079 | 16 Ha | $129.21 | 0 | $129.21 | 0 |
| 15 | 370 | 446085 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 16 | 369 | 446086 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 17 | 380 | 446100 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 18 | 379 | 446099 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 19 | 378 | 446101 | 16 Ha | $646.09 | 0 | $646.09 | 0 |
| 20 | 377 | 446102 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 21 | 376 | 446104 | 16 Ha | $258.42 | 0 | $258.42 | 0 |
| 22 | 375 | 446103 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 23 | 374 | 446105 | 16 Ha | $646.09 | 0 | $646.09 | 0 |
| 24 | 373 | 446106 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 25 | 384 | 446054 | 16 Ha | $904.52 | 0 | $904.52 | 0 |
| 26 | 383 | 446058 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 27 | 382 | 446053 | 16 Ha | $1,292.18 | 0 | $1,292.18 | 0 |
| 28 | 381 | 446057 | 16 Ha | $775.30 | 0 | $775.30 | 0 |
| 29 | 387 | 446090 | 16 Ha | $258.42 | 0 | $258.42 | 0 |
| 30 | 386 | 446062 | 16 Ha | $129.21 | 0 | $129.21 | 0 |
| 31 | 6000274 | 61337 | 16 Ha | $258.42 | 0 | $258.42 | 0 |
| 32 | | 1190189 | 16 units | $1,550.62 | 0 | 0 | $1,550.62 |
| 33 | | 1200920 | 16 units | $1,033.74 | 0 | 0 | $1,033.74 |
| 34 | | 1200938 | 8 units | $387.65 | 0 | 0 | $387.65 |
| 35 | | 1201901 | 16 units | $2,067.48 | 0 | 0 | $2,067.48 |
| 36 | | 1211736 | 3 units | $775.30 | 0 | $147.79 149 | 627.51 626 |
| 37 | | 1211737 | 3 units | $387.96 | 0 | $387.96 | 0 |
| 38 | | 1200914 | 4 units | 0 | $1,600.00 | 0 | 0 |
| 39 | | 1200915 | 16 units | 0 | $3,185.00 | 0 | 0 |
| 40 | | 1200916 | 16 units | 0 | $6,400.00 | 0 | 0 |
| 41 | | 1200908 | 16 units | 0 | $6,400.00 | 0 | 0 |
| 42 | | 1200910 | 8 units | 0 | $3,200.00 | 0 | 0 |
| 43 | | 1200906 | 16 units | 0 | $6,400.00 | 0 | 0 |
| 44 | | 1200909 | 8 units | 0 | $3,200.00 | 0 | 0 |
| | | **Column Totals** | 496 Ha + 146 units | $36,052.00 | $30,385.00 | $30,385.00 | $5,667.00 |

I, **Dean Rogers** (Print Full Name), 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 | Date |
|---|---|
| Dean Rogers | **Oct. 28, 1999** |

**6. Instruction 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):

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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: RECEIVED NOV 2 1999 2:45 PM PORCUPINE MINING DIVISION

| Deemed Approved Date | Date Notification Sent |
|---|---|
| Date Approved | Total Value of Credit Approved |
| Approved for Recording by Mining Recorder (Signature) | |

0241 (03/97)

Ontario Ministry of Northern Development and Mines

# Statement of Costs for Assessment Credit

Transaction Number (office use)
W9960.00129

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, this 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 a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

2.19875

| Work Type | Units of work<br>Depending on the type of work, list the number of hours/day worked, metres of drilling, kilometres of grid line, number of samples, etc. | Cost Per Unit of work | Total Cost |
|---|---|---|---|
| Line Cutting | 66.5 km | $285.00/km | $18,952.50 |
| Ground Magnetic Survey | 69.0 km | $80.00/km | $5,520.00 |
| Ground HLEM Survey | 58.775 km | $180.00/km | $10,579.50 |
| | | | |
| | | | |
| | | | |
| | | | |
| **Associated Costs (e.g. supplies, mobilization and demobilization).** | | | |
| Geologist Planning and Supervision, Interpretation by Staff Geophysicist | 4 days | $250.00/day | $1,000.00 |
| | | | |
| | | | |
| | | | |
| | | | |
| **Transportation Costs** | | | |
| | | | |
| | | | |
| **Food and Lodging Costs** | | | |
| | | | |
| | | | |
| | | **Total Value of Assessment Work** | **$36,052.00** |

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**Calculations of Filing Discounts:**

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. 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 x 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, Dean Rogers (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, Project Geologist (recorded holder, agent, or state company position with signing authority), I am authorized to make this certification.

0212 (03/97)

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NOV 2 1999
PORCUPINE MINING DIVISION

Signature: Dean Rogers Date: Oct. 28, 1999

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

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

Telephone: (888) 415-9845
Fax: (877) 670-1555

Visit our website at:
www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

December 9, 1999

FALCONBRIDGE LIMITED
SUITE 1200, 95 WELLINGTON STREET WEST
TORONTO, ONTARIO
M5J-2V4

Dear Sir or Madam:

**Submission Number:** 2.19875

**Status**

**Subject: Transaction Number(s):** W9960.00429 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. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

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 LUCILLE JEROME by e-mail at lucille.jerome@ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

