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BC Geological Survey

BC Geological Survey Assessment Report 40516

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Technical - Airborne Geophysics, Geological

TOTAL COST: $50,700

AUTHOR(S): Cameron J. Dorsey

SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): not required to date

YEAR OF WORK: 2021

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):

PROPERTY NAME: Eagle Mountain Property

CLAIM NAME(S) (on which the work was done): Eagle 1 (1083380), Eagle 2 (1083381), Eagle 3 (1083382), Eagle 4 (1083383), Dalton 1 (1083384), Dalton 2 (1083385)

COMMODITIES SOUGHT: Gold

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:

MINING DIVISION: Liard

NTS/BCGS: BCGS 104P003, 104P004, 104I093

LATITUDE: 59 ° 3 ' 18 " **LONGITUDE:** 129 ° 26 ' 53 " **(at centre of work)**

OWNER(S):
1) Golden Sky Minerals Corp.
2)

MAILING ADDRESS:
1897 10 Ave West, Vancouver BC, V6J 2A8

OPERATOR(S) [who paid for the work]:
1) Golden Sky Minerals Corp.
2)

MAILING ADDRESS:
Same as above

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Slide Mountain Terrane, Sylvester Allochthon, basalt, chert, argillite, quartzite, ultramafics, early Mississipian to Late Triassic, stacked faults, low-sulphide gold-bearing quartz veins, hydrothermal

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 12218, 12495, 15150, 15839

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TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne	438 km Magnetic, VLF-EM, Radiometric	1083380, 1083381, 1083382, 1083383, 1083385	44,100
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other	Preparation, Analysis, Compilation, Report Writi	1083380, 1083381, 1083382, 1083383, 1083385	$6600
		TOTAL COST:	$50,700

ASSESSMENT REPORT

for 2021 AIRBORNE GEOPHYSICAL SURVEY on the

EAGLE MOUNTAIN PROPERTY

LIARD MINING DIVISION, BC

BCGS MAPSHEET 104P/I

Exploration on MTO claims: 1083380, 1083381, 1083382, 1083383, 1083385

Work filed on: 1083380, 1083381, 1083382, 1083383, 1083384, 1083385

BCGS: 104P003/104P004/104I093

UTM ZONE: 9

NORTHING: 6546312

EASTING: 473767

OWNER: Golden Sky Minerals Corp.

OPERATOR: Golden Sky Minerals Corp.

CONSULTANTS: Precision GeoSurveys Inc.

AUTHOR: Cameron Dorsey

DATE: September 30th, 2022

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1.0 SUMMARY

A 2-day airborne geophysical survey was performed on the Eagle Mountain Property ("Property") from September 2nd to September 3rd, 2021 by Precision GeoSurveys Inc. The Property is owned and operated by Golden Sky Minerals Corp. ("Golden Sky"). The Property consists of 6 MTO mineral claims.

Exploration work was carried out on 1083380, 1083381, 1083382, 1083383, 1083385 MTO mineral claims. For assessment purposes, work done has been filed on the entire contiguous group of 6 MTO claims ("Assessment Property"; Table 1).

The Eagle Mountain Property is located within the Liard Mining Division, approximately 75 kilometers north-northeast of the town of Dease Lake, British Columbia (Figure 2). Access to the property is by helicopter from a cleared staging area adjacent to Highway 37, located 15 kilometers west of the property. The closest helicopter base is in Dease Lake, British Columbia. The Eagle Mountain Project is located in a prolific past-producing gold district, which hosts Cassiar Gold Corp's neighboring Cassiar Project covering the Taurus Deposit, with an inferred resource of about 1 M oz at 1.43 g/t Au (see website, Cassiar Gold Corp). The property encompasses a similar geological setting to the Cassiar Project and other orogenic gold camps in British Columbia, such as the Cariboo and Bralorne gold camps.

The Eagle Mountain Property overlies mafic volcanic and sedimentary strata belonging to the Sylvester Allochthon of the Slide Mountain Terrane. This terrane was emplaced onto the autochthonous rocks of the Cassiar Terrane sometime between the Late Triassic and Mid-Cretaceous. Abundant thrust faulting is related to this accretion event, which is coincident with the development of orogen-parallel, transcurrent dextral faults. The Sylvester Allochthon is situated in the centre of the flat-bottomed McDame synclinorium, which developed during compression. The 400 km long, by 15-20 km wide, Cretaceous Cassiar Batholith intrudes the Cassiar terrane to the west-southwest of the property and is interpreted to have uplifted the region.

