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Nous tenons à améliorer <u>l'accessibilité des services à la clientèle</u>. Si vous avez besoin de formats accessibles ou d'aide à la communication, veuillez <u>nous contacter</u>. Technical Report High-Resolution Heliborne Magnetic Survey Maybrun Extension Property, Kenora area, Kenora Mining Division, Ontario, 2022

Addendum Report

By K. Wynne, P. Geo.

August 4, 2022

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#### Introduction

This Addendum Report is provided to include information about the location, access, geological setting, mineralization, and work history of the Maybrun Extension Property. This is supplemental to the "Technical Report High-Resolution Heliborne Magnetic Survey Maybrun Extension Property, Kenora area, Kenora Mining Division, Ontario, 2022".

#### **Property Description and Location**

The Maybrun Extension Property is located in the Atikwa Lake and Rowan Lake Areas of the Kenora Mining Division in northwestern Ontario. The property is approximately 30 km east of the community of Sioux Narrows, and can be reached by Maybrun Rd which turns east off highway 71 7 km to the north of town.

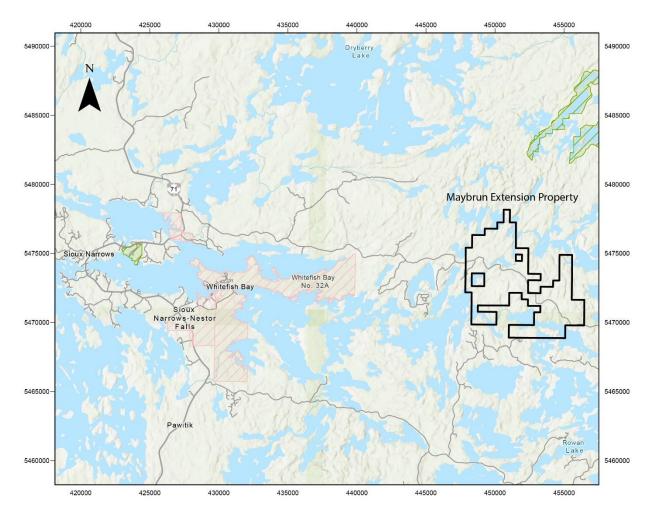


Figure 1: Maybrun Extension Property Location

### **Property History**

The Maybrun Extension Property is adjacent to several mineral showings with long work histories but has historically not been combined, and has not been the focus of widespread work itself. Adjacent historical showings of note include The Maybrun Mine, the Virginia Mine, and Caviar Lake.

Maybrun Mine is a gold copper mine located to the north of the center of the property. In 1955 Maybrun began underground mining. Work was halted in 1957 and the site remained inactive until 1965, when work began on an open pit operation which continued in intervals until 1974. Virginia Mine in the western cut out of the property was active from 1898 to 1900, mining for gold. Caviar Lake was a gold mine which was active in the early 1900's, with some pitting and trenching done in 1935. It is located to the south of the Maybrun Extension Property.

Because of the disjointed nature of exploration on the Maybrun Extension, it is easiest to list work done by date. Table 1 was constructed using the Ontario Assessment File Database.

Year	Assessment File	Location on Maybrun Extension	Work Description	
-	52F05NE0150	southeast	L. B. Murdock drilled a single hole on the south of the property at an unknown date.	
1952	52F05NE0058	Denmark Lake (middle south)	International Nickel Co of Canada ran a magnetic survey centered on the Denmark Lake prospect in 1952.	
1952	52F05NE0044	Shawkey	J Edwards mapped west of the Shawkey prospect in 1952.	
1952	52F05NE0057	Shawkey	Falconbridge ran a magnetic survey cenetred on the Shawkey prospect and extending into the claim block in 1952.	
1952	52F05SE0142	southeast	Denlake Mining Co mapped and conducted a magnetic survey over the south of the property in 1952 and discovered copper mineralization.	
1953	52F05NE0017	Edlon Occurrence	7 drillholes by Edlon Mines Limited in 1953. No results of note.	
1956	52F05NE0055	northeast	Apex Consolidated Resources Ltd. Ran a magnetic survery over the northeast corner of the property in 1956.	
1956	52F05NE0036	Shawkey	In 1956 Shawkey Mines drilled 4 holes between Maybrun Mine and the Shawkey occurrence which are on the current property. No assays were included.	
1956	52F05NE0051	Shawkey	Mapping around Shawkey prospect in 1956.	
1956	52F05NE8181	southwest	Green Bay Mining ran a self potential survey and conducted geological mapping on the southwest of the property in 1956.	
1957	52F05NE0016	Edlon Occurrence	In 1957 Edlon Mines Limited drilled 14 holes on the property, dirrectly to the west of Maybrun Mine to investigate the Edlon occurence. Not assays were collected.	