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

Correspondence ID: 14396
Copy for: Assessment Library

# Work Report Assessment Results

**Submission Number:** 2.19875

**Date Correspondence Sent:** December 09, 1999 **Assessor:** LUCILLE JEROME

| Transaction Number | First Claim Number | Township(s) / Area(s) | Status | Approval Date |
|---|---|---|---|---|
| W9960.00429 | G.600358 | MANN | Approval | December 08, 1999 |

**Section:**
14 Geophysical EM
14 Geophysical MAG

**Correspondence to:**
Resident Geologist
South Porcupine, ON

Assessment Files Library
Sudbury, ON

**Recorded Holder(s) and/or Agent(s):**
Dean F. Rogers
TIMMINS, ONTARIO, CANADA

FALCONBRIDGE LIMITED
TORONTO, ONTARIO



Correspondence ID: 14396

AREAS WITHDRAWN FROM DISPOSITION

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

| Description | Order No. | Date | Disposition | File |
|---|---|---|---|---|

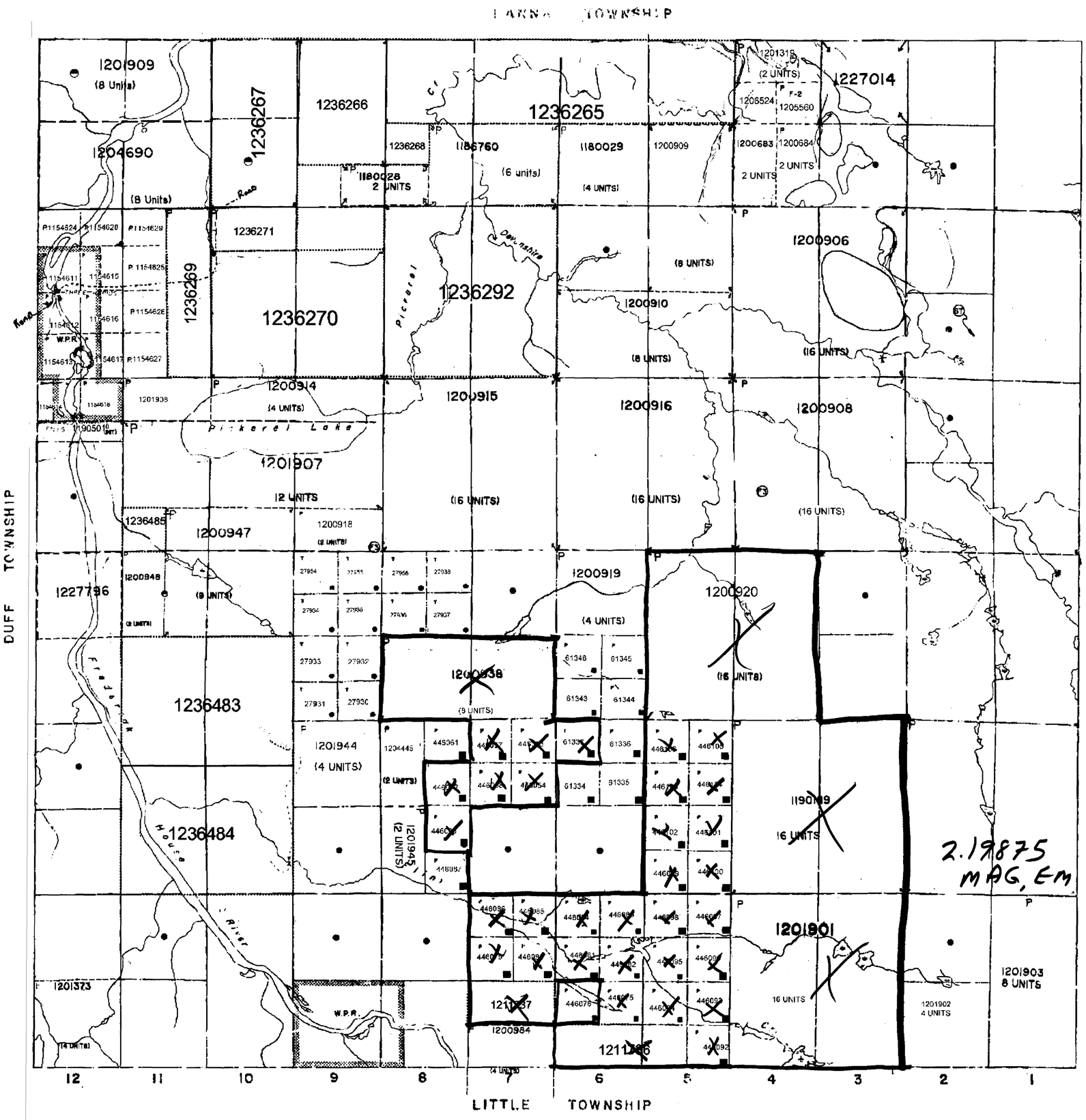
WATER POWER RESERVE

W.O. 87 / 87

SURFACE AND MINING RIGHTS RE-OPENED TO PROSPECTING, STAKING OUT, SALE OR LEASE UNDER SECTION 35 OF THE MINING ACT R.S.O. 1990 EFFECTIVE 90-MAR-08 AT 7AM EST. ORDER NO. O-P 4/90 SR DATED 90-MAR-02.

NOTE- P1126837 PLOTTED IN ERROR.
S/B P1114737.

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.




## 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

| 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 | OC |
| RESERVATION | |
| CANCELLED | |
| SAND & GRAVEL | |
| LAND USE PERMIT | * |

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO 1913, VESTED IN ORIGINAL PATENTEE BY 1ST LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 8, SUB-

L.L.W.P.

