# GM 73983

Assessment report, 2024 airborne geophysics survey, Duparquet and Hunter properties

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Québec

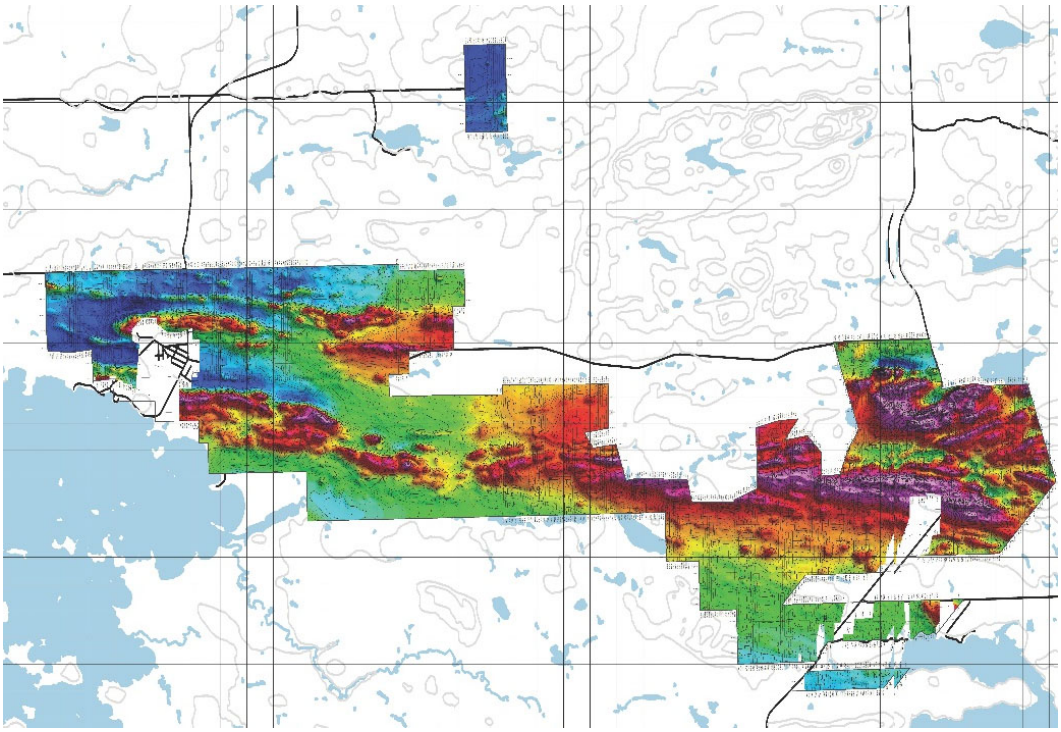
# Assessment Report

## 2024 Airborne Geophysics Survey, Duparquet and Hunter Properties

Quebec, Canada
Abitibi-Témiscamingue Region

*NTS: 32D06, 32D11*

*Centred at:*
*Latitude/Longitude: 48°29'0.96" N/ 79°7'49.44" W*
*UTM NAD83, Zone 17: 638149 mE, 5371738 mN*



2024-08-08
Submitted by:
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FIRST MINING GOLD

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# 1 Introduction

## 1.1 Executive Summary

In 2024, First Mining Gold ("First Mining") entered into an agreement with ALS GoldSpot Discoveries Ltd. ("GoldSpot") to carry out an airborne magnetic survey across a large portion of its Duparquet Gold Project and nearby Hunter Property, situated along 19 kilometres of strike of the Destor-Porcupine Fault Zone ("DPFZ") in the prolific Abitibi Greenstone Belt, Quebec. The Duparquet Project area has a history of exploration, however all of the geophysical datasets, except for one from 2022, are dated and were focused on smaller areas of historical interest.

Airborne geophysical surveys have historically supported numerous exploration successes within Archean greenstone belts and provide a critical base layer dataset to support and advance exploration efforts. First Mining has identified the critical importance of compiling fully integrated and layered datasets for their properties, of which airborne geophysics is one of them.

First Mining owns 100% of the Duparquet Gold Project totalling approximately 5,800 hectares, on which the company is advancing exploration efforts as part of a regional screening and target development strategy around its core Duparquet, Pitt and Duquesne mineral resources. First Mining also owns 100% of the historical Hunter property, located approximately 2.5 km to the north of the Duparquet Gold Project, which totals another 128 hectares.

The purpose of the 2024 airborne geophysical survey was to collect magnetic data as part of a data gap analysis, providing First Mining with a modern, continuous geophysical dataset across its consolidated tenure over key structures and deformation zones, supporting exploration targeting on a district scale.

GoldSpot's helicopter-flown magnetic gradient and VLF-EM survey was selected as the most suitable sensor for this program as it delivers superior resolution in the near-surface, supporting advanced mapping and modelling capabilities.

The 2024 GoldSpot airborne geophysical program was carried out from April 18 - 24, 2024. A total of 1262.4 line kilometres were flown at a traverse spacing of 37.5 m intervals and tie lines at 300 m spacing in a north-south line direction.

During the program, First Mining also relied on GoldSpot's in-house expertise to support the program by reviewing the daily collected data and performing quality assurance and quality control (QAQC) reviews on the raw data to rectify any immediate areas of concern whilst the crews were still in the field.

Upon completion of the program, GoldSpot processed and consolidated the collected data, with a final data handover to First Mining in May 2024, which included the digital database in Oasis Montaj and GeoTIFF format, as well as TMI & RMI grids, maps, imagery and a finalized report.

First Mining will use the results of the 2024 GoldSpot magnetic survey for review, analysis and integration into their 3D geological model, to support further target development, field campaigns and drilling programs.

# 2 Terms of Reference

This report was prepared by First Mining for the purpose of filing assessment work, as required under the Quebec Mining Act. All units of measure are in metric unless otherwise stated. All map units are in UTM coordinates (NAD83 Zone 17) unless otherwise stated. All funds are reported in Canadian dollars (CDN$) unless otherwise stated.

## 2.1 Unit of Measure

degree ..... °
degrees Celsius ..... °C
dollar (Canadian) ..... CDN$
gram. ..... g
hectare (10,000 $m^2$) ..... ha
kilometre ..... km
million years ..... Ma
metre ..... m
millimetre ..... mm
percent ..... %

## 2.2 Acronyms

CLLFZ ..... Cadillac-Larder Lake Fault Zone
DPFZ ..... Destor-Porcupine Fault Zone
EM ..... Electromagnetic
MAG ..... Magnetic
MPASS ..... Multi-Parameter Airborne Survey System
NVZ ..... Northern Volcanic Zone
QAQC ..... Quality Assurance / Quality Control
QFP ..... Quartz Feldspar Porphyry
RMI ..... Residual Magnetic Intensity
SVZ ..... Southern Volcanic Zone
TDEM ..... Textured Digital Elevation Model
TMI ..... Total Magnetic Intensity
VLF-EM ..... Very Low Frequency Electromagnetics

# 3 Property Description and Location

## 3.1 Mineral Tenure

The Duparquet Gold Project is located in the Abitibi-Témiscamingue administrative region in the western part of the Province of Québec, Canada. The project is located approximately 50 km north of the city of Rouyn-Noranda in the town of Duparquet.

The Duparquet Gold Project consists of the amalgamation of seven contiguous claim blocks (from west to east): Beattie, Donchester, Dumico, Central Duparquet, Porcupine East, Pitt Gold, and Duquesne. These cover a collective area of 5,804 ha, extending 19 km east-west and 8 km north-south along the Destor-Porcupine Fault Zone. The Hunter Property is located approximately 2.5 km north of the main Duparquet project area and 8 km to the northeast of the town of Duparquet and covers an additional area of 127.5 ha. The Beattie, Donchester, Duquesne and Hunter blocks contain past-producing mines. Historical

underground workings and a shaft were developed on the Central Duparquet block, but no gold was produced.

The Duparquet Gold Project and Hunter Property together comprise 205 map-designated claims (“CDC”) registered under the name Mines d’Or Duparquet Inc. (“Mines d’Or Duparquet”), a wholly-owned subsidiary of First Mining.

Figure 3-1 and Appendix A show the location of the land tenure held by Mines d’Or Duparquet, and a full list of the mining claims is provided in Appendix A.

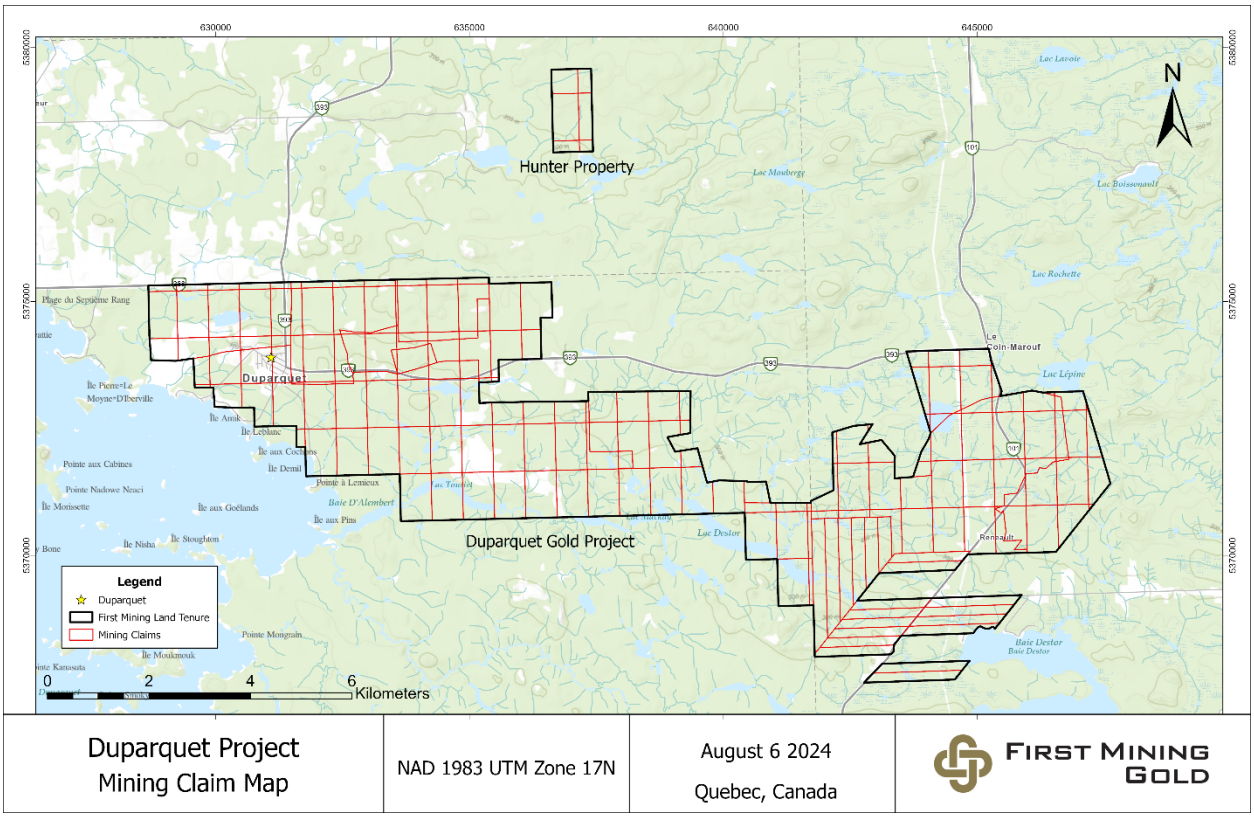


Figure 3-1: First Mining Gold - Quebec Land Tenure

# 4 Property Access

The Duparquet Gold Project can be easily reached via the all-season, paved, two-lane provincial road 101 from Rouyn-Noranda, which heads north to La Sarre over approximately 30 km, then turns westward onto provincial road 393 for approximately 15 km to Duparquet (NTS map sheet 32D/11). Both roads cross through the property, and several gravel roads also lead onto it (Figure 4-1).

The Hunter Property is located approximately 2.5 km north of the Duparquet Gold Project and 8 km to the northeast of the town of Duparquet. The Hunter property is accessible by a two-lane paved highway and range roads from the town of Duparquet.

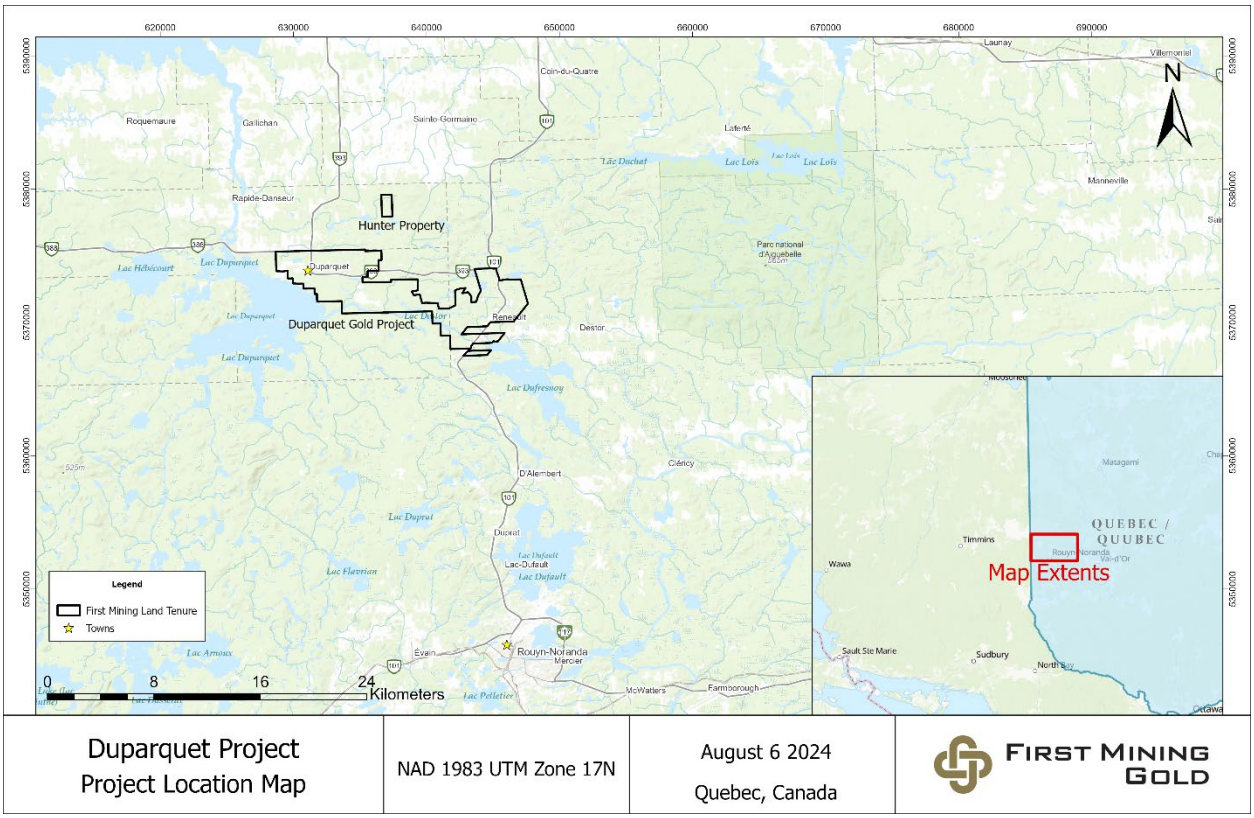


Figure 4-1: Duparquet Project Location Map

# 5 Climate and Physiography

The climate in the Duparquet area is continental, with cold, dry winters and warm summers. Winter temperatures average -17°C with lows down to -40°C in January, whereas summer temperatures average 17°C with highs up to 35°C in July. Annual precipitation is around 900 mm. Snow falls from mid-November to mid April.