#### Table 1: Work on Maybrun Extension Property by date

	ſ	Γ		
1957	52F05NE0052	southeast	Denrow Mines Ltd ran an electromagnetic survey and conducted geological mapping of an area covering the southern claims in 1957.	
1969	52F05NE0043	majority/west	Maybrun Mines Ltd ran a electromagnetic survey over the claims surrounding Maybrun Mine in 1969.	
1975	52F05NE0015	Virginia Mine/ central west	4 holes drilled in 1975 near Virginia Mine, 2 of which are on the current property. No results of note.	
1984	52F05NE0010	northwest	Canadian Nickel Co performed geological mapping in 1984.	
1985	52F05NE0006	central west	Canadian Nickel Co ran a VLF and magnetometersurvey across their Atikwa claims which are fully within the Maybrun Extension.	
1985	52F05NE0009	northwest	Magnetic survey by Canadian Nickel Co in 1985 in the northwest of the property following geological mapping.	
1985	52F05SE0066	south	J Hansen ran an airborne VLF and magnetic survey over the very southern tip of the claims in 1985.	
1985	52F05NE0003	Virginia Mine/ central west	Canadian Nickel Co ran a VLF, magnetometer, and IP survey across their Hart option, which covered Virginia mine and a portion of the current claims.	
1985	52F05NE0011	Virginia Mine/ central west	In 1985 a radometric survey was undertaken near Virginia Mine by Canadian Nickel Co to identify feldspar porphyry.	
1986	52F05NE0005	central west	Canadian Nickel Co ran an IP survey across their Atikwa claims in 1986.	
1989	52F05NE0001	northeast	in 1989 Falconbridge ran a ground geophysical survey of magnetics and EM on their Apex claim group, located in the northeast of the current claim block.	
2007	20000002212	majority/west	Maybrun Extension Property includes the majority of the Kenbridge South and Denmark Lake properties held by Canadian Arrow Mines. In 2007 an airborne magnetic survey was flown over the property by Aeroquest International.	
2008	20000003840	majority/west	In the summer of 2007 and 2008 Canadian Arrow Mines completed reconnaissance prospecting and trenching focused on the Denmark Lake occurrence to the south of the Maybrun Extension Property	
2008	20000002904	northeast	In 2008 Canadian Arrow Mines extended the airbone magnetic grid in Kenbridge South using Geotech.	
2012 - 2013	20000007903	majority	San Gold Atikwa Lake property covered the western claims of the Maybrun Extension Property. In 2012 an airborne magnetic survey was conducted over their property.	
2018	20000019038	Denmark Lake (middle south)	In 2018 a short prospecting program by Bjorkman Prospecting collected 12 grab samples from the Denman Lake property, with two of those samples falling in the current claim block.	

#### **Regional Geology**

The Maybrun Extension Property is within the Kakagi-Rowan Lakes greenstone belt, on the western edge of the Wabigoon sub-province. The area is typified by mafic to intermediate metavolcanics with folded mafic to ultramafic rocks and granitoid intrusions. The Atikwa Lake Batholith, a major polyphase plutonix complex, is directly to the east of the property. The Batholith evolves inward through diorite to granite, with a complex of ultramafic, mafic, intermediate, and felsic intrusions to the south of the batholith which are believed to be structurally related to it.

The Property is between two major fault systems. The Wabigoon Fault to the north of the property which bounds the greenstone belt, and the Pipestone-Cameron Lake Fault to the southwest which has a series of large-scale shear zones off of it. One of these splays is the Cameron Lake Shear located to the southeast of the property.

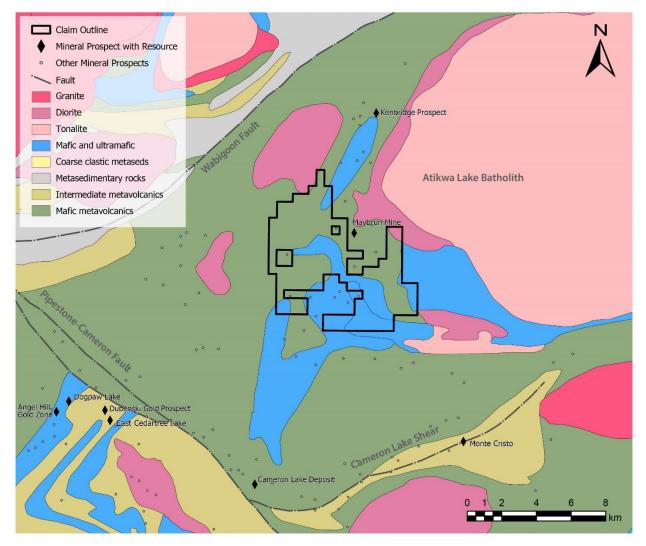


Figure 2: Regional Geology of Maybrun Extension

#### **Property Geology**

The most detailed mapping available for the property is sourced from Ontario Geological Survey map 2273 of the Atikwa Lake area. The map illustrates a large amount of outcrop on the property, making geological interpretation fairly straight forward. The majority of the property is underlain by basaltic and andesitic flows, with zones of breccia and tuff (unit 1). Minor felsic volcanics are noted in the unit. The south of the property is largely coarse grained gabbro intrusions, with minor peridotite (unit 3). Both the gabbro and metavolcanics are intruded by a mix of felsic to intermediate rocks (units 4 and 5).

The property is covered by multiple orientations of lineaments and fold hinges. Faulting is most prominently trending northeast, with gabbro dykes paralleling a pronounced fault under Atikwa River and Empire Lake.

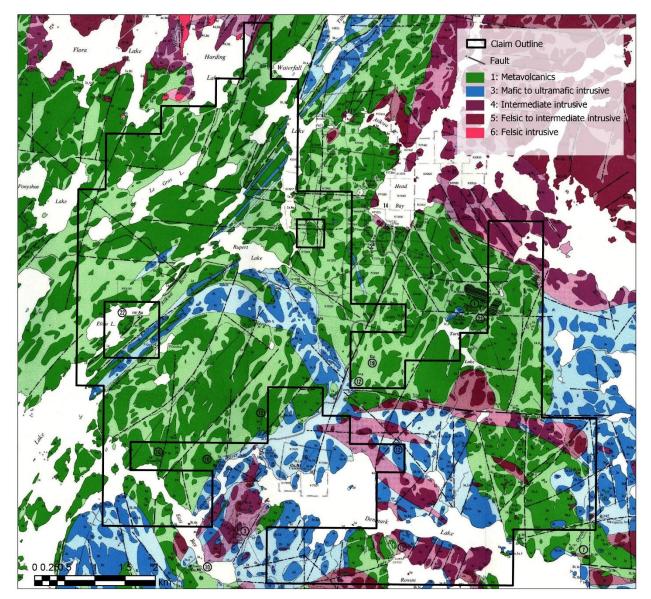


Figure 3: Property geology of Mayburn Extension

#### Mineralization

Most known mineralization in the Atikwa Lake area falls into three categories: gold in quartz veins, nickel and and copper in mafic to ultramafic intrusions, and copper (with or without gold) in pillow basalts. There is no known mineralization on the Maybrun Extension.

