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August 19<sup>th</sup> 2019

NTS Map 41/I/05

# Report of 2019 Total Field Magnetics Survey

On Behalf Of

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**DRURY Township**

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## Introduction

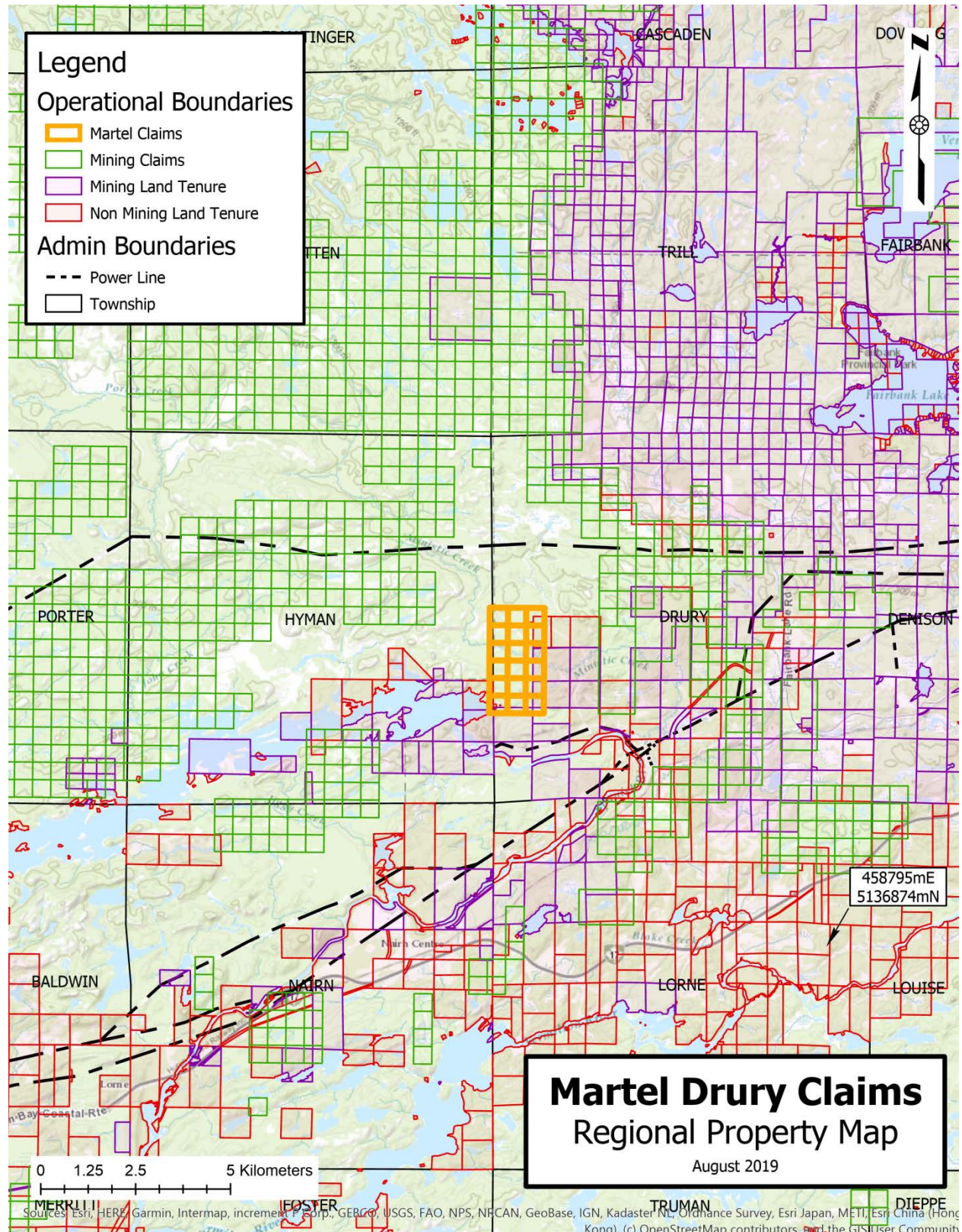
Dan Patrie Exploration Ltd was contracted by Phillip Martel to perform a Total Field Magnetics GPS Survey of the claim group held by Phillip Martel in the township of Drury. Dan Patrie Exploration commenced the survey with a crew of 3 workers on August 12th 2019 and concluded the field work by August 14<sup>th</sup> 2019.