The terrain is flat to gently undulating. The topography is characteristic of the southern Canadian Shield, with rolling glacial hills and intervening lowlands with lakes and swamps.

# 6 Geological Setting

## 6.1 Regional Geology

The Duparquet Project and Hunter Property are located in the southern portion of the Archean volcanic belt in the Abitibi region of the Superior Province. The Archean Superior Province forms the core of the North American continent and is surrounded by provinces of Paleoproterozoic age to the west, north and east, and the Grenville Province of Mesoproterozoic age to the southeast.

The Abitibi Subprovince is divided into the Southern and Northern volcanic zones ("SVZ" and "NVZ", respectively; Chown et al., 1992) representing a collage of two arcs delineated by the Destor-Porcupine Fault Zone ("DPFZ") (Mueller et al., 1996). The SVZ is separated from the Pontiac Terrane sedimentary rocks, an accretionary prism to the south (Calvert and Ludden, 1999), by the Cadillac-Larder Lake Fault Zone ("CLLFZ").

Most of the rocks in the Southern Abitibi Greenstone Belt are Archean, with ages ranging from 2,730 to 2,670 Ma. The overall geometry of the Southern Abitibi comprises east-west trending lithological sequences primarily of volcanic origin that vary in composition from ultramafic (komatiites) through to felsic rocks. The volcanic sequences have been intruded by mafic to felsic batholiths, mostly dated between 2,707 and 2,696 Ma.

Deformation zones like the DPFZ are terrane lineaments that display the change from thrusting to transcurrent motion as documented in the turbiditic flysch basins unconformably overlain by or in structural contact with coarse clastic deposits in strike-slip basins (Mueller et al., 1991, 1994, 1996; Daigneault et al., 2002).

These sequences are spatially related to less common, younger coarse clastic rocks of the Timiskaming Group and its equivalents, generally thought to be 2,677 ± 2 Ma (Corfu, 1993).

The DPFZ extends 200 km from west to east from Ontario to Québec. The deformation zone is well known for having a significant gold endowment, and several mines and projects (active or historic) can be found along the structure.

Minor felsic intrusions and their extrusive equivalents occur in many areas, including the Porcupine area (2,690 Ma), the Kirkland Lake area (2,677 ± 2 Ma) and the Duparquet area (2,689 to 2682 Ma) (Armstrong et al., 2010).

The metamorphic grade in the Abitibi Subprovince displays greenschist to sub-greenschist facies (Jolly, 1978; Powell et al., 1993; Dimroth et al., 1983b; Benn et al., 1994) except around plutons where amphibolite grade facies prevail (Jolly, 1978).

## 6.2 Local Geology

The local geology in the Duparquet Project area is characterized by ENE-WSW and WNW-ESE stratigraphy, that dips steeply (80°- 85°) to the south. The predominant structures are the SE-trending regional DPFZ and its E-W trending fault splays. On the claim blocks, these splays include the Duquesne, Lac Lepine,

Central Duparquet, Donchester and Beattie fault zones. Several subsidiary faults with NE-SW to E-W orientations are closely related to these structures.

The local stratigraphy is predominantly represented by the Kinojevis, Blake River, Kewagama and Timiskaming groups.

Numerous ultramafic to felsic and alkaline intrusions cut the rocks of the area. Several mafic and ultramafic intrusions are interpreted as synvolcanic sills. Quartz-feldspar porphyries are seen throughout the Duparquet camp and are characterized by the presence of feldspar and quartz phenocrysts and a weak to intense iron-carbonate and sericite alteration. These intrusions are of diorite to granodiorite composition and of calc-alkaline affinity. The Beattie syenite represents almost the only alkaline intrusion found on the Québec side of this gold bearing belt.

Two generations of folds are observed locally in this area of which the first is associated with the Lanaudière Formation and the second with the Duparquet Formation. Multiple E-W faults are present in the area and crosscut most lithologies. These faults are not necessarily subsidiary structures of the DPFZ, oriented ESE-WNW. Intense ENE-WSW to E-W schistosity is associated with the DPFZ and E-W faults but appears to be locally variable.

The Hunter property's geology is similar to that of the Duparquet project and is described in Martin, 2014. The northern portion of the property is underlain by rhyolites with beds of tuff and agglomerate as well as lesser bands of intermediate volcanic rocks, whilst the southern portion of the property is known to have more mafic andesitic flows. The Lyndhurst-Beattie Shear structure strikes in a similar direction to the contact between the andesite and the rhyolite.

## 6.3 Deposit Type

The prolific Destor-Porcupine Fault Zone ("DPFZ") represents a major gold-bearing structure with a 200 km strike length in the Abitibi Subprovince. Numerous deposits have been found near the DPFZ and its associated splays, resulting in more than 80 million ounces of gold being produced in operations along the structure that extends west to east from Timmins, Ontario, to the east of Duparquet, Québec.

Gold deposits along the fault are varied, and the majority of the lithologies can host gold mineralization, except for the Timiskaming sediments which are known to be deposited post-mineralization. Some deposits consist mainly of quartz-carbonate veins, while others are related to alteration zones exhibiting disseminated sulphides (pyrite, pyrrhotite, arsenopyrite, etc.). In addition, the alteration assemblages vary regionally with carbonate alteration (ankerite and others) being more prominent along the fault, but silicification, sericitization, fuchsite and K-feldspar alterations are not uncommon.

The Duparquet Project's style of gold mineralization is characterized by disseminated sulphides associated with a porphyritic intrusion. Controls on mineralization in this deposit type are frequently complex and poorly understood. Gold is associated with quartz flooding and sulphide-bearing veinlets and is disseminated throughout the host rock as opposed to being in or immediately adjacent to veins. According to Legault et al. (2006), this type of mineralization can be subdivided into two types based on the composition of the intrusive rock: 1) Disseminated sulphides with quartz-carbonate veins and veinlets associated with calc-alkaline intrusions; the calc-alkaline subtype has a limited sulphide content, generally

displaying strong carbonatization, and probably constitutes a variant of classic orogenic deposits; 2) Disseminated sulphides associated with alkaline intrusions. The subtype associated with alkaline lithologies is richer in sulphides and exhibits intense silicification.

The Duparquet deposit comprises both these styles of mineralization. The Duquesne deposit mineralization is described as disseminated sulphides associated with calc-alkaline intrusive rocks (Legault et al., 2005). The gold mineralization on the Pitt Gold claim block is found within or close to QFP intrusions ("QFPs").

In the area of the Hunter claims, the past-producing base metal mines include the Hunter and Lyndhurst mines. Both of these mines are Volcanogenic Massive Sulphide (VMS) type ore deposits. They are associated with and created by volcanic associated hydrothermal events (Martin, 2014).

## 6.4 Mineralization

At the historical Beattie mine, gold has been associated with silicified and brecciated zones containing a low percentage of very fine-grained pyrite and arsenopyrite (Goutier and Lacroix, 1992). According to Bevan (2011), the main type of gold mineralization generally occurs within shears or brecciated zones along or within the adjacent syenitic intrusions and is associated with finely disseminated pyrite and minor arsenopyrite replacement. Sulphide content is generally low (0.5 to 4%), although it can sometimes reach 10%. Higher gold grades appear to be related to the finer-grained sulphides (Bevan, 2011).

At the past-producing Beattie mine, the main mineralized lenses are hosted along the contacts of the shear zones and the syenite intrusion. Gold mineralization at the Donchester mine was of higher grade and associated with an E-W shear zone cutting across volcanic units and syenitic dykes (Goutier and Lacroix, 1992).

Felsic porphyry intrusions are very important for gold mineralization at Duquesne. These felsic intrusions are located on the contact between two lithostratigraphic units, in the fault zone or on the extension of the sedimentary band of the Duparquet Formation. Gold is found in four geological settings: a) within syenite and feldspar porphyry and mafic to ultramafic host rocks within shears that splay off the DPFZ; b) within sheared and brecciated zones associated with the splay-faults and associated with quartz-feldspar porphyry and syenite porphyry; c) within quartz-carbonate-rich systems within quartz-feldspar porphyry, syenite porphyry, and quartz diorite; in particular silicified and chert rich quartz-flooding of the sheared areas of the host rocks; and d) along contacts between mafic and ultramafic sheared units.

Mineralization is within or parallel to secondary fault splays from the DPFZ, which are known to be gold-bearing. Gold-bearing zones within historical Duquesne mine workings are associated with pyrite-carbonate-rich breccias hosted within syenite porphyries. Gold values have also been known to be associated with contact zones of iron formations, sheared conglomerate sediments and within chert horizons of sedimentary rocks. The main host for gold mineralization is sheared and silicified syenite porphyry within a felsic syenite intrusive rock, which lies at the footwall of the DPFZ.

The mineralization on the Hunter property is located in a sheared rhyolite along the contacts between felsic volcanic tuffs and rhyolites. It occurs as patches or irregular stringers of chalcopyrite. There is almost no pyrite present and only very scarce sphalerite.

The regional geology of the Duparquet Gold Project and Hunter Property is shown in Figure 6-1.

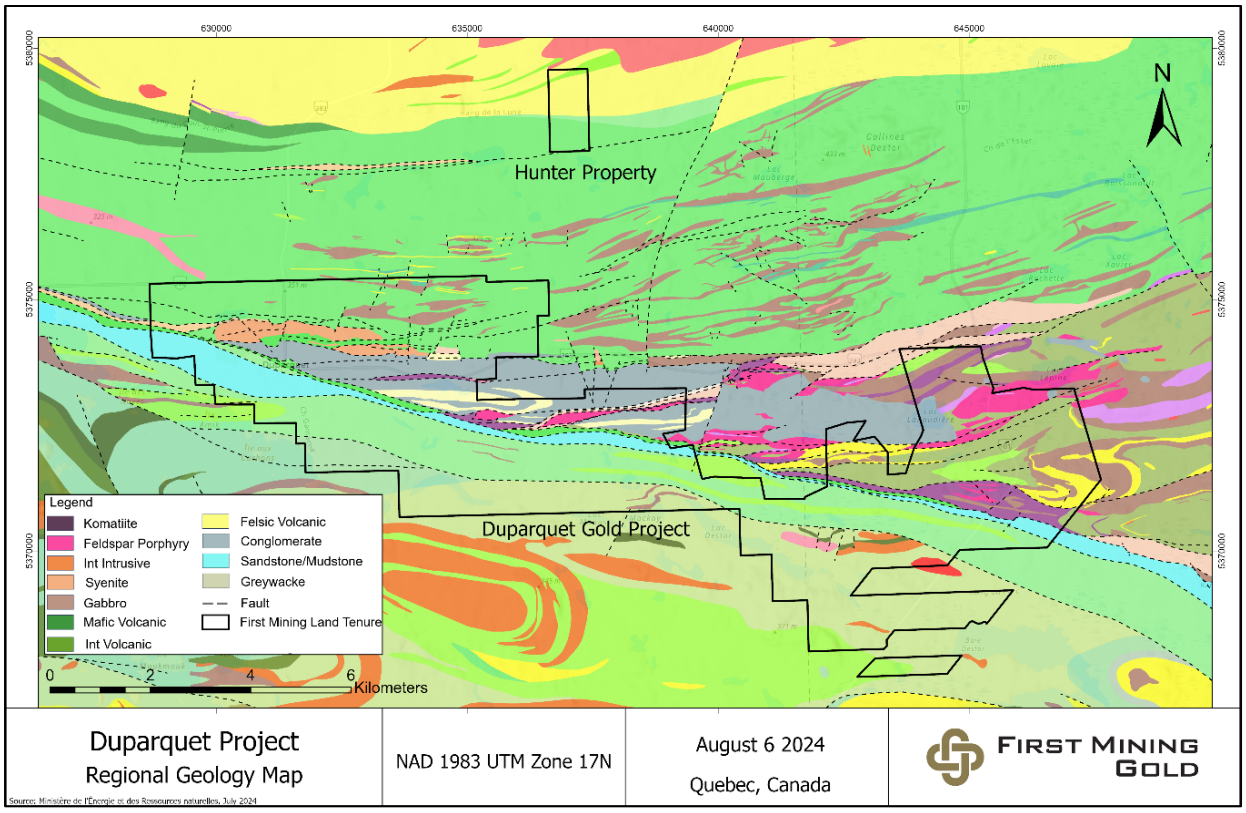


Figure 6-1: Regional Geology of the Duparquet Gold Project and Hunter Property

# 7 Exploration History

Mining exploration in the Duparquet area started in the early 1930s and reached its peak between the mid 1930s and mid 1950s after the discovery of the deposits that became the Beattie and Donchester mines near Duparquet and the Duquesne mine approximately 16 km to the east.

First Mining's current Quebec land tenure covers and overlaps many historical mining and exploration properties, the boundaries and names of which have changed over time following ownership (and/or option) changes, the abandonment and/or addition of claims, or modifications to mining title status when claims were converted into mining leases and then into mining claims.

All the claim blocks have been the subject of multiple exploration programs carried out by a variety of exploration companies. The work included prospecting and geological mapping, geophysics, geochemistry and drilling, the latter ranging from exploration-stage to mineral resource definition. The claim blocks have been the subject of various geological studies and reports covering a wide array of topics, from local mineral resource and mineral reserve estimates, engineering studies, regional geological surveys and synthesis.

A summary of the history of airborne surveys over the Duparquet Project area is provided in Table 7-1 and the documents used to compile this information were obtained from the SIGÉOM database of the Government of Québec and technical reports filed by past owners. A more complete summary of other exploration work completed over the project area can be found in Michaud, 2023.