#### **Conclusions and Recommendations**

The Magnetic Survey over the Maybrun Extension identified structural features offsetting observed magnetic lineament, which will be good targets for exploration. It is recommended to conduct a ground prospecting campaign and investigate both the magnetic anomalies and the structures offsetting them.

#### **Certificate of Author**

I, Kelly Wynne, P.Geo. do hereby certify that:

- 1. I am registered as a Professional Geoscientist with the Engineers and Geoscientists British Columbia.
- 2. I graduated with a B.Sc. in Earth and Ocean Sciences from the University of British Columbia in 2009.
- 3. I have worked as a professional geologist for 10 years.
- 4. I am responsible for the writing of the current subject report.
- 5. I am not aware of any material fact or with respect to the subject matter of the report which is not reflected in the report.

Dated this 4<sup>th</sup> day of August, 2022

Kelly Wynne, P.Geo.

Vancouver, B.C., Canada

# **Technical Report**

# High-Resolution Heliborne Magnetic Survey

Maybrun Extension Property, Kenora area, Kenora Mining Division, Ontario, 2022

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Prospectair Geosurveys

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#### April 2022

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### I. INTRODUCTION

Prospectair Geosurveys conducted a heliborne high-resolution magnetic (MAG) survey for the mineral exploration company Laxmi Resources Inc. on its Maybrun Extension Property located in the Kenora area, Kenora Mining Division, Province of Ontario (Figure 1). The survey was flown from February 17<sup>th</sup> to 23<sup>rd</sup> 2022.

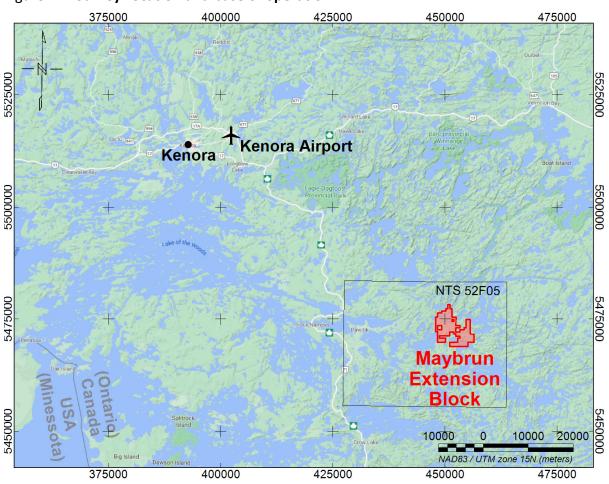


#### Figure 1: General Survey Location

One survey block was flown for a total of 861 l-km. A total of 7 production flights were performed using Prospectair's Robinson R-44, registration C-GBOU. The helicopter and survey crew operated out of the Kenora Airport located 65 km to the northwest of the block (Figure 2).

#### Table 1: Survey block particulars

Block	NTS Mapsheet	Line-km flown	Flight numbers	Dates Flown
Maybrun Extension	052F05	861 l-km	Flt 1 to 7	February 17 <sup>th</sup> to 23 <sup>rd</sup>



#### Figure 2: Survey Location and base of operation

The Maybrun Extension block was flown with traverse lines at 50 m spacing and control lines spaced every 500 m. The survey lines were oriented N165 and control lines were flown perpendicular to traverse lines. The average height above ground of the helicopter was 41 m and the magnetic sensor was at 22 m. The average survey flying speed was 28.3 m/s. The survey area is covered by forest, some wetlands and several lakes. The topography is mostly gently undulating, with a few low-level hills, which are fairly typical characteristics of the area near Kenora. The elevation is ranging from 327 to 436 m above mean sea level (MSL). From the ground, the block can be easily accessed via the Maybrun road servicing the past producing Maybrun Mine and departing from highway 71, itself connecting to the town of Kenora. The block is approximately located between the large Atikwa Lake to the east, the Denmark Lake to the south, the Caviar and Ponyshoe Lakes to the west and the Harding Lake to the north. Coordinates outlining the survey block are given in Appendix A, with respect to NAD-83 datum, UTM projection zone 15N. The location of the Maybrun Extension Property claims (in red) and of the survey lines is shown on Figure 3. The Property claims numbers, as well as the approximate amount of line-km flown over each claim, are also listed in Appendix B.

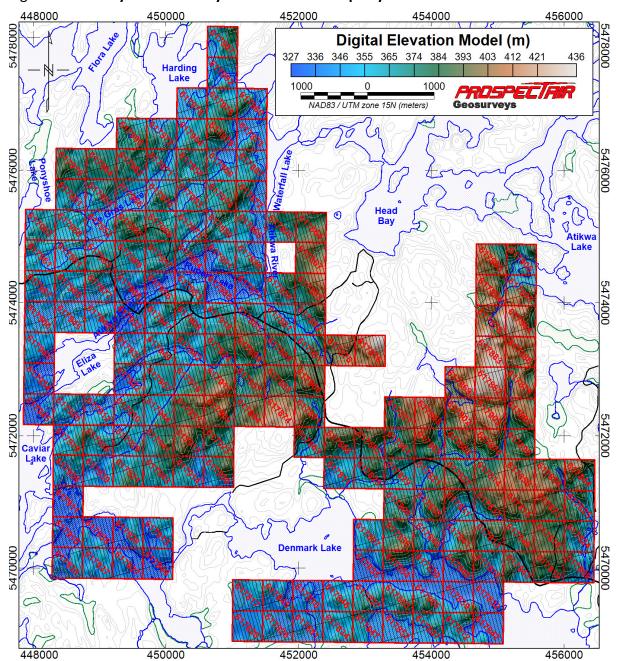


Figure 3: Survey lines and Maybrun Extension Property claims

### **II. SURVEY EQUIPMENT**

Prospectair provided the following instrumentation for this survey:

#### **Airborne Magnetometer**

#### Geometrics G-822A

The heliborne system used a non-oriented (strap-down) optically-pumped Cesium splitbeam sensor. These magnetometers have a sensitivity of 0.005 nT and a range of 15,000 to 100,000 nT with a sensor noise of less than 0.02 nT. The heliborne sensor was mounted in a bird made of non-magnetic material located 19 m below the helicopter when flying. Total magnetic field measurements were recorded at 10 Hz in the aircraft.

