

We are committed to providing [accessible customer service](#).

If you need accessible formats or communications supports, please [contact us](#).

Nous tenons à améliorer [l'accessibilité des services à la clientèle](#).

Si vous avez besoin de formats accessibles ou d'aide à la communication, veuillez [nous contacter](#).

Assessment Report  
Drone Magnetic Survey

Bishop Nipissing Diamond Project  
Criostal Lake Property Claim (Cell) Numbers  
100291, 144407, 156895, 172984, 229191, 229587, 241367, 248164, 248165  
287274, 295902, 325444

Lorrain Township  
Larder Lake Mining Division

Prepared for:  
RJK Explorations Ltd.

March 7, 2021

Prepared by:  
Rochelle Collins, P. Geo.

## Table of Contents –

<b>Summary</b> .....	1
<b>1.0 Introduction</b> .....	1
<b>2.0 Location and Access</b> .....	3
<b>3.0 Regional and Local Geology</b> .....	
3.1 Regional Geology .....	5
3.2 Local Geology .....	5
3.3 Structural Geology .....	6
<b>4.0 Type of Mineral Deposit</b> .....	6
<b>5.0 Property History</b> .....	7
<b>6.0 Summary of 2021 Drone Magnetic Survey</b> .....	7
<b>7.0 Processing</b> .....	8
<b>8.0 Discussion of Results</b> .....	10
<b>9.0 Conclusions and Recommendations</b> .....	10
<b>Statement of Qualifications</b> .....	11
<b>Acknowledgments</b> .....	12
<b>End Notes/References</b> .....	12
<b>List of Figures</b> .....	
Figure 1 Location and access to surveyed grid location .....	3
Figure 2 Claim and grid location map .....	4
Figure 3 Criostal Lake Interpreted Map .....	9
<b>List of Tables</b> .....	
Table 1 Mining Claims surveyed .....	2
Table 2 Grid Information .....	2
<b>Appendices</b> .....	
Appendix I Geometrics MFAM specifications .....	13-15
Appendix II Geometrics G856AX specifications (base station) .....	16-18
Appendix III DJI M600 Pro specifications .....	19-20
Appendix IV Project Costs (Invoice 2021-45, 2021-201) .....	21-22
Appendix V Quality Control/Tests and Calibrations/Processing Steps .....	23-27
Appendix VI Bishop Nipissing Diamond Project -Criostal Lake Property History .....	28-34
<b>Maps</b> .....	
Criostal Lake – Total Magnetic Intensity (TMI) Contours .....	35
Criostal Lake – First Vertical Derivative Magnetics Contours .....	36

## Summary

All mining claims within the Property known as the Bishop Nipissing Diamond Project – Criostal Lake property are in Lorrain Township, Larder Lake Mining Division and are held by RJK Explorations Ltd., and Brian Bishop, and have been optioned to RJK Explorations Ltd. for purposes of exploring for diamond-bearing kimberlite pipes in the Cobalt area situated 13 km south of Haileybury, Ontario. The surveyed grid and associated mining claims may be accessed via road 11B, turning left on Kerr Lake Road, right on Nipissing Road/Coleman Road/Glenn Lake Road/Beaver Temisk Road, turning right on Mayfair Road (near Brady Lake) and travelling south 3.5 kilometers on logging roads. The southwest corner of the grid is approximately 0.5 kilometers to the east.

A survey using a Geometrics MFAM magnetometer mounted on a DJI M600 drone was conducted by Fera UAV of Timmins over sixteen claims wholly or partly within the grid in Lorrain Township on January 14, 2021.

The flight grids on the property totaled 26 line kilometers. The flight grid information is presented in Table 2, including direction of grid lines, tie lines and spacing of grid lines. Results, conclusions and recommendations are provided in Section 8.0 and 9.0 of this report.

## 1.0 Introduction

Drone magnetic survey was conducted on the Criostal Lake grid (see Figure 2), Mining claims included in grid area are listed in Table 1, and are in Lorrain township, Larder Lake Mining Division.

A general location and access map is presented as *Figure 1*.  
A detailed claim location map is presented as *Figure 2*.

On January 14, 2021, (see Table 2) the mining claims listed in Table 1 were surveyed using a Geometrics MFAM magnetometer mounted on a DJI M600 drone. Fera UAV of Timmins, Ontario, carried out the magnetic survey on a contract basis for the client. The survey was performed in order to evaluate the potential for kimberlite pipes within these claims.

Data processing and maps were completed January 15, 2021 and the Assessment report was prepared between March 1-7, 2021.

Invoices shown in *Appendix IV* have been paid in full by RJK Explorations Ltd.

<b>Bishop Nipissing Diamond Project</b>		
<b>Mining Claim Area Table</b>		
Grid	Claim #	Claimholder
Criostal Lake Property	287274	Brian Bishop (108621)
Criostal Lake Property	229191	Brian Bishop (108621)
Criostal Lake Property	248164	Brian Bishop (108621)
Criostal Lake Property	100291	RJK Explorations Ltd. (187972)
Criostal Lake Property	229587	RJK Explorations Ltd. (187972)
Criostal Lake Property	295902	Brian Bishop (108621)
Criostal Lake Property	172984	RJK Explorations Ltd. (187972)
Criostal Lake Property	144407	RJK Explorations Ltd. (187972)
Criostal Lake Property	241367	Brian Bishop (108621)
Criostal Lake Property	248165	Brian Bishop (108621)
Criostal Lake Property	325444	RJK Explorations Ltd. (187972)
Criostal Lake Property	156895	RJK Explorations Ltd. (187972)

Table 1: Mining Claims surveyed

Grid Name	Date Surveyed	Line Direction Az.	Line Spacing (m)	Tie Line Direction Az.	Tie Line Spacing (m)	Total Km
Criostal Lake	January 14, 2021	360	50	90	325	26

Table 2: Grid Information

## 2.0 Location and Access

The grid surveyed is located approximately 242 kilometers southeast of Timmins, Ontario and 165 kilometers north of North Bay, Ontario, via road access. The property can be accessed via road and ATV access from Timmins, Ontario. Travelling 223 kilometers east of Timmins on Ontario Highway 101 and Trans-Canada Highway/ON-11 S to Ontario Highway 11B North to the community of Cobalt. From Cobalt, the surveyed grid area is approximately 8 kilometers south along Kerr Lake Road, right on Nippising Road/Coleman Road (Locally known as Hound Chute Road) and Glenn Lake Road situated between Peterson Lake and Cart Lake. Glenn Lake Road becomes Beaver Temisk Road (Locally known as Cobalt-Brady Lake Road), turning right on Mayfair Road (near Brady Lake) and travelling south to Silver Lake. Approximately 0.5 kilometers south of Silver Lake is a junction, this is a suitable location to park and carry on by ATV and foot 05 kilometers to the east and the southeast corner of the project area.

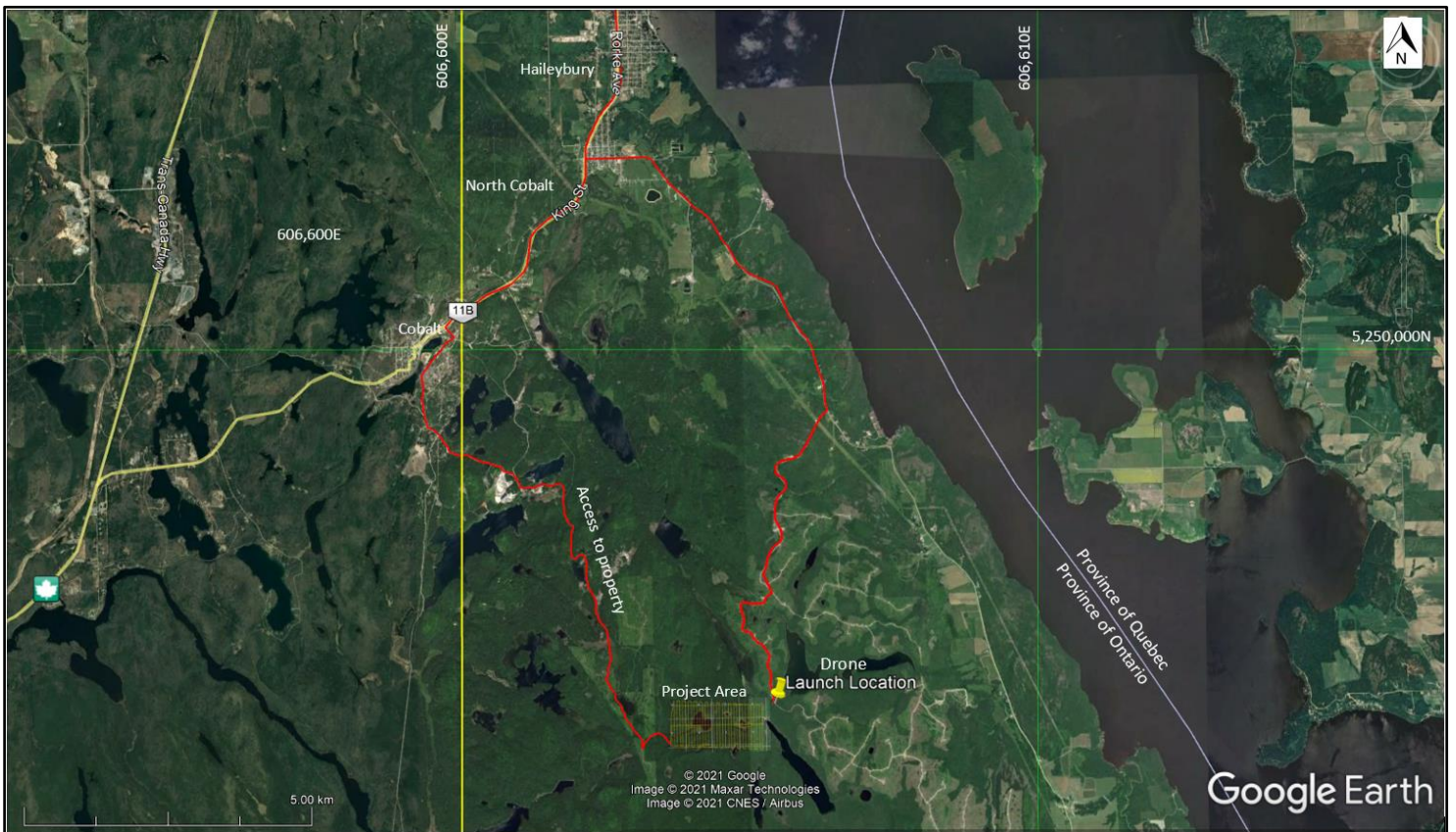
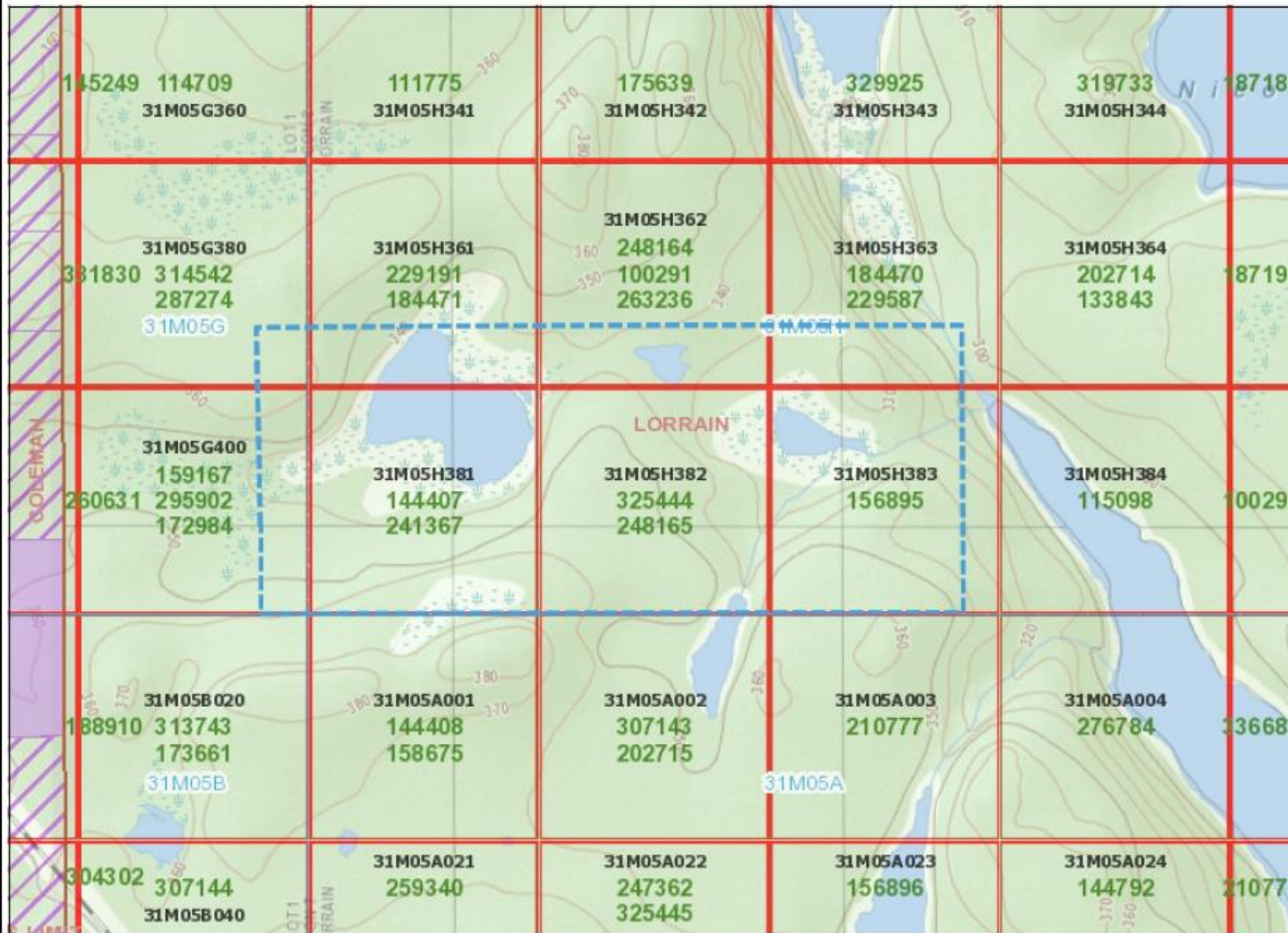