Table 7-1: Airborne Geophysical Exploration History of the Project Areas (1968 to 2022)

| Year | Property | Company | Type of Work | Reference |
|---|---|---|---|---|
| **1968** | Duquesne | Soquem | Airborne radiometric survey | GM 22663 |
| **1969** | Beattie, Donchester, Dumico, Central Duparquet, Pitt, Duquesne | MRN | Airborne EM-MAG-radiometric survey | DP 036 |
| **1969** | Duquesne | Carmon Mines Ltd. | Airborne MAG-radiometric survey | GM 24949, GM 26383 |
| **1974** | Porcupine East | Louvem Mining Co | Geophysical survey | GM 30557 |
| **1974** | Beattie, Donchester, Dumico, Central Duparquet, Porcupine East, Pitt | Société Minière Laurent | Geological interpretation of compiled aeromagnetic data | GM 30141 |
| **1979** | Beattie, Donchester | MRN | Gravimetric survey | DP 713 |
| **1979** | Pitt, Duquesne | MRN | Airborne EM-MAG survey | DP 728, DP-96-02 |
| **1980** | Beattie, Donchester, Dumico, Central Duparquet | MRN | Airborne EM-MAG survey | DP 754, DP 728 & DP-96-02 |
| **1980** | Duquesne | Soquem | Airborne MAG-EM Survey | GM 36344 |
| **1981** | Beattie, Donchester, Dumico, Central Duparquet, Duquesne | Ressources Goldfields Canada Ltd | Airborne EM-MAG (DGHEM II) survey | GM 37761, GM 37762 |
| **1981** | Porcupine East | Cogema Canada Ltd. | Dighem III survey | GM 37761 |
| **1985** | Beattie, Donchester, Dumico, Central Duparquet, Pitt, Duquesne | MRN | Airborne MAG survey | DP-85-16 |
| **1987** | Beattie/Donchester, Dumico, Central Duparquet, Porcupine East, Pitt, Duquesne | Cogema Canada Limited / Cambior Inc. | Airborne EM-MAG survey (3,995 km) DIGHEM III system | GM 44433 |

| Year | Property | Company | Type of Work | Reference |
|---|---|---|---|---|
| **1992** | Donchester | 173714 Canada Inc. | Ground EM-MAG surveys | GM 51549 |
| **1993** | Donchester | 173714 Canada Inc. | Ground EM-MAG surveys | GM 52230 |
| **2001** | Beattie, Pitt, Donchester, Dumico, Central Duparquet | Geonova Exploration Inc. | Geophysical compilation | GM 59030 |
| **2008** | Beattie, Donchester, Dumico, Central Duparquet, Pitt, Duquesne | Commission Géologique du Canada | Airborne EM-MAG (MEGATEM II) | DP 2008-39 |
| **2011** | Beattie, Donchester, Dumico, Central Duparquet, Duquesne | Osisko Mining Corp. / Clifton Star Resources Inc. | Helicopter-borne Mag and TDEM geophysical survey | GM 65858, Iund et al., 2022 |
| **2012** | Hunter | Clifton Star Resources Inc. | IP and resistivity survey | |
| **2017** | Porcupine east | Explor Resources Inc. | Survey processing report, Quadrimag and VLF geophysical survey | GM 70271 |
| **2021** | Duparquet Property | Dynamic Discovery Geoscience | High-resolution heliborne magnetic survey, Duparquet Property | GM 72489 |
| **2022** | Donchester, Dumico, Central Duparquet, Porcupine East | IAMGOLD | High-resolution heliborne magnetic survey | GM 72660 |

# 8 2024 Airborne Survey

## 8.1 Work Program

### 8.1.1 Program Objectives

The purpose of the 2024 airborne geophysical survey was to record magnetic gradient and VLF-EM data, following a data gap analysis, providing First Mining with a modern, continuous geophysical dataset across its consolidated land tenure. The survey was completed over key structures and deformation zones,

supporting exploration targeting on a district scale, as a vectoring tool to delineate regional structural controls on potential mineralization, as well as weaker anomalies created by alteration.

GoldSpot completed the 1,262.4 line km Multi-Parameter Airborne Survey System (MPASS) geophysics program over a period of 7 days from April 18 - 24, 2024. The crew was based and operated out of the Rouyn-Noranda airport, which is approximately 45 km from the project location.

The program was supported by ALS GoldSpot office and field personnel as highlighted in the following list:

- Peter Dueck, BSc, MBA, P. Geo – Head of Applied Geophysics
- Derek Kouhi, MSc, P. Geo. – Data Processing Manager (also responsible for field quality control)
- Zeeshaan Hameed, BSc – Field Operations Manager
- Patrick Taillefer and Caton Garvie – Pilots
- Taylor Till and Dylan Michaleski – Field Instrument Operators

A detailed logistics and technical report prepared by ALS GoldSpot is presented in Appendix B.

### 8.1.2 Methodology

The survey was flown along pre-planned survey lines using a navigation system, and where required for safety reasons and flight regulations, adjusted to fly over and around cultural effects such as powerlines, dwellings and large infrastructure. Flight path deviations were limited to 50% of the traverse line spacing.

The nominal terrain clearance for the helicopter and spectrometer was maintained at 67 m, whilst the magnetometer, GPS and radar altimeter was kept at 40 m. The helicopter had to maintain a ground speed of approximately 108 km/h and data was recorded in intervals of 0.1 seconds, which equates to a geophysical measurement every 3 m along the survey lines. Radiometric data was collected at 1.0 second intervals, providing a reading every 30 m.

A pre-survey test was conducted on April 24, 2024 and included a survey system lag test, magnetic heading test and radar altimeter test.

A total of 1262.4 line kilometres were flown at a traverse spacing of 37.5 m intervals and tie lines at 300 m spacing in a north-south line direction. Data was collected using the MPASS which is a helicopter-towed survey instrument that is suspended 30 m below the helicopter and flown at an average of 40 m above ground level. The instrument has three highly sensitive magnetic sensors, two VLF receiver, a GPS and a radar altimeter. A AS350-B2 helicopter provided by ECHO Helicopters was used to complete the survey.

Data collected was reviewed daily at the end of the day to ensure it passed all the quality assurance and quality control checks. This included field data verification, where for example the magnetic variation tolerance was exceeded, flights were called to be re-flown. The magnetic data and the VLF data was also processed and checked daily for noise and to level the data, and more details on the processes involved and steps taken can be reviewed in Appendix B.

The survey area and associated flight lines from the 2024 airborne survey are presented in Figure 8-1.

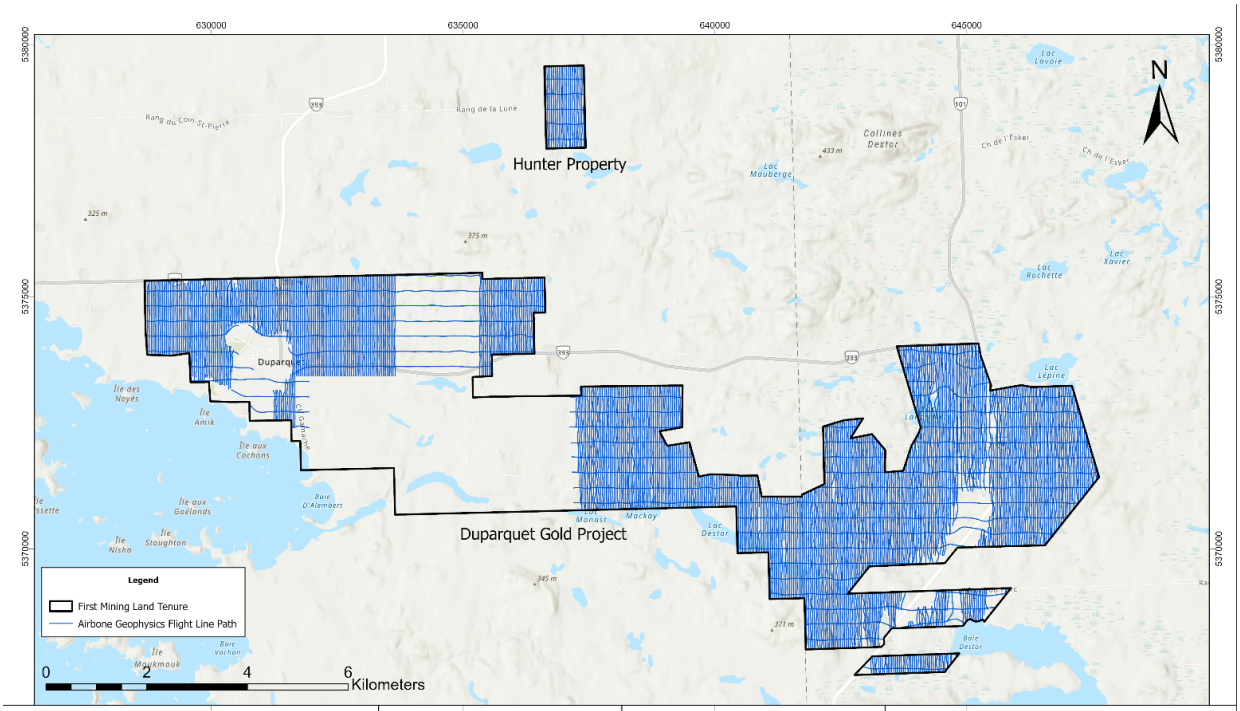


Figure 8-1: 2024 Airborne Survey Area and Flight Lines

## 8.2 Results and Interpretation

The final survey results were compiled into a digital database in Oasis Montaj and GeoTIFF format as well as TMI & RMI grids, maps and images, and were handed over alongside a final report to First Mining after final review and processing of the data by GoldSpot. The full list of deliverables is provided in Appendix B.

The GoldSpot technical report highlighted that the magnetic data recordings were of a good quality based on the consistency of the aircraft flight speed being maintained at 30 m/s and the instrument flown at an average of 40 m above the ground throughout the program. The noise and diurnal variation were within acceptable limits.

The 2024 geophysical survey data collected was also fully merged with the 2022 high-resolution heliborne magnetic survey dataset (completed by IAMGOLD over the Porcupine East claim block) by GoldSpot and was included in the final data products.

The fully integrated dataset provides First Mining with a high resolution (37.5 m line spacing) magnetic dataset that covers its full land tenure and allows for the interpretation, target development and modelling and follow-up exploration programs.

# 9 Conclusion and Recommendations

The airborne geophysics campaign was a success for First Mining in providing a data leveling and modernization approach to support exploration programs at its Duparquet and Hunter properties. It also provides the Company with a consolidated dataset across key regional structures and deformation zones over its project tenure in the Abitibi Greenstone Belt, especially along the prolific Destor-Porcupine Fault Zone.

The data reduces geological uncertainty by integrating geological datasets to support geological vectoring and allows First Mining to benchmark and uplift target development across its full tenure and identify follow-up exploration targets for the region.

Recommended follow-up programs include field mapping and prospecting over key structures and deformation zones identified, and subsequent integration of the data into a 3D model to support further decision making and potential development of drilling strategies.

## 9.1 Summary of Expenditures

The cost of the ALS GoldSpot geophysical survey program was $122,744 and is summarized in Table 9-1.

Table 9-1: Cost Summary, 2024 Airborne Geophysics Program

| Activity | Cost |
|---|---|
| Mobilization | $ 15,000 |
| Accommodation and Food | $ 6,615 |
| MPASS (Geophysics) Magnetics and VLF | $ 70,168.40 |
| Helicopter Standby | $ 4,000 |
| Crew Standby | $ 1,500 |
| GEO Logistics Report | $ 4,500 |
| Report Writing (First Mining) | $ 5,000 |
| **Total (Excluding tax)** | **$ 106,783.40** |
| **GST (5%)** | $ 5, 339.17 |
| **QST (9.975%)** | $ 10, 651.64 |
| **Total** | **$ 122,744.21** |

# 10 References


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# 11 Statement of Qualifications

I, Caroline Pienaar, P.Geo. do hereby certify that:

1. I am the Exploration Manager at:

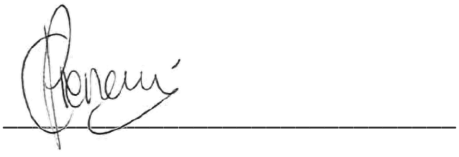
   First Mining Gold Corp.
   2070 - 1188 West Georgia Street,
   Vancouver, BC, Canada,
   V6E 4A2

2. I graduated with a Bachelor of Science (Honours) degree in Geology from University of the Free State, South Africa in 2009 and graduated with a Masters in Mineral Resource Management in 2015 from the University of the Free State, South Africa.

3. I am registered as a Professional Geoscientist (P.Geo) with the Professional Geoscientists of Ontario (License 3811) & registered with the Ordre des Geologues du Quebec (License 02449) since 21 September 2023.

4. I have worked as a geologist for a total of 14 years since my graduation from university.

Dated this 8th day of August 2024.



# Appendix A: Land Tenure Map and List

Carte(s) de dimensions hors standard placée(s) à la suite du présent document ou disponible(s) sur la Carte interactive.

Non standard size map(s) positioned after this document or available on the Interactive map.