SCALE 1:20 000

ST SNOWMOBILE TRAIL (LAND USE PERMIT) NOTICE RECEIVED 92-DEC-09

DATE OF ISSUE
DEC 16 1999
PROVINCIAL RECORDING OFFICE - SUDBURY

Received Sept 12/86

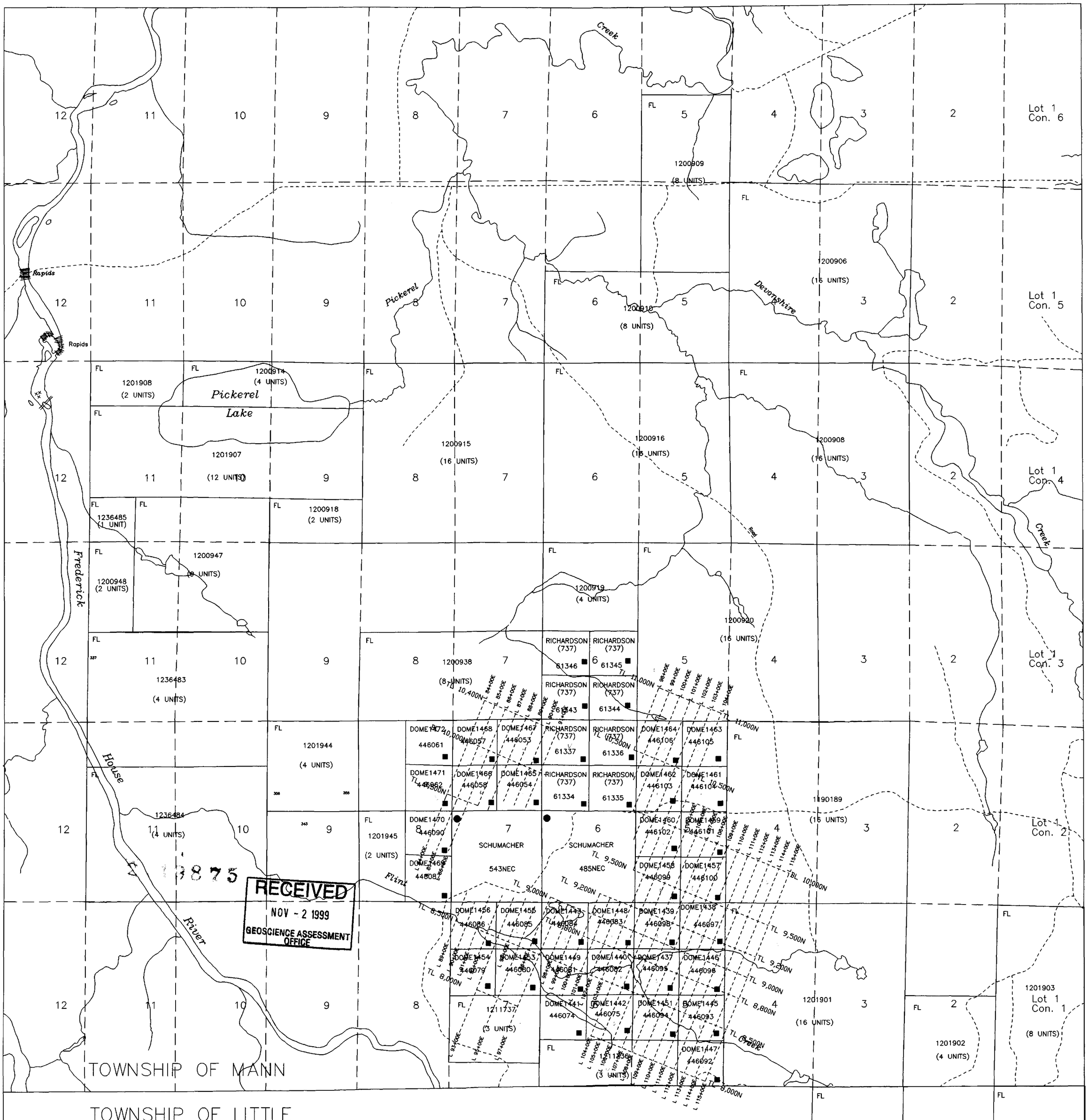
TOWNSHIP
# MANN

M.N.R. ADMINISTRATIVE DISTRICT
COCHRANE
MINING DIVISION
PORCUPINE
AND TITLES / REGISTRY DIVISION
COCHRANE

Ontario
Ministry of Natural Resources
Ministry of Northern Development and Mines