Figure 1 – Location and access to surveyed grid location.



Those wishing to register mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Energy, Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources and Forestry. The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Energy, Northern Development and Mines web site.



Imagery Copyright Notices: Ontario Ministry of Natural Resources and Forestry; NASA Landsat Program; First Base Solutions Inc.; Aéro-Photo (1961) Inc.; DigitalGlobe Inc.; U.S. Geological Survey.  
© Queen's Printer for Ontario, 2021



Figure 2 – Claims and grid location map

## **3.0 Regional and Local Geology**

### ***3.1 Regional Geology***

The information provided in the Regional Geology section of this report is a compilation from various sources. The reader is directed to the references for further reading.

The region is largely underlain by Precambrian rocks.<sup>i</sup> The Archean basement consists of volcanic and interbedded sedimentary units, which make up the southern most portion of the western Abitibi Subprovince within the Superior Province.<sup>ii</sup> The Early Precambrian rocks include andesitic and basaltic lavas, diabase intrusions, and intrusions of granite hornblende syenite, and associated lamprophyre and syenite dikes and quartz monzonite.<sup>iii</sup>

Middle Precambrian rocks are represented by sedimentary rocks of the Huronian Super group, Cobalt Group, Gowganda and Lorrain Formations, and by Nipissing Diabase. The Gowganda Formation consists of greywackes, siltstones, and lenses of conglomerate. The Lorrain Formation is represented by medium to coarse-grained arkose which occurs as massive and weakly bedded units and crossbedded units with a few pebbly bands. The Nipissing Diabase, intrudes into all the older rocks, is a massive, relatively unaltered rock.<sup>iv</sup>

The Pleistocene and Recent deposits consist of sand, gravel, varved clay, and till.<sup>v</sup>

The rationale of exploring for diamonds in the Temagami region is the diamond-bearing kimberlite pipes and dykes. The Lake Temiskaming Structural Zone is expressed as large-scale normal movement along northwest-trending faults, including the Montreal River and Cross Lake fault systems. Nipissing diabase and gabbro intrusives likely were funnelled through conduits created by this rifting event and kimberlite magmatism is likely to have exploited these same features.<sup>vi</sup>

Kimberlites in northern and eastern Ontario occur along a trend at approximately 325°. The Lake Timiskaming Structural Zone in eastern Ontario has a northwest trend, and a subordinate northeast trend in the Cobalt and New Liskeard, Ontario areas.<sup>vii</sup>

### ***3.2 Local Geology***

The claims associated with the grids surveyed are located approximately between 5,243,175N and 5,243,825N and between 603,700E and 605,200E. The claims are situated within the Lake Temiskaming Structural Zone (LTSZ) which is known to host a number of diamond projects. The Northwest trending Lake Timiskaming West Shore Fault is located to the east along the shore of Lake Timiskaming.

The Cross Lake Fault lies approximately 14 kilometers to the west, trending roughly parallel to the Lake Timiskaming West Shore Fault. The McKenzie Fault lies closer to the project area, east of the Criostal Lake grid, near Goodwin Lake, also trending northwest and is proximal to other kimberlite pipes to the north i.e., Peddie, Gravel and Bucke. Locally over a dozen kimberlite pipes and lamprophyres, many diamondiferous, have been found mainly by testing magnetic anomalies.

Overlaying the claim locations on the Ontario Geological Survey map the project area is underlain by a peninsula shaped massive to foliated granite to granodiorite (Legend Code 15) extending



from east to west and surrounded by mafic and related intrusive rocks and Nipissing mafic dykes and sills (2219 Ma): and related granophyre (Legend Code 23d).

There is a possibility of a cross fault, with an approximate 65 degrees azimuth, along the Schumann, Frog, Mary Ann and Criostal Lake trend.

### **3.3 Structural Geology**

The information compiled in this section regarding the structural geology of the area where the magnetometer surveys were conducted is sourced from Sage, R.P. 2000. Kimberlites of the Lake Timiskaming structural zone: supplement; Ontario Geological Survey, Open File Report 6018, 123p.

The Lake Timiskaming Structural Zone kimberlites occur at intersections between the regional northwest trend and more local lineaments, faults and lithologic boundaries. While regionally the distribution of kimberlites follows a northwest pattern, in detail, local clusters of kimberlite pipes may reflect a distribution oblique to the northwest trend and influenced by cross structures.

Along the Lake Timiskaming Structural Zone, faults and lineaments display groupings into north-south, northeast and northwest trends and these intersecting patterns have broken the crustal rocks into polygonal blocks. Kimberlite intrusions display a preference at being emplaced at intersection points along these structural trends. In the Cobalt – New Liskeard area, kimberlites occur on both flanks of the Lake Timiskaming Structural Zone. Lineament trends intersect at or close to the site of emplacement.

Near Cobalt and New Liskeard, numerous kimberlite pipes occur where more conspicuous northwest-trending faults are intersected by local northeast-trending cross faults. Mapping by Thomson (1956, 1960) and Russell (1984) suggests that the bedrock in this region is broken into many blocks defined by these two trends.<sup>viii</sup>

### **4.0 Type of Mineral Deposit / Commodity**

The client is exploring for diamondiferous kimberlite pipes in a region known for past discoveries of kimberlite pipes. Magnetometer is an effective tool for kimberlite exploration, as the host rock surrounding the emplaced pipe often has different magnetic properties than the pipe itself.

The reader is encouraged to refer to Sage (1996) for a discussion of the geophysical expression of kimberlite pipes in this region. In summary, within the Cobalt – New Liskeard area four kimberlite intrusions have a negative magnetic response. The geochronology suggests that kimberlite emplacement spanned approximately 30 Ma and straddled a magnetic polar reversal in the earth's magnetic field.<sup>ix</sup> The kimberlite intrusions commonly display oval to circular isomagnetic contour patterns and some appear to be highly elongated.<sup>x</sup>

## **5.0 Property History**

The property known as the Bishop Nipissing Diamond Project – Criostal Lake Property is composed of several mining claims listed in Table 1, along with history of the claims as identified in claim abstracts Appendix VI.

Work completed to date includes grass roots prospecting, a research component, till sampling, screening, concentrating, sorting and examining potential kimberlite indicator minerals (KIMs), and microphotography. Refer to filed Assessment reports:

Bishop, T., November 27, 2017: Assessment Work Report L 4282146

## **6.0 Summary of 2021 Drone Magnetic Survey**

The program consisted of drone magnetic survey carried out on the Criostal Lake grid between Silver Lake to the west and Chown and Goodwin Lakes to the east. The project area is shown in and are shown in Figures 1 and 2.

Total line kilometers: Listed in Table 2: Grid Information  
Altitude: 30m above ground level  
Ground Speed: 50km/hr (14m/second)

A Geometrics MFAM magnetometer mounted on a DJI M600 Pro hexacopter drone was used to survey all grid lines. A Geometrics G856AX proton procession magnetometer was operated as a base station throughout the survey to provide diurnal monitoring of the local magnetic field variations. Equipment specifications are provided in Appendix I, II and III.

The grid was designed to cover individual magnetic targets that were identified on Ontario Geological Survey maps, the flight grid covers portions of the claim cell grid boundaries and are aligned approximately parallel with the boundaries. Portions or all of claim cells 287274, 229191, 248164, 100291, 229587, 295902, 172984, 144407, 241367, 248165, 325444, and 156895 are covered by the flight grid. The base station was located at UTM coordinate E605422 / N5243858 (NAD83, UTM, Zone 17).

The total survey and report preparation costs (\$8,893.00 pre-hst) will be directed to each claim as follows;

Claim #	% of Area	Dollar Value \$CDN
287274	1.4%	\$124.26
229191	6.6%	\$587.89
248164	3.4%	\$299.08
100291	3.4%	\$304.54
229587	6.9%	\$610.29
295902	3.2%	\$281.79
172984	2.0%	\$174.44
144407	9.1%	\$812.83
241367	15.1%	\$1,346.86
248165	7.8%	\$692.24
325444	16.6%	\$1,478.81
156895	24.5%	\$2,179.96
Total	100.0%	\$8,893.00

Figure 3 shows survey coverage on a per-claim basis. Supporting Invoices are included in Appendix IV.

## 7.0 Processing

Magnetometer data was collected on 2 Geometrics MFAM sensors operating at 1000hz. The data was processed through a custom program operating in Python. This converts raw data from Geometrics MFAM into a format compatible with Geosoft Oasis Montaj.

Customized import templates were used within Geosoft, to identify and separate magnetic readings into organized grid and tie lines. This step eliminates extraneous magnetic data collected as the drone travels to and from the grid.

Grid and tie line data were corrected to remove heading error and lag. Corrected grid data was then leveled based on tie lines.