Claim List

| Claim Block | Claim Type | Claim ID | Status | Claim Expiry | Area (ha) | Owner | Geophysics Survey Area |
|---|---|---|---|---|---|---|---|
| Duparquet | CDC | 2496889 | Active | 24-Jul-2026 | 57.03 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496890 | Active | 24-Jul-2026 | 1.15 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496891 | Active | 24-Jul-2026 | 0.58 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496892 | Active | 24-Jul-2026 | 22.14 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496893 | Active | 24-Jul-2026 | 51.66 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496894 | Active | 24-Jul-2026 | 38.66 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496895 | Active | 24-Jul-2026 | 2.4 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496896 | Active | 24-Jul-2026 | 40.69 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496897 | Active | 24-Jul-2026 | 2.03 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496898 | Active | 24-Jul-2026 | 0.01 | Mines d'Or Duparquet (100%) | N |
| Duparquet | CDC | 2496899 | Active | 24-Jul-2026 | 44.28 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496900 | Active | 24-Jul-2026 | 8.04 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496901 | Active | 24-Jul-2026 | 28.46 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496902 | Active | 24-Jul-2026 | 4.3 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496903 | Active | 24-Jul-2026 | 21.93 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2496904 | Active | 24-Jul-2026 | 15.23 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2497634 | Active | 14-May-2026 | 2.65 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2497635 | Active | 14-May-2026 | 27.17 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2497636 | Active | 14-May-2026 | 4.59 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605502 | Active | 7-Apr-2026 | 23.77 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605503 | Active | 7-Apr-2026 | 24.98 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605504 | Active | 7-Apr-2026 | 18.63 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605505 | Active | 7-Apr-2026 | 14.87 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605506 | Active | 7-Apr-2026 | 7.74 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605507 | Active | 7-Apr-2026 | 51.11 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605508 | Active | 7-Apr-2026 | 57.03 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605509 | Active | 7-Apr-2026 | 57.03 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605510 | Active | 7-Apr-2026 | 57.03 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605511 | Active | 7-Apr-2026 | 36.87 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605512 | Active | 7-Apr-2026 | 6.75 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605513 | Active | 7-Apr-2026 | 7.55 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605514 | Active | 7-Apr-2026 | 7.56 | Mines d'Or Duparquet (100%) | Y |

Claim List

| Claim Block | Claim Type | Claim ID | Status | Claim Expiry | Area (ha) | Owner | Geophysics Survey Area |
|---|---|---|---|---|---|---|---|
| Duparquet | CDC | 2605515 | Active | 7-Apr-2026 | 7.58 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2605516 | Active | 7-Apr-2026 | 5.06 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617249 | Active | 17-Aug-2026 | 0.83 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617250 | Active | 17-Aug-2026 | 2.91 | Mines d'Or Duparquet (100%) | N |
| Duparquet | CDC | 2617251 | Active | 17-Aug-2026 | 1.73 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617252 | Active | 17-Aug-2026 | 22.55 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617253 | Active | 17-Aug-2026 | 57.04 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617254 | Active | 17-Aug-2026 | 24.03 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617255 | Active | 17-Aug-2026 | 20.16 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617256 | Active | 17-Aug-2026 | 57.03 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617257 | Active | 17-Aug-2026 | 54.63 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617258 | Active | 17-Aug-2026 | 52.73 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617259 | Active | 17-Aug-2026 | 3.1 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617260 | Active | 17-Aug-2026 | 2.54 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617261 | Active | 17-Aug-2026 | 7.62 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617262 | Active | 17-Aug-2026 | 7.62 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617263 | Active | 17-Aug-2026 | 7.62 | Mines d'Or Duparquet (100%) | Y |
| Duparquet | CDC | 2617264 | Active | 17-Aug-2026 | 0.48 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2035176 | Active | 26-Nov-2025 | 41.03 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2035177 | Active | 26-Nov-2025 | 32.91 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2035178 | Active | 26-Nov-2025 | 26.8 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2035179 | Active | 26-Nov-2025 | 26.74 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2035180 | Active | 26-Nov-2025 | 24.79 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166259 | Active | 20-Jul-2025 | 57.09 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166260 | Active | 20-Jul-2025 | 7.12 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166261 | Active | 20-Jul-2025 | 65.39 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166262 | Active | 20-Jul-2025 | 57.28 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166263 | Active | 20-Jul-2025 | 49.15 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166264 | Active | 20-Jul-2025 | 31.88 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166265 | Active | 20-Jul-2025 | 31.31 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166266 | Active | 20-Jul-2025 | 28.3 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166267 | Active | 20-Jul-2025 | 31.98 | Mines d'Or Duparquet (100%) | Y |

Claim List

| Claim Block | Claim Type | Claim ID | Status | Claim Expiry | Area (ha) | Owner | Geophysics Survey Area |
|---|---|---|---|---|---|---|---|
| Duquesne | CDC | 2166268 | Active | 20-Jul-2025 | 31.9 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166269 | Active | 20-Jul-2025 | 31.82 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166270 | Active | 20-Jul-2025 | 27.37 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166271 | Active | 20-Jul-2025 | 26.22 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166272 | Active | 20-Jul-2025 | 26.28 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166273 | Active | 20-Jul-2025 | 26.35 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166274 | Active | 20-Jul-2025 | 26.42 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2166275 | Active | 20-Jul-2025 | 26.48 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497013 | Active | 15-Jun-2026 | 57.07 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497014 | Active | 15-Jun-2026 | 48.96 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497015 | Active | 15-Jun-2026 | 57.07 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497016 | Active | 15-Jun-2026 | 18.25 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497017 | Active | 15-Jun-2026 | 9.17 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497018 | Active | 15-Jun-2026 | 1.33 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497019 | Active | 15-Jun-2026 | 57.08 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497020 | Active | 15-Jun-2026 | 57.07 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497021 | Active | 15-Jun-2026 | 7.22 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497022 | Active | 15-Jun-2026 | 13.07 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497023 | Active | 15-Jun-2026 | 3.97 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497024 | Active | 15-Jun-2026 | 57.08 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497025 | Active | 15-Jun-2026 | 22.74 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497026 | Active | 15-Jun-2026 | 12.31 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497027 | Active | 15-Jun-2026 | 21.11 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497028 | Active | 15-Jun-2026 | 0.53 | Mines d'Or Duparquet (100%) | N |
| Duquesne | CDC | 2497029 | Active | 15-Jun-2026 | 43.76 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497030 | Active | 2-Mar-2026 | 8.15 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497031 | Active | 2-Mar-2026 | 23.2 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497032 | Active | 2-Mar-2026 | 53.88 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497033 | Active | 2-Mar-2026 | 0.67 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497034 | Active | 2-Mar-2026 | 0.01 | Mines d'Or Duparquet (100%) | N |
| Duquesne | CDC | 2497035 | Active | 2-Mar-2026 | 18.12 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497036 | Active | 2-Mar-2026 | 38.58 | Mines d'Or Duparquet (100%) | Y |

Claim List

| Claim Block | Claim Type | Claim ID | Status | Claim Expiry | Area (ha) | Owner | Geophysics Survey Area |
|---|---|---|---|---|---|---|---|
| Duquesne | CDC | 2497037 | Active | 2-Mar-2026 | 9.25 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497038 | Active | 2-Mar-2026 | 24.35 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497039 | Active | 2-Mar-2026 | 53.57 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497040 | Active | 2-Mar-2026 | 41.93 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497041 | Active | 2-Mar-2026 | 5.36 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497042 | Active | 2-Mar-2026 | 56.58 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497043 | Active | 2-Mar-2026 | 57.07 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497044 | Active | 2-Mar-2026 | 53.69 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2497045 | Active | 2-Mar-2026 | 21.68 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498274 | Active | 13-Aug-2026 | 0.68 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498275 | Active | 13-Aug-2026 | 30.51 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498276 | Active | 13-Aug-2026 | 56.92 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498277 | Active | 13-Aug-2026 | 33.88 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498278 | Active | 13-Aug-2026 | 13.32 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498279 | Active | 13-Aug-2026 | 44.01 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498280 | Active | 13-Aug-2026 | 55.74 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498281 | Active | 13-Aug-2026 | 30.36 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498282 | Active | 13-Aug-2026 | 15.99 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498283 | Active | 13-Aug-2026 | 38.82 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498284 | Active | 13-Aug-2026 | 0.43 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498285 | Active | 13-Aug-2026 | 18.26 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498286 | Active | 13-Aug-2026 | 0.78 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498339 | Active | 24-Nov-2025 | 19.81 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498340 | Active | 24-Nov-2025 | 1.75 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498341 | Active | 24-Nov-2025 | 8.1 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498342 | Active | 24-Nov-2025 | 0.13 | Mines d'Or Duparquet (100%) | N |
| Duquesne | CDC | 2498343 | Active | 24-Nov-2025 | 7.74 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498344 | Active | 24-Nov-2025 | 20.55 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498345 | Active | 24-Nov-2025 | 44.75 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498346 | Active | 24-Nov-2025 | 56.53 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498347 | Active | 24-Nov-2025 | 19.59 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498348 | Active | 24-Nov-2025 | 12.35 | Mines d'Or Duparquet (100%) | Y |

Claim List

| Claim Block | Claim Type | Claim ID | Status | Claim Expiry | Area (ha) | Owner | Geophysics Survey Area |
|---|---|---|---|---|---|---|---|
| Duquesne | CDC | 2498541 | Active | 7-Dec-2025 | 57.08 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498542 | Active | 7-Dec-2025 | 57.08 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498543 | Active | 7-Dec-2025 | 11.63 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498544 | Active | 7-Dec-2025 | 10.65 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498545 | Active | 7-Dec-2025 | 7.12 | Mines d'Or Duparquet (100%) | Y |
| Duquesne | CDC | 2498546 | Active | 7-Dec-2025 | 1.26 | Mines d'Or Duparquet (100%) | Y |
| Hunter | CDC | 2617265 | Active | 17-Aug-2026 | 11.68 | Mines d'Or Duparquet (100%) | Y |
| Hunter | CDC | 2617266 | Active | 17-Aug-2026 | 5.95 | Mines d'Or Duparquet (100%) | Y |
| Hunter | CDC | 2617267 | Active | 17-Aug-2026 | 48.08 | Mines d'Or Duparquet (100%) | Y |
| Hunter | CDC | 2617268 | Active | 17-Aug-2026 | 24.59 | Mines d'Or Duparquet (100%) | Y |
| Hunter | CDC | 2617269 | Active | 17-Aug-2024 | 24.85 | Mines d'Or Duparquet (100%) | Y |
| Hunter | CDC | 2617270 | Active | 17-Aug-2024 | 12.74 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497046 | Active | 27-Feb-2026 | 57.07 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497047 | Active | 27-Feb-2026 | 57.07 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497048 | Active | 27-Feb-2026 | 36.21 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497049 | Active | 27-Feb-2026 | 5.37 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497050 | Active | 27-Feb-2026 | 39.3 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497051 | Active | 27-Feb-2026 | 33.1 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497052 | Active | 27-Feb-2026 | 13.24 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497053 | Active | 27-Feb-2026 | 52.41 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497054 | Active | 27-Feb-2026 | 47.42 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497055 | Active | 27-Feb-2026 | 12.01 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497056 | Active | 27-Feb-2026 | 51.33 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497057 | Active | 27-Feb-2026 | 19.64 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497058 | Active | 27-Feb-2026 | 35.58 | Mines d'Or Duparquet (100%) | Y |
| Pitt | CDC | 2497059 | Active | 27-Feb-2026 | 32.26 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497091 | Active | 7-Jan-2026 | 57.03 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497092 | Active | 7-Jan-2026 | 53.35 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497093 | Active | 7-Jan-2026 | 41.81 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497094 | Active | 7-Jan-2026 | 7.58 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497095 | Active | 7-Jan-2026 | 7.6 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497096 | Active | 7-Jan-2026 | 7.13 | Mines d'Or Duparquet (100%) | Y |

Claim List

| Claim Block | Claim Type | Claim ID | Status | Claim Expiry | Area (ha) | Owner | Geophysics Survey Area |
|---|---|---|---|---|---|---|---|
| Porcupine East | CDC | 2497097 | Active | 7-Jan-2026 | 5.32 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497098 | Active | 7-Jan-2026 | 9.96 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497099 | Active | 7-Jan-2026 | 9.93 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497100 | Active | 19-Mar-2026 | 57.07 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497101 | Active | 19-Mar-2026 | 57.06 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497102 | Active | 19-Mar-2026 | 57.06 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497103 | Active | 19-Mar-2026 | 57.06 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497104 | Active | 19-Mar-2026 | 57.06 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497105 | Active | 19-Mar-2026 | 57.06 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497106 | Active | 19-Mar-2026 | 57.06 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497107 | Active | 19-Mar-2026 | 57.06 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497108 | Active | 19-Mar-2026 | 57.05 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497109 | Active | 19-Mar-2026 | 57.05 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497110 | Active | 19-Mar-2026 | 57.05 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497111 | Active | 19-Mar-2026 | 57.06 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497112 | Active | 19-Mar-2026 | 9.36 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497113 | Active | 19-Mar-2026 | 24.8 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497114 | Active | 19-Mar-2026 | 57.07 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497115 | Active | 19-Mar-2026 | 57.07 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497116 | Active | 19-Mar-2026 | 57.07 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497117 | Active | 19-Mar-2026 | 57.07 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497118 | Active | 19-Mar-2026 | 57.07 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497119 | Active | 19-Mar-2026 | 57.07 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497120 | Active | 19-Mar-2026 | 57.06 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497121 | Active | 19-Mar-2026 | 5.9 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497122 | Active | 19-Mar-2026 | 1.84 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497123 | Active | 19-Mar-2026 | 25.51 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497124 | Active | 19-Mar-2026 | 43.39 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497125 | Active | 19-Mar-2026 | 53.06 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497126 | Active | 19-Mar-2026 | 54.14 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497127 | Active | 19-Mar-2026 | 55.32 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497128 | Active | 19-Mar-2026 | 16.73 | Mines d'Or Duparquet (100%) | Y |

Claim List

| Claim Block | Claim Type | Claim ID | Status | Claim Expiry | Area (ha) | Owner | Geophysics Survey Area |
|---|---|---|---|---|---|---|---|
| Porcupine East | CDC | 2497129 | Active | 19-Mar-2026 | 38.42 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497130 | Active | 19-Mar-2026 | 42.17 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497131 | Active | 19-Mar-2026 | 26.74 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497132 | Active | 19-Mar-2026 | 4.56 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497133 | Active | 19-Mar-2026 | 10.11 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497134 | Active | 19-Mar-2026 | 11.91 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497135 | Active | 19-Mar-2026 | 20.57 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497136 | Active | 19-Mar-2026 | 13.06 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497137 | Active | 19-Mar-2026 | 45.06 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497138 | Active | 19-Mar-2026 | 26.99 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497139 | Active | 19-Mar-2026 | 26.61 | Mines d'Or Duparquet (100%) | N |
| Porcupine East | CDC | 2497140 | Active | 19-Mar-2026 | 26.16 | Mines d'Or Duparquet (100%) | Y |
| Porcupine East | CDC | 2497141 | Active | 19-Mar-2026 | 2.55 | Mines d'Or Duparquet (100%) | Y |