Documented mineral exploration on the Eagle Mountain Property is limited to 1983-1986, when prospecting, geological mapping, geophysical surveying, and drilling identified several auriferous quartz veins in the vicinity of stratigraphic contacts and topographic linear features. These features were later identified in drill core as highly sheared and/or fractured volcanic rocks. Geological structures were determined to be predominantly oriented northwest-southeast and east-west. Historic polymetallic quartz vein samples collected within the Eagle zone show a strong Au-Ag-As-Sb geochemical correlation, which

is similar to other mineralized quartz veins in orogenic gold camps. Gold has been documented on the property as being associated with quartz veins and semi-massive auriferous pyrite and base metal float.

In September, 2021, Golden Sky Minerals Corp. carried out an airborne magnetic, VLF-EM and radiometric survey covering a 39 km^2 (3900-hectare) block over the 100 km^2 Eagle Mountain Property (Figure 6). The survey was flown by Precision Geosurveys using helicopter-transported equipment on north-south flight lines spaced 100 m apart. The geophysical data proved effective at corroborating and extending many of the stratigraphic contacts and geological structures delineated by historic geological mapping in the 1980s. This further supports the interpretation that the project overlies a structurally complex corridor with several potential gold targets.

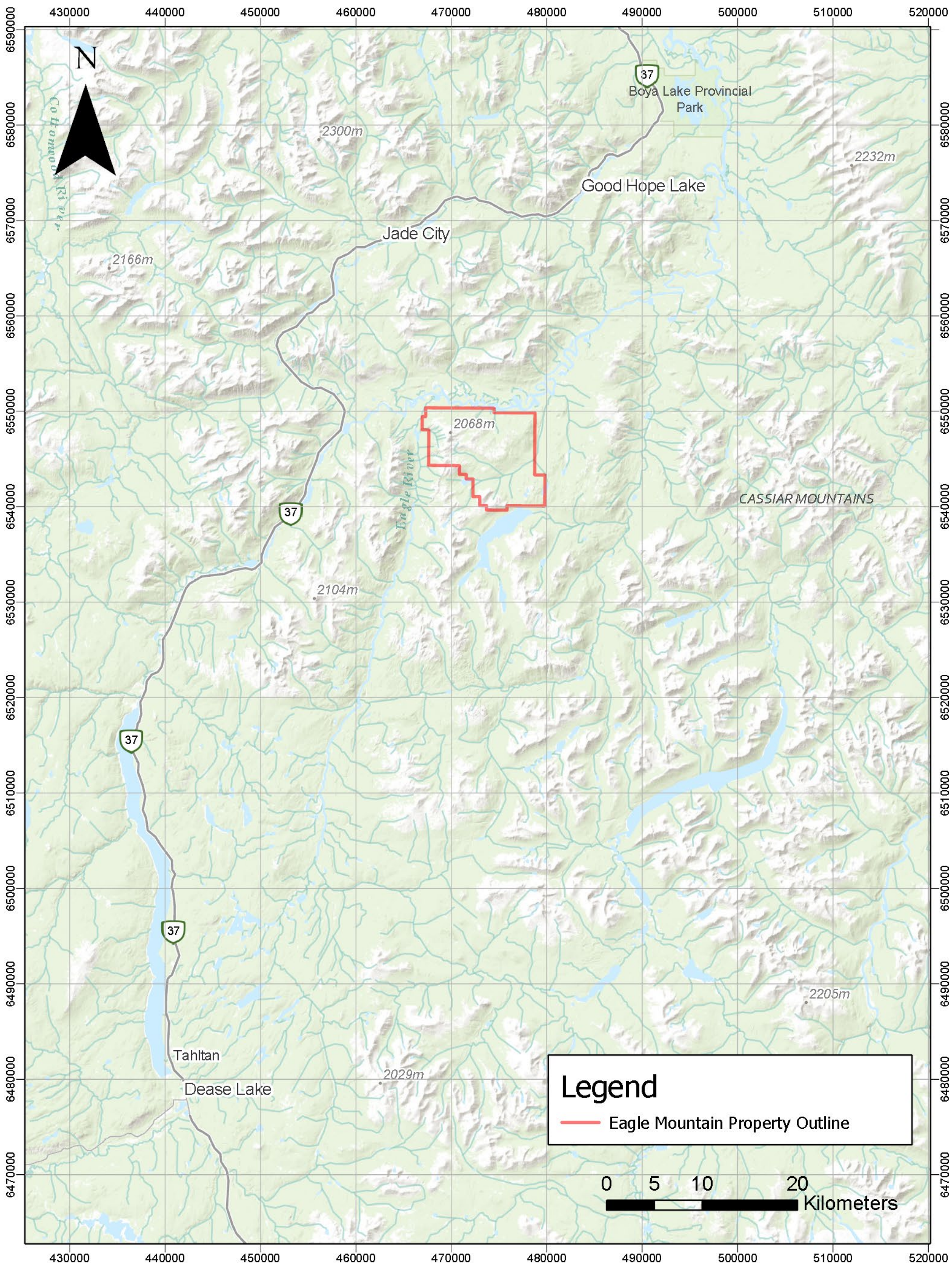

Figure 1 *Location map of the Eagle Mountain Property. Scale 1:500,000.*

2.0 INTRODUCTION

The Eagle Mountain Property is owned by Golden Sky Minerals Corp. Technical exploration work was conducted in 2021 to bring the claims into good standing. Cameron Dorsey, VP Exploration for Golden Sky Minerals is the principal author of this report.

Prior to any field work being conducted, Golden Sky initiated a property review and analysis to assist in the 2021 program. This included digitization of historic maps, drillholes, and samples to delineate the most prospective area to be the focus for the 2021 airborne geophysical survey. This work was then followed up by Precision GeoSurveys Inc of Langley, BC, from September 2nd to September 3rd, 2021.

3.0 LOCATION AND ACCESS

The Eagle Mountain Property is located within the Liard Mining Division, approximately 75 kilometers north-northeast of the town of Dease Lake, British Columbia (Figure 2). The coordinates for the center of the property are approximately UTM 6546312N, 473767E (Zone 9).

Access to the property is by helicopter from a cleared staging area adjacent to Highway 37, located 15 kilometers west of the property. The closest helicopter base is in Dease Lake, British Columbia.