Date: SEPTEMBER, 1986
Number: G-3537

42A15SW2009 2.19875 MANN 200



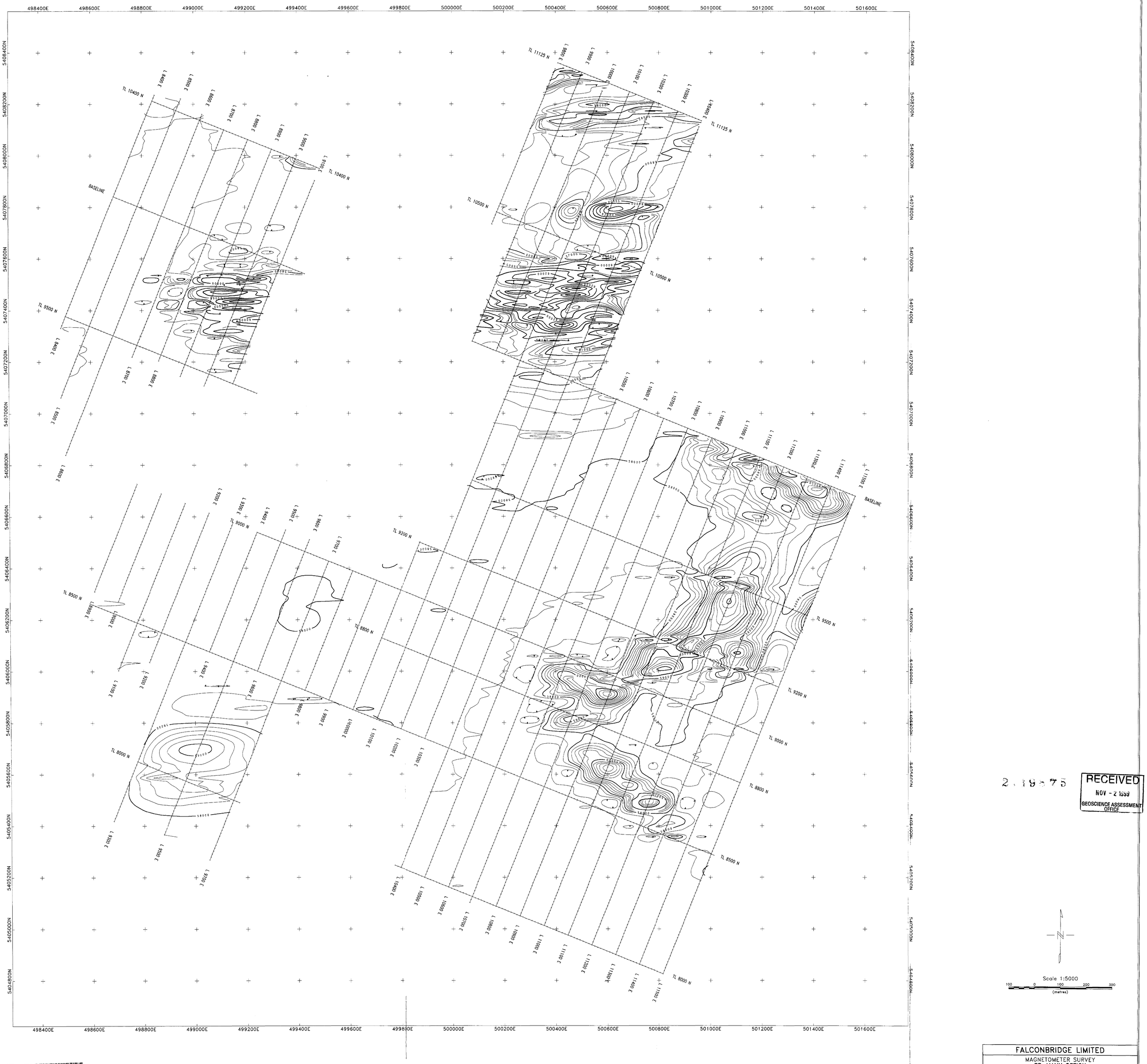



42A15SW2009 2.19875 MANN 210

Falconbridge Ltd. – Timmins
Mann Township

# FL Property Location Map

| | |
|---|---|
| Traced by : | Approved by : |
| Drawn by : Dean Rogers Oct12/99 | Plan no. : |
| Supervised by : | Scale : 1 : 20,000 (metres) |
| Revised by : | |