The contiguous claim group consists of 18 unpatented mining claims. The center of the claim group is located at UTM 17 T 456995mE, 5138640mN (Nad 83) approximately 8.2km south/west of Nairn Center, Ontario. (Refer to **Map A – Regional Property Map/Map B – Property Access Map**)

## Property Access

The town of Sudbury was used for accommodations and supplies during the work period. Direct access to the property was obtained by pickup trucks via Hwy 17 and continuing north/west onto Spanish River Rd, High Falls Rd, and Seldom Seen Road. Detailed property and access map is provided. (Refer to **Map A – Regional Property Map/Map B – Property Access Map**)

**Map A – Drury Regional Property Map**



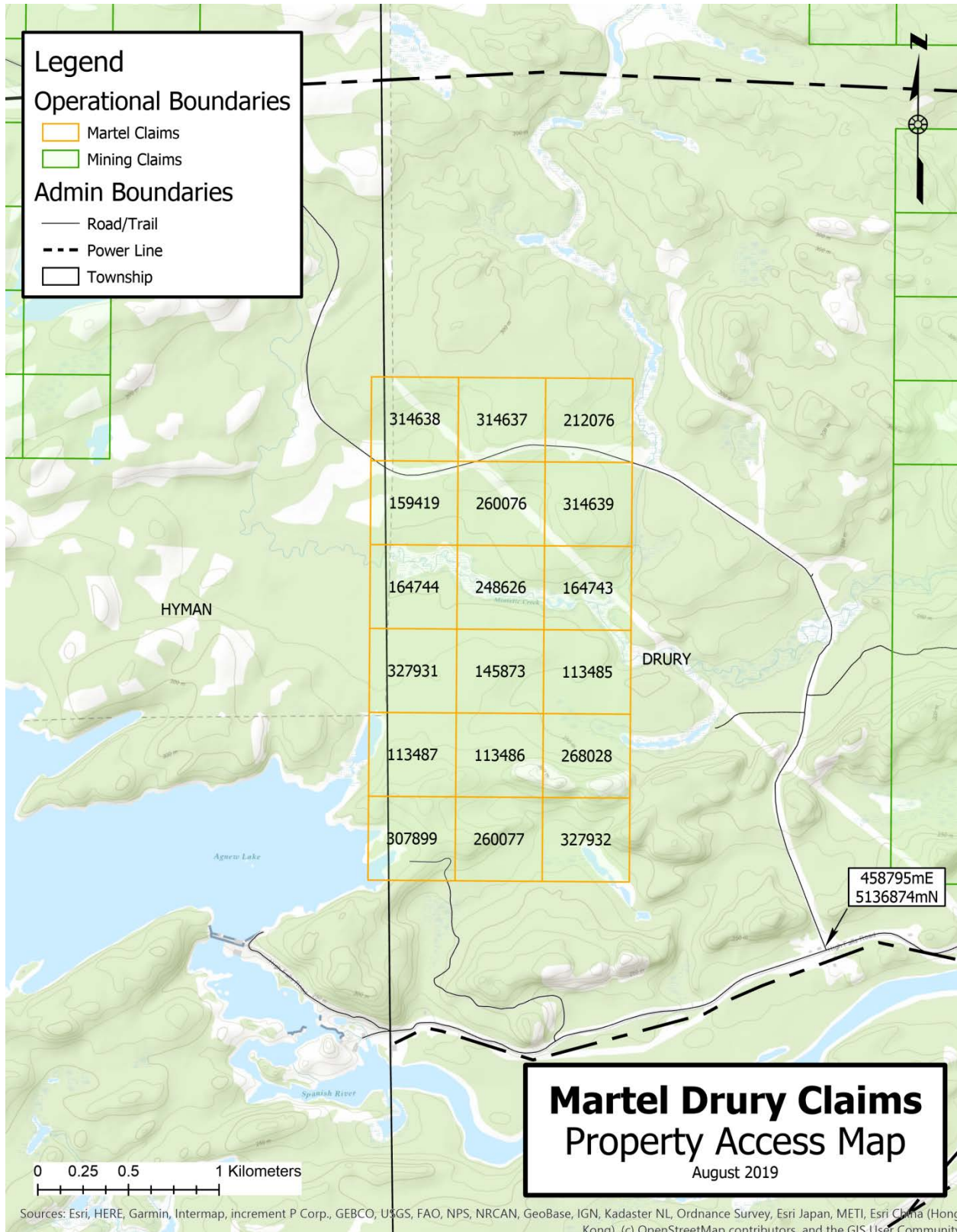
# Claim Group

The following Map and table below lists the 18 unpatented mining claims in Drury Township where the GPS MAG ground survey was conducted (**Figure 1 & Map B**)