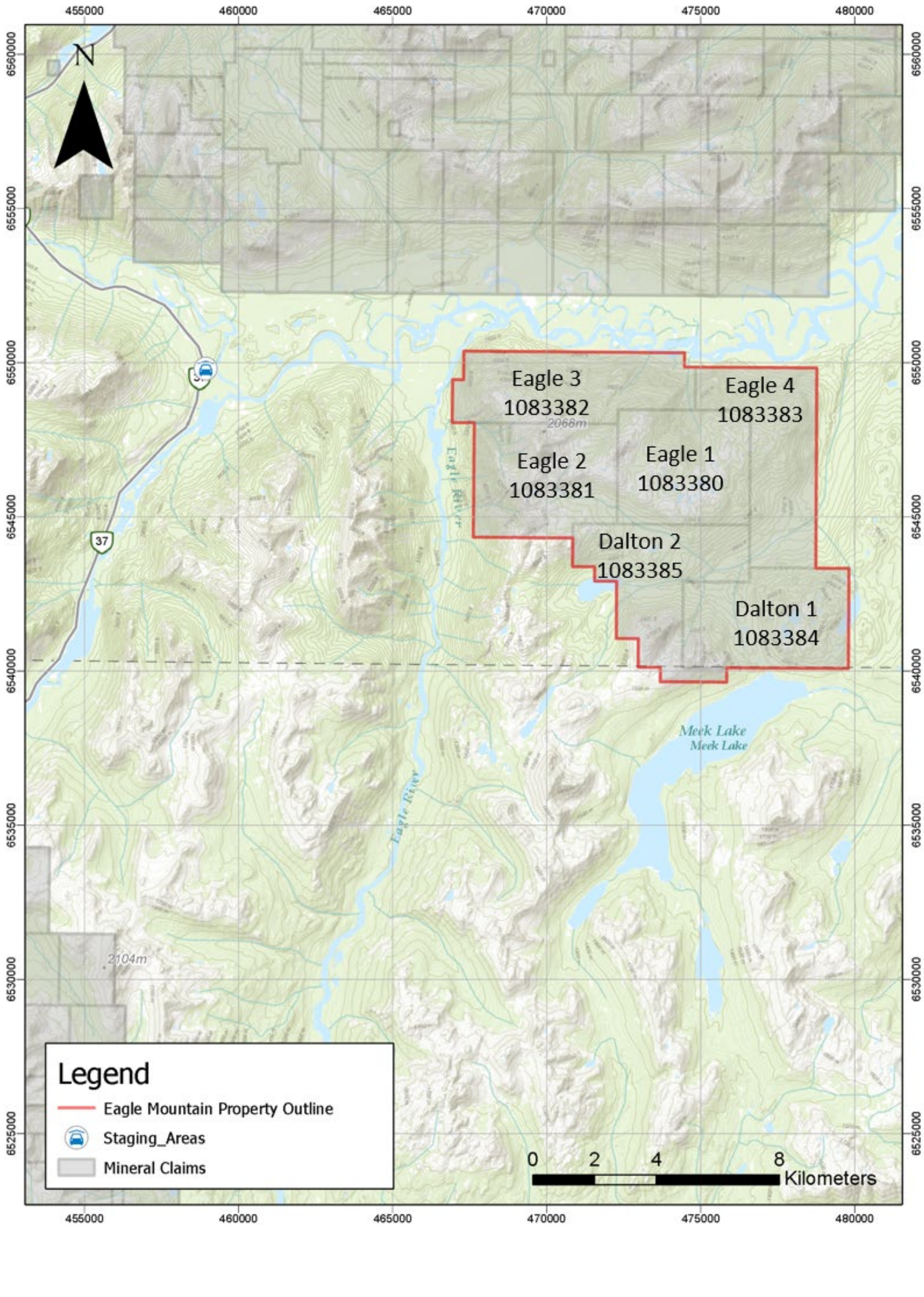

Figure 2 *Eagle Mountain Property location with staging ground outlined along Highway 37. The property is composed of 6 MTO claims that are outlined with title name and number. Scale is approx. 1:150,000.*

4.0 TOPOGRAPHY

The Eagle Mountain Property lies between 1300 metres and 2050 metres elevation but the bulk of the exploration is focused on an area of gently rolling plateau that is predominantly at 1550 metre elevation. The area is mostly above the tree line with scrubby timber along the edges of the plateau. There is poor drainage owing to the gently rolling topography of the plateau, which has resulted in numerous small ponds throughout the area. Much of the area is covered by a thin layer of glacial drift but rounded outcrops, subcrops, and felsenmeer are fairly common. There are prominent linear gullies throughout much of the area, which are thought to be structural faults or shears.

5.0 PROPERTY DESCRIPTION

The Property consists of 6 Mineral Title Online (MTO) mineral tenure, for a total of 9889.79 hectares ("ha"). The Assessment Property (mineral tenures for which assessment work was filed) consists of all tenures listed in Table 1. Location of the claims filed for assessment are outlined on Figure 2.

Table 1 Property Tenure Description

Tenure Number	Area (ha)	Filed for Assessment	Registered Owner	Good to Date*
1083380*	1597.92	Yes	Golden Sky Minerals Corp.	2023/JUL/23
1083381*	1664.68	Yes	Golden Sky Minerals Corp.	2023/JUL/23
1083382*	1663.38	Yes	Golden Sky Minerals Corp.	2023/JUL/23
1083383*	1647.71	Yes	Golden Sky Minerals Corp.	2023/JUL/23
1083384*	1649.98	Yes	Golden Sky Minerals Corp.	2023/JUL/23
1083385*	1666.12	Yes	Golden Sky Minerals Corp.	2023/JUL/23
Total	**9,889.79**			

*Expiry date is dependent on the acceptance of the reported work here-in

6.0 EXPLORATION HISTORY

No work on the claims is recorded before 1983.