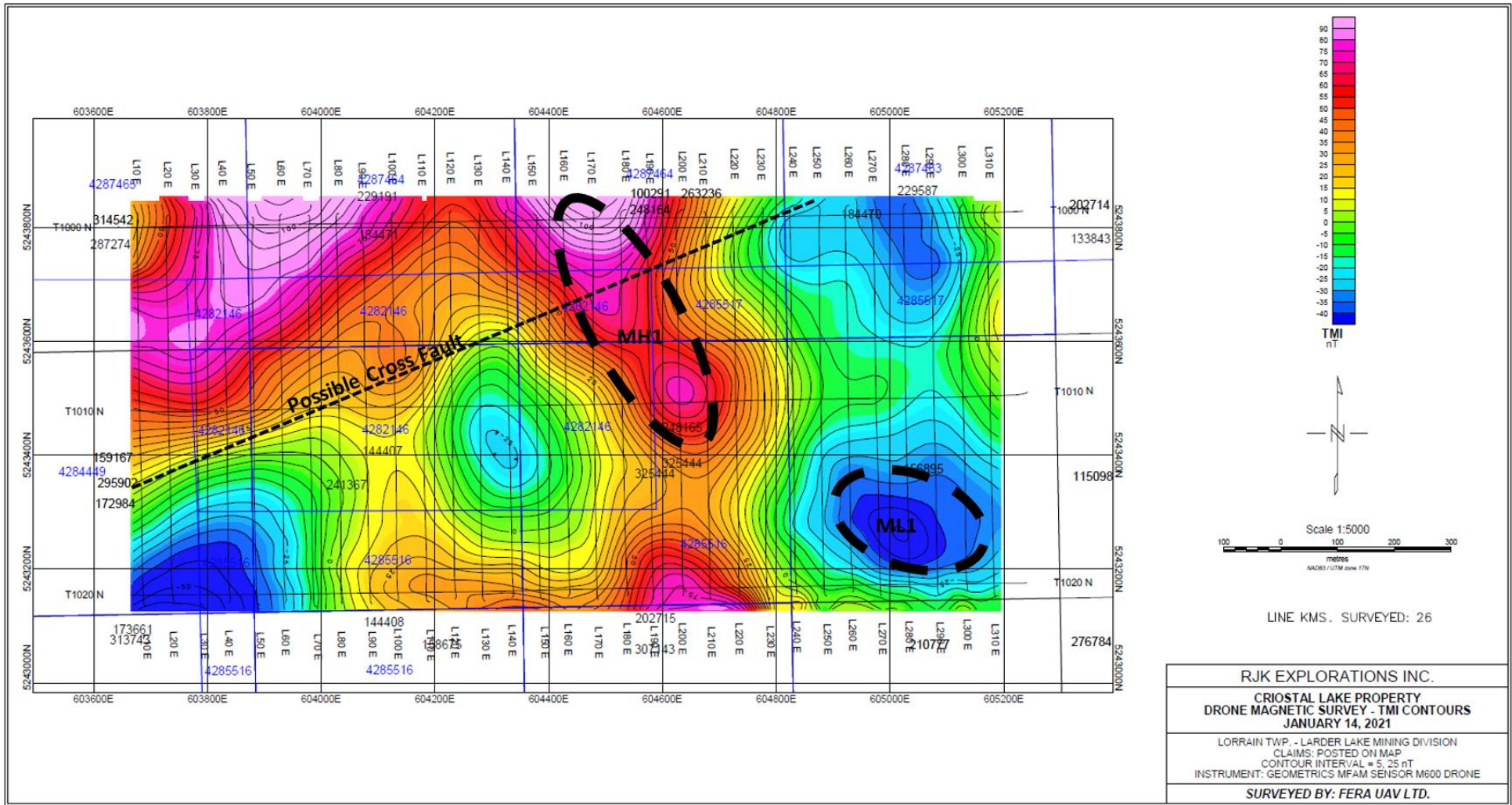


Figure 3: Criostal Lake Grid Interpreted Map

## **8.0 Discussion of Results**

A TMI (total mag intensity) colourized contour map is included at full-scale (Figure 3: Criostal Lake Grid Interpreted Map).

The survey covered a magnetic value range of approximately 130nT.

There is a closed mag-high anomaly in the central grid area this feature may represent a kimberlite pipe, expressed as a magnetic-high anomaly. This feature is marked as MH1 on Interpretive Map.

There is a closed mag-low anomaly in the lower right grid area this feature may represent a kimberlite pipe, expressed as a magnetic-low anomaly. This feature is marked as ML1 on Interpretive Map.

## **9.0 Conclusions and Recommendations**

The surveys were successful at identifying up to two (2) possible kimberlite pipe targets or a circular or elongated shape along the northwest trend.

Drone magnetometer survey provided greater detail than the previously available, published government magnetic data in this area.

Future exploration could include the following;

- 1) Till sampling and/or trenching across magnetic anomalies identified in these surveys,
- 2) Diamond drilling or reverse circulation drilling the high and low magnetic anomalies,
- 3) Detailed magnetometer survey at 25m or lesser line spacing across targets,
- 4) 3D inversion modeling of 10 targets.

## **Certificate of Qualifications**

I, Rochelle Collins, of the City of Timmins, Province of Ontario, do hereby certify that:

I am a professional Geologist, residing at 287 Lois Crescent, Timmins Ontario, P4P 1G6.

I hold a B.Sc. Honours degree in Geology and Geography (1997) from McMaster University of Hamilton, Ontario and an MBA from Queen's University of Kingston, Ontario (2020).

I am a registered professional geoscientist with the Professional Geoscientists of Ontario (#1412)

This report is based on my observations and interpretation of the geological and geophysical data as prepared on the incorporated maps and figures.

I have no personal interest in the property covered by this report.

Permission is granted for the use of this report, in whole or in part, for assessment and qualification requirements but not for advertising purposes.

*Rochelle Collins*

Rochelle Collins, P. Geo., MBA, B.Sc.

Dated at Timmins, Ontario

This 7th day of March 2021.

## Acknowledgements

To the following individuals who provided geological, technical, historical, and other important information for this report: Kevin Cool, Matt Johnson, Pat Fera, the staff of the Timmins MENDM and Gary Grabowski.

## End Notes/References

---

<sup>i</sup> White, S.E. 2019. Structure and stratigraphy of Archean basement near Cobalt, Ontario; in Summary of Field Work and Other Activities, 2019, Ontario Geological Survey, Open File Report 6360, p.29-1 to 29.9

<sup>ii</sup> White, S.E. 2019. Structure and stratigraphy of Archean basement near Cobalt, Ontario; in Summary of Field Work and Other Activities, 2019, Ontario Geological Survey, Open File Report 6360, p.29-1 to 29.9

<sup>iii</sup> Lovell, H.L., and de Grijjs, J.W. 1976: Lorrain Township, Southern Part, Concessions I to VI, District of Timiskaming; Ontario Div. Mines, MP51, 16p. Accompanied by Chart A, scale 1:15,840 or 1 inch to 1A mile.

<sup>iv</sup> Lovell, H.L., and de Grijjs, J.W. 1976: Lorrain Township, Southern Part, Concessions I to VI, District of Timiskaming; Ontario Div. Mines, MP51, 16p. Accompanied by Chart A, scale 1:15,840 or 1 inch to 1A mile.

<sup>v</sup> Lovell, H.L., and de Grijjs, J.W. 1976: Lorrain Township, Southern Part, Concessions I to VI, District of Timiskaming; Ontario Div. Mines, MP51, 16p. Accompanied by Chart A, scale 1:15,840 or 1 inch to 1A mile.

<sup>vi</sup> Potter, E., and Rees, K., 2008: Temex Resources Corp., Report on the 2008 Diamond Drilling Program, Latchford Diamond Project.

<sup>vii</sup> Sage, R.P. 2000. Kimberlites of the Lake Timiskaming structural zone: supplement; Ontario Geological Survey, Open File Report 6018, 123p.

<sup>viii</sup> Sage, R.P. 1996. Kimberlites of the Lake Timiskaming Structural Zone; Ontario Geological Survey, Open File Report 5937, 435p.

<sup>ix</sup> Sage, R.P. 1996. Kimberlites of the Lake Timiskaming Structural Zone; Ontario Geological Survey, Open File Report 5937, 435p.

<sup>x</sup> Sage, R.P. 2000. Kimberlites of the Lake Timiskaming structural zone: supplement; Ontario Geological Survey, Open File Report 6018, 123p.

# Appendix I

## Geometrics MFAM Magnetometer Specifications

### System Basics

- System utilizes 2 MFAM sensors
- Sensors are controlled by 1 sensor module
- Sensor module communicates with a Texas Instruments main board
- Sensitivity: 0.00003nT
- Sensors operate at 1000Hz (collect 1000 readings per second on both sensors)

### Technical Specifications

#### **SPECIFICATIONS:**

Mechanical:

Enclosure Dimensions: 9" x 6 5/8" x 1 3/16"

Sensor Cable length (Development box to Sensor): 20.5 inches

Power:

AC adapter: 13.5 to 16 Volts DC at 1.0A

Battery Pack: 12 volt 1800 mA-Hour Lithium Polymer

#### **FEATURES:**

- 1) **TIVA TM4C1294NCPDT Micro controller:** This is a 32 bit ARM Cortex-MF4 based microcontroller running at up to 120 MHz. It has 1024K of flash, with 256K bytes of RAM, and 6 KBytes of EEPROM.
- 2) **USB 2.0 Micro Connector:** USB functionality is provided by the TIVA microcontroller and TIVAWare support libraries.
- 3) **Four User LEDs:** Four user controlled LEDs are wired to TIVA microcontroller GPIO pins PK0, PK1, PN0, and PN1.
- 4) **Two User Switches:** Two user read switches are wired to the microcontroller pins PK6 and PJ1.
- 5) **One Microcontroller Reset Switch:** This switch is used to reset the microcontroller.
- 6) **Wi-Fi port for TI CC3100 Wi-Fi Booster Pack:** The Development board layout allows a TI CC3100 Wi-Fi Booster pack to be directly plugged in. Using TIVAWare libraries, software can be developed to allow Wi-Fi communication between the Development board and a computer.
- 7) **USB XDS110 Port for Firmware Downloading and Debugging:** This second USB port is used as a debug/firmware download interface between the TI Code Composer Studio development suite and the Development Kit.



- 8) **Two RS-232 Serial Ports with RJ-45 Connectors:** Two general purpose serial ports are available to the user. The first serial port is wired to TIVA microcontroller UART4, and supports RTS and CTS handshaking. The second serial port is wired to TIVA microcontroller UART5. This port supports only TxD and RxD. Both of these ports use +/- 8 volt voltage swings, and support baud rates up to 920 KBaud. Note that these two ports are wired as Data Terminal Equipment (DTE) Thus to connect either of these two ports to a computer it would need to connect through a null modem. .