**Figure 1 - Martel Drury Claim Group**

Township / Area	Tenure ID	Anniversary Date	Tenure Status	Tenure Percentage	Work Required	Work Applied	Total Reserve
DRURY	113485	2019-09-13	Active	100	200	0	0
DRURY	113486	2019-09-13	Active	100	400	0	0
DRURY,HYMAN	113487	2019-09-13	Active	100	200	0	0
DRURY	145873	2019-09-13	Active	100	400	0	0
DRURY,HYMAN	159419	2019-09-13	Active	100	400	0	0
DRURY	164743	2019-09-13	Active	100	200	0	0
DRURY,HYMAN	164744	2019-09-13	Active	100	400	0	0
DRURY	212076	2019-09-13	Active	100	400	0	0
DRURY	248626	2019-09-13	Active	100	400	0	0
DRURY	260076	2019-09-13	Active	100	400	0	0
DRURY	260077	2019-09-13	Active	100	200	0	0
DRURY	268028	2019-09-13	Active	100	200	0	0
DRURY,HYMAN	307899	2019-09-13	Active	100	200	0	0
DRURY	314637	2019-09-13	Active	100	400	0	0
DRURY,HYMAN	314638	2019-09-13	Active	100	400	0	0
DRURY	314639	2019-09-13	Active	100	200	0	0
DRURY,HYMAN	327931	2019-09-13	Active	100	400	0	0
DRURY	327932	2019-09-13	Active	100	200	0	0

**Map B – Drury Property Access Map**



# Work Performed

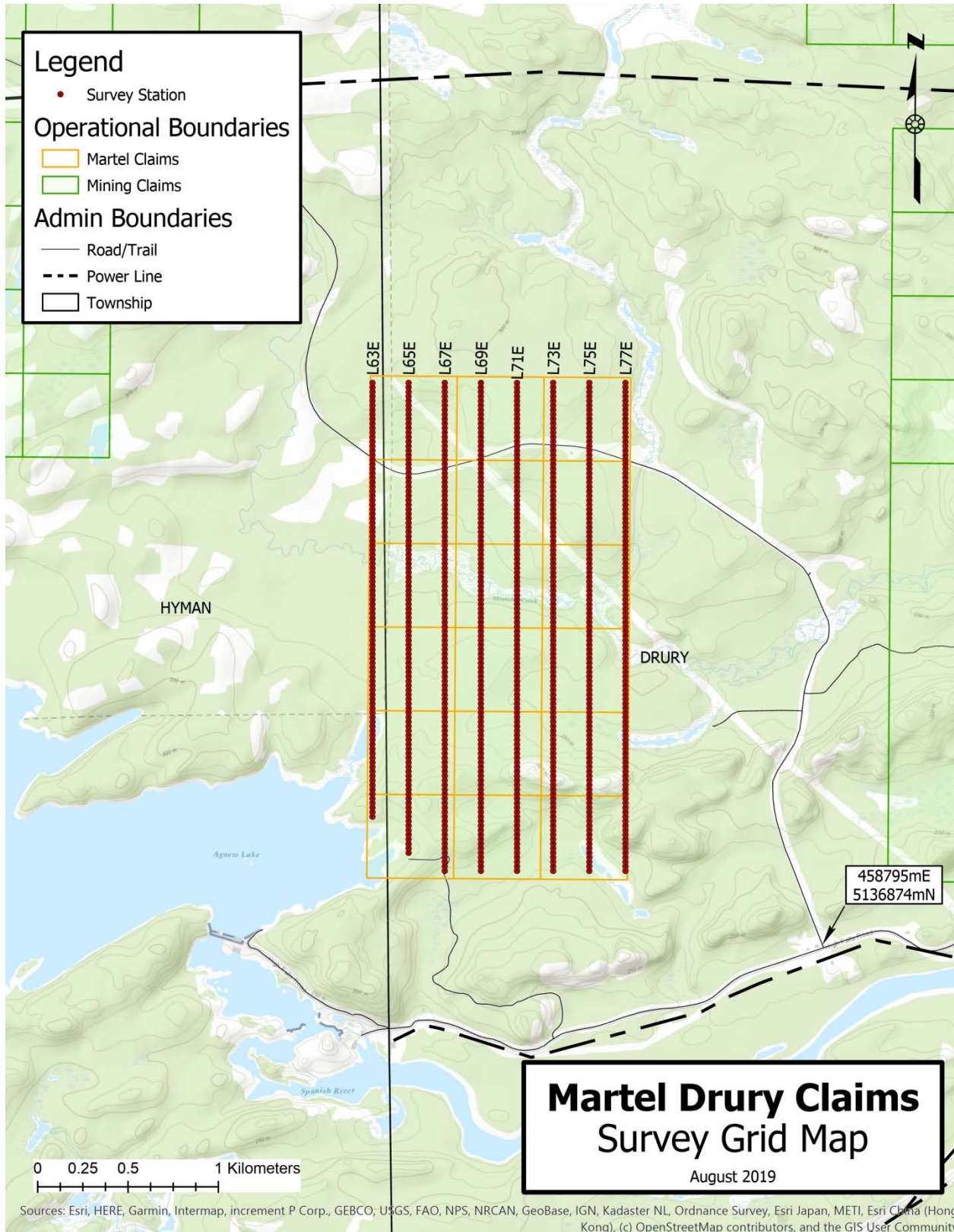
A 21.2km north/south GPS grid was established covering the Martel Drury claims consisting of 8 lines at 200m intervals. Using Garmin GPSMap 64 GPS units the DPE team walked the grid in pairs with one worker navigating to each station at 25m intervals, while the second worker of each team followed behind recording readings with the Scintrex ENVIMAG magnetometer. **Figure 2** (Line Totals) and **Map C** (Grid Map) represent the grid lines used to conduct the survey. **Map D** displays the survey result in the form of a detailed contoured map.