1983	**Newmont Exploration of Canada Limited (AR12218)** First recorded claims and prospecting work. Claim group known as the Eagl claims were worked by J.C. Stephen Explorations Ltd but was funded by Newmont. A total of ~300 rock, soil and silt samples were collected and analyzed for gold, arsenic, and zinc geochemistry with only a few samples selected for silver analyses. In addition to prospecting, geological mapping was undertaken mostly along the plateau.
1984	**Newmont Exploration of Canada Limited (AR12495)** More systematic prospecting was conducted over known showings identified in 1983. Eight small hand trenches were blasted on the mineralized zones with a total of 81 rock samples collected from around the property. Several samples carried anomalous gold and silver values up to 0.072 oz/t gold with significant Sb, Pb, Zn, Cu, and As values. An EM-16 survey was conducted over the mineralized zones but the 50m station interval was determined to be too coarse to define anomalies associated with linear structures.
1986	**Casau Exploration Ltd. (AR15150 & 15839)** Transfer status of claims unknown but still recorded as the Eagl claim group. Work was conducted in two phases, with a 14.6 line-kilometer magnetometer and VLF-EM survey that was followed-up in phase 2 by a 6-hole, 376.2 metre diamond drilling program. Additional rock/soil sampling was also conducted but was limited in scope. The drilling confirmed that the linear structures are zones of highly fractured and sheared volcanics with variable carbonate alteration and rarely with minor sulphide mineralization. Low grade gold, silver, lead, and zinc mineralization was intersected within the structures with the highest grade of 0.08 oz/t Au and 16.3 oz/t Ag over 0.1-0.15m. It is unknown when the claims lapsed.
1987-Present	Over the decades the area was claimed several times with no further recorded work.

7.0 GEOLOGY

7.1 REGIONAL GEOLOGY

The Eagle Mountain Property is located within the Sylvester Allochthon of the Slide Mountain Terrane (Figure 3). This terrane was emplaced onto the autochthonous rocks of the Cassiar Terrane sometime between the Late Triassic and Mid-Cretaceous (Nelson and Bradford 1993). Abundant thrust faulting is related to this accretion event, which is coincident with the development of orogen-parallel, transcurrent dextral faults. The Sylvester Allochthon is situated in the centre of the flat-bottomed McDame synclinorium, which developed during this compressional regime (Nelson and Bradford 1993). The 400 km long, by 15-20 km wide, Cretaceous Cassiar Batholith intrudes the Cassiar terrane to the west-southwest of the property and is interpreted to have uplifted the region (Figure 3).

Thrusting along these fault systems resulted in the exposure of three stacked, structural-lithological divisions. The structurally lowest division (Division I) being composed of sub-greenschist facies pelagic and hemi-pelagic sediments with minor basalt. The middle division (Division II) is composed of interleaved basalt, diabase, and sedimentary packages with ultramafic-gabbro slivers. The sedimentary package is composed of graphitic argillite with minor interbedded siltstones, sandstones and chert. The structurally highest division (Division III) consists of a varied volcanic suite that ranges from arc-tholeite to calcalkaline affinity. Intermediate plutons, and interbedded limestones, cherts and tuffs are also common. These rocks range in age from early Mississipian to Late Triassic and represent an island-arc assemblage (Nelson and Bradford 1993). The structural top of Division II is composed of Upper Triassic Table Mountain sediments, which are below the basal thrust of Division III. Nelson and Bradford (1993) interpreted the sedimentary packages of Division I and Division II to be analogous, which would suggest a close facies relationship with the volume of basaltic magmatism being the key difference. Cretaceous-Eocene diabase and lamprophyre dikes intrude locally.