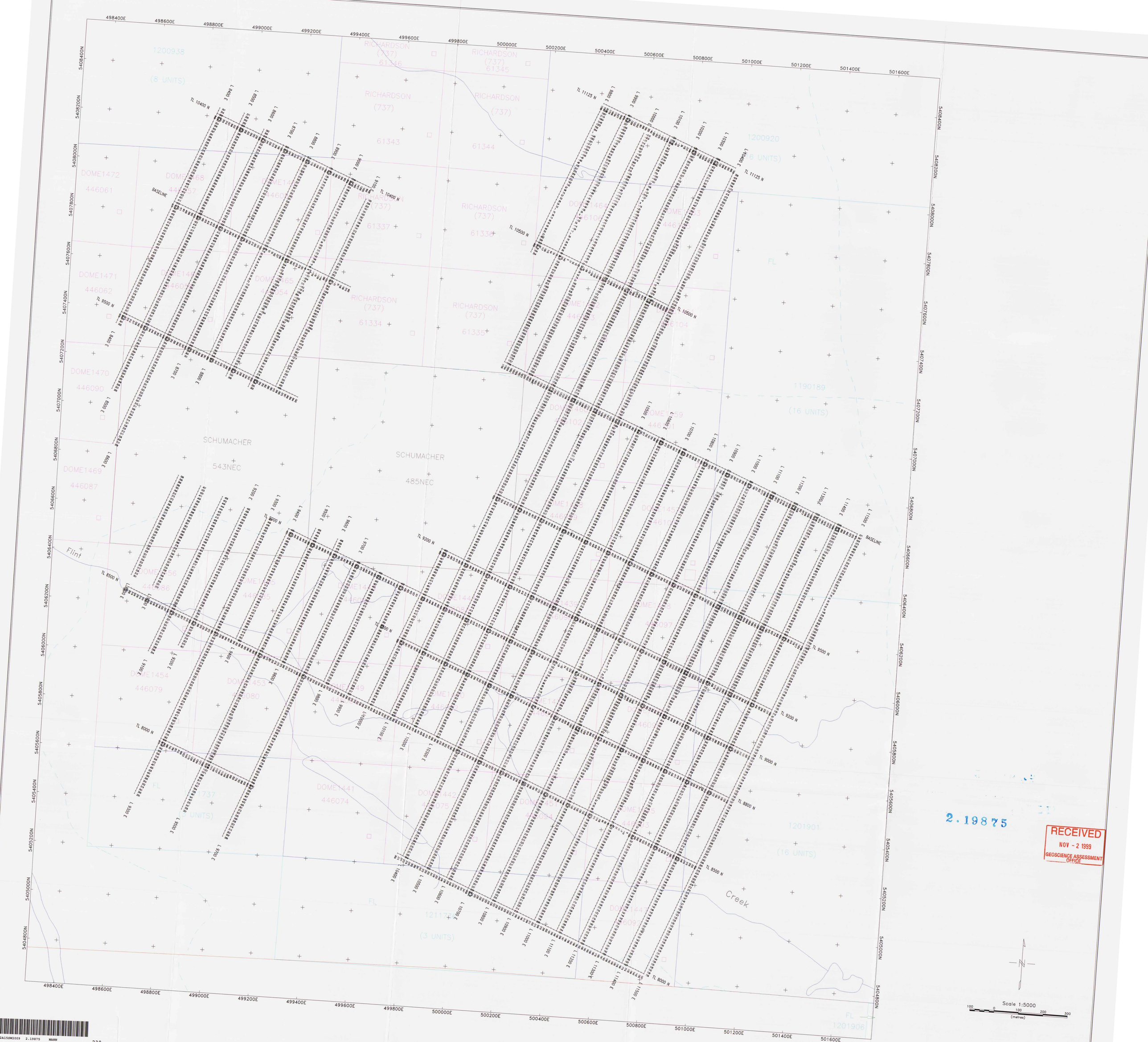

2.19875



Scale 1:5000

100 0 100 200 300 (metres)

| FALCONBRIDGE LIMITED |
|---|
| MAGNETOMETER SURVEY<br>**PD–MANN OPTION**<br>**MANN TWP., ONTARIO** |
| CONTOURED TOTAL FIELD DATA<br>CONTOUR INTERVAL: 200, 1000, 5000 nT<br>INSTRUMENT: SCINTREX/EDA OMNIPLUS |
| *MTEC GEOPHYSICS INC.* |

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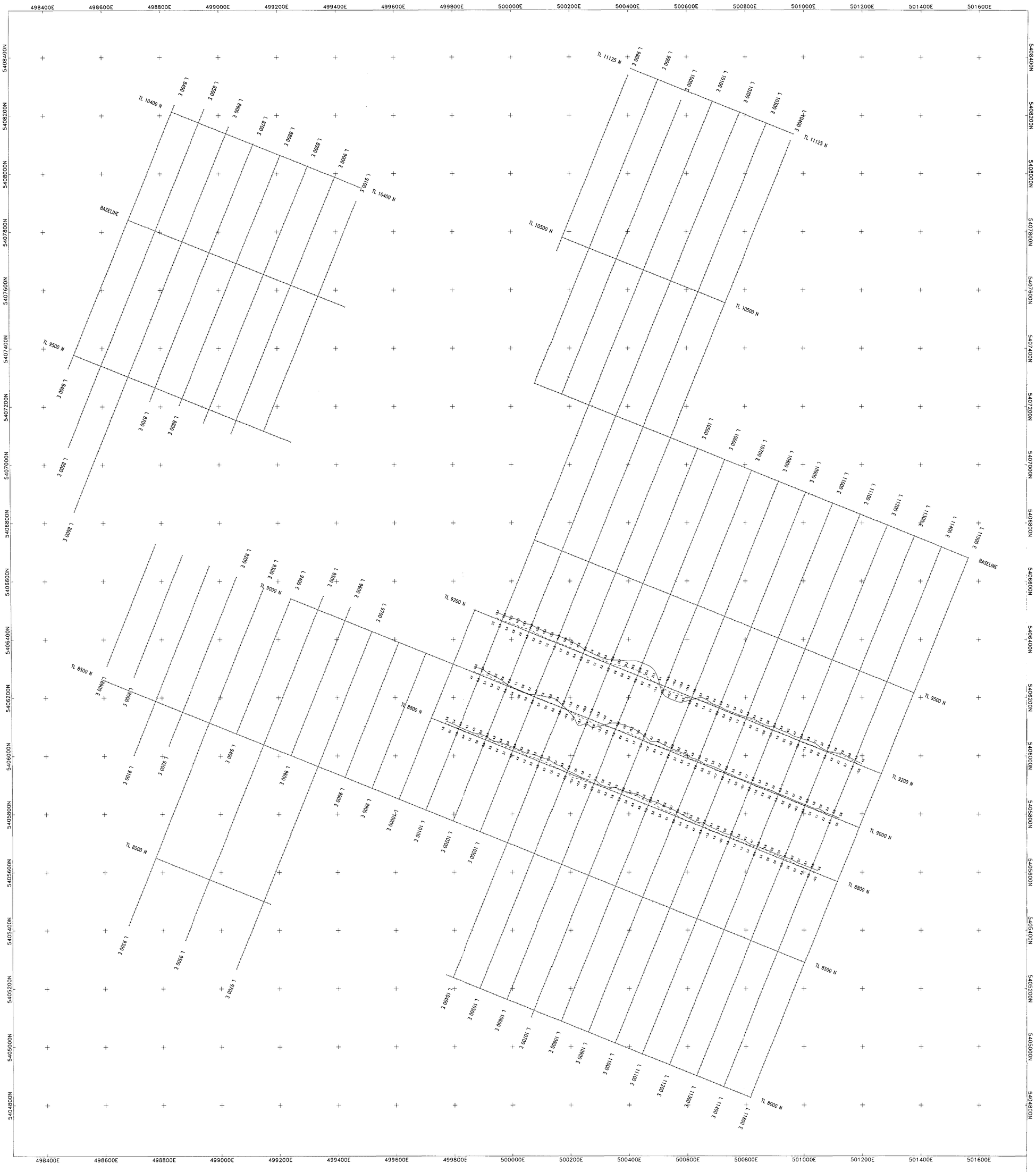
Scale 1:5000