#### **Real-Time Differential GPS**

#### **Omnistar DGPS**

Prospectair uses an OmniStar differential GPS navigation system to provide real-time guidance for the pilot and to position data to an absolute accuracy of better than 5 m. The *Omnistar* receiver provides real-time differential GPS for the Agis on-board navigation system. The differential data set was relayed to the helicopter via the Omnistar network appropriate geosynchronous satellite for the survey location. The receiver optimizes the corrections for the current location.

#### Airborne Navigation and Data Acquisition System

#### Pico-Envirotec AGIS-XP system

The Airborne Geophysical Information System (AGIS-XP) is advanced, software driven instrument specifically designed for mobile aerial or ground geophysical survey work. The AGIS instrumentation package includes an advanced navigation system, real-time flight path information that is displayed over a map image of the area, and reliable data acquisition software. Thanks to simple interfacing, the radar and barometric altimeters and the Geometrics magnetometer are easily integrated into the system and digitally recorded. Automatic synchronization to the GPS position and time provides very close correlation between data and geographical position. The AGIS is equipped with a software suite allowing easy maintenance, upgrades, data QC, and project and survey area layout planning.

#### **Magnetic Base Station**

#### GEM GSM-19

A GEM GSM-19 Overhauser magnetometer, a computer workstation and a complement of spare parts and equipment serve as the base station. Prospectair establish the base station in a secure location with low magnetic noise. The GSM-19 magnetometer has resolution of 0.01 nT, and 0.2 nT accuracy over its operating range of 20,000- to 100,000 nT. The ground system was recording magnetic data at 1 Hz.

#### Altimeters

#### Free Flight Radar Altimeter

The Free Flight radar altimeter measures height above ground to a resolution of 0.5 m and an accuracy of 5% over a range up to 2,500 ft. The radar altimeter data is recorded and sampled at 10 Hz.

#### Digital Barometric Pressure Sensor

The barometric pressure sensor measures static pressure to an accuracy of  $\pm$  4 m and resolution of 2 m over a range up to 30,000 ft above sea level. The barometric altimeter data are sampled at 10 Hz.

#### Survey helicopter

#### Robinson R-44 (registration C-GBOU)

The survey was flown using Prospectair's Robinson R-44 helicopter that handles efficiently the light equipment load and the survey range for magnetic surveys. Table 2 presents the helicopter technical specifications and capacity, and the aircraft is shown in Figure 4.

#### Table 2: Technical specifications of the R-44 Robinson helicopter

Item	Specification	
Powerplant	One 195kW (260hp) Textron Lycoming O-540	
Rate of climb	1,000 ft/min	
Cruise speed	223 km/h – 120 kts	
Service ceiling	14,000 ft	
Range with no reserve	645 km	
Empty weight	635 kg	
Maximum takeoff weight	1,090 kg	

Figure 4: C-GBOU Robinson R-44



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# **III. SURVEY SPECIFICATIONS**

#### **Data Recording**

The following parameters were recorded during the course of the survey:

In the helicopter:

- GPS positional data: time, latitude, longitude, altitude, heading and accuracy (PDOP) recorded at intervals of 0.1 s;
- > Total magnetic field: recorded at intervals of 0.1 s;
- Pressure as measured by the barometric altimeter at intervals of 0.1 s;
- Terrain clearance as measured by the radar altimeter at intervals of 0.1 s;

At the base and remote magnetic ground stations:

- Total magnetic field: recorded at intervals of 1 s;
- GPS time recorded every 1 s to synchronize with airborne data.

#### **Technical Specifications**

The data quality control was performed on a daily basis. The following technical specifications were adhered to:

- Height 50m mean terrain clearance for the helicopter except in areas where Transport Canada regulations prevent flying at this height, or as deemed by the pilot to ensure safety. Traverse lines and control lines must be flown at the same altitude at points of intersection; the altitude tolerances are limited to no more than 30 m difference between traverse lines and control lines.
- Airborne Magnetometer Data A 0.5 nT noise envelope not to be exceeded for more than 500 m line-length without a reflight.
- Diurnal Specifications A maximum tolerance of 5.0 nT (peak to peak) deviation from a long chord of one minute at the base station.
- Flying Speed The average ground speed for the survey aircraft should be 120 kph. The acceptable high limit is 180 kph over flat topography.
- *Radar Altimeter* minimal accuracy of 5%, minimum range of 0-2500 m.
- Barometer Absolute air pressure to 0.1 kPa.
- Flight Path Following The line spacing not to vary by more than 30% from the ideal spacing over a distance of more than 300 m, except as required for aviation safety.

For Maybrun Extension Block:

Traverse lines: Azimuth N165, 50 m spacing.

Control Lines: Azimuth N075, 500 m spacing.

# **IV. SYSTEM TESTS**

#### **Magnetometer System Calibration**

The survey configuration using a bird towed 19 m below any magnetic piece of the helicopter allows the simplification of the magnetic calibration requirement. Consequently, heading error and aircraft movement noise was considered negligible and no correction was applied to the data.

#### **Instrumentation Lag**

The magnetometer lag is a combination of two factors: 1) the time difference between when a reading is sensed, and when that value is recorded by the acquisition system, and 2) the time taken for the sensor to arrive at the location of the GPS antenna. The second factor is defined by the physical distance between the GPS antenna and any given sensor, and the speed of the aircraft. The average total magnetic lag value for the AGIS acquisition system has been calculated to 0.94 s for this survey.