**Figure 2 – Drury Grid Line Totals**

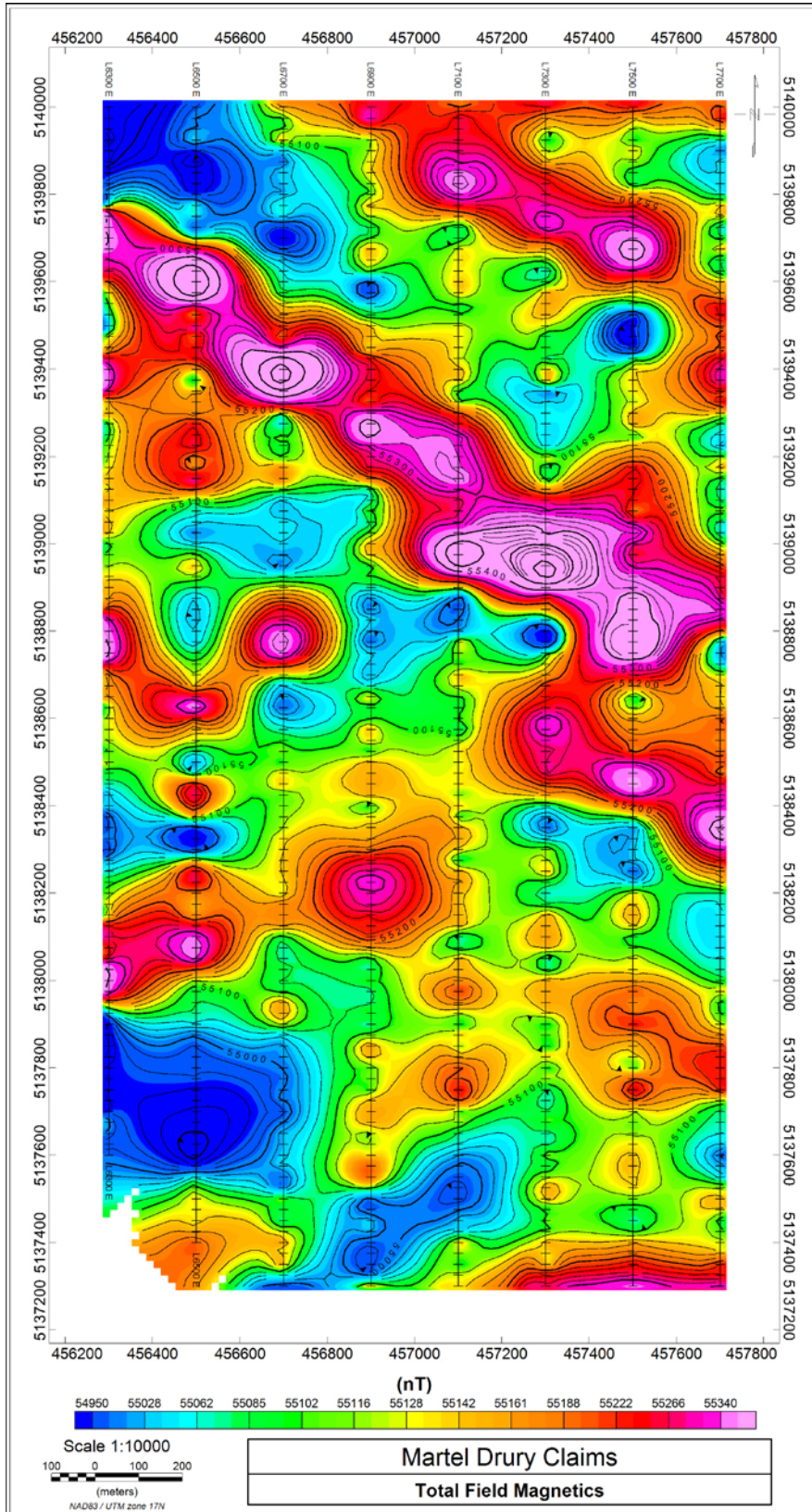
Line	South Station	North Station		Total(m)
6300E	7600N	10000N		2400
6500E	7400N	10000N		2600
6700E	7300N	10000N		2700
6900E	7300N	10000N		2700
7100E	7300N	10000N		2700
7300E	7300N	10000N		2700
7500E	7300N	10000N		2700
7700E	7300N	10000N		2700
Total				21.2KM