100 0 100 200 300 (metres)

| FALCONBRIDGE LIMITED |
| --- |
| MAGNETOMETER SURVEY<br>**PD-MANN OPTION**<br>**MANN TWP., ONTARIO** |
| POSTED TOTAL FIELD DATA |

2A15SW2009 2.19875 MANN

230






Scale 1:5000

100 0 100 200 300 (metres)

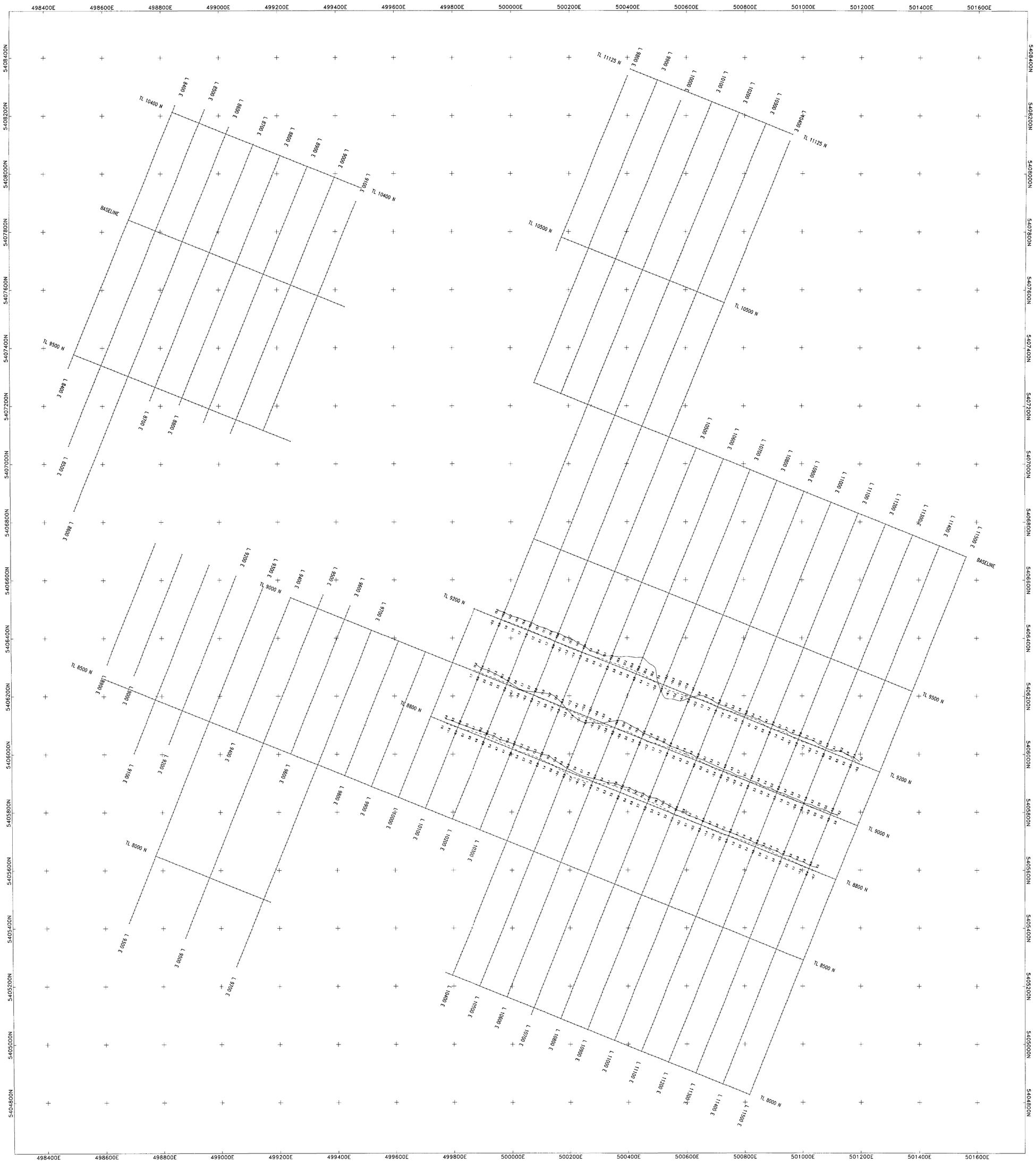
Quadrature — In Phase

25% 0% -25%

Profile Scale: 1 cm = 25%

Coil Separation: 150m

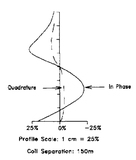
| FALCONBRIDGE LIMITED |
|---|
| HLEM SURVEY (TIELINES)<br>**PD–MANN OPTION**<br>**MANN TWP., ONTARIO** |
| PROFILED MAXMIN I DATA<br>FREQUENCY: 220 Hz.<br>Instrument: Apex Parametrics Limited Maxmin I |
| *MTEC GEOPHYSICS INC.* |