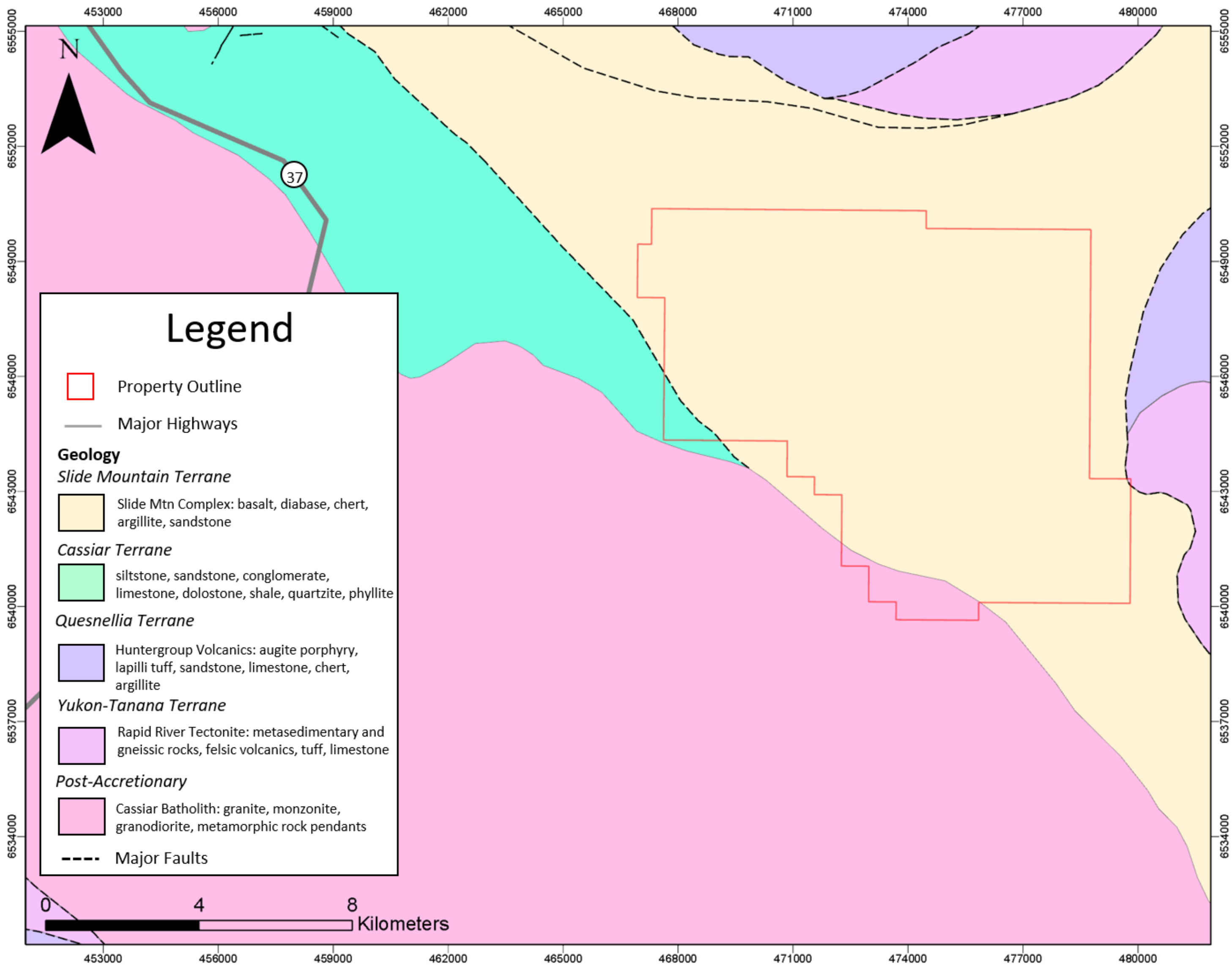

Figure 3 *Eagle Mountain Property outline with regional geology (MapPlace 2.0). UTM Zone 9, Liard Mining Division, BC. Scale approx. 1:120,000).*

Historical gold production occurred at the Taurus, Bain, Vollaug and Cusac mines, all located to the north-northwest of the Eagle Mountain Property (Figure 4). The character of mineralization observed in these past-producing mines provide an excellent model that could be applied to other analogous areas within the Slide Mountain Terrane, such as the Eagle Mountain Property. Mineralization at these mines primarily occurs in low-sulphide gold-bearing quartz veins hosted within basalt. These veins have well-defined alteration envelopes of quartz-sericite-iron carbonate that are relatively constrained about the vein. Shear veins, thrust-filling veins and extensional veins have all been documented with minor vein arrays and local breccia zones. Shear veins are the most gold enriched. A less common type of mineralization has been documented in the Taurus West Zone, where early, replacement-style mineralization resulted in the development of semi-massive to massive fine-grained auriferous pyrite.