# Appendix B: Consultant Report

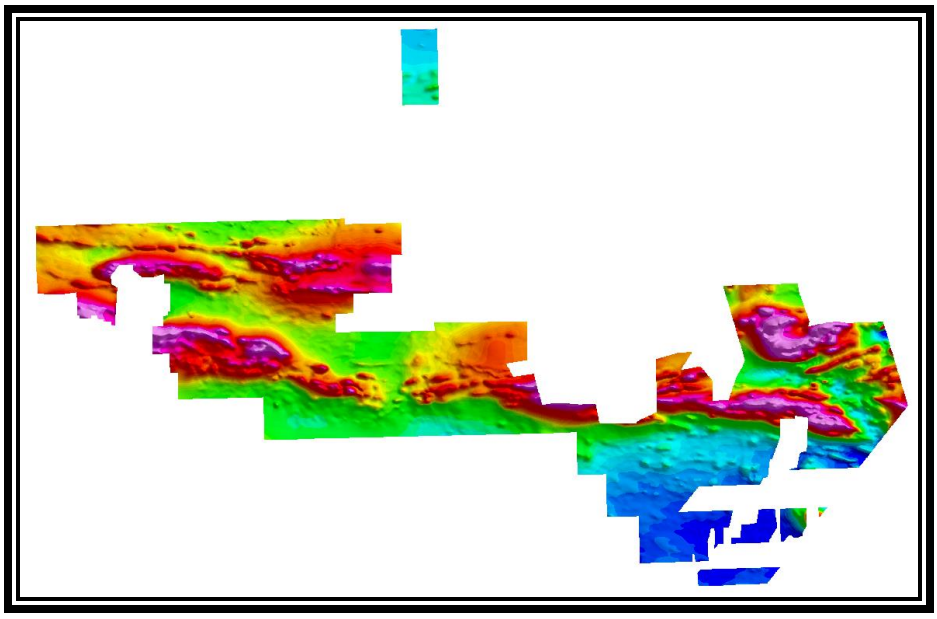
FIRST MINING GOLD

ALS | GOLDSPOT

## Multi-Parameter Airborne Survey System (M-PASS)

# DUPARQUET PROJECT

**August 2024**



Presented to:

**First Mining Gold**

Presented by:

**ALS GoldSpot Discoveries Ltd.**

2103 Dollarton Hwy
North Vancouver, BC
Canada, V7H 0A7

# FIRST MINING GOLD

# HIGH RESOLUTION

# HELIBORNE MAGNETIC SURVEY

**Project Area: Duparquet, Québec**
**Project # P24001**

## LOGISTIC AND TECHNICAL REPORT

**By**

**ALS GOLDSPOT DISCOVERIES LTD.**

**August 2024**

## Table of Contents

## Table of Figures



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## Appendixes

## EXECUTIVE SUMMARY

This report describes the logistics, data acquisition, processing, and presentation of the results of a magnetic gradient and VLF-EM survey carried out for **First Mining Gold**, over the **Duparquet** property located near Rouyn-Noranda, Québec. The total coverage of the survey block amounted to 1262.4 line kilometres. The survey consisted of 13 flights and took place from 4/18/2024 to 4/24/2024.

Data was collected using the **Multi-Parameter Airborne Survey System (MPASS)** which consists of a helicopter-towed bird which contains an array of three high-sensitivity potassium vapour magnetic sensors, two VLF-EM receivers, Global Positioning System (GPS) and radar altimeter.

The survey was flown at a nominal sensor height of 40 for the towed bird and 67 for the helicopter systems at a target average ground speed of 30 m/s. Traverse lines were flown with an azimuth of 0° and a spacing of 37.5 m while tie lines were flown with an azimuth of 90° and a spacing of 300 m.

The purpose of the project was to record detailed magnetic gradient and VLF-EM data over the region of interest to provide information that could be used in mapping the geological structures and identifying potential zones of ore mineralization. The survey data were acquired, processed, and compiled by **ALS GoldSpot Discoveries Ltd. ('GoldSpot')**.

# 1 SURVEY INTRODUCTION

On 4/10/2024, **ALS GoldSpot Discoveries Corp. ('GoldSpot')** was awarded the contract number P24001 by **First Mining Gold** to fly a high resolution helicopter-borne survey over the **Duparquet** property located in Québec (*Figure 1*). The contract required the acquisition and compilation of digitally recorded magnetic gradient and VLF-EM data. The high sensitivity M-PASS survey was flown from 4/18/2024 to 4/24/2024 to cover the Duparquet property consisting of 1 block for a total of 1262.4 line-kilometres. *Table 1* summarizes the Duparquet Project block boundary coordinates. MPASS survey configuration and parameters are detailed in *Section 2*.

The traverse and control line spacings were 37.5 metres and 300 metres respectively, while the nominal survey height of the towed bird was 40 metres AGL. The survey was flown using planned survey lines on a drape surface to minimize differences in measured values at the intersections of control and traverse lines. These differences obtained from comparing measurements at traverse-tie intersections were later used to statistically level the geophysical data. Processing is described in further detail in *Section 4*.

This report describes the survey operations and data verification processes which were carried out during the data acquisition phase, in addition to the data processing which followed at the office.

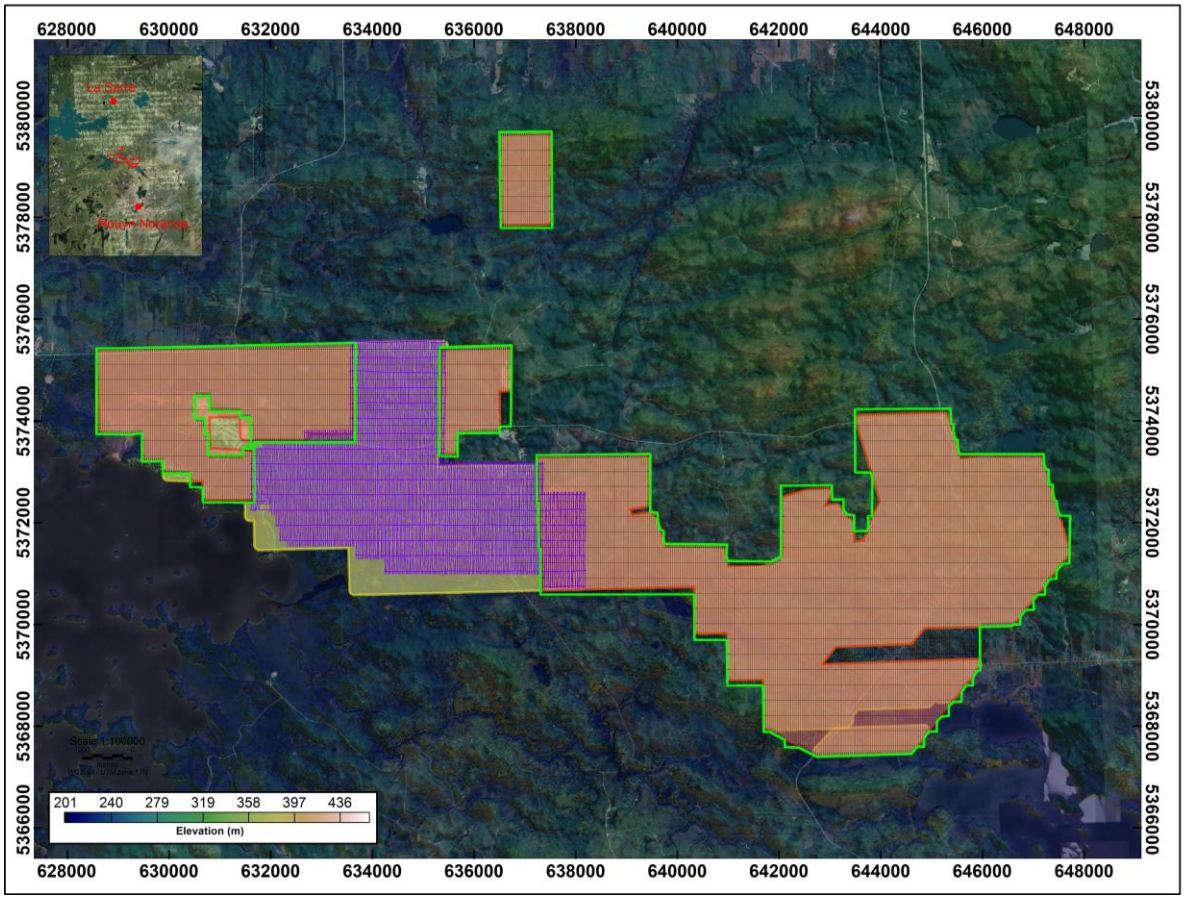



*Figure 1: Duparquet Project Survey Area Location*

# 2 AIRCRAFT, SURVEY EQUIPMENT, AND PERSONNEL

## 2.1 Aircraft

The survey was flown using a AS350-B2 helicopter, registration C-FNSR provided by ECHO Helicopters. Detailed specifications of the aircraft are listed in *Figure 2*.

| | |
|---|---|
| **Engine** | Arriel 1D1 |
| **Rate of climb** | 1,750 ft/min |
| **Number of main rotor blades** | 3 |
| **Cruising speed** | 225 kph |
| **Service ceiling** | 15,100 ft |
| **Maximum takeoff** | 2,250 kg |
| **Range** | 515 km |
| **Empty, Std Aircraft** | 1,162 kg |
| **Average cruise fuel consumption** | 180 l/h |

*Figure 2: Physical specifications of the AS350-B2 helicopter, Registration C-FNSR (based at Rouyn-Noranda Airport).*

## 2.2 Survey Equipment and Configuration

GoldSpot's M-PASS consists of a towed bird potassium vapour magnetometer and VLF system platform in addition to a CsI spectrometer system *(Figure 3)*. This section provides a brief description of the instruments used to acquire the geophysical survey data. All ancillary instrumentation such as the Global Positioning System (GPS) and the radar altimeter are mounted directly on the bird for higher accuracy measurements with no variable lag.

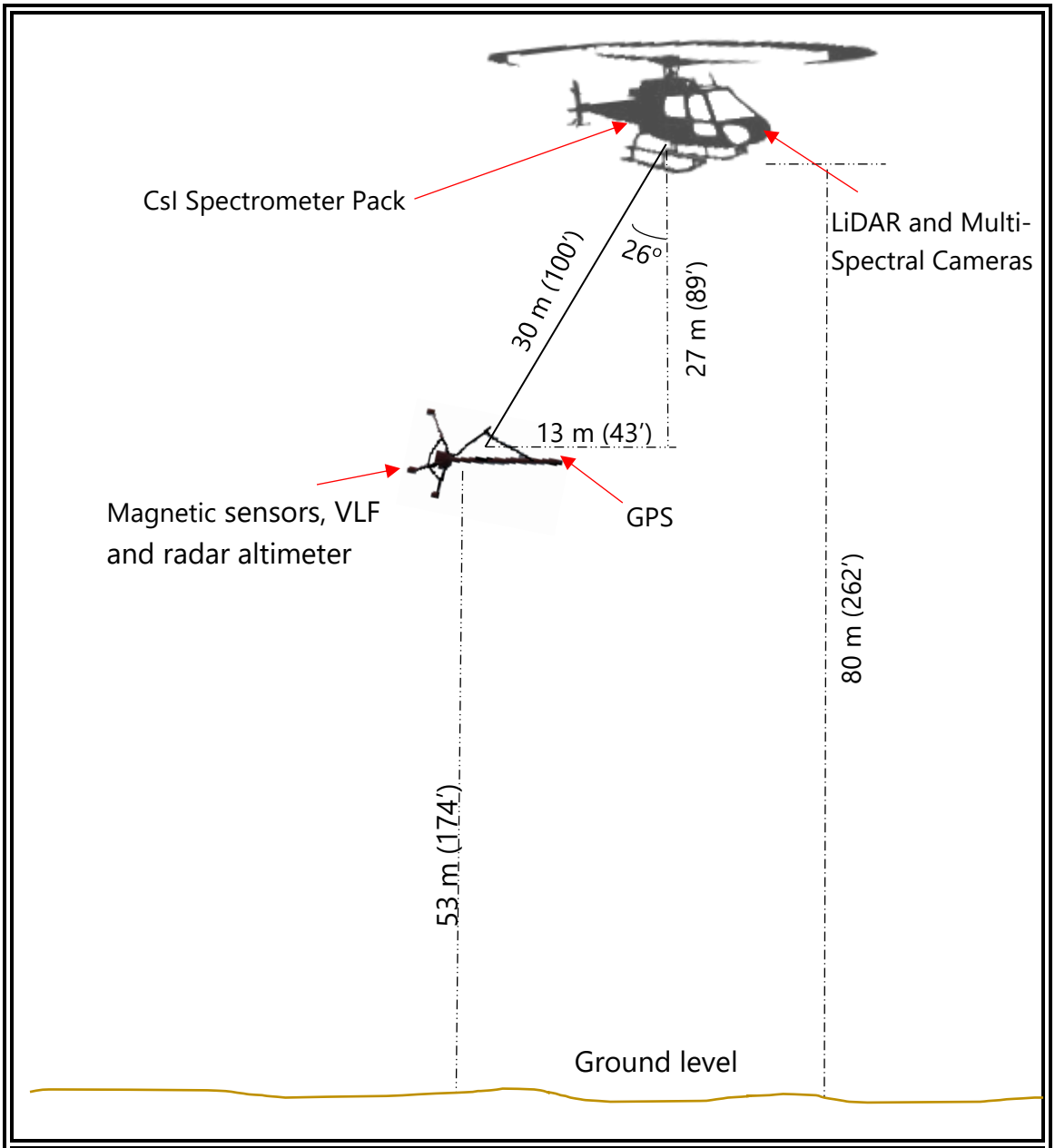



*Figure 3: M-PASS Acquisition System Configuration*

### 2.2.1 Airborne Magnetometer System Platform

The magnetic system comprised of three GSMP-35U high precision potassium magnetometer manufactured by GEM Systems, mounted on a bird towed beneath a AS350-B2 aircraft. The bird is towed with a 30 metre cable to ensure adequate separation between the helicopter and the magnetic survey system. The technical specifications of the GSMP-35U are presented in *Table 2*.

*Table 1: Magnetometer GSMP-35U Specifications*

| | |
|---|---|
| **Sensitivity** | 0.0002 nT @ 1 Hz |
| **Gradient Tolerance** | Over 50,000 nT/m |
| **Heading Error** | ± 0.05 nT |
| **Dynamic Range** | 15,000 to 120,000 nT |
| **Resolution** | 0.001 nT |
| **Absolute Accuracy** | ± 0.1 nT @ 1 Hz |

Mounted at the nose of the bird is the GPS system which provides continuous positional measurements. Also contained within the bird is a radar altimeter for recording the height of the bird in addition to an Inertial Measurement Unit (IMU) for monitoring the attitude of the bird during flight. The sensor collects measurements at a sample rate of 10 Hz. The benefits of an optically pumped potassium magnetometer are that it provides minimal heading error, it has a high absolute accuracy, and it is relatively insensitive to bird orientation.