### **V. FIELD OPERATIONS**

The survey operations were conducted out of the Kenora Airport from February 17<sup>th</sup> to 23<sup>rd</sup>, 2022. The data acquisition required 7 flights. At the end of each production day, the data were sent to the Dynamic Discovery Geoscience office via internet. The data were then checked for Quality Control to ensure they fulfilled contractual specifications. The full dataset was inspected prior to provide authorization for the field crew to demobilize. The GSM-19 magnetic base station was set up close to the survey block, in a magnetically quiet area, at latitude 49.3918531°N, longitude 93.7224193°W. The survey pilot was Pierre Larose and the survey system technician was Jonathan Drolet.

#### Figure 5: Example of a magnetic base station setup



# VI. DIGITAL DATA COMPILATION

Data compilation including editing and filtering, quality control, and final data processing was performed by Joël Dubé, P.Eng. Processing was performed on high performance computers optimized for quick daily QC and processing tasks. Geosoft software Oasis Montaj version 2021.2.1 was used.

#### Magnetometer Data

#### General

The airborne magnetometer data, recorded at 10 Hz, were plotted and checked for spikes and noise on a flight basis. An average of 0.94 second lag correction was applied to the data to correct for the time delay between detection and recording of the airborne data.

Ground magnetometer data were recorded at 1 sample per second and interpolated by a spline function to 10 Hz to match airborne data. Data were inspected for cultural interference and edited where necessary. Low-pass filtering was deemed necessary on the ground station magnetometer data to remove minor high frequency noise. The diurnal variations were removed by subtracting the ground magnetometer data to the airborne data and by adding back the average of the ground magnetometer value.

The levelling corrections were applied in several steps. First of all, a correction for altitude was applied by multiplying the First Vertical Derivative (FVD) of the Total Magnetic Intensity (TMI) by the difference between the actual survey altitude and the average survey altitude. Standard levelling corrections were then performed using intersection statistics from traverse and tie lines. After statistical levelling was considered satisfactory, decorrugation was applied on the data to remove any remaining subtle non-geological features oriented in the direction of the traverse lines.

Once the Total Magnetic Intensity (TMI) was gridded, its First Vertical Derivative (FVD) and Second Vertical Derivative (SVD) were calculated to enhance narrow and shallow geological features. Finally, the component of the normal Earth's magnetic field, described by the International Geomagnetic Reference Field (IGRF), has been removed from the TMI to yield the residual TMI.

#### Tilt Angle Derivative

In order to enhance the subtle magnetic features some more, the Tilt Angle Derivative (TILT) was also computed for this project.

It has been shown that it is possible to use the Tilt Angle Derivative to estimate both the location and depth of magnetic sources (Salem et al., 2007).

When two body of different magnetic susceptibility are in contact, the vertical and horizontal gradients along a horizontal line perpendicular to the vertical contact are governed by the following equations:

 $\delta M/\delta h=2KFc(z_c/(h^2+z_c^2))$  $\delta M/\delta z=2KFc(h/(h^2+z_c^2))$ 

where K = susceptibility contrast F = magnetic field's strength c =  $1 - \cos^2(\text{field Inclination})\sin^2(\text{field Declination})$ h = location along an horizontal axis perpendicular to the contact  $z_c = \text{contact depth}$  $\delta M/\delta h = \text{sqrt}((\delta M/\delta x)^2 + (\delta M/\delta y)^2)$ 

The Tilt Angle ( $\theta$ ) is defined as  $\theta = \tan^{-1}[(\delta M/\delta z)/(\delta M/\delta h]$ 

By substitution of the gradients we get  $\theta = \tan^{-1} [h/z_c]$ 

This has two main implications for any given anomaly:

- 1- The 0° angle line is located directly above the contact between a magnetic source and the surrounding rock. This allow for accurate estimation of source location.
- 2- The distance between the 0° and the +45° contour lines as well as the distance between the -45° and the 0° contour lines are equal to the depth of the source at the contact. This allow for a direct estimation of the depth of the source of the anomaly. The depth estimated with this method is actually the distance between the magnetic sensor and the top of the source. Knowing that the sensor was 22 m above the ground in average enables direct depth estimates.

In practice, the signal originating from multiple sources at different depth within a same area will cause juxtaposition of the Tilt Angle values, and complicate location and depth estimation. Nevertheless, the method remains an excellent tool for rapid assessment of sources characteristics, without the need for complex assumptions to be made or heavy computer requirements, as is the case with 3D Euler deconvolution or 3D data inversions.

#### Gridding

The magnetic data were interpolated onto a regular grid using a bi-directional gridding algorithm to create a two-dimensional grid equally incremented in x and y directions. The final grids of the magnetic data are supplied with a 10 m grid cell size. Traverse lines were used in the gridding process.

#### **Radar Altimeter Data**

The terrain clearance measured by the radar altimeter in metres was recorded at 10 Hz. The data were filtered to remove high frequency noise using a 1 sec low pass filter. The final data were plotted and inspected for quality.

#### **Positional Data**

Real time DGPS correction provided by Omnistar was applied to the recorded GPS positional data.

Positional data were originally recorded at 10 Hz sampling rate in geographic longitude and latitude with respect to the WGS-84 datum. The delivered data locations are provided in X and Y using the UTM projection zone 15 North, with respect to the NAD-83 datum. Altitude data were initially recorded relative to the GRS-80 ellipsoid, but are delivered as orthometric heights (MSL elevation).

#### Terrain Data

Terrain elevation data (also referred to as digital elevation model, or DEM) are computed from the altitude of the helicopter, given by DGPS recordings, and the radar altimeter data.

# **VII. RESULTS AND DISCUSSION**

The residual Total Magnetic Intensity (TMI) of the Maybrun Extension block, presented in Figure 6, is relatively active and varies over a range of 4,125 nT, with an average of -133 nT and a standard deviation of 327 nT.