Map C – Martel Drury Grid Map



Map D – Martel Drury TFM Contour Map



# Report of 2019 Total Field Magnetism Survey

## Interpretation

Map E shows the location of the TFM Survey Grid to be east of Lake Agnew and along the west township line of Drury township. The southeastern corner of the TFM Grid lies almost directly on the N 70 E- trending axis of a synclinal structure. The axial region of this syncline hosts units of the Ramsay Lake Formation. They are dominantly polymictic conglomerates with one horizon of oligomictic conglomerates. North of and trending off to the west are outcrops of Nipissing metagabbro and in turn, north of and underlying the sill are altered metapelitic sediments of the McKim Formation. These units, on the north limb of the syncline dip southeast at 20 to 60 . In the northern half of the Grid area, 2 olivine diabase dykes have been mapped.

In the Property area the McKim Formation is the uppermost formation of the Elliot Lake Group and it lies conformably on volcanic rocks in the lower part of the Huronian Supergroup of Proterozoic age. In turn, the Hough Lake Group overlies the Elliot Lake Group with the basal formation of the Hough Lake group being the Ramsay Lake Formation. The Nipissing metagabbro was intruded as a sill shaped body along the contact between McKim and Ramsay Lake Formations. Subsequently the Huronian Supergroup units were folded to produce the N70 E trending anticlines and synclines.

With reference to the TFM Survey and the mapped geology there appear to be 3 "pattern areas" and starting in the southeast corner of the Grid they are as follows.

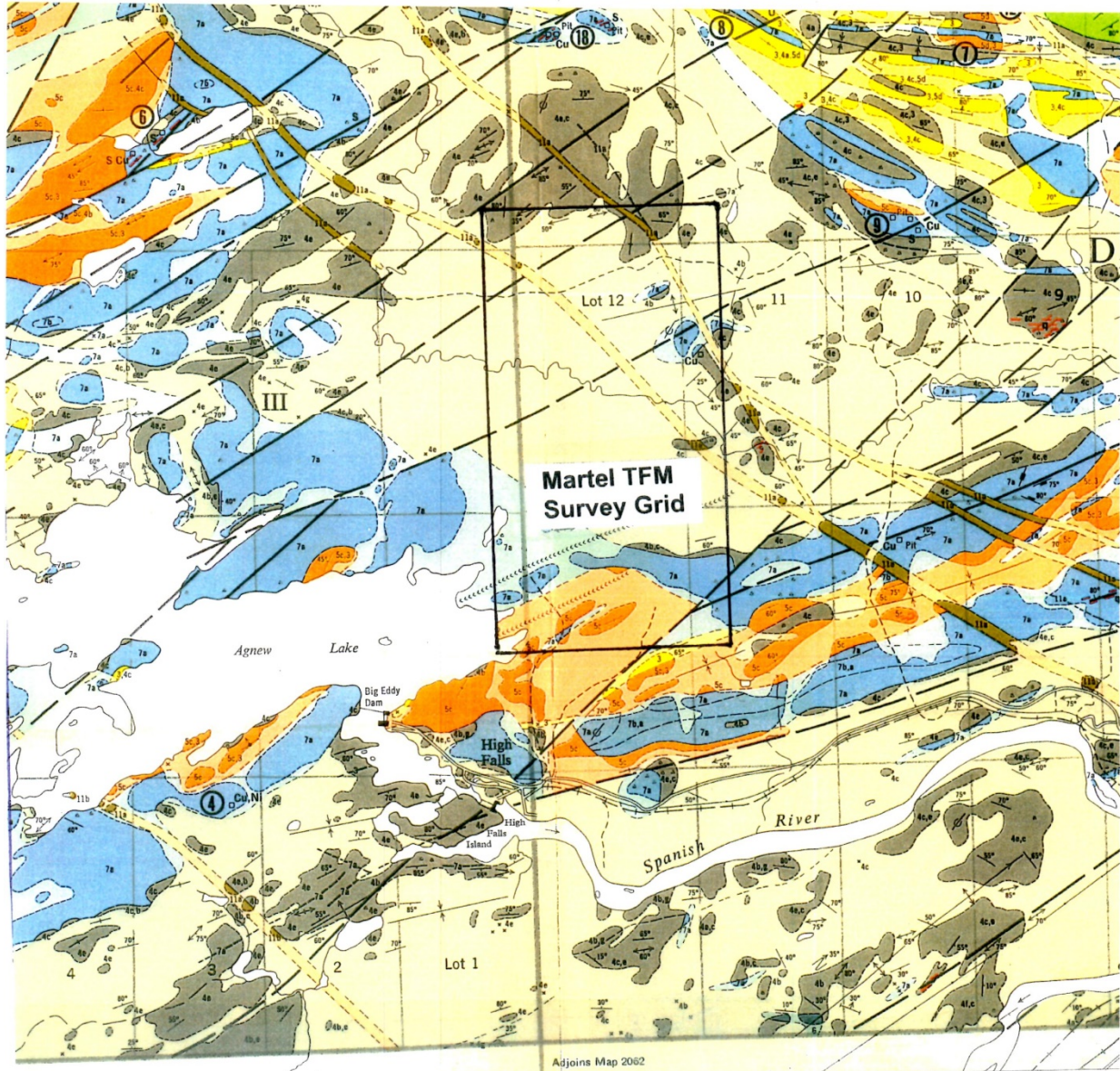
1. A small area of elevated magnetic readings at the south end of Lines 71E, 73E, 75E and 77E, and extending 100 m to the north appears to be related to the northern edge of the Nipissing metagabbro sill in this area and a small area of somewhat elevated magnetism in the southwest corner of the Grid may also be related to the underlying metagabbro sill.
-