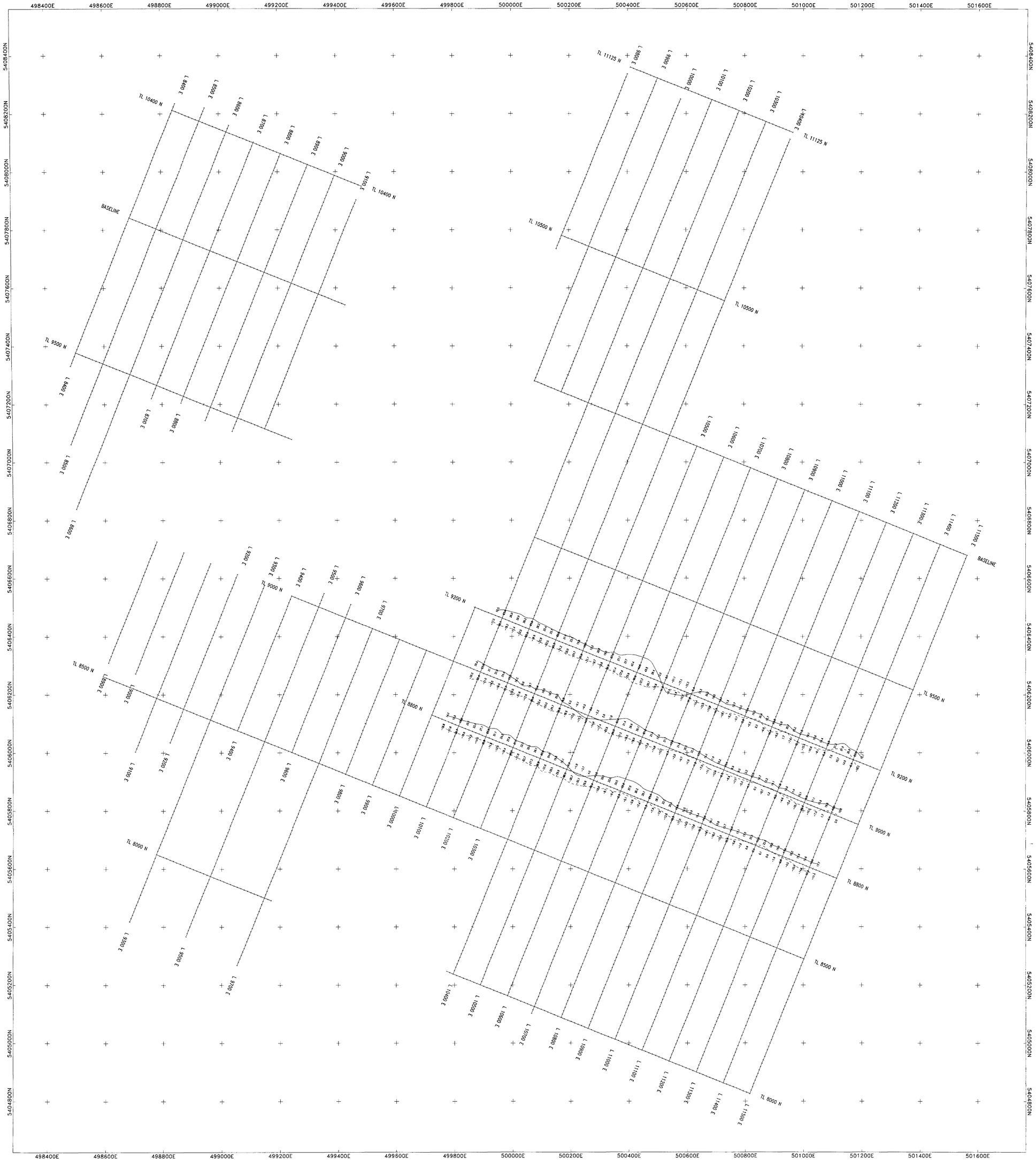



Scale 1:5000

100 0 100 200 300
(metres)




| FALCONBRIDGE LIMITED |
|---|
| HLEM SURVEY (TIELINES)<br>**PD-MANN OPTION**<br>**MANN TWP., ONTARIO** |
| PROFILED MAXMIN I DATA<br>FREQUENCY: 440 Hz.<br>Instrument: Apex Parametrics Limited Maxmin I |
| *MTEC GEOPHYSICS INC.* |



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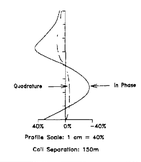
Scale 1:5000