### 2.2.2 Ground Base Station Magnetometer

The magnetic base station configuration consists of two GEM Systems Overhauser ground magnetometers linked to GPS receivers. Each station records the earth's total magnetic intensity while syncing measurements with GPS time. The ground base magnetometers were set up near Rouyn-Noranda Airport at a location away from moving steel objects, vehicles, and DC electrical power lines or any other culture to ensure a noise-free environment. The primary magnetic base station (base a) was located at 660874, 5342012 (WGS-84, UTM Zone 17N). A secondary magnetic base station (base b) was set-up at 660872, 5342009 (WGS-84, UTM Zone 17N) for data redundancy (*Figure 4*). Both base stations operated throughout the airborne data acquisition to ensure continuous monitoring of the magnetic diurnal activity.

*Table 2: Ground GEM Overhauser Magnetometer Specifications*

| | Magnetic base A (base a) | Magnetic base B (base b) |
|---|---|---|
| **Manufacturer** | GEM Systems Inc. | GEM Systems Inc. |
| **Type** | Overhauser | Overhauser |
| **Model** | GSM-19 - GPS time antenna | GSM-19 - GPS time antenna |
| **Serial Number** | 1108876 | 1108877 |
| **Dynamic Range** | 20,000 to 120,000 nT | 20,000 to 120,000 nT |
| **Resolution** | 0.01 nT | 0.01 nT |
| **Absolute Accuracy** | ± 0.1 nT | ± 0.1 nT |
| **Sensitivity** | 0.10 nT | 0.10 nT |
| **Sampling Rate** | 4 seconds | 4 seconds |


*Figure 4: GSM-19 Overhauser magnetometers Base Stations A (left) and B (right).*

### 2.2.3 Airborne VLF-EM System

The VLF-EM system is a GEM GSM-90A v7.0 manufactured by GEM Systems, which is mounted on the bird below a AS350-B2 platform. The bird is towed with a 30 metre cable to ensure adequate separation between the helicopter and the VLF survey system. The technical specifications of the GSM-90A are presented in *Table 4*.

*Table 3: EM-VLF GEM GSM-90A Specifications*

| | |
|---|---|
| **Resolution** | 0.1% of Total Field |
| **Sampling Rate** | 0.1s (10 Hz) |
| **Transmitter 1** | Cutler, ME (NAA) |
| **(line)** | 24.0 kHz |
| **Transmitter 2** | LaMoure, ND (NML) |
| **(ortho)** | 25.2 kHz |

### 2.2.4 Airborne Navigation and GPS System

A DAQNAV system was used for navigation during geophysical surveying. The navigation software provides the pilot with real-time 3D in-flight navigation guidance in addition to deviation tracking, altimeter display and various background imaging options to enhance crew safety during the survey. A NoVatel OEM719 GPS board mounted on the nose of the towed bird is connected to the navigation system. It allows for accurate positioning of the geophysical data acquired over the survey area. The technical specifications of the navigation system are presented in *Table 6*.

*Table 4: NovAtel GPS and DAQNAV Navigation System Specifications*

| **Airborne Navigation and GPS System** | |
|---|---|
| **GPS Manufacturer** | NovAtel |
| **Model** | OEM719 |
| **Number of channels** | 5 |
| **Sampling Rate** | 0.1 second |
| **Navigation Manufacturer** | DAQNAV |

### 2.2.5 Radar Altimeter

The radar altimeter measures the vertical distance between the towed bird and the ground.

*Table 5: Radar Altimeter Free Flight RA-4500*

| Airborne Navigation and GPS System | | |
|---|---|---|
|  | Manufacturer | FreeFlight |
| | Model | RA-4500 |
| | Altitude Range | -6 to 762 m (-20 to 2,500 ft) |
| | Accuracy | 0 to 500 ft. ≤ 3% 500 to 2,500 ft. ≤ 5% |
| | Sampling Rate | 0.1 second |

## 2.3 Personnel

Peter Dueck, B.Sc., MBA, P.Geo. managed all geophysical operations as Head of Applied Geophysics. The survey crew and office personnel are presented in *Table 6*.

*Table 6: Field and office personnel*

| Survey Crew | Name |
|---|---|
| **Data Processing Manager** | Derek Kouhi, M.Sc., P. Geo. |
| **Field Operations Manager** | Zeeshaan Hameed, B.Sc. |
| **Pilot** | Patrick Taillefer and Caton Garvie |
| **Field Instrument Operator(s)** | Taylor Till and Dylan Michaleski |
| **Field Quality Control** | Derek Kouhi |
| **Final Data Processor** | Derek Kouhi |

# 3 SURVEY LOGISTICS AND SYSTEM TESTS

The topographic relief of most of the survey area can be described as gently rolling. **GoldSpot** used the DAQNAV navigation software to fly a smooth drape surface with a rate of climb gradient of 20%. The use of this technique minimizes traverse and control line intersection differences in some areas of steep topographic relief. The drape surface was generated using SRTM digital elevation data. There were no restricted or dangerous zones; therefore, no special operating licence was required.

## 3.1 Base of Operation

**GoldSpot** set up its base of operations at Rouyn-Noranda Airport, which is located about 45 km of the survey block. The range capability of AS350-B2 to fly the survey was suitable to collect large volumes of data on each flight.

## 3.2 Survey Schedule

The survey was flown with flight operations commencing each morning at sunrise and concluding each evening at sunset as the weather allowed. *Table 7* shows a summary of the timeline required to execute the project.

*Table 7: Survey schedule*

| Schedule Stages | Date |
|---|---|
| **Contract Signed** | 4/10/2024 |
| **Mobilization to Rouyn-Noranda Airport** | 4/15/2024 |
| **Survey** | 4/18/2024 to 4/24/2024 |
| **Demobilization** | 4/25/2024 |
| **Final Delivery** | 5/29/2024 |

## 3.3 Survey Specifications

The airborne survey was flown with the following specifications:

a) General survey parameters are presented in *Table 8*. The survey was flown along planned survey lines using a navigation system and flight path deviations were limited to 50% of the traverse line spacing over the distance of 1 km unless safety is a concern.

*Table 8 Duparquet project flight path specifications*

| Block Name | Traverse Direction | Traverse Spacing | Control Direction | Control Spacing | Total Line Km |
|---|---|---|---|---|---|
| **Duparquet** | **0°** | **37.5** m | **90°** | **37.5** m | **1262.4** km |

b) The nominal terrain clearances for
   - helicopter, spectrometer: 67 m
   - magnetometer, GPS, and radar altimeter: 40 m

c) The helicopter ground speed was maintained at approximately 108 km/h, equivalent to a ground speed of 30 m/s. The data were recorded at 0.1 second sample interval, which resulted in geophysical measurements of approximately every 3 metres along the survey lines. Radiometric data were recorded at a 1.0 second sample interval, resulting in measurements approximately every 30 metres along survey lines.

d) The magnetic diurnal variation was closely monitored for each flight. Re-flights were called if the diurnal deviation exceeded 5.0 nanoteslas (peak to peak) from a long chord equivalent to a period of one minute.

e) Magnetometers noise envelope for
   - base stations did not exceed 0.2 nanoteslas
   - airborne system did not exceed 0.02 nanoteslas over 500 metres line length.

f) Following measurable rainfall, radiometric surveying was delayed:
   - 3 hours after any measurable rainfall
   - 12 hours after > 2 cm rainfall

The terrain elevations within the survey block varied approximately between 260 metres and 460 metres above mean sea level (*Figure 5)*.

## 3.4 Pre-Survey System Tests

The following system tests were performed prior to surveying and the results were presented in Appendix A:

The completion date for
- survey system lag test: 4/24/2024
- magnetic heading test: 4/24/2024
- radar altimeter test: 4/24/2024

### 3.4.1 Survey System Lag Test

Prior to survey production, a system lag test was carried out to determine the temporal delay between the magnetometer readings and the GPS device due to lever arm position and any instrument lag. The test was performed near 12:00:00 AM. The lag test was flown in opposite directions twice at normal survey speed and nominal ground clearance over a distinct magnetic anomaly. The lag value obtained was [variable_lag] seconds.

### 3.4.2 Magnetic Heading Test

The magnetic heading test was flown in the classic "cloverleaf" pattern near Rouyn-Noranda, QC to assess any heading error in the four directions survey directions. Each traverse and tie line direction was flown twice in both directions with a common midpoint which was used to calculate the error based on heading.

### 3.4.3 Radar Altimeter test

The radar altimeter test was flown over an airport runway near Rouyn-Noranda, QC. A repeat line was flown at a fixed height above the runway at set intervals. The purpose is to determine the accuracy of the radar altimeter readings at flying heights representative of the survey area conditions. The series of altimeter measurements are compared with clearance derived from GPS Z and the SRTM to assess the error.

# 4 QUALITY CONTROL AND DATA PROCESSING PROCEDURES

A total of 13 flights were required to cover the Duparquet survey area. Each production day, base station recordings and flight data are transferred from their acquisition systems to the Field QC laptop. These are then merged into an OASIS Montaj database on a flight-by-flight basis. This process allows for the creation of maps which can be linked to the data profiles such that the positional and geophysical data can be examined for quality control.

## 4.1 Field Data Quality Control

The field data verification consists of the following steps:

- Import the base station and survey data into an OASIS Montaj database
- Generate survey flight path and assess deviations from planned flight path

- Examine GPS data for any gaps and ground speed specifications
- Check radar altimeter for spikes and assess any drape deviations
- Correct small spikes magnetic data using the fourth difference trace
- Apply lag to the magnetic data (see Appendix A)
- Check for diurnal variation
- Verify that VLF fourth difference is consistent with previous flights
- Verify that the total field recorded by the VLF is above the noise threshold
- Call for re-flight if the recorded data are out of specification

## 4.2 Magnetic Data Processing

The data quality recorded during flight was checked for noise by applying the fourth difference on the raw magnetic data. The fourth difference (4D) is defined as:

$$4D(V_i) = V_{(i+2)} - 4V_{(i+1)} + 6V_{(i)} - 4V_{(i-1)} + V_{(i-2)}$$

Where ($V_i$) is the $i^{th}$ value of the total magnetic field channel. Profile visualization of the fourth difference enabled the monitoring of the magnetic sensor's performance and noise level. The magnetometer noise envelope was maintained within 0.10 nanoteslas.

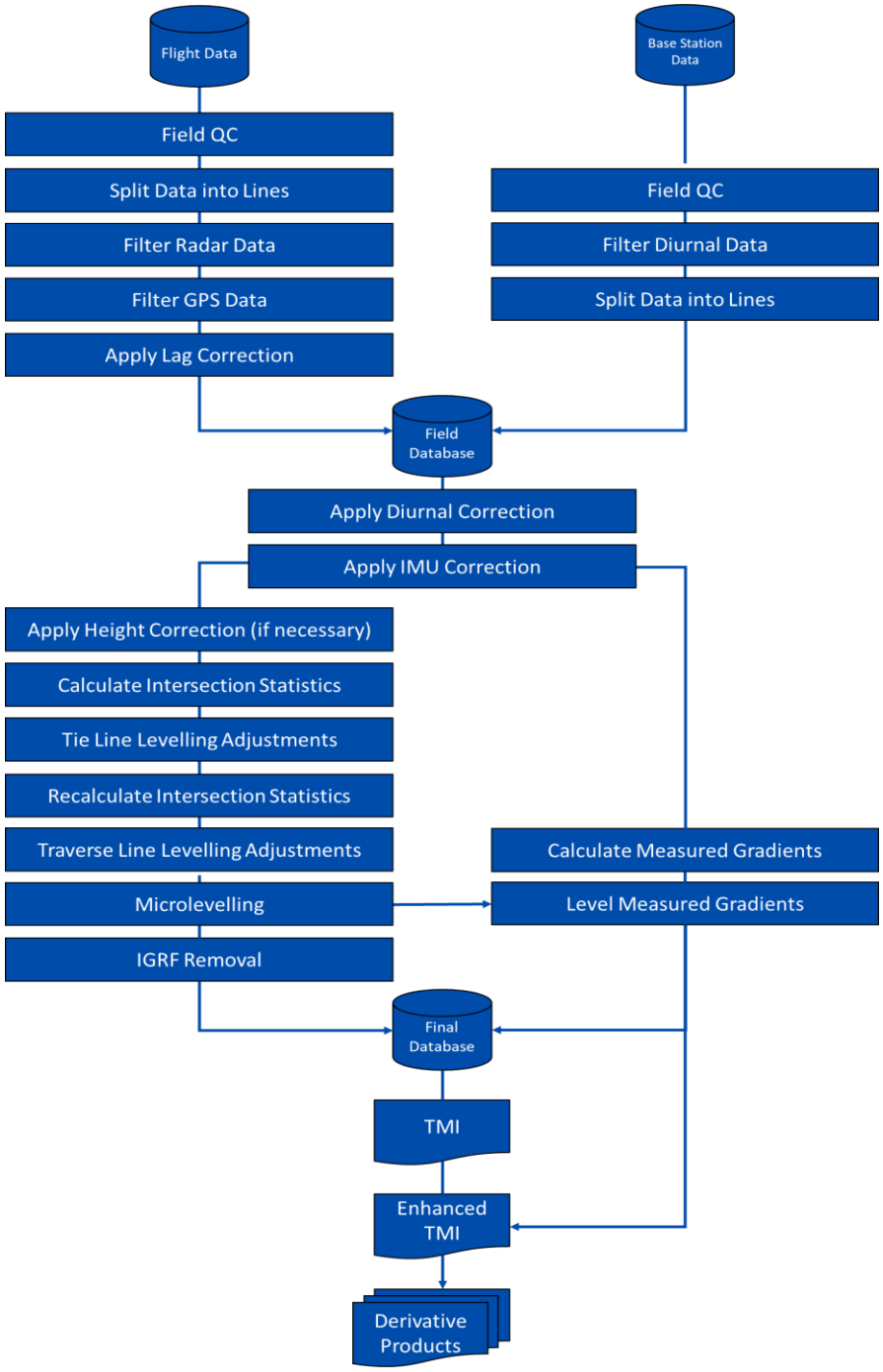
Both grid and profile format linked to one another permits visual inspection of the data. The fourth difference calculation was used to manually flag any noise spikes along the survey line. These were removed, and small gaps were interpolated with an Akima spline.

The offset between the GPS navigational reference point and the magnetometer position along the axis of the bird was calculated from the lag test (Appendix A). The lag test flown prior to the start of the survey produced a [variable_lag] second correction which was applied to the de-spiked magnetic channel.

The diurnal correction is subsequently applied to the lag-corrected magnetic channel. This process involved the subtraction of the diurnal magnetic average of 54866 nT from each of the base magnetometer readings. This correction was then filtered to remove high frequency noise and removed from the lag-corrected total field magnetic data. At every adjustment step, grids are generated to compare the results to ensure better quality of the data was obtained.