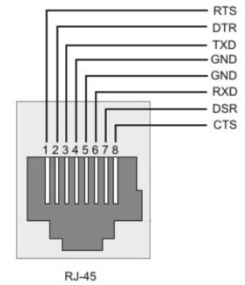
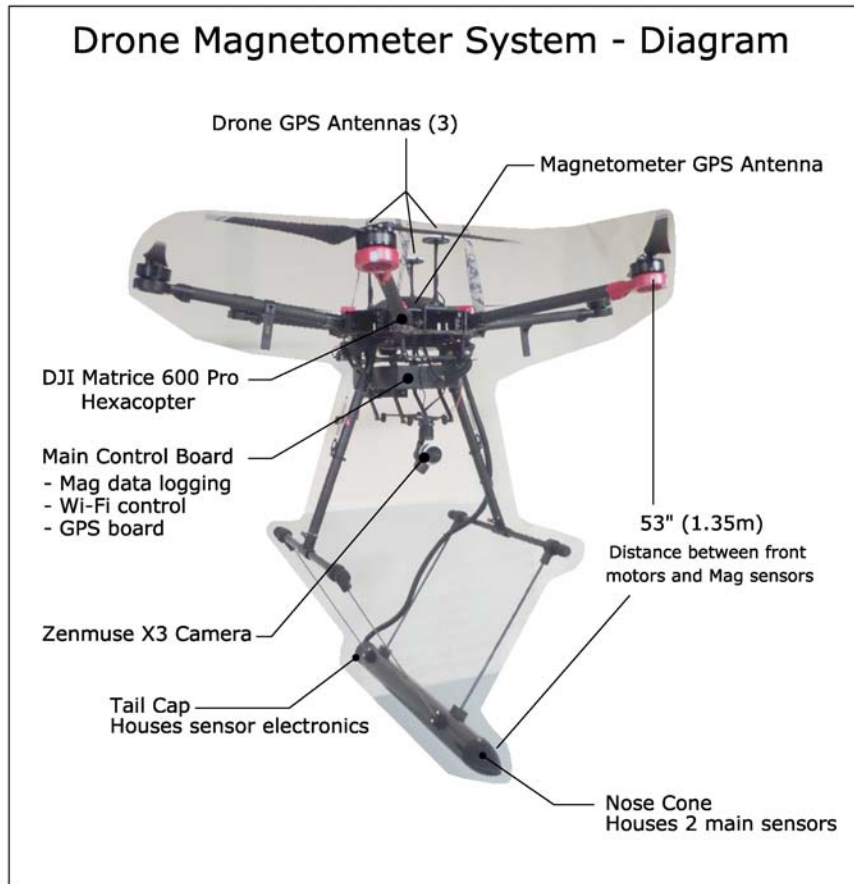


Figure 3: Serial Port Pinout

- 9) **On Board GPS Module:** An Adafruit GPS module is included with the Development Kit. It features 66 channels, -165 dBm sensitivity, and 3 Meter accuracy. An external GPS antenna is included so that signals can be received inside the box even with the cover in place. By default the GPS powers up to 9600 baud with several GPS sentences being output. The firmware that comes with the Development kit reconfigures the GPS to output only an RMC sentence at 115200 baud. This RMC string is sent with the output TCP data packet as described in the “Ethernet Data Format” section. The GPS is wired to UART7 on the TIVA microcontroller using 0-3.3 volt logic swings.

The 1PPS pulse from this GPS goes to the MFAM development module and disciplines the cycle rate to exactly 1 kiloSamples per second.

- 10) **Micro SD Card Slot for Storing Data Locally:** A micro SD card slot is available for the user to read and write data using a SPI interface. It is connected to SPI port 1 of the TIVA microcontroller.
- 11) **10 MHZ Timing Reference Input Port:** This input port takes a 10 MHz reference signal from a GPS disciplined reference oscillator, buffers and squares it up, and sends it to the MFAM module. The purpose of this signal is to lock the MFAM clocking system to this reference signal so that the Larmor frequency can be measured to an absolute standard. At this time, the MFAM does not support this feature. This function will be implemented in the future.
- 12) **Ethernet port with Power over Ethernet Compatibility:** The Tiva microcontroller contains a fully integrated Ethernet MAC and PHY. In addition, the Ethernet port can power the Development Kit via Power over Ethernet (PoE) using an Ethernet power injector.
- 13) **1.8 Amp-Hour Battery pack:** Three on board lithium/polymer batteries can power the system for 2 hours. A switch on the Development board allows the battery to be turned on/off. In addition, if the battery voltage falls below 8 volts the MFAM module will automatically shut down while keeping the microcontroller alive.
- 14) **Integrated Battery Charging system:** A lithium/polymer battery charging system is on board. If the battery switch is turned on, and the AC power adapter is plugged in, the batteries will be charged.
- 15) **Four Differential Analog Input Channels:** There are four differential analog inputs available for use. Channels 0 and 1 are +/- 2.5 volts full scale, while channels 2 and 3 are 0 to +5 volts full scale. In the firmware supplied with the Development kit (which sends MFAM/GPS data to the MFAMConsole program on the computer), all four channels are sampled synchronously with the MFAM data input to the Tiva are included in the data stream.
- 16) **On board Power/Status LEDs:** Several Status and Power LEDs are arranged along the front edge of the board. They include the four user LEDs, Power status LEDs (which power source is powering the board, and whether the battery is charging or the voltage low). They are listed in the Front and Back Panel Connection and Indicator section below.



#### Description and Location of components

The Geometrics MFAM magnetometer “main board” is attached directly below the central body of the DJI Matrice 600 Pro hexacopter drone. This box contains a small, Texas Instruments computer that collects and stores magnetometer readings on a micro-SD card. It also houses a 66 channel Adafruit GPS module, which operates independent of the (3) internal drone GPS modules. The Adafruit GPS collects and stores “GPS readings” (Lat / Long / Altitude / Time ). The GPS readings are assigned to each mag reading, as the drone navigates along grid lines. A Wi-Fi module is attached to the Texas Instruments computer, which allows the operator to start and stop the magnetometer at a distance.

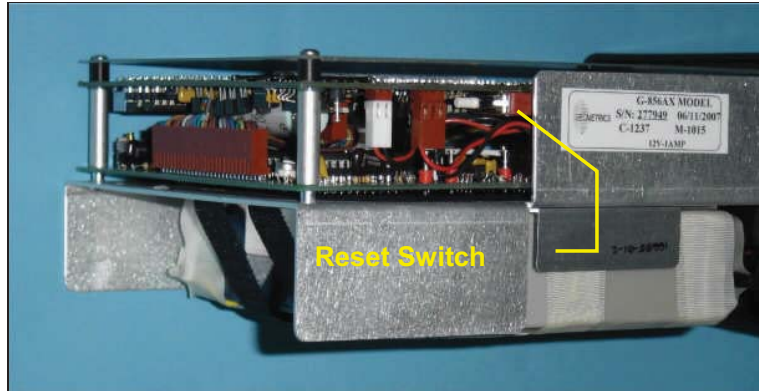
The Geometrics MFAM magnetometer operates using 2 separate mag sensors, attached to a “sensor module” with a flexible circuit board. The sensor module and 2 sensors are housed in a carbon graphite tube, which is mounted (suspended) 53 inches (1.35m) below the 2 front motors of the drone.

Magnetic shielding (mu-metal) is installed at 6 locations around the drone body, to provide additional shielding between drone components and the 2 mag sensors.

The magnetometer GPS antenna (for the internal Adafruit GPS) is mounted on top the drone body, to allow for clear signal. The vertical distance between this antenna and the 2 mag sensors, is 1.20m. This value is considered when reporting “mean terrain clearance”, by subtracting 1.2m from the elevation assigned to each mag reading.

# Appendix II

Geometrics G856AX  
Proton procession magnetometer specifications



**Figure 23. Internal reset switch.**

## **Specifications**

- Displays - Six digit display of magnetic field to resolution of 0.1 gamma or time to nearest second. Additional three-digit display of station, day of year, and line number.
- Resolution - Typically 0.1 gamma in average conditions. May degrade to lower resolution in weak fields, noisy conditions or high gradients.
- Absolute accuracy - One gamma, limited by remnant magnetism in sensor and crystal oscillator accuracy.
- Clock - Julian clock with stability of 5 seconds per month at room temperature and 5 seconds per day over the temperature range of -20 to +50 degrees Celsius.
- Tuning - Push button tuning from keyboard with current value displayed on request. Tuning range 20 to 90  $\mu$ T.
- Gradient - Tolerates gradients to 1800 gammas/meter. When high Tolerance gradients truncate count interval, maintains partial reading to an accuracy consistent with data.
- Cycle Time - Complete field measurement in three seconds in normal operation. Internal switch selection for faster cycle (1.5 seconds) at reduced resolution or longer cycles for increased resolution.
- Manual Read - Takes reading on command. Will store data in memory on command.
- Memory - Stores more than 5700 readings in survey mode, keeping track of

time, station number, line number day and magnetic field reading. In base station operation, computes for retrieval but does not store time of recording designated by sample interval, allowing storage of up to 12,000 readings.

- Output - Plays data out in standard RS-232 format at selectable baud rates. Also outputs data in real time byte parallel, character serial BCD for use with digital recorders.
- Inputs - Will accept an external sample command.
- Special - An internal switch allows:
  - adjustment of Functions polarization time and count time to improve performance in marginal areas or to improve resolution or speed operation
  - three count averaging
  - choice of lighted displays in auto mode.
- Physical -
  - Instrument console: 7 x 10 ½ x 3 ½ inches (18 x 27 x 9 cm), 6 LB (2.7 kg)
  - Sensor: 3 1/2 x 5 inches (9 x 13 cm), 4 LB (1.8 kg)
  - Staff: 1 inch x 8 feet (3cm x 2.5m), 2 LB (1kg)
- Environmental: Meets specifications from 1 to 40°C. Operates satisfactorily from -20 to 50°C.
- Power - Depending on version, operates from internal rechargeable Gel-cells or 9 D-cell flashlight batteries . May be operated from external power ranging from 12 to 18 volts external power. Power failure or replacement of batteries will not cause loss of data stored in memory.
- Standard system (P/N 16600-02) components:
  - Sensor (P/N 16076-01) and sensor cable (P/N 16134-01)
  - Console (P/N 16601-01)
  - Staff, one top section (P/N 16535-01), two middle sections (P/N 16536-01) and 1 bottom section (P/N 16537-01)
  - Carry harness (P/N 16002-02)
  - Two sets of rechargeable batteries (P/N 16697-01) and battery charger (P/N 16699-01)
  - Carrying case (P/N 16003-01)
  - Download cable (P/N 16492-01)
  - Hardcopy operation manual (P/N 18101-02)
  - Magnetometer CD (P/N 26648-01)
- Optional accessories:
  - Tripod kit for base-station operation (P/N 16708-02)
  - Gradiometer kit (P/N 166651-01)
  - Gradiometer carry/storage case (16003-01)

# Appendix III - DJI Matrice 600 Pro Specifications

## Specifications

### • Aircraft

Diagonal Wheelbase	1133 mm
Dimensions	1668 mm x 1518 mm x 727 mm with propellers, frame arms and GPS mount unfolded (including landing gear) 437 mm x 402 mm x 553 mm with propellers, frame arms and GPS mount folded (excluding landing gear)
Weight (with six TB47S batteries)	9.5 kg
Weight (with six TB48S batteries)	10 kg
Max Takeoff Weight Recommended	15.5 kg
Hovering Accuracy (P-GPS)	Vertical: ±0.5 m, Horizontal: ±1.5 m
Max Angular Velocity	Pitch: 300°/s, Yaw: 150°/s
Max Pitch Angle	25°
Max Wind Resistance	8 m/s
Max Ascent Speed	5 m/s
Max Descent Speed	3 m/s
Max Speed	40 mph / 65 kph (no wind)
Max Service Ceiling Above Sea Level	2170 propellers: 2500 m, 2195 propellers: 4500 m
Hovering Time* (with six TB47S batteries)	No payload: 32 min, 6 kg payload: 16 min
Hovering Time* (with six TB48S batteries)	No payload: 38 min, 5.5 kg payload: 18 min
Flight Control System	A3 Pro
Supported DJI Gimbals	Ronin-MX; ZENMUSE™ Z30, Zenmuse X5/X5R, Zenmuse X3, Zenmuse X1, Zenmuse Z15 Series HD Gimbal: Z15-A7, Z15-BMPCC, Z15-SD III, Z15-GH4
Retractable Landing Gear	Standard
Operating Temperature	14° to 104° F (-10° to 40° C)

### • Remote Controller

Operating Frequency	920.6 MHz to 928 MHz (Japan); 5.725 GHz to 5.825 GHz, 2.400 GHz to 2.483 GHz
Max Transmission Distance	FCC Compliant: 3.1 mi (5 km), CE Compliant: 2.2 mi (3.5 km) (Unobstructed, free of interference)
Transmitter Power (EIRP)	10 dBm @ 900M, 13 dBm @ 5.8G, 20 dBm @ 2.4G
Video Output Port	HDMI, SDI, USB
Operating Temperature	14° to 104° F (-10° to 40° C)
Battery	6000 mAh LiPo 2S

### • Charger (Model: MC6S600)

Voltage Output	26.1 V
Rated Power	600 W
Single Battery Port Output Power	100 W

### • Standard Battery (Model: TB47S)

Capacity	4500 mAh
Voltage	22.2 V
Battery Type	LiPo 6S
Energy	99.9 Wh
Net Weight	595 g
Operating Temperature	14° to 104° F (-10° to 40° C)
Max Charging Power	180 W

### • Optional Battery (Model: TB48S)

Capacity	5700 mAh
Voltage	22.8 V
Battery Type	LiPo 6S
Energy	129.96 Wh
Net Weight	680 g
Operating Temperature	14° to 104° F (-10° to 40° C)
Max Charging Power	180 W

\* Hovering time is based on flying at 10 meters above sea level in a no-wind environment and landing with a 10% battery level.