100 0 100 200 300 (metres)




| FALCONBRIDGE LIMITED |
| --- |
| HLEM SURVEY (TIELINES)<br>**PD-MANN OPTION**<br>**MANN TWP., ONTARIO** |
| PROFILED MAXMIN I DATA<br>FREQUENCY: 1760 Hz.<br>Instrument: Apex Parametrics Limited Maxmin I |
| *MTEC GEOPHYSICS INC.* |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Scale 1:5000
100 0 100 200 300
(metres)

42A15SW2009 2.19875 MANN 270

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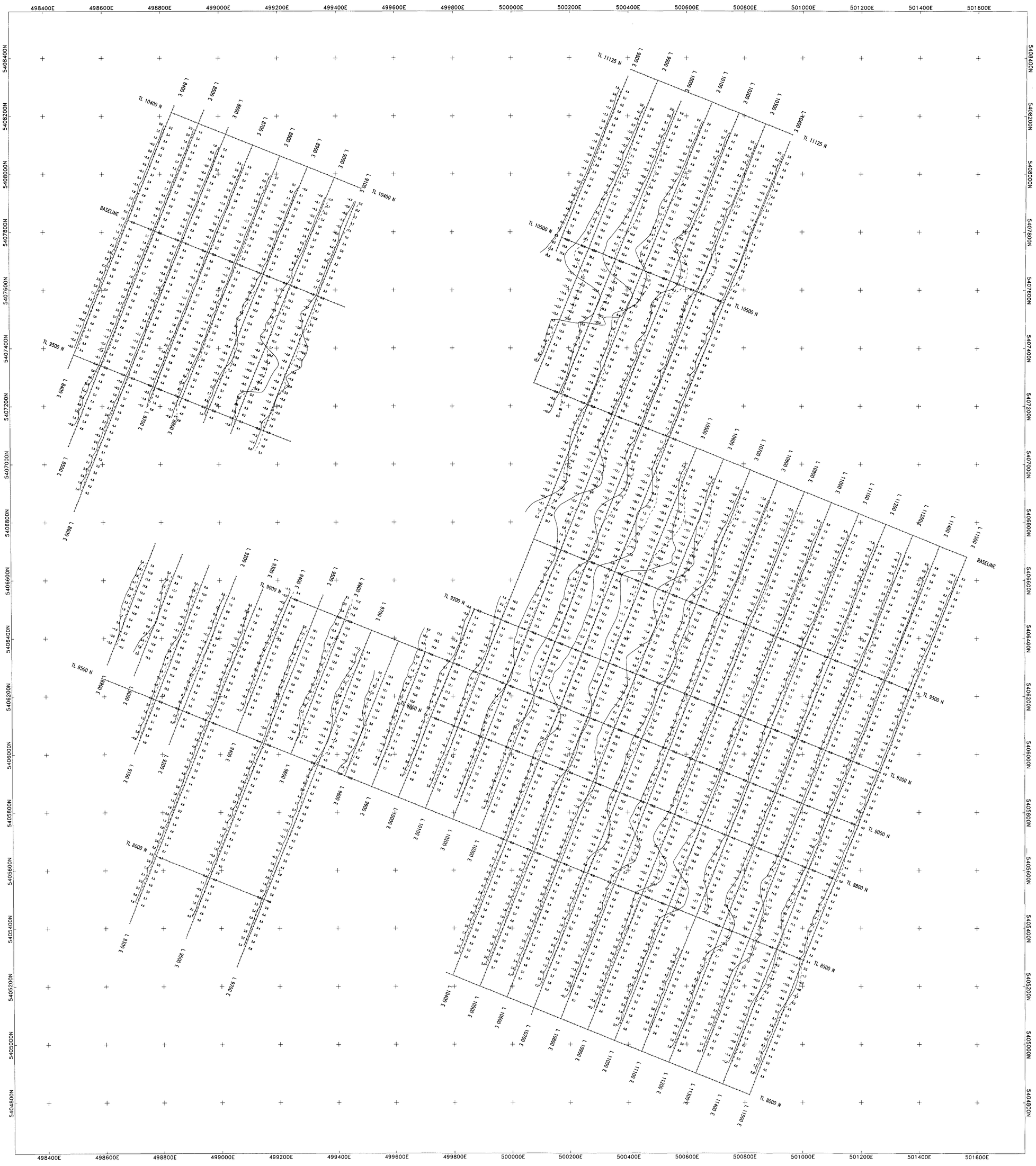
HLEM SURVEY
PD-MANN OPTION
MANN TWP., ONTARIO
PROFILED MAXWELL

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Scale 1:5000
100 0 100 200 300
(metres)

Quadrature — In Phase
25% 0% -25%
Profile Scale: 1 cm = 25%
Coil Separation: 150m

| FALCONBRIDGE LIMITED |
|---|
| HLEM SURVEY<br>**PD-MANN OPTION**<br>**MANN TWP., ONTARIO** |
| PROFILED MAXMIN I DATA<br>FREQUENCY: 440 Hz.<br>Instrument: Apex Parametrics Limited Maxmin I |
| *MTEC GEOPHYSICS INC.* |

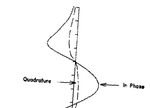
42A15NW2009 2.19875 MANN 280


2.19875



Scale 1:5000

100 0 100 200 300 (metres)




Profile Scale: 1 cm = 40%

FALCONBRIDGE LIMITED

HLEM SURVEY
PD-MANN OPTION
MANN TWP., ONTARIO

PROFILED MAXMIN I DATA
FREQUENCY