To adjust and minimize the intersection difference between traverses and tie-lines flown, tie-line levelling procedures were applied. Starting with zero order trend and slowly increased to higher order trends back and forth between ties and traverses until a satisfactory result is obtained. Once new survey lines were mostly levelled, they were

tied into the existing survey and levelled as one database, while maintaining original measurements from the previous survey. The final magnetic correction involved the application of micro-levelling. This directional filtering technique is used to remove any persistent, low-amplitude component of line-to-line noise remaining after tie-line levelling. The residual magnetic field has the IGRF calculated and removed from the final levelled total magnetic intensity.



## 4.3 EM-VLF Processing

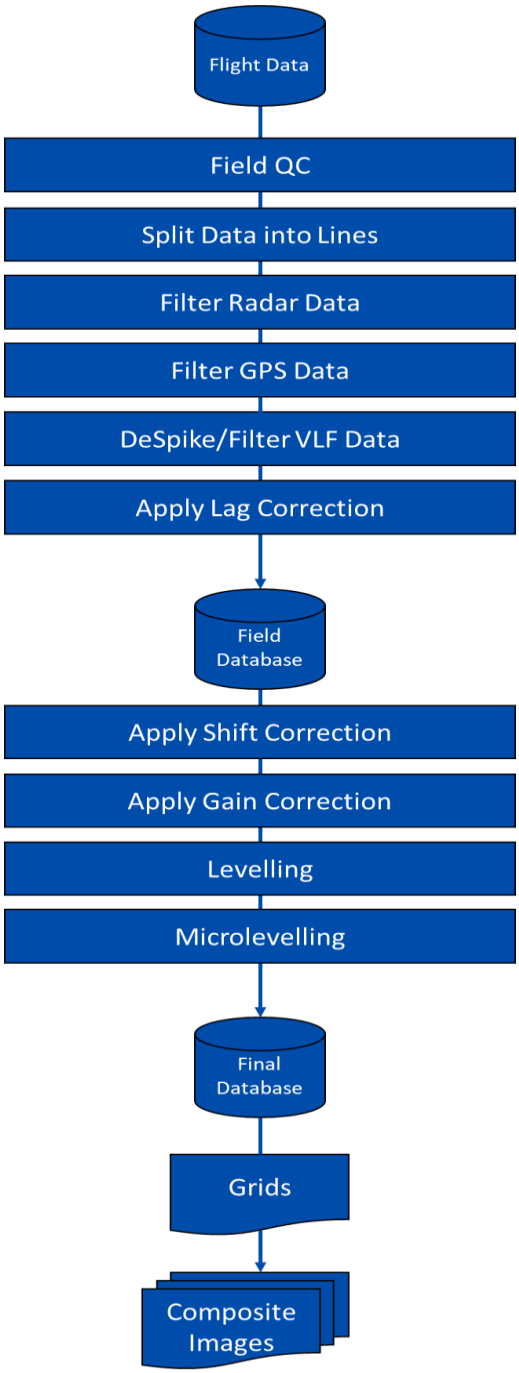
The data quality recorded during flight was checked for noise by applying the fourth difference on the raw VLF data for the in-phase and quadrature channels for both the line and ortho receivers. The fourth difference (4D) is defined as:

$$4D(V_i) = V_{(i+2)} - 4V_{(i+1)} + 6V_{(i)} - 4V_{(i-1)} + V_{(i-2)}$$

Where (Vi) is the $i^{th}$ value of the VLF channel. Profile visualization of the fourth difference enabled the monitoring of the VLF receiver's performance and noise level. In addition, noise levels were compared on a line-by-line basis to determine any necessary reflights. Total primary field measurements for each VLF transmitter station gave an estimation of the expected signal-to-noise ratio.

Combining the grid and profile format allowed for the visual inspection of the data. The offset between the GPS navigational reference point and the VLF receiver position along the axis of the bird is calculated from the lag test (Appendix A).

Noise was then removed from all VLF channels using a non-linear de-spiking filter, followed by a short low-pass filter. To account for changes in transmitter strength with time and alternating line directions, the primary field was nulled on a line-by-line basis by removing a running average, calculated over a 600-point window, excluding extreme and outlying data for each of the de-spiked VLF channels. The data channels were then gain-corrected using a rolling standard deviation on a line-by-line basis to resolve any remaining field strength discrepancies. Finally, a Fraser filter is applied to the levelled VLF channels. A Fraser filter is a type of convolution filter, which targets the cross-over points where the VLF signal transitions from positive to negative or vice versa, to better identify conductors. A 5-point negative Fraser filter was applied to the in-phase channels for both the line and ortho transmitters.


Flight Data
Field QC
Split Data into Lines
Filter Radar Data
Filter GPS Data
DeSpike/Filter VLF Data
Apply Lag Correction
Field Database
Apply Shift Correction
Apply Gain Correction
Levelling
Microlevelling
Final Database
Grids
Composite Images

# 5 SURVEY PRODUCTS

The final archive of the digital database is in Oasis Montaj format. All maps are created using the following parameters:

| | |
|---|---|
| Datum: | NAD83 |
| Ellipsoid: | GRS 1980 |
| Projection: | UTM Zone : 17N |
| Central Meridian: | 81° W |
| False Easting: | 500000 |
| False Northing: | 0 |
| Scale Factor: | 0.9996 |
| Local datum transform: | [NAD83] World |
| Scale: | 1:15,000 |

All grids are delivered in both Oasis Montaj and PDF formats.

| Map Archive File Description | | |
|---|---|---|
| **Map File name** | **Description** | **Unit** |
| Duparquet_TMI | Total Magnetic Intensity | nT |
| Duparquet_RMI_RTP | Enhanced Residual Magnetic Intensity Reduced to the Pole | nT |
| Duparquet_RMI_RTP_VD1 | First Vertical Derivative of the eResidual Magnetic Intensity Reduced to the Pole | nT/m |
| Duparquet_RMI_RTP_AS | Analytic Signal of the eResidual Magnetic Intensity Reduced to the Pole | nT/m |
| Duparquet_RMI_RTP_TDR | Tilt Derivative of the eResidual Magnetic Intensity Reduced to the Pole | nT/m |
| Duparquet_RMI_RTP_HGM | Horizontal Gradient Magnitude of the eResidual Magnetic Intensity Reduced to the Pole | nT/m |
| Duparquet_MHG | Measured Horizontal Magnetic Gradient | nT/m |
| Duparquet_MVG | Measured Vertical Magnetic Gradient | nT/m |

| Map Archive File Description | | |
|---|---|---|
| Duparquet_MLG | Measured Line Magnetic Gradient | nT/m |
| RTP-VD1-VD2 | Ternary Image | |
| VD1-VD2-VD3 | Ternary Image | |
| MVG-MHG-MLG | Ternary Image | |
| RTP-AS-VD1 | Ternary Image | |
| VD1-TDR-HGM | Ternary Image | |
| RTP-AS-VIAS | Ternary Image | |
| IN-PHASE | Composite Image of Line and Ortho In-Phase Response | |
| OUT-OF-PHASE | Composite Image of Line and Ortho Out-of-Phase Response | |
| Line_IP | Profile Map of In-Phase Component of the Line Transmitter | |
| Line_OP | Profile Map of Out-of-Phase Component of the Line Transmitter | |
| Ortho_IP | Profile Map of In-Phase Component of the Ortho Transmitter | |
| Ortho_OP | Profile Map of Out-of-Phase Component of the Ortho Transmitter | |

All grids are delivered in both Oasis Montaj and GeoTIFF formats. The grid cell size is 9 m.

| Grid Archive File Description | | |
|---|---|---|
| **Grid File name** | **Description** | **Unit** |
| Duparquet_TMI | Total Magnetic Intensity | nT |
| Duparquet _RMI | Residual Magnetic Intensity | nT |
| Duparquet _eRMI | Enhanced Residual Magnetic Intensity | nT |
| Duparquet _RMI_RTP | eResidual Magnetic Intensity Reduced to the Pole | nT |
| Duparquet _RMI_RTP_VD1 | First Vertical Derivative of eResidual Magnetic Intensity Reduced to the Pole | nT/m |

| Grid Archive File Description | | |
|---|---|---|
| Duparquet _RMI_RTP_AS | Analytic Signal of eResidual Magnetic Intensity Reduced to the Pole | nT/m |
| Duparquet_MHG | Measured Horizontal Magnetic Gradient | nT/m |
| Duparquet_MVG | Measured Vertical Magnetic Gradient | nT/m |
| Duparquet_MLG | Measured Line Magnetic Gradient | nT/m |
| Duparquet_RMI_RTP_AGC | Automatic Gain Control | |
| Duparquet_RMI_RTP_HGM | Horizontal Gradient Magnitude | |
| Duparquet_RMI_RTP_AS_VD1 | First Vertical Derivative of Analytical Signal | |
| Duparquet_RMI_RTP_HP | High-Pass Filtered | |
| Duparquet_ RMI_RTP_HP_TDR | Tilt Derivative of High-Pass Filtered | |
| Duparquet_ RMI_RTP_PSG | PseudoGravity | |
| Duparquet_ RMI_RTP_PSG_HGM | Horizontal Gradient Magnitude of PseudoGravity | |
| Duparquet_ RMI_RTP_PSG_TDR | Tilt Derivative of PseudoGravity | |
| Duparquet_RMI_RTP_TDR | Tilt Derivative | |
| Duparquet_RMI_RTP_THDR | Horizontal Tilt Derivative | |
| Duparquet_RMI_RTP_UC025 | Upward Continued 25m | |
| Duparquet_RMI_RTP_UC050 | Upward Continued 50m | |
| Duparquet_RMI_RTP_UC100 | Upward Continued 100m | |
| Duparquet_RMI_RTP_UC250 | Upward Continued 250m | |
| Duparquet_RMI_RTP_VD2 | Second Vertical Derivative | |
| Duparquet_RMI_RTP_VD3 | Third Vertical Derivative | |

| Grid Archive File Description | | |
|---|---|---|
| Duparquet_RMI_RTP_VIAS | Vertical Integral of Analytic Signal | |
| Duparquet_RMI_RTP_LP | Low-Pass Filtered | |
| Duparquet_RMI_RTP_LP_TDR | Tilt Derivative of Low-Pass Filtered | |
| Duparquet_RMI_RTP_VI | Vertical Integral | |
| Duparquet_IP_Line.grd | In-Phase Line Response | % |
| Duparquet_IP_Line_FF.grd | In-Phase Line Response Fraser Filtered | % |
| Duparquet_OP_Line.grd | Out-of-Phase Line Response | % |
| Duparquet_OP_Line_FF.grd | Out-of-Phase Line Response Fraser Filtered | % |
| Duparquet_IP_Ortho.grd | In-Phase Ortho Response | % |
| Duparquet_IP_Ortho_FF.grd | In-Phase Ortho Response Fraser Filtered | % |
| Duparquet_OP_Ortho.grd | Out-of-Phase Ortho Response | % |
| Duparquet_OP_Ortho_FF.grd | Out-of-Phase Ortho Response Fraser Filtered | % |

# 6 CONCLUSION

A high-resolution helicopter-borne survey over the **Duparquet** property in Québec has been flown by **ALS GoldSpot Discoveries Ltd.** on behalf of **First Mining Gold.** The acquisition started on 4/18/2024 and ended on 4/24/2024.

A total of 1262.4 line kilometres of data were acquired and were confirmed to be within planned survey specifications. The speed of the aircraft remained consistently at an average of 30 metres per second and the height of the bird was maintained at approximately 40 metres above ground level.

Both the airborne and the ground magnetic data recordings were of good quality. The noise envelope derived from the fourth difference of the magnetic trace was well within the acceptable limits. The diurnal variation remained relatively quiet during the acquisition period. The EM-VLF receivers received relatively constant total field from the VLF transmitters and the fourth differences from line-to-line were within acceptable limits.
It is hoped that the content of this report and the results of the deliverable products will assist in the interpretation and the planning phases of subsequent mineral exploration targets.

Respectfully Submitted,

B M Sharp
7 August 2024

Brenda Sharp

M.Sc., Ordre des géologues du Québec

Permis no. 10322

*APPENDIX A*

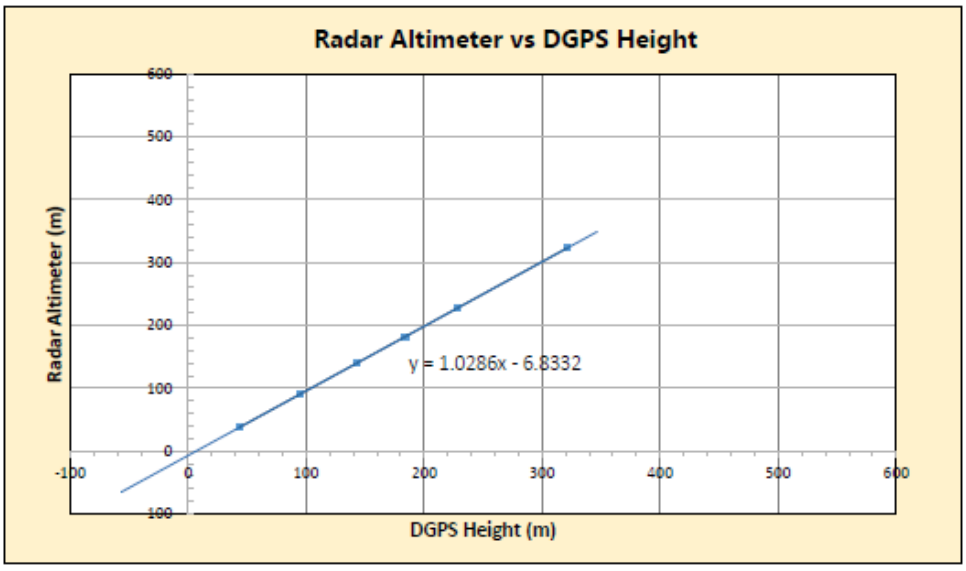
# PRESURVEY SYSTEM TESTS

# RADAR ALTIMETER TEST

Location: Rouyn-Noranda, QC
Pilot: Caton Garvie
Operator: ECHO Helicopters
Compiled by: Derek Kouhi