Most of the surveyed area is affected by linear magnetic features characteristic of alternating sequences of mafic volcanics with sedimentary or intermediate to felsic volcanic rocks, with possibly some intrusive stocks or dykes locally. In a general sense, areas with lower background values and decreased signal variability are likely to be dominated by sedimentary or felsic volcanic rocks, when linear magnetic textures are seen, or by felsic intrusive rocks, when homogeneous magnetic textures are seen. Stronger magnetic anomalies are mostly occurring in the southeast part of the block and, to a lesser extent, at the north end of it. Their amplitudes and bulky textures are typical of mafic to ultramafic intrusive rocks. Stronger anomalies are best seen on Figure 7 which shows the residual TMI data with a linear color distribution. Other weaker magnetic anomalies found elsewhere could relate to mafic volcanics.

Magnetic lineaments are predominantly trending from ENE-WSW to NNE-SSW in the western and northern parts of the block, but are a lot more variable in the rest of it. Most lineaments appear curved, either by shearing or folding structures, or possibly also at the contact zone with intrusions. These evidences are attesting that the area underwent strong deformation events in the past. In general terms, magnetic lineaments are related to rock formations that are enriched in magnetic minerals (magnetite and/or pyrrhotite).

Throughout the block, it is possible to detect structural features offsetting observed magnetic lineaments and causing abrupt interruption or changes of the magnetic response. These features are typically caused by faults, fractures and shear zones. If they are thought to be favorable structures in the exploration context of the Maybrun Extension project, they should be paid particular attention and should be the object of a comprehensive structural interpretation, which is beyond the scope of this report.

Shorter wavelength anomalies are greatly enhanced on the FVD (Figure 8) and on the TILT (Figure 9) products. Since the FVD attenuates longer wavelength anomalies, and the TILT enhances very weak amplitude anomalies, they are the preferred products for structural interpretation.