2. To the North of the Nipissing sill the bedrock units are folded, south-dipping units of the McKim Formation - metapelites. The magnetic pattern that represents this formation is a "spotted" one with the "spots" varying in size from a few tens of metres to in the order of 300 metres in diameter. The cause of this pattern is not known, however these "spots" could represent small concentrations of magnetite either in the McKim sediments or possibly the overlying Pleistocene sands and gravels ??

3. The third pattern present is one of elongated, northwest-trending magnetic ridges or "highs" which represent mapped olivine diabase dykes.

In summary, the TFM Grid magnetic patterns represent folded, south dipping metasediments of the McKim and Ramsay Lake Formations and a metagabbroic Nipissing sill. In turn, in the northern part of the Grid, northwest trending olivine diabase dykes are represented by northwest trending, linear magnetic "ridges" or "highs".

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**Map E - Area Geological Map  
Martel Project, Drury Township**

Map 2055

**HYMAN AND DRURY TOWNSHIPS**

SUDBURY DISTRICT

Scale 1:31,680 or 1 Inch to 1/2 Mile



## Map E Legend

### CENOZOIC\*

PLEISTOCENE AND RECENT  
*Sand, gravel, clay, silt.*

UNCONFORMABLE CONTACT

### PRECAMBRIAN\*\*

LATE BASIC INTRUSIVE ROCKS





 11a Olivine diabase.  
11b Porphyritic olivine diabase.

INTRUSIVE CONTACT

NICKEL IRRUPTIVE



 10 Granophyre.

 9a Light transition rocks.  
 9b Dark transition rocks.

 8a Grey norite.  
 8b Dark norite.  
 8c Norite breccia.  
 8d Gabbro-diorite breccia (Worthington offset).

INTRUSIVE CONTACT





GABBROIC ROCKS

 7a Hornblende metagabbro, amphibolite.  
 7b Pyroxene gabbro, pyroxenite.


INTRUSIVE CONTACT

METASEDIMENTARY GROUP

 6 Subgreywacke.



 5a Polymictic greenstone-pebble conglomerate.  
 5b Polymictic conglomerate, argillite or greywacke matrix.  
 5c Polymictic conglomerate, quartzitic matrix.  
 5d Oligomictic quartz-pebble conglomerate.

 4a Argillite, slate.  
 4b Biotite metapelite.  
 4c Sericite metapelite, chlorite metapelite.  
 4d Staurolite-biotite-garnet metapelite.  
 4e Staurolite metapelite, chloritoid metapelite.  
 4f Greywacke.  
 4g Garnet metapelite.

 3 Quartzite, feldspathic quartzite, arkose.







UNCONFORMABLE CONTACT

GRANITIC ROCKS

 2a Medium to coarse-grained porphyritic and equigranular quartz monzonite, granite, granodiorite and their gneissic equivalents.  
 2b Coarse-grained red granite.