Date: 24-May-24
Aircraft: C-FNSR
GPS antenna height relative to radar (m): 0.00

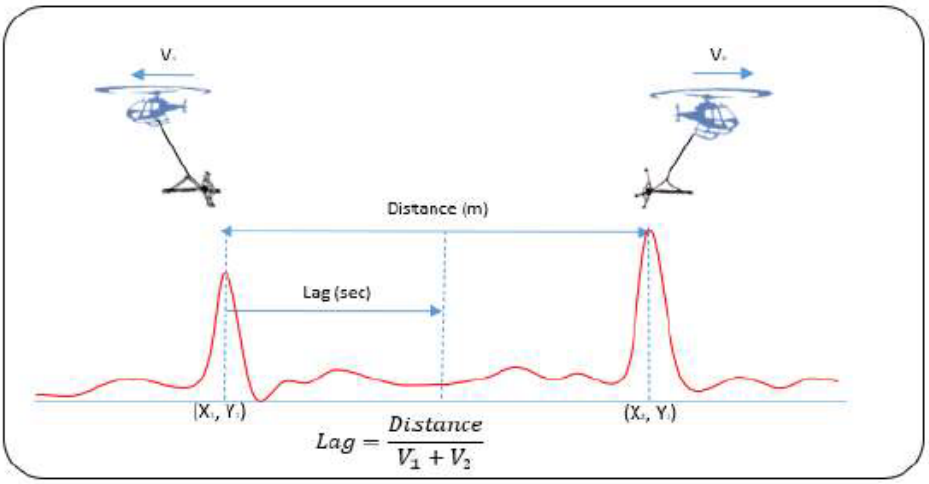
| Planned Bird Height (m) | Bird Radar raw (m) | Bird Zgps (m) | Runway Average Elevation (m) | DGPS Height (m) | Error (m) |
|---|---|---|---|---|---|
| 53 | 38.77 | 341.63 | 298.35 | 43.28 | -4.51 |
| 103 | 90.40 | 391.91 | 296.72 | 95.19 | -4.79 |
| 153 | 140.05 | 441.02 | 298.18 | 142.84 | -2.79 |
| 203 | 181.26 | 481.73 | 297.57 | 184.16 | -2.90 |
| 260 | 227.97 | 526.23 | 298.35 | 227.88 | 0.09 |
| 353 | 324.25 | 618.33 | 296.96 | 321.37 | 2.88 |



# SYSTEM LAG TEST

**Location:** Rouyn-Noranda, QC
**Pilot:** Caton Garvie
**Operator:** ECHO Helicopters
**Compiled by:** Derek Kouhi

**Date:** 2024-04-24
**Aircraft** AS350-B2 / C-FNSR
**Configuration:** M-PASS
**Lag summary:** +0.2 sec




| Pass #1 Heading | Fiducial (sec) | x (m) | y (m) | z (m) | mag1 (nT) | vx (m/s) | vy (m/s) | Speed (m/s) |
|---|---|---|---|---|---|---|---|---|
| A) North | 69798.00 | 659871.60 | 5342875.63 | 329.72 | 57408.600 | -1.19 | 34.85 | 34.87 |
| B) South | 69850.00 | 659871.27 | 5342890.63 | 325.96 | 57595.601 | -0.83 | -29.91 | 29.92 |
| | | | | | | | **Ave Speed =** | **32.40 m/s** |
| | | | | | | | **Distance =** | **15.00 m** |
| | | | | | | | **Top mag sensor lag =** | **+0.23 sec** |

| Pass#2 Heading | Fiducial (sec) | x (m) | y (m) | z (m) | mag1 (nT) | vx (m/s) | vy (m/s) | Speed (m/s) |
|---|---|---|---|---|---|---|---|---|
| A) North | 69908.60 | 659867.37 | 5342876.49 | 324.49 | 57897.993 | -0.79 | 40.16 | 40.17 |
| B) South | 69963.10 | 659874.52 | 5342889.68 | 322.80 | 57860.206 | 0.73 | -32.40 | 32.41 |
| | | | | | | | **Ave Speed =** | **36.29 m/s** |
| | | | | | | | **Distance =** | **15.00 m** |
| | | | | | | | **Top mag sensor lag =** | **+0.21 sec** |

# MAG HEADING TEST

**Client:** First Mining Gold Corp. **Date:** 2024-04-24
**Pilot:** Caton Garvie **Location:** Rouyn-Noranda, QC
**Operator:** ECHO Helicopters **Aircraft:** AS350-B2 / C-FNSR
**Compiled by:** Derek Kouhi **Configuration:** Trixial Magnetics

base mag average = 54866 nT

| | Line # | Heading | Fiducial (sec) | x (m) | y (m) | z (m) | mag1sl (nT) | mag2sl (nT) | mag3sl (nT) | basemag (nT) |
|---|---|---|---|---|---|---|---|---|---|---|
| Pass1 | 100 | North | 54867.2 | 665999.57 | 5337496.55 | 357.25 | 54862.610 | 54861.627 | 54863.137 | 54868.100 |
| | 200 | South | 54869.5 | 666002.69 | 5337496.63 | 353 | 54862.277 | 54862.185 | 54861.904 | 54867.200 |
| | 300 | East | 54867.7 | 665998.69 | 5337506.02 | 354.89 | 54864.007 | 54863.507 | 54863.730 | 54868.400 |
| | 400 | West | 54867.7 | 666000.03 | 5337491.97 | 346.28 | 54860.323 | 54859.183 | 54860.504 | 54867.700 |
| Pass2 | 101 | North | 54868.5 | 666000.14 | 5337495.46 | 351.29 | 54863.117 | 54862.974 | 54862.625 | 54869.100 |
| | 201 | South | 54868.1 | 665995.49 | 5337496.37 | 353.35 | 54861.339 | 54860.146 | 54861.537 | 54868.500 |
| | 301 | East | 54868.8 | 665998.83 | 5337495.65 | 352.77 | 54863.271 | 54862.840 | 54862.862 | 54869.500 |
| | 401 | West | 54868.4 | 665999.15 | 5337497.34 | 354.19 | 54862.701 | 54861.765 | 54863.061 | 54868.800 |

| | Line # | Heading | Fiducial (sec) | x (m) | y (m) | z (m) | mag1bc (nT) | mag2bc (nT) | mag3bc (nT) |
|---|---|---|---|---|---|---|---|---|---|
| Pass1 | 100 | North | 54867.2 | 665999.57 | 5337496.55 | 357.25 | 54860.510 | 54859.527 | 54861.037 |
| | 200 | South | 54869.5 | 666002.69 | 5337496.63 | 353 | 54861.077 | 54860.985 | 54860.704 |
| | 300 | East | 54867.7 | 665998.69 | 5337506.02 | 354.89 | 54861.607 | 54861.107 | 54861.330 |
| | 400 | West | 54867.7 | 666000.03 | 5337491.97 | 346.28 | 54858.623 | 54857.483 | 54858.804 |
| Pass2 | 101 | North | 54868.5 | 666000.14 | 5337495.46 | 351.29 | 54860.017 | 54859.874 | 54859.525 |
| | 201 | South | 54868.1 | 665995.49 | 5337496.37 | 353.35 | 54858.839 | 54857.646 | 54859.037 |
| | 301 | East | 54868.8 | 665998.83 | 5337495.65 | 352.77 | 54859.771 | 54859.340 | 54859.362 |
| | 401 | West | 54868.4 | 665999.15 | 5337497.34 | 354.19 | 54859.901 | 54858.965 | 54860.261 |
| | | | | | | Average North= | 54860.264 | 54859.701 | 54860.281 |
| | | | | | | Average South= | 54859.958 | 54859.316 | 54859.870 |
| | | | | | | Average East= | 54860.689 | 54860.224 | 54860.346 |
| | | | | | | Average West= | 54859.262 | 54858.224 | 54859.533 |

| RESULTS: | mag1 | | | mag2 | | | mag3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Average N-S difference (nT) | Average E-W difference (nT) | Mean orthogonal difference (nT) | Average N-S difference (nT) | Average E-W difference (nT) | Mean orthogonal difference (nT) | Average N-S difference (nT) | Average E-W difference (nT) | Mean orthogonal difference (nT) |
| | 0.306 | | 1.121 | 0.385 | | 1.614 | 0.410 | | 0.403 |
| | | 1.427 | | | 2.000 | | | 0.81 | |

*APPENDIX B*

# PROFILE DATABASE ARCHIVE CHANNEL DEFINITIONS

# Line Channel Description

| Channel | Description | Sampling | Unit | Format |
|---|---|---|---|---|
| **General Channels** | | | | |
| UTC | UTC time used as fiducial | 10Hz | seconds after midnight | d10.1 |
| date | Flight date | 10Hz | yyyy/mm/dd | d10.0 |
| flt | Flight number | 10Hz | | d5.0 |
| line | Line number | 10Hz | | d10.0 |
| AC | Aircraft registration name | | | s10.0 |
| x_WGS84 | Raw GPS x-coordinate (Easting)- UTM, WGS84, Zone 17N | 10Hz | metres | d12.2 |
| y_WGS84 | Raw GPS y-coordinate (Northing)- UTM, WGS84, Zone 17N | 10Hz | metres | d12.2 |
| lon_Nad83 | Longitude NAD83, EPSG:4617 | 10Hz | decimal degrees | d15.6 |
| lat_Nad83 | Latitude NAD83, EPSG:4617 | 10Hz | decimal degrees | d15.6 |
| x_Nad83 | GPS x-coordinate (Easting)- UTM, NAD83, Zone 17N | 10Hz | metres | d12.2 |
| y_Nad83 | GPS y-coordinate (Northing)- UTM, NAD83, Zone 17N | 10Hz | metres | d12.2 |
| z | GPS elevation – orthometric (above MSL) | 10Hz | metres | d10.2 |
| raltlc | Bird radar altimeter | 10Hz | metres | d10.2 |
| DTMc | Digital Terrain Model | 10Hz | metres | d10.2 |
| IMUpitch | Pitch | 10 Hz | degrees | d10.3 |
| IMUroll | Roll | 10 Hz | degrees | d10.3 |
| IMUyaw | Yaw | 10 Hz | degrees | d10.3 |
| **Magnetic Channels** | | | | |
| basea | Base A diurnal data (main base used in the correction, average = 54866 nT) | 10Hz | nanoteslas | d10.3 |
| baseb | Base B diurnal data | 10Hz | nanoteslas | d10.3 |
| mag1s | Raw Top Sensor Total Magnetic Intensity (TMI) | 10Hz | nanoteslas | d10.3 |
| mag1slc | Lagged Top Sensor TMI | 10Hz | nanoteslas | d10.3 |
| mag1bc | Base Mag Corrected Top Sensor TMI | 10Hz | nanoteslas | d10.3 |
| mag1lvl | Tie Leveled Top Sensor TMI | 10Hz | nanoteslas | d10.3 |
| mag1micro | Micro-leveled Top sensor TMI | 10Hz | nanoteslas | d12.3 |
| mag1res | Residual Magnetic Intensity (IGRF removed from mag1micro) | 10Hz | nanoteslas | d10.3 |
| mag2s | Raw Left Sensor Total Magnetic Intensity (TMI) | 10Hz | nanoteslas | d10.3 |
| mag2slc | Lagged Left Sensor TMI | 10Hz | nanoteslas | d10.3 |

| | | | | |
|---|---|---|---|---|
| mag2bc | Base Mag Corrected Left Sensor TMI | 10Hz | nanoteslas | d10.3 |
| mag2lvl | Tie Leveled Left Sensor TMI | 10Hz | nanoteslas | d10.3 |
| mag2micro | Micro-leveled Left sensor TMI | 10Hz | nanoteslas | d12.3 |
| mag2res | Residual Magnetic Intensity (IGRF removed from mag2micro) | 10Hz | nanoteslas | d10.3 |
| mag3s | Raw Right Sensor Total Magnetic Intensity (TMI) | 10Hz | nanoteslas | d10.3 |
| mag3slc | Lagged Right Sensor TMI | 10Hz | nanoteslas | d10.3 |
| mag3bc | Base Mag Corrected Right Sensor TMI | 10Hz | nanoteslas | d10.3 |
| mag3lvl | Tie Leveled Right Sensor TMI | 10Hz | nanoteslas | d10.3 |
| mag3micro | Micro-leveled Right sensor TMI | 10Hz | nanoteslas | d12.3 |
| mag3res | Residual Magnetic Intensity (IGRF removed from mag3micro) | 10Hz | nanoteslas | d10.3 |
| IGRF | International Geo-Referenced Field (2020 model) | 10Hz | nanoteslas | d10.3 |
| Declination | Magnetic Declination | 10Hz | decimal degrees | d15.3 |
| Inclination | Magnetic Inclination | 10Hz | decimal degrees | d15.3 |
| MHG | Measured Horizontal Gradient | 10Hz | nanoteslas/m | d10.3 |
| MVG | Measured Vertical Gradient | 10Hz | nanoteslas/m | d10.3 |
| MLG | Measured Line Gradient | 10Hz | nanoteslas/m | d10.3 |
| VLF1_kHz | Frequency of VLF Transmitter 1 | 10 Hz | kHz | d10.1 |
| VLF1_pT | Total Field Strength of VLF Transmitter 1 | 10 Hz | pT | d10.2 |
| VLF1_IP | In-Phase Component of VLF1 | 10 Hz | % | d10.1 |
| VLF1_OP | Out-of-Phase Component of VLF1 | 10 Hz | % | d10.1 |
| VLF1_IPlvl | Levelled In-Phase Component of VLF1 | 10 Hz | % | d10.3 |
| VLF1_OPlvl | Levelled Out-of-Phase Component of VLF1 | 10 Hz | % | d10.3 |
| VLF1_IP_FF | Levelled Fraser-Filtered In-Phase Component of VLF1 | 10 Hz | % | d10.3 |
| VLF1_OP_FF | Levelled Fraser-Filtered Out-of-Phase Component of VLF1 | 10 Hz | % | d10.3 |
| VLF2_kHz | Frequency of VLF Transmitter 2 | 10 Hz | kHz | d10.1 |

| | | | | |
|---|---|---|---|---|
| VLF2_pT | Total Field Strength of VLF Transmitter 2 | 10 Hz | pT | d10.2 |
| VLF2_IP | In-Phase Component of VLF2 | 10 Hz | % | d10.1 |
| VLF2_OP | Out-of-Phase Component of VLF2 | 10 Hz | % | d10.1 |
| VLF2_IPlvl | Levelled In-Phase Component of VLF2 | 10 Hz | % | d10.3 |
| VLF2_OPlvl | Levelled Out-of-Phase Component of VLF2 | 10 Hz | % | d10.3 |
| VLF2_IP_FF | Levelled Fraser-Filtered In-Phase Component of VLF2 | 10 Hz | % | d10.3 |
| VLF2_OP_FF | Levelled Fraser-Filtered Out-of-Phase Component of VLF2 | 10 Hz | % | d10.3 |

*APPENDIX C*

# FINAL DIGITAL MAPS