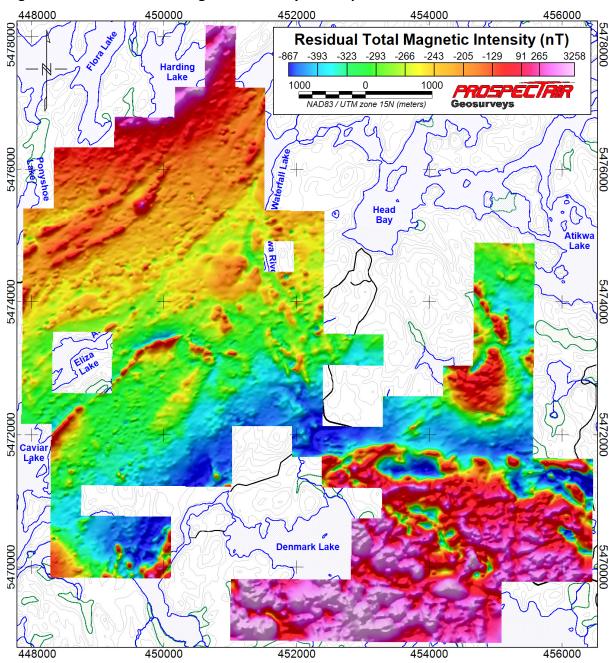


Figure 6: Residual Total Magnetic Intensity with equal area color distribution

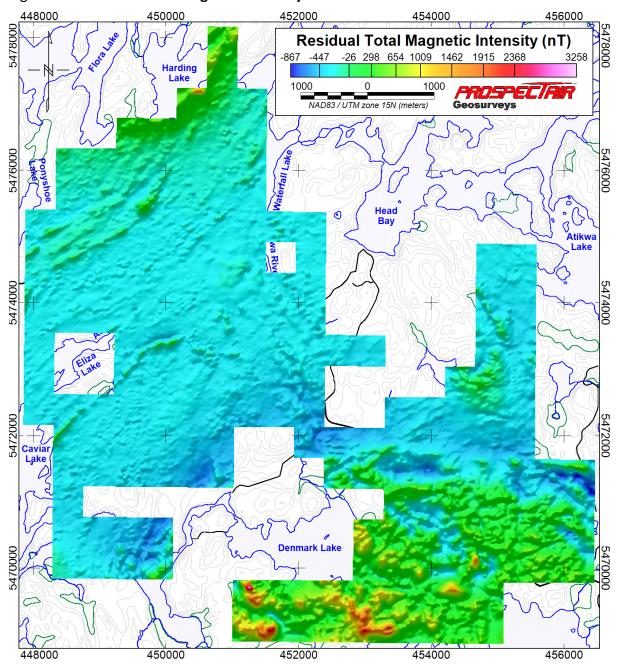


Figure 7: Residual Total Magnetic Intensity with linear color distribution

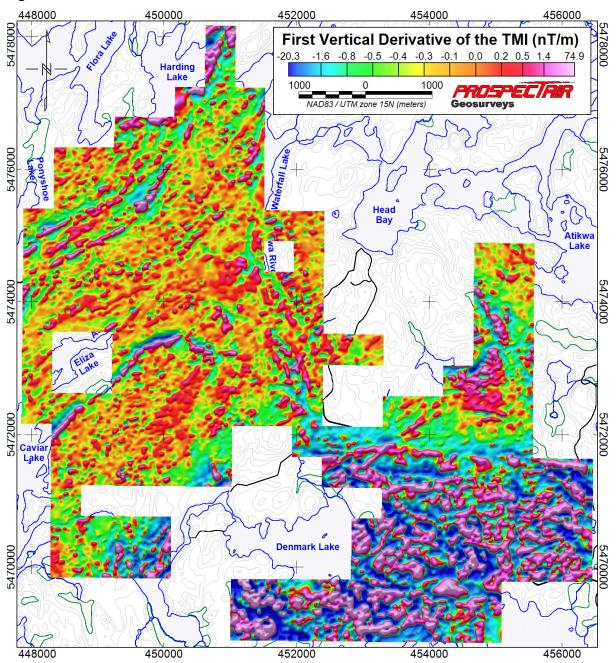


Figure 8: First Vertical Derivative of TMI

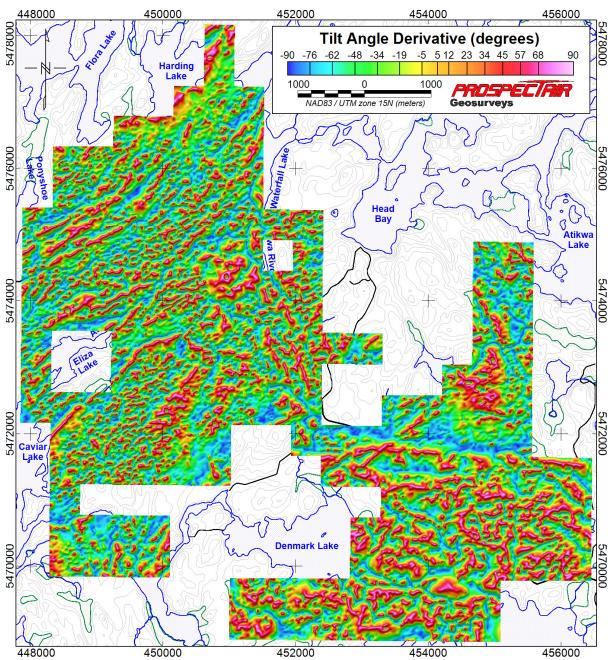


Figure 9: Tilt Angle Derivative

# **VIII. FINAL PRODUCTS**

#### **Digital Line Data**

The Geosoft database is provided with the channels detailed in Table 3.

No.	Name	Description	Units
1	UTM_X	UTM Easting, NAD-83, Zone 15N	m
2	UTM_Y	UTM Northing, NAD-83, Zone 15N	m
3	Lat_deg	Latitude in decimal degrees	Deg
4	Long_deg	Longitude in decimal degrees	Deg
5	Gtm_sec	Second since midnight GMT	Sec
6	Radar	Ground clearance given by the radar altimeter	m
7	Terrain	Calculated Digital Elevation Model (w.r.t. MSL)	m
8	GPS_Z	Helicopter altitude (w.r.t. MSL)	m
9	Mag_Raw	Raw magnetic data	nT
10	Mag_Lag	Lagged magnetic data	nT
11	Gnd_mag	Base station magnetic data	nT
12	Mag_Cor	Magnetic data corrected for diurnal variation	nT
13	TMI	Fully levelled Total Magnetic Intensity	nT
14	TMIres	Residual TMI (IGRF removed)	nT

#### Table 3: MAG line data channels

#### Maps

All maps are referred to NAD-83 datum in the UTM projection Zone 15 North, with coordinates in metres. Maps are at a 1:15,000 scale and are provided in PDF, PNG and Geosoft MAP formats for the products detailed in Table 4.

#### Table 4: Maps delivered

No.	Name	Description
1	DEM+FlightPath+Claims	Digital Elevation Model with flight path and property claims
2	TMI	Residual Total Magnetic Intensity
3	FVD	First Vertical Derivative of the TMI
4	TILT	Tilt Angle Derivative

#### Grids

All grids are referred to NAD-83 in the UTM projection Zone 15 North, with coordinates in metres. Grids are provided in Geosoft GRD format, with a 10 m grid cell size, as well as in the Geotiff format for the products listed in Table 5.

#### Table 5: Grids delivered

No.	Name	Description	Units
1	Terrain	Calculated Digital Elevation Model	m
2	TMI	Total Magnetic Intensity	nT
3	FVD	First Vertical Derivative of TMI	nT/m
4	SVD	Second Vertical Derivative of TMI	nT/m²
5	TMIres	Residual TMI (IGRF removed)	nT
6	TILT	Tilt Angle Derivative	Degree

#### **Project Report**

The report is submitted in PDF format.

Respectfully submitted,

OFESSIO J. P. DUBE 1001949 EOFO

Joël Dubé, P.Eng. April 6<sup>th</sup> 2022

# **IX. STATEMENT OF QUALIFICATIONS**

Joël Dubé 7977 Décarie Drive Ottawa, ON, Canada, K1C 3K3

Telephone: 819.598.8486 E-mail: jdube@ddgeoscience.ca

I, Joël Dubé, P.Eng., do hereby certify that:

- 1. I am a Professional Engineer specialized in geophysics, President of Dynamic Discovery Geoscience Ltd., registered in Canada.
- 2. I earned a Bachelor of Engineering in Geological Engineering in 1999 from the École Polytechnique de Montréal.
- 3. I am an Engineer registered with the Ordre des Ingénieurs du Québec, No. 122937, and a Professional Engineer with Professional Engineers Ontario, No. 100194954 (CofA No. 100219617), with the Association of Professional Engineers and Geoscientists of New Brunswick, No. L5202 (CofA No. F1853), with the Association of Professional Engineers of Nova Scotia, No. 11915 (CofC No. 51099), with Engineers Geoscientists Manitoba, No. 43414. (CofA No. 6897), with Professional Engineers & Geoscientists Newfoundland & Labrador, No. 10012 (PtoP No. N1134) and with the Northwest Territories Association of Professional Engineers & Geoscientists, No. L4447 (PtoP No. P1414).
- 4. I have practised my profession for 22 years in exploration geophysics.
- 5. I have not received and do not expect to receive a direct or indirect interest in the properties covered by this report.