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and  
(2) this device must accept any interference received, including interference that may cause undesired operation.



DJI incorporates HDMI™ technology. The terms HDMI and HDMI High Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

Download the detailed user manual at:  
[www.dji.com/matrice600-pro](http://www.dji.com/matrice600-pro)

\* This content is subject to change without prior notice.

MATRICE™ is a trademark of DJI.  
Copyright © 2016 DJI All Rights Reserved.

Designed by DJI. Printed in China.

### **Drone Operation and Ground Control Methods**

The DJI Matrice 600 Pro drone is programmed to fly an automated flight path (the survey grid lines and tie lines), using software that is available and ready to use on a wide variety of drones. Zen Geomap uses UgCS software, Drone Deploy and Pix4D software;

- Drone Deploy and Pix4D, on simple grids that do not require advanced control with regards to following complex terrain (example – flying in relatively flat ground, using Google Earth or other simple elevation model).
- UgCS, in rugged terrain, where we obtain a detailed 3D terrain model (DEM or DTM) using photogrammetric drone prior to magnetic survey. In this case we upload our own, custom DEM into UgCS software and the DJI M600 drone will follow the terrain at a fixed offset.

### **Using a Drape**

The automated flight path will always use (follow) a “drape” in one form or another.

- On simple grids in flat terrain, the drape is generated as an offset of a simple DEM, such as Google Earth or other coarse elevation model such as DEMs available on-line through USGS.
- In complex terrain, the drape is generated as an offset of our own, custom DEM.

All of our piloting software is capable of following a drape at a fixed offset. We typically program the drone to fly 50m above coarse DEMs, such as Google Earth, or USGS. When a custom DEM is available, we typically fly 25-30m above DEM.

The actual / final “height above terrain” (or mean terrain clearance), is determined in the field by our crews. They visually inspect and look for obstacles such as hills, trees, buildings and towers.

The height above terrain (or mean terrain clearance) is included in the logistical and assessment reports we prepare for our clients.

### **Ground Control Methods**

The DJI M600 drone uses a combination of 3 separate GPS receivers and 3 separate barometers. This system developed by DJI is called the A3 Controller.

The A3 controller is designed to maintain a stable altitude, relative to the take-off point. Over a 5 year period (2014 to current), we have found the A3 controller to be reliable to sub-metre accuracy, when it comes to maintaining stable altitude over a typical 20 to 30 minute flight.

Based on this long-term record, we rely on the A3 controller to navigate the drone at a pre-programmed, fixed offset above DEM. Over the same 5 year period, we have observed consistent and accurate agreement between the A3 GPS locations and the Adafruit (Magnetometer) GPS locations. When plotted in plan view, the A3 GPS tracks have always agreed with the Adafruit tracks to approximately 1 metre accuracy.

The author of this report has been an active surveyor since 1990 and is familiar with real-time (RTK) GPS and post-processed GPS methods.

# Appendix V

## Quality Control / Tests and Calibrations / Processing Steps

### Quality Control

Throughout the data acquisition phase, data are monitored closely for quality control and error-checking on all channels. Output from the Geometrics MFAM magnetometer includes a wide range of error codes, which are written to the raw data file to help diagnose problems when they occur in the field.

All data are checked on a daily basis, as field data are transferred to Zen Geomap offices in Timmins or North Bay, Ontario. When errors or problems occur, the field crew is instructed to re-fly problem areas.

### Tests and Calibrations

The following tests and calibrations are carried-out on all magnetometer equipment and sensors employed by Zen Geomap Inc.;

#### Heading Error

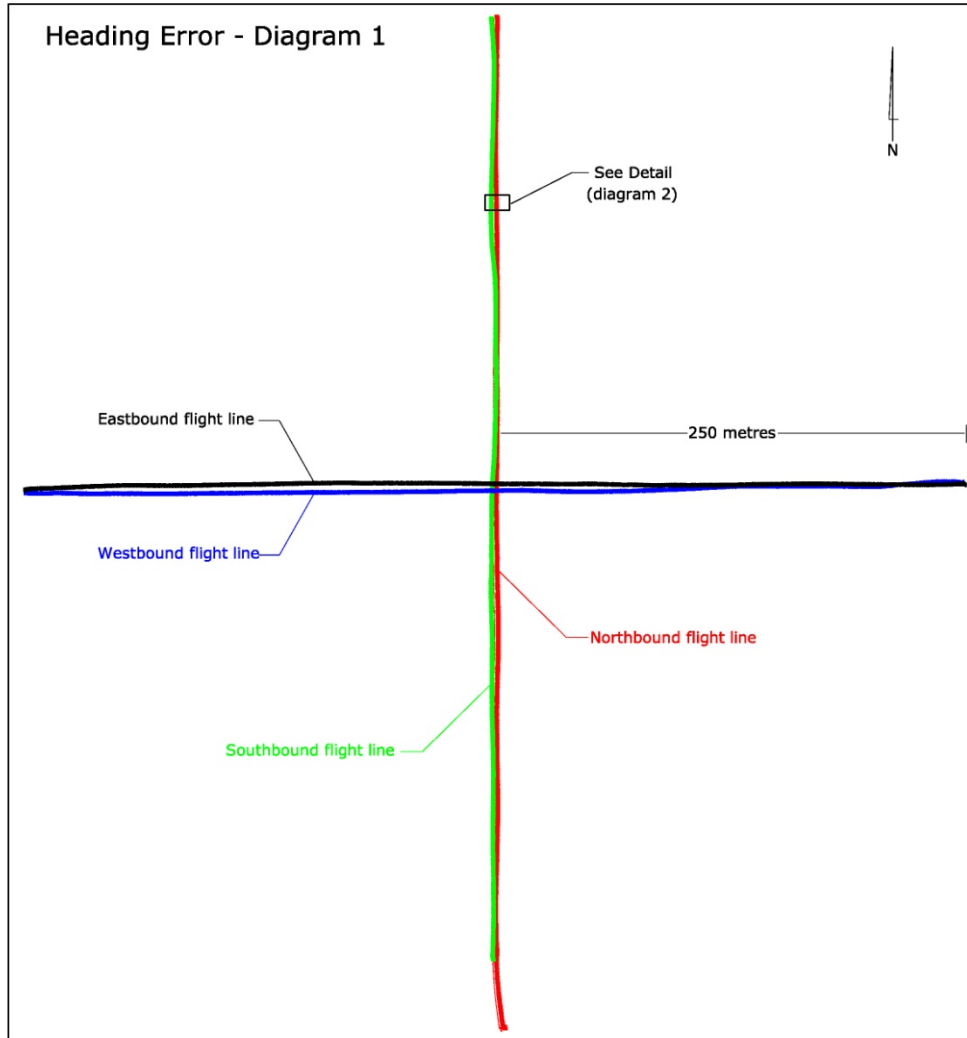
Upon receipt of a new magnetometer (or after significant repair or modification to any system component), a test flight is carried-out to determine heading error.

A cross-pattern is flown as shown in **Diagram 1**, with 500 metre N-S and E-W lines. Magnetic readings are collected along the same lines, flown in opposite directions.

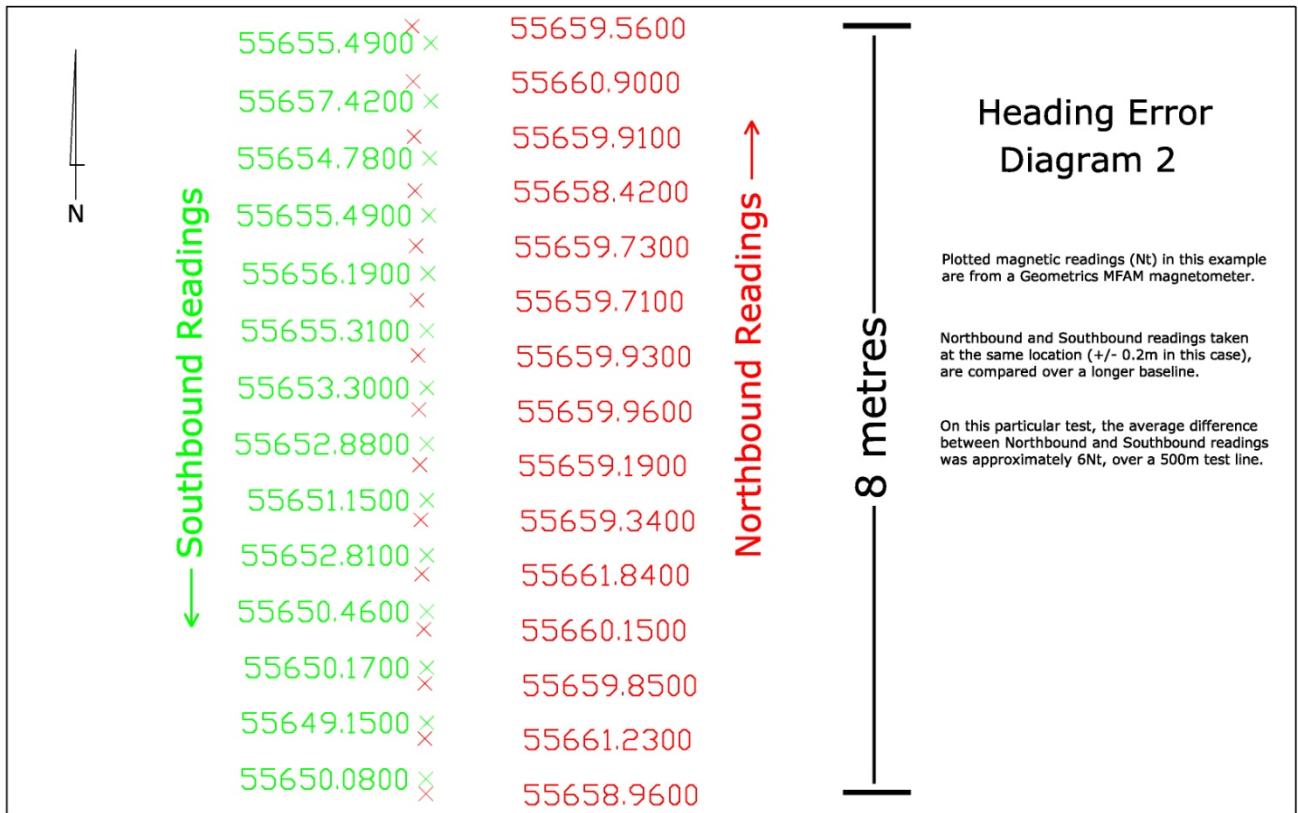
Northbound and Southbound readings at the same location (+/- 0.2m in this example) are compared. Eastbound and Westbound readings undergo the same process.

(See: Heading Error – **Diagram 2**).





**Example test flight by Zen Geomap, August, 2019**



### Example – Geometrics MFAM readings, August, 2019

The difference between Northbound and Southbound readings, averaged over a 500m baseline is calculated. The resulting value (6 Nt in above example), is used to apply a correction for heading error during processing.