INTRUSIVE CONTACT

METAVOLCANIC GROUP

 1a Amygdaloidal and porphyritic metavolcanic rocks.  
 1b Acid metavolcanic rocks, tuff.  
 1c Chloritic, biotitic, amphibolitic schist and gneiss.  
 1d Garnet amphibolite.  
 1e "Hornblende syenite".  
 1f Amphibolite.

# Equipment Specifications

Scintrex ENVIMAG magnetometers (**Figure 3**) were used to conduct the survey. All data was base corrected using a separate ENVIMAG at a fixed location for the entirety of the survey. The base station was located approximately 1.6km east of the survey grid at UTM 17 U 458657mE, 5138198mN(NAD83). All ENVIMAG's were synchronized and calibrated to the base tune field of 54960nT.

**Figure 3 – ENVIMAG Specifications**



## EQUIPMENT

REFERENCE: SCINTREX ENVI MAG BROCHURE

### Total Field Operating Range

20,000 to 100,000 nT (gammas)

### Total Field Absolute Accuracy:

± 1 nT

### Sensitivity:

0.1 nT at 2 second sampling rate

### Tuning

Fully solid state. Manual or automatic, keyboard selectable

### Cycling (Reading) Rates

0.5, 1 or 2 seconds

### Gradiometer Option

Includes a second sensor, 1/2m (20 inch) staff extender and processor module.

### VLF Option

Includes a VLF sensor and harness assembly

### 'WALKMAG' Mode

continuous reading, cycling as fast as 0.5 seconds

### Digital Display

LCD "Super Twist", 240 x 64 dots graphics, 8 line x 40 characters alphanumeric

### Display Heater

Thermostatically controlled, for cold weather operations

### Keyboard Input

17 keys, dual function, membrane type

### Notebook Function

32 characters, 5 user-defined MACRO's for quick entry

### Standard Memory

Total Field Measurements: 28,000 readings  
Gradiometer Measurements: 21,000 readings  
Base Station Measurements: 151,000 readings  
VLF Measurements: 4,500 readings for 3 frequencies

### Expanded Memory

Total Field Measurements: 140,000 readings  
Gradiometer Measurements: 109,000 readings  
Base Station Measurements: 750,000 readings  
VLF Measurements: 24,000 readings for 3 frequencies

### Real-Time Clock

Records full date, hours, minutes and seconds with 1 second resolution, ± 1 second stability over 24 hours

### Digital Data Output

RS-232C interface, 600 to 57,600 Baud, 7 or 8 data bits, 1 start, 1 stop bit, no parity format. Selectable carriage return delay (0-999 ms) to accommodate slow peripherals. Handshaking is done by X-on/X-off. High speed Binary Dump. Selectable formats for easy interfacing to commercial software packages.

### Analog Output

0-999 mV full scale output voltage with keyboard selectable range of 1, 10, 100, 1000 or 10,000 full scale

### Power Supply

Rechargeable 'Camcorder' type, 2.3 Ah, Lead-acid battery  
12 Volts at 0.65 Amp for magnetometer, 1.2 Amp for gradiometer  
External 12 Volt input for base station operations  
Optional external battery pouch for cold weather operations

### Battery Charger

110 Volt-230 Volt, 50/60 Hz

### Operating Temperature Range

Standard: -40° to 60°C

### Dimensions & Weight

Console: 250mm x 152mm x 55mm (10" x 6" x 2.25")  
2.45 kg (5.4 lbs) with rechargeable battery

Magnetic Sensor: 70mm x 175mm (2.75"d x 7")  
1 kg (2.2 lbs)

Gradiometer Sensor: 70mm x 675mm (2.75"d x 26.5")  
(with staff extender) 1.15 kg (2.5 lbs)

Sensor Staff: 25mm x 2m (1"d x 76")  
.8 kg (1.75 lbs)

VLF Sensor Head: 140mm x 130mm (5.5"d x 5.1")  
.9 kg (2 lbs)

VLF Sensor: 280mm x 190mm x 75mm (11" x 7.5" x 3")  
1.7 kg (3.7 lbs)

### Options

Base Station Accessories Kit  
GPS  
Software Packages  
Training Programs

## SCINTREX

### SCINTREX

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222 Snidercroft Road, Concord, Ontario L4K 1B5  
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## **Recomendations**

Dan Patrie Exploration Ltd. suggests establishing a line cutting grid on the claims followed by an induced polarization survey covering at minimum the anomalous areas indicated by the TFM survey . Proposed would be a 15 to 25km grid of line cutting and IP.