Dated this 6<sup>th</sup> day of April, 2022

I.P. OUBI

Joël Dubé, P.Eng. #100194954

# X. Appendix A – Survey block outline

### **Maybrun Extension Block**

Easting	Northing
450100	5469832
448280	5469849
448302	5472165
447849	5472169
447880	5475417
448333	5475412
448342	5476339
449248	5476330
449252	5476794
450158	5476786
450163	5477249
450615	5477245
450624	5478171
451082	5478167
451074	5477240
451527	5477236
451510	5475384
452417	5475375
452401	5473523
453307	5473515
453303	5473046
452396	5473054
452388	5472133
453290	5472125
453294	5472589
454201	5472581
454205	5473044
454658	5473040
454674	5474893
455585	5474886
455559	5471643
456466	5471636
456451	5469778
455090	5469789
455083	5468862
450994	5468898
451002	5469829
452817	5469813
452825	5470739
453279	5470736
453283	5471194
452375	5471202
452379	5471665
451926	5471669
451930	5472132

451028	5472140
451020	5471214
448752	5471234
448748	5470776
450108	5470763

# XI. Appendix B – Property claims covered by the survey

Tenure number	Holder	l-km within claim
617807	(100) Blackwidow Geological Services Inc.	4.631
617808	(100) Blackwidow Geological Services Inc.	4.631
617809	(100) Blackwidow Geological Services Inc.	4.631
617810	(100) Blackwidow Geological Services Inc.	4.631
617811	(100) Blackwidow Geological Services Inc.	4.629
617812	(100) Blackwidow Geological Services Inc.	4.631
617813	(100) Blackwidow Geological Services Inc.	4.631
617814	(100) Blackwidow Geological Services Inc.	4.629
617815	(100) Blackwidow Geological Services Inc.	4.631
617816	(100) Blackwidow Geological Services Inc.	4.631
617817	(100) Blackwidow Geological Services Inc.	4.631
617818	(100) Blackwidow Geological Services Inc.	4.631
617819	(100) Blackwidow Geological Services Inc.	4.631
617820	(100) Blackwidow Geological Services Inc.	4.631
617821	(100) Blackwidow Geological Services Inc.	4.629
617822	(100) Blackwidow Geological Services Inc.	4.629
617823	(100) Blackwidow Geological Services Inc.	4.631
617824	(100) Blackwidow Geological Services Inc.	4.631
617825	(100) Blackwidow Geological Services Inc.	4.631
617826	(100) Blackwidow Geological Services Inc.	4.631
617827	(100) Blackwidow Geological Services Inc.	4.631
617828	(100) Blackwidow Geological Services Inc.	4.629
617829	(100) Blackwidow Geological Services Inc.	4.629
617830	(100) Blackwidow Geological Services Inc.	4.631
617831	(100) Blackwidow Geological Services Inc.	4.631
617832	(100) Blackwidow Geological Services Inc.	4.631
617833	(100) Blackwidow Geological Services Inc.	4.631
617834	(100) Blackwidow Geological Services Inc.	4.631
617835	(100) Blackwidow Geological Services Inc.	4.631
617836	(100) Blackwidow Geological Services Inc.	4.631
617837	(100) Blackwidow Geological Services Inc.	4.631
617838	(100) Blackwidow Geological Services Inc.	4.631
617839	(100) Blackwidow Geological Services Inc.	4.631
617840	(100) Blackwidow Geological Services Inc.	4.631
617841	(100) Blackwidow Geological Services Inc.	4.631
617842	(100) Blackwidow Geological Services Inc.	4.631
617843	(100) Blackwidow Geological Services Inc.	4.631
617844	(100) Blackwidow Geological Services Inc.	4.629
617845	(100) Blackwidow Geological Services Inc.	4.631
617846	(100) Blackwidow Geological Services Inc.	4.631
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617851	(100) Blackwidow Geological Services Inc.	4.631
617852	(100) Blackwidow Geological Services Inc.	4.631
617853	(100) Blackwidow Geological Services Inc.	4.631
617854	(100) Blackwidow Geological Services Inc.	4.631

Tenure number	Holder	l-km within claim
617855	(100) Blackwidow Geological Services Inc.	4.631
617856	(100) Blackwidow Geological Services Inc.	
	· · · ·	4.629
617857	(100) Blackwidow Geological Services Inc.	4.629
617858	(100) Blackwidow Geological Services Inc.	4.627
617859	(100) Blackwidow Geological Services Inc.	4.629
617860	(100) Blackwidow Geological Services Inc.	4.629
617861	(100) Blackwidow Geological Services Inc.	4.629
617862	(100) Blackwidow Geological Services Inc.	4.629
617863	(100) Blackwidow Geological Services Inc.	4.629
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617866	(100) Blackwidow Geological Services Inc.	4.627
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617873	(100) Blackwidow Geological Services Inc.	4.627
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617884	(100) Blackwidow Geological Services Inc.	4.629
617885	(100) Blackwidow Geological Services Inc.	4.629
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617887	(100) Blackwidow Geological Services Inc.	4.627
617888	(100) Blackwidow Geological Services Inc.	4.629
617889	(100) Blackwidow Geological Services Inc.	4.629
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617891	(100) Blackwidow Geological Services Inc.	4.629
617892	(100) Blackwidow Geological Services Inc.	4.629
617893	(100) Blackwidow Geological Services Inc.	4.627
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617895	(100) Blackwidow Geological Services Inc.	4.627
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617898	(100) Blackwidow Geological Services Inc.	4.627
617899	(100) Blackwidow Geological Services Inc.	4.629
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617902	(100) Blackwidow Geological Services Inc.	4.629
617903	(100) Blackwidow Geological Services Inc.	4.629
617904	(100) Blackwidow Geological Services Inc.	4.629
617905	(100) Blackwidow Geological Services Inc.	4.623
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Tenure number	Holder	l-km within claim
617906	(100) Blackwidow Geological Services Inc.	4.629
617907	(100) Blackwidow Geological Services Inc.	4.629
617908	(100) Blackwidow Geological Services Inc.	4.629
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617956	(100) Blackwidow Geological Services Inc.	4.627

Tenure number	Holder	l-km within claim
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617990	(100) Blackwidow Geological Services Inc.	4.627
617991	(100) Blackwidow Geological Services Inc.	4.627
617992	(100) Blackwidow Geological Services Inc.	4.625