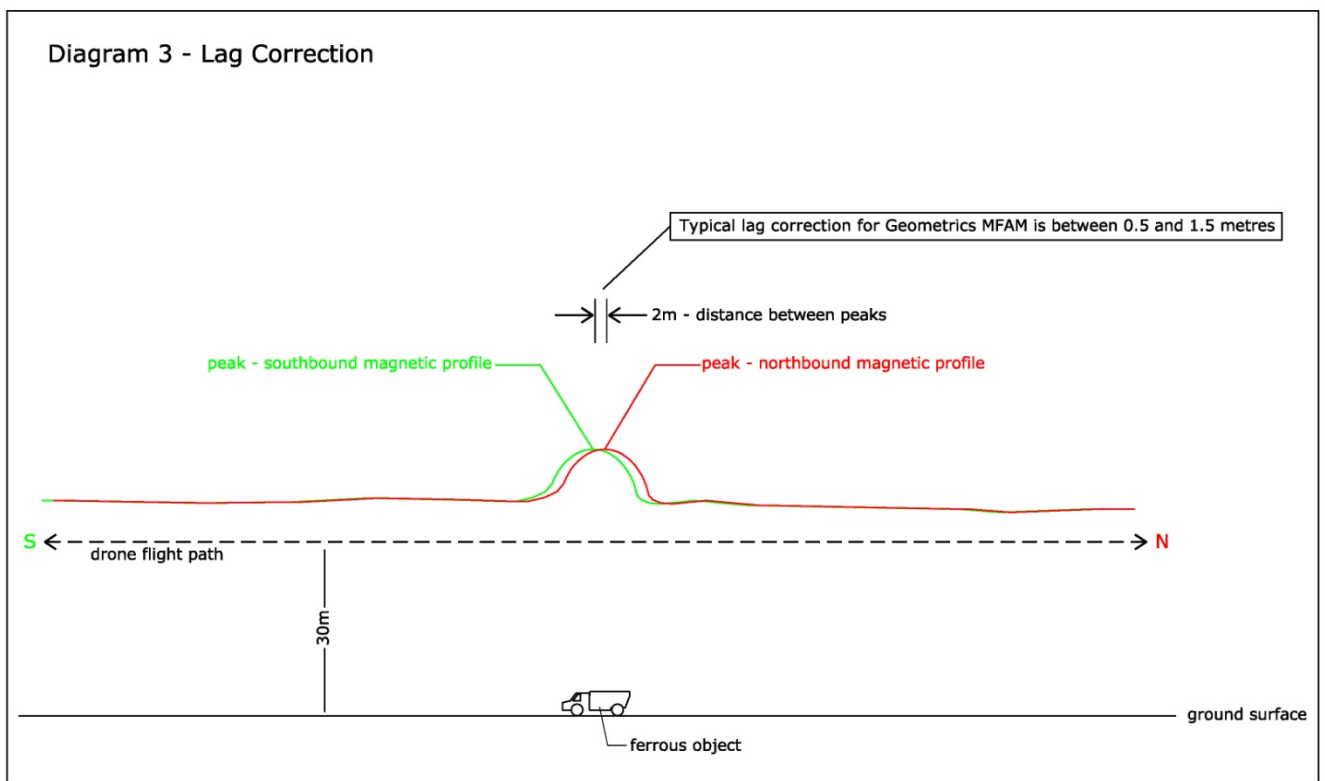
Each mag sensor will produce a unique result, however we typically apply a correction of 3Nt or less, to adjacent flight lines.

## Lag Correction

Tests are performed to determine lag correction, by flying the drone magnetometer in opposite directions over top a ferrous object. Suitable objects include steel bridges, vehicles or heavy equipment.

**Diagram 3** shows a typical flight test to determine lag correction.

A Geometrics MFAM magnetometer will typically have a lag error between 0.5 and 1.5 metres. Each mag sensor will produce a unique value. We typically apply a correction of 1m or less, to the location of magnetic readings on adjacent lines.



## **Diurnal Correction**

A Geometrics G856AX proton procession magnetometer is operated as a base station on all projects, to provide diurnal monitoring of the local magnetic field variations. Adjustment may be applied to the raw MFAM readings, when variations exceed 10 or more Nt over the course of any flight. However, we typically re-fly grid lines, if the magnetic field variation is excessive.

The location (UTM coordinate) of the base station is included in the report body.

## **Processing Steps**

Diurnal is examined for flights covering tie lines.

If magnetic field variation is excessive during tie line flights, all readings across tie lines are corrected using the base station data.

Tie lines provide a framework for leveling grid lines.

Readings on grid lines (once corrected for heading error and lag), are translated to conform to the tie lines. This process involves adjusting individual grid line segments, based on tie line intersections.

Unlike conventional airborne survey, such as fixed-wing or helicopter, a drone will take-off and land multiple times during the course of a survey. The resulting ferry lines are removed from the overall dataset prior to processing. Zen Geomap has developed import templates that run in Geosoft Oasis Montaj, to accomplish this task.

Geometrics MFAM data is not directly compatible with industry-standard software such as Geosoft. Zen Geomap has developed software (Python code) to convert raw MFAM data into a format compatible with Geosoft and other industry-standard geophysical software. The raw data from MFAM is processed through Python, prior to initial processing.

The Python code developed by Zen Geomap has been adopted by Geometrics, as the standard conversion software for drone-mounted MFAM. Geometrics has been the industry leader for airborne magnetometer equipment since 1969.

<b>Appendix VI</b>			<b>BISHOP NIPISSING DIAMOND PROJECT – CRIOSTAL LAKE PROPERTY HISTORY As of March 7, 2021</b>		
Claim #	Legacy Claim #	Date	Description	Performed Assigned	Transaction #
287274	4282146	2015-NOV-27	RECORDED BY BARRETTE, MICHAEL JOSEPH (1007272)		R1580.01781
		2015-NOV-27	BARRETTE, MICHAEL JOSEPH (105222) RECORDS 100.0 % IN THE NAME OF BISHOP, BRIAN ANTHONY (108621)		R1580.01782
		2017-NOV-02	RECORDER EXTENDS TIME UNTIL AND INCLUDING 2017-DEC-15 FOR WORK AND FILING THEREOF.		D1780.00466
		2017-DEC-01	WORK PERFORMEDBENEF, MICRO, PROSP APPROVED: 2017-DEC-15	\$ 4,032	Q1780.02152
		2017-DEC-20	REGULATION 455/17 EXCLUDES 383 DAYS AND SETS NEW ANNIVERSARY DATE 2018-DEC-15		O1780.01724
		2018-JAN-08	WORK APPLIED		W1880.00021
		2018-APR-10	Converted to boundary claim(s) 229191, 241367, 248164, 248165, 287274, 295902.		MAM00.32687
		2019-JUN-07	Exploration Permit No. PR-19-000076 Effective from 019/06/07 to 2022/06/07 for the Following Activities: (Mechanized Drilling (Assembled Weight >150kg), Trails		579096
229191	4282146	2015-NOV-27	RECORDED BY BARRETTE, MICHAEL JOSEPH (1007272)		R1580.01781
		2015-NOV-27	BARRETTE, MICHAEL JOSEPH (105222) RECORDS 100.0 % IN THE NAME OF BISHOP, BRIAN ANTHONY (108621)		R1580.01782
		2017-NOV-02	RECORDER EXTENDS TIME UNTIL AND INCLUDING 2017-DEC-15 FOR WORK AND FILING THEREOF.		D1780.00466
		2017-DEC-01	WORK PERFORMEDBENEF, MICRO, PROSP APPROVED: 2017-DEC-15	\$ 4,032	Q1780.02152
		2017-DEC-20	REGULATION 455/17 EXCLUDES 383 DAYS AND SETS NEW ANNIVERSARY DATE 2018-DEC-15		O1780.01724
		2018-JAN-08	WORK APPLIED		W1880.00021
		2018-APR-10	Converted to boundary claim(s) 229191, 241367, 248164, 248165, 287274, 295902.		MAM00.32687
		2019-JUN-07	Exploration Permit No. PR-19-000076 Effective from 019/06/07 to 2022/06/07 for the Following Activities: (Mechanized Drilling (Assembled Weight >150kg), Trails		579096
248164	4282146	2015-NOV-27	RECORDED BY BARRETTE, MICHAEL JOSEPH (1007272)		R1580.01781
		2015-NOV-27	BARRETTE, MICHAEL JOSEPH (105222) RECORDS 100.0 % IN THE NAME OF BISHOP, BRIAN ANTHONY (108621)		R1580.01782
		2017-NOV-02	RECORDER EXTENDS TIME UNTIL AND INCLUDING 2017-DEC-15 FOR WORK AND FILING THEREOF.		D1780.00466
		2017-DEC-01	WORK PERFORMEDBENEF, MICRO, PROSP APPROVED: 2017-DEC-15	\$ 4,032	Q1780.02152
		2017-DEC-20	REGULATION 455/17 EXCLUDES 383 DAYS AND SETS NEW ANNIVERSARY DATE 2018-DEC-15		O1780.01724
		2018-JAN-08	WORK APPLIED		W1880.00021
		2018-APR-10	Converted to boundary claim(s) 229191, 241367, 248164, 248165, 287274, 295902.		MAM00.32687
		2019-JUN-07	Exploration Permit No. PR-19-000076 Effective from 019/06/07 to 2022/06/07 for the Following Activities: (Mechanized Drilling (Assembled Weight >150kg), Trails		579096
		2018-APR-10	Converted to boundary claim(s) 144407, 144408, 172984, 202715, 313743, 325444.		MAM00.25510
		2019-JUN-07	Exploration Permit No. PR-19-000076 Effective from 019/06/07 to 2022/06/07 for the Following Activities: (Mechanized Drilling (Assembled Weight >150kg), Trails		579096
100291	4285517	2017-MAR-10	RECORDED BY EDE, BRONSON JEFFERY (1011491)		R1780.00762
		2017-MAR-10	EDE, BRONSON JEFFERY (392677) RECORDS 100.0 % IN THE NAME OF CAMILLERI, JONATHAN PAUL (411562)		R1780.00763