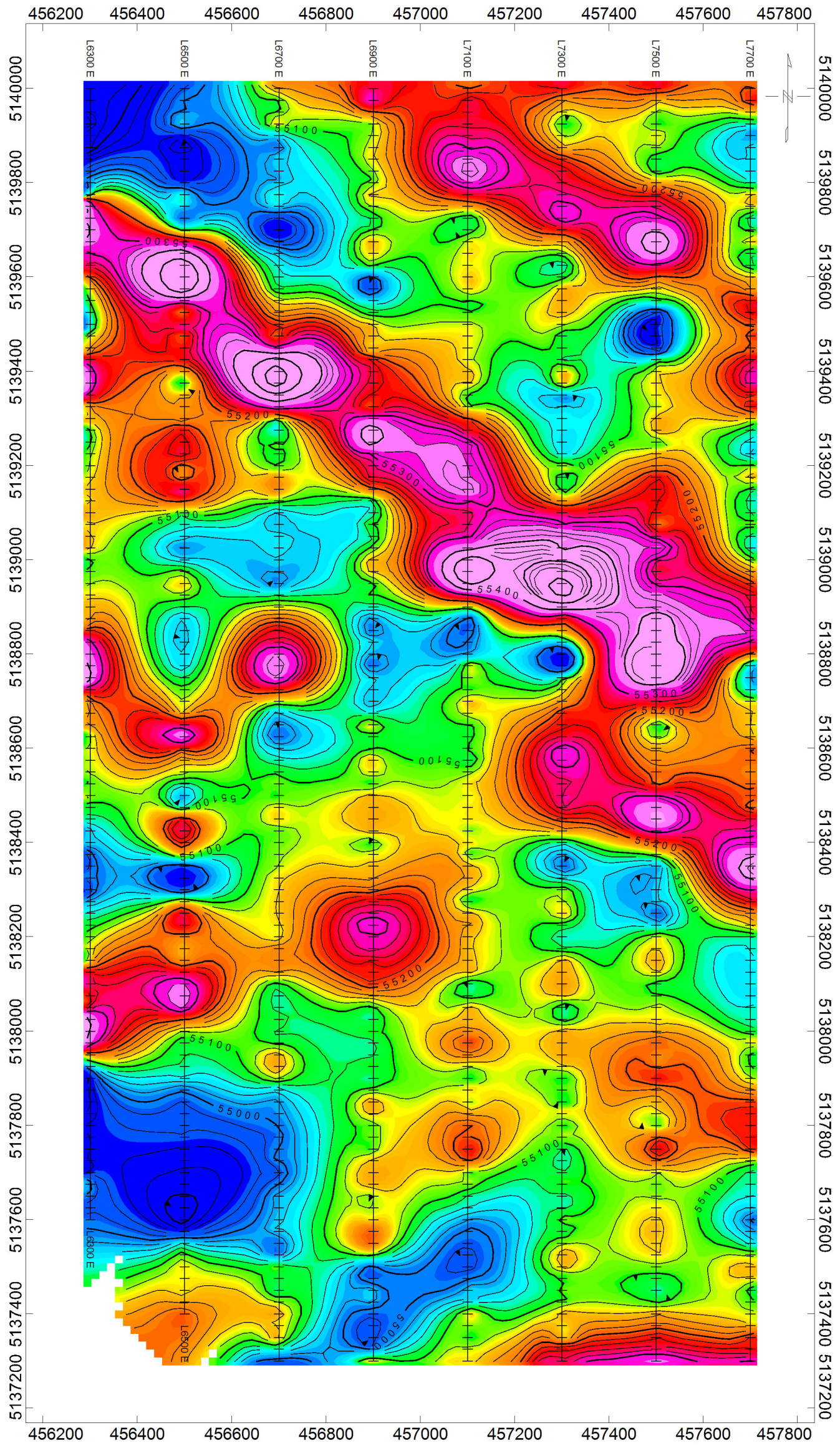
## **Personnel**

Brent Patrie - Sudbury Ontario

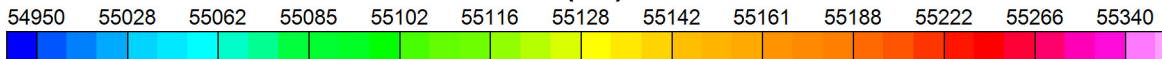
Gabriel Roy - Smooth Rock Falls, Ontario

Ronald Bilton – Massey, Ontario

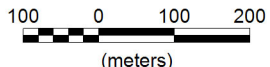




(nT)



Scale 1:10000



(meters)

NAD83 / UTM zone 17N

**Martel Drury Claims**  
**Total Field Magnetics**