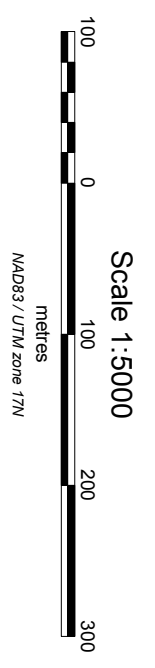
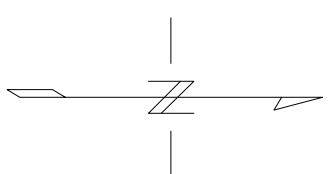
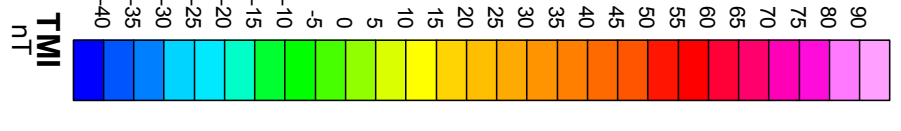
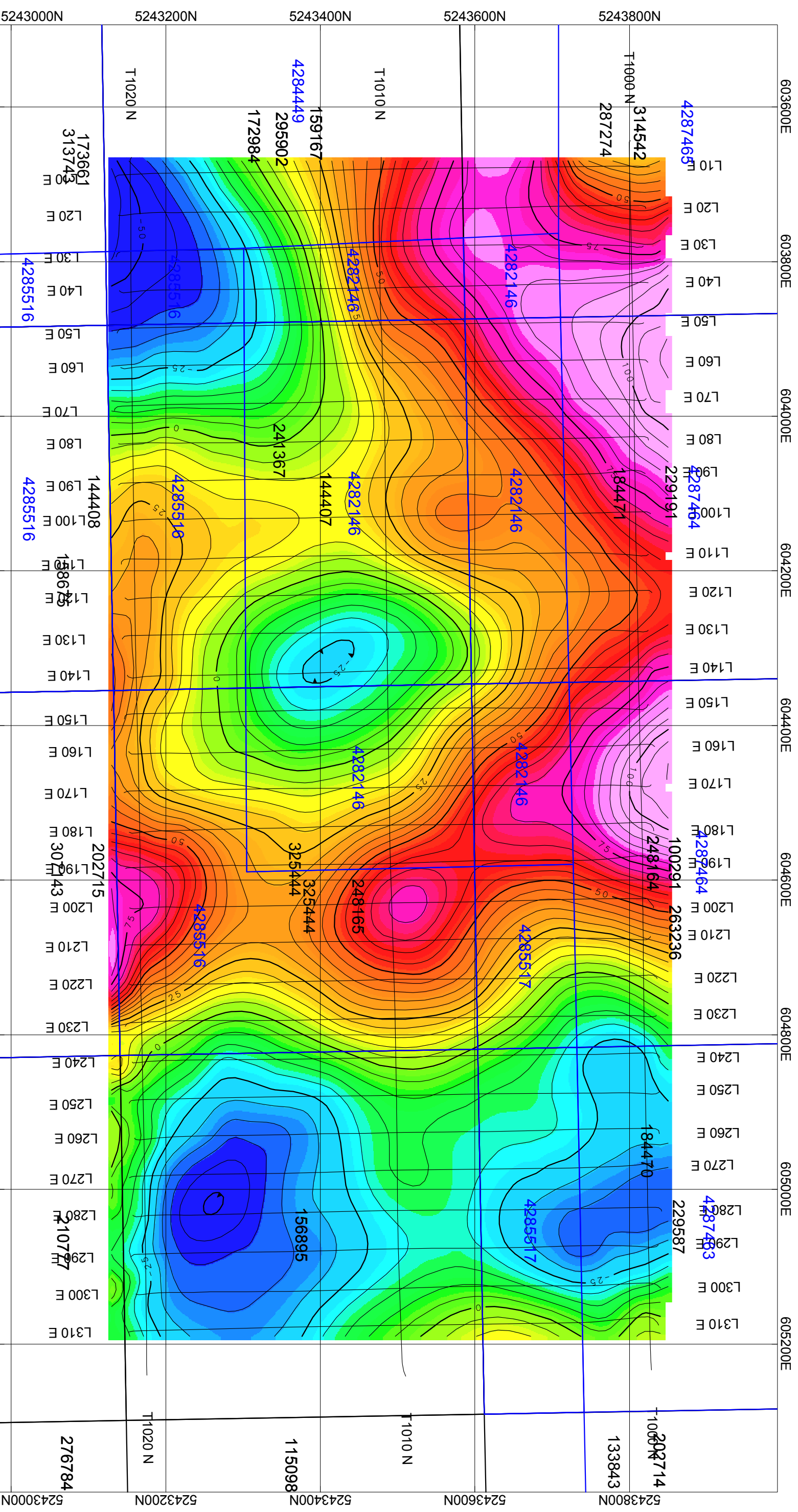
		2018-APR-10	Converted to cell claim(s) 115098, 144792, 156895, 156896, 210777, 276784 and boundary claim(s) 100291, 100292, 100293, 115099, 127608, 202714, 202715, 210778, 229587, 276783, 295640, 295641, 325444, 325445.		MAM00.29145
		2018-MAY-08	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to METEORIC RESOURCES SUB INC. (413563)		348301
		2019-FEB-11	Submit Report of Work Assessment		479440
		2019-APR-18	\$200 Exploration Credit Applied	\$200	594933
		2019-APR-25	Complete Transfer of Mining Claim(s) METEORIC RESOURCES SUB INC. (413563) Transfers 100% to JONATHAN CAMILLERI (411562)		602725
		2020-AUG-10	Submit Plan/Permit for Early Exploration Activities Exploration Permit No. PR-20-000251 Effective from 2020/10/02 to 2023/10/01 for the Following Activities: (Geophysical Survey Requiring Generator Type, Line Cutting (<1.5m width), Mechanized Drilling (Assembled Weight >150kg), Trails (TS))		1035737
		2020-OCT-23	\$200 Exploration Credit Applied	\$200	1077019
		2020-DEC-02	Submit Plan/Permit for Early Exploration Activities Exploration Permit No. PR-20-000348 Effective from 2021/02/09 to 2024/02/08 for the Following Activities: (Mechanized Stripping (>100m2 in 200 metre radius), Pitting and Trenching of Bedrock (>3m3 in 200 metre radius), Trails (TS))		1093432
		2021-FEB-25	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to RJK EXPLORATIONS LTD. (187972)		1144909
229587	4285517	2017-MAR-10	RECORDED BY EDE, BRONSON JEFFERY (1011491)		R1780.00762
		2017-MAR-10	EDE, BRONSON JEFFERY (392677) RECORDS 100.0 % IN THE NAME OF CAMILLERI, JONATHAN PAUL (411562)		R1780.00763
		2018-APR-10	Converted to cell claim(s) 115098, 144792, 156895, 156896, 210777, 276784 and boundary claim(s) 100291, 100292, 100293, 115099, 127608, 202714, 202715, 210778, 229587, 276783, 295640, 295641, 325444, 325445.		MAM00.29145
		2018-MAY-08	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to METEORIC RESOURCES SUB INC. (413563)		348301
		2019-FEB-11	Submit Report of Work Assessment Work Report Filed		479440
		2019-APR-18	\$200 Exploration Credit Applied	\$200	594933
		2019-APR-25	Complete Transfer of Mining Claim(s) METEORIC RESOURCES SUB INC. (413563) Transfers 100% to JONATHAN CAMILLERI (411562)		602725
		2020-AUG-10	Submit Plan/Permit for Early Exploration Activities Exploration Permit No. PR-20-000251 Effective from 2020/10/02 to 2023/10/01 for the Following Activities: (Geophysical Survey Requiring Generator Type, Line Cutting (<1.5m width), Mechanized Drilling (Assembled Weight >150kg), Trails (TS))		1035737
		2020-OCT-23	\$200 Exploration Credit Applied	\$200	1077019
		2020-DEC-02	Submit Plan/Permit for Early Exploration Activities Exploration Permit No. PR-20-000348 Effective from 2021/02/09 to 2024/02/08 for the Following Activities: (Mechanized Stripping (>100m2 in 200 metre radius), Pitting		1093432

			and Trenching of Bedrock (>3m3 in 200 metre radius), Trails (TS))		
		2021-FEB-25	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to RJK EXPLORATIONS LTD. (187972)		1144909
295902	4282146	2015-NOV-27	RECORDED BY BARRETTE, MICHAEL JOSEPH (1007272)		R1580.01781
		2015-NOV-27	BARRETTE, MICHAEL JOSEPH (105222) RECORDS 100.0 % IN THE NAME OF BISHOP, BRIAN ANTHONY (108621)		R1580.01782
		2017-NOV-02	RECORDER EXTENDS TIME UNTIL AND INCLUDING 2017-DEC-15 FOR WORK AND FILING THEREOF.		D1780.00466
		2017-DEC-01	WORK PERFORMEDBENEF, MICRO, PROSP APPROVED: 2017-DEC-15	\$ 4,032	Q1780.02152
		2017-DEC-20	REGULATION 455/17 EXCLUDES 383 DAYS AND SETS NEW ANNIVERSARY DATE 2018-DEC-15		O1780.01724
		2018-JAN-08	WORK APPLIED		W1880.00021
		2018-APR-10	Converted to boundary claim(s) 229191, 241367, 248164, 248165, 287274, 295902.		MAM00.32687
		2019-JUN-07	Exploration Permit No. PR-19-000076 Effective from 019/06/07 to 2022/06/07 for the Following Activities: (Mechanized Drilling (Assembled Weight >150kg), Trails		579096
		2018-APR-10	Converted to boundary claim(s) 144407, 144408, 172984, 202715, 313743, 325444.		MAM00.25510
		2019-JUN-07	Exploration Permit No. PR-19-000076 Effective from 019/06/07 to 2022/06/07 for the Following Activities: (Mechanized Drilling (Assembled Weight >150kg), Trails		579096
172984	4285516	017-MAR-10	RECORDED BY EDE, BRONSON JEFFERY (1011491)		R1780.00762
		017-MAR-10	EDE, BRONSON JEFFERY (392677) RECORDS 100.0 % IN THE NAME OF CAMILLERI, JONATHAN PAUL (411562)		R1780.00763
		2018-APR-10	Converted to boundary claim(s) 144407, 144408, 172984, 202715, 313743, 325444.		MAM00.25510
		2018-MAY-08	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562 ) Transfers 100% to METEORIC RESOURCES SUB INC. (413563)		348301
		2019-FEB-11	Submit Report of Work Assessment		479440
		2019-APR-25	Complete Transfer of Mining Claim(s) METEORIC RESOURCES SUB INC. (413563) Transfers 100% to JONATHAN CAMILLERI (411562)		602725
		2020-AUG-10	Submit Plan/Permit for Early Exploration Activities Exploration Permit No. PR-20-000251 Effective from 2020/10/02 to 2023/10/01 for the Following Activities: (Geophysical Survey Requiring Generator Type, Line Cutting (<1.5m width), Mechanized Drilling (Assembled Weight >150kg), Trails (TS))		1035737
		2020-OCT-23	\$200 Exploration Credit Applied	\$200	1093432
		2021-FEB-25	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to RJK EXPLORATIONS LTD. (187972)		1144909
144407	4285516	017-MAR-10	RECORDED BY EDE, BRONSON JEFFERY (1011491)		R1780.00762
		017-MAR-10	EDE, BRONSON JEFFERY (392677) RECORDS 100.0 % IN THE NAME OF CAMILLERI, JONATHAN PAUL (411562)		R1780.00763
		2018-APR-10	Converted to boundary claim(s) 144407, 144408, 172984, 202715, 313743, 325444.		MAM00.25510
		2018-MAY-08	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to METEORIC RESOURCES SUB INC. (413563)		348301

		2019-FEB-11	Submit Report of Work Assessment		479440
		2019-APR-25	Complete Transfer of Mining Claim(s) METEORIC RESOURCES SUB INC. (413563) Transfers 100% to JONATHAN CAMILLERI (411562)		602725
		2020-AUG-10	Submit Plan/Permit for Early Exploration Activities Exploration Permit No. PR-20-000251 Effective from 2020/10/02 to 2023/10/01 for the Following Activities: (Geophysical Survey Requiring Generator Type, Line Cutting (<1.5m width), Mechanized Drilling (Assembled Weight >150kg), Trails (TS))		1035737
		2020-OCT-23	\$200 Exploration Credit Applied	\$200	1093432
		2021-FEB-25	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to RJK EXPLORATIONS LTD. (187972)		1144909
241367	4282146	2015-NOV-27	RECORDED BY BARRETTE, MICHAEL JOSEPH (1007272)		R1580.01781
		2015-NOV-27	BARRETTE, MICHAEL JOSEPH (105222) RECORDS 100.0 % IN THE NAME OF BISHOP, BRIAN ANTHONY (108621)		R1580.01782
		2017-NOV-02	RECORDER EXTENDS TIME UNTIL AND INCLUDING 2017-DEC-15 FOR WORK AND FILING THEREOF.		D1780.00466
		2017-DEC-01	WORK PERFORMEDBENEF, MICRO, PROSP APPROVED: 2017-DEC-15	\$ 4,032	Q1780.02152
		2017-DEC-20	REGULATION 455/17 EXCLUDES 383 DAYS AND SETS NEW ANNIVERSARY DATE 2018-DEC-15		O1780.01724
		2018-JAN-08	WORK APPLIED		W1880.00021
		2018-APR-10	Converted to boundary claim(s) 229191, 241367, 248164, 248165, 287274, 295902.		MAM00.32687
		2019-JUN-07	Exploration Permit No. PR-19-000076 Effective from 019/06/07 to 2022/06/07 for the Following Activities: (Mechanized Drilling (Assembled Weight >150kg), Trails		579096
		2018-APR-10	Converted to boundary claim(s) 144407, 144408, 172984, 202715, 313743, 325444.		MAM00.25510
		2019-JUN-07	Exploration Permit No. PR-19-000076 Effective from 019/06/07 to 2022/06/07 for the Following Activities: (Mechanized Drilling (Assembled Weight >150kg), Trails		579096
248165	4282146	2015-NOV-27	RECORDED BY BARRETTE, MICHAEL JOSEPH (1007272)		R1580.01781
		2015-NOV-27	BARRETTE, MICHAEL JOSEPH (105222) RECORDS 100.0 % IN THE NAME OF BISHOP, BRIAN ANTHONY (108621)		R1580.01782
		2017-NOV-02	RECORDER EXTENDS TIME UNTIL AND INCLUDING 2017-DEC-15 FOR WORK AND FILING THEREOF.		D1780.00466
		2017-DEC-01	WORK PERFORMEDBENEF, MICRO, PROSP APPROVED: 2017-DEC-15	\$ 4,032	Q1780.02152
		2017-DEC-20	REGULATION 455/17 EXCLUDES 383 DAYS AND SETS NEW ANNIVERSARY DATE 2018-DEC-15		O1780.01724
		2018-JAN-08	WORK APPLIED		W1880.00021
		2018-APR-10	Converted to boundary claim(s) 229191, 241367, 248164, 248165, 287274, 295902.		MAM00.32687
		2019-JUN-07	Exploration Permit No. PR-19-000076 Effective from 019/06/07 to 2022/06/07 for the Following Activities: (Mechanized Drilling (Assembled Weight >150kg), Trails		579096
		2018-APR-10	Converted to boundary claim(s) 144407, 144408, 172984, 202715, 313743, 325444.		MAM00.25510
		2019-JUN-07	Exploration Permit No. PR-19-000076 Effective from 019/06/07 to 2022/06/07 for the Following Activities: (Mechanized Drilling (Assembled Weight >150kg), Trails		579096
325444	4285516	017-MAR-10	RECORDED BY EDE, BRONSON JEFFERY (1011491)		R1780.00762

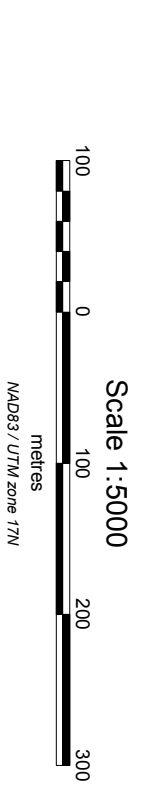
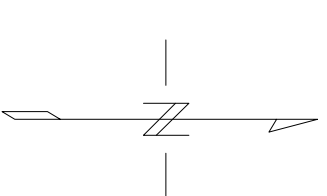
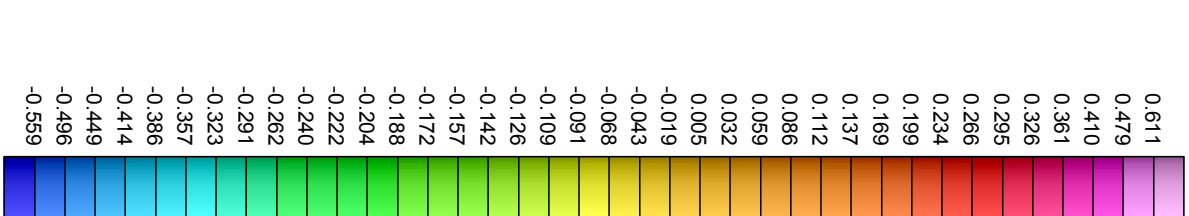
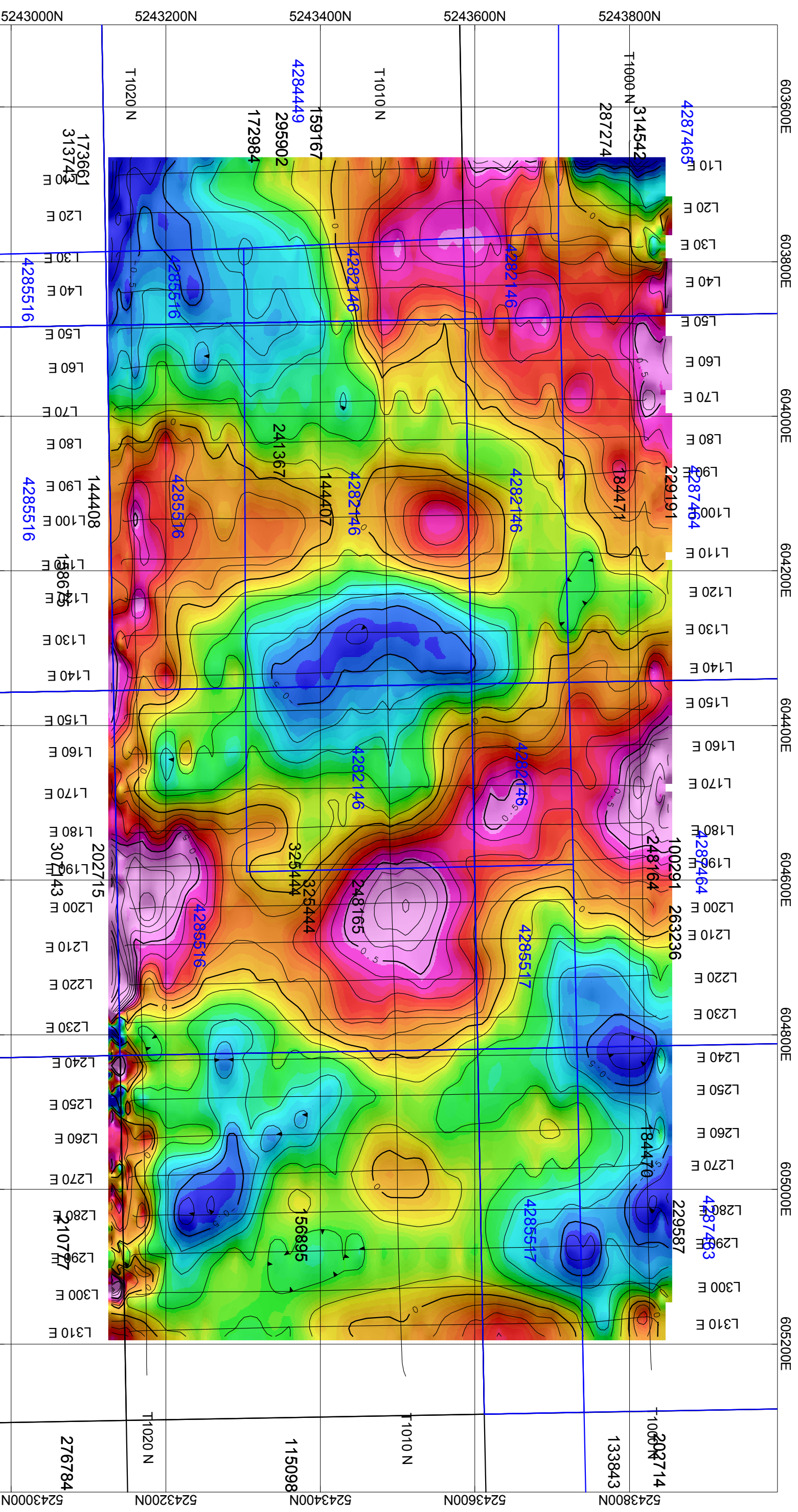


		017-MAR-10	EDE, BRONSON JEFFERY (392677) RECORDS 100.0 % IN THE NAME OF CAMILLERI, JONATHAN PAUL (411562)		R1780.00763
		2018-APR-10	Converted to boundary claim(s) 144407, 144408, 172984, 202715, 313743, 325444.		MAM00.25510
		2018-MAY-08	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to METEORIC RESOURCES SUB INC. (413563)		348301
		2019-FEB-11	Submit Report of Work Assessment		479440
		2019-APR-25	Complete Transfer of Mining Claim(s) METEORIC RESOURCES SUB INC. (413563) Transfers 100% to JONATHAN CAMILLERI (411562)		602725
		2020-AUG-10	Submit Plan/Permit for Early Exploration Activities Exploration Permit No. PR-20-000251 Effective from 2020/10/02 to 2023/10/01 for the Following Activities: (Geophysical Survey Requiring Generator Type, Line Cutting (<1.5m width), Mechanized Drilling (Assembled Weight >150kg), Trails (TS))		1035737
		2020-OCT-23	\$200 Exploration Credit Applied	\$200	1093432
		2021-FEB-25	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to RJK EXPLORATIONS LTD. (187972)		1144909
156895	4285517	2017-MAR-10	RECORDED BY EDE, BRONSON JEFFERY (1011491)		R1780.00762
		2017-MAR-10	EDE, BRONSON JEFFERY (392677) RECORDS 100.0 % IN THE NAME OF CAMILLERI, JONATHAN PAUL (411562)		R1780.00763
		2018-APR-10	Converted to cell claim(s) 115098, 144792, 156895, 156896, 210777, 276784 and boundary claim(s) 100291, 100292, 100293, 115099, 127608, 202714, 202715, 210778, 229587, 276783, 295640, 295641, 325444, 325445.		MAM00.29145
		2018-MAY-08	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to METEORIC RESOURCES SUB INC. (413563)		348301
		2019-FEB-11	Submit Report of Work Assessment Work Report Filed		479440
		2019-APR-18	\$200 Exploration Credit Applied	\$200	594933
		2019-APR-25	Complete Transfer of Mining Claim(s) METEORIC RESOURCES SUB INC. (413563) Transfers 100% to JONATHAN CAMILLERI (411562)		602725
		2020-AUG-10	Submit Plan/Permit for Early Exploration Activities Exploration Permit No. PR-20-000251 Effective from 2020/10/02 to 2023/10/01 for the Following Activities: (Geophysical Survey Requiring Generator Type, Line Cutting (<1.5m width), Mechanized Drilling (Assembled Weight >150kg), Trails (TS))		1035737
		2020-OCT-23	\$200 Exploration Credit Applied	\$200	1077019
		2020-DEC-02	Submit Plan/Permit for Early Exploration Activities, Exploration Permit No. PR-20-000348 Effective, from 2021/02/09 to 2024/02/08 for the Following Activities: (Mechanized Stripping (>100m2 in 200 metre radius), Pitting and Trenching of Bedrock (>3m3 in 200 metre radius), Trails (TS))		1093432
		2021-FEB-25	Complete Transfer of Mining Claim(s) JONATHAN CAMILLERI (411562) Transfers 100% to RJK EXPLORATIONS LTD. (187972)		1144909



LINE KMS. SURVEYED: 26

<b>RJK EXPLORATIONS INC.</b>
<b>CRIOSTAL LAKE PROPERTY</b>
<b>DRONE MAGNETIC SURVEY - TMI CONTOURS</b>
<b>JANUARY 14, 2021</b>
LORRAIN TWP. - LARDER LAKE MINING DIVISION
CLAIMS: POSTED ON MAP
CONTOUR INTERVAL = 5.25 nT
INSTRUMENT: GEOMETRICS MFAM SENSOR M600 DRONE
<b>SURVEYED BY: FERA UAV LTD.</b>



LINE KMS. SURVEYED: 26

<b>RJK EXPLORATIONS INC.</b>
<b>CRIOTAL LAKE PROPERTY</b>
<b>DRONE MAGNETIC SURVEY - 1VD MAGNETICS</b>
<b>JANUARY 14, 2021</b>
LORRAIN TWP. - LARDER LAKE MINING DIVISION
CLAIMS: POSTED ON MAP
CONTOUR INTERVAL = 1.5 nT/m
INSTRUMENT: GEOMETRICS MFAM SENSOR M600 DRONE
<b>SURVEYED BY: FERA UAV LTD.</b>