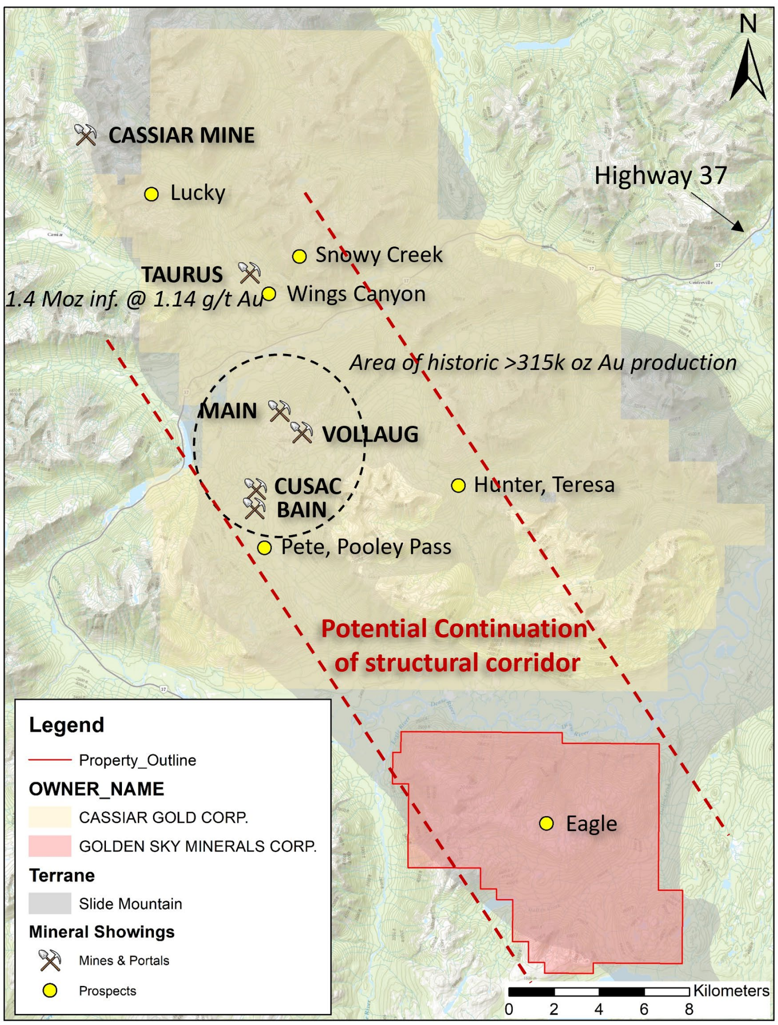

***Figure 4** Eagle Mountain Project located along a potential northwest-trending auriferous structural corridor analogous to mineralization observed at past-producing gold mines*

7.2 PROPERTY GEOLOGY

The Sylvester Allochthon underlies the Property and mapped outcrops consist of volcanic rocks (basalt and andesite), chert, argillite, slate, quartzite and rare ultramafics. Bedding was observed to vary, striking 120-160° and 35-50° dip. A weak foliation was also noted in outcrop with similar orientations. Though typically covered by overburden, linear depressions in the area are interpreted to represent lithological contacts and/or structural features such as faults/shears. These geological features vary in orientation and predominantly trend northwest, northeast, and east-west. Locally along these features, iron carbonate alteration and quartz veining with pyrite mineralization were documented in past assessment reports.

7.3 MINERALIZATION AND ALTERATION

Previous work conducted in 1983, 1984 and 1986 located two types of mineralization; low-sulphide gold-bearing quartz veins with associated iron carbonate alteration localized along strong linear structures, and semi-massive to massive sulphide float.

The semi-massive to massive sulphide float sample was mainly composed of pyrite, galena and sphalerite and was described as coarsely crystalline and appeared brecciated. It was not clear if this was local but frost-heaved black shale was observed nearby. Most quartz veins observed in outcrop and float are black coated drusy quartz veins that often contain minor pyrite, stibnite, sphalerite, galena, arsenopyrite and/or chalcopyrite and are closely associated with iron carbonate altered zones. Mineralization around Stibnite Lake appeared to be unique, as massive stibnite was associated with a drusy quartz vein with no alteration of the wallrock.

Historic drilling on the Project was limited to the West Ridge, Stibnite Lake and SE Lake zones, which in 1986 was the focus of a shallow BQ-core size drill program of 376.2 m in 6 holes (Figure 5; AR15839). Mineralization was demonstrated to be predominantly associated with stacked, moderately-dipping shears and/or fractures commencing <10 m downhole from surface. These structures were interpreted to be dipping to the north and/or to the northeast. Only 65.95 m of core from this drill program was sent for analysis, accounting for <18% of the total 376.2 m program. As such, intermittent sampling was done along the entire extent for the three reported holes (86-CUX-E-1, 86-CUX-E-2, 86-CUX-E-3). Hole 86-CUX-E-1 (1986) intersected low-grade mineralization commencing at ~15 m depth. This includes an intercept assaying 0.5 g/t Au and 35.87 g/t silver (Ag) over 2.4 m, in turn including a higher-grade zone assaying 2.27 g/t Au and 462 g/t Ag over 0.15 m. Though limited in scope, the drilling successfully demonstrated that precious metal mineralization is associated with linear shear zones on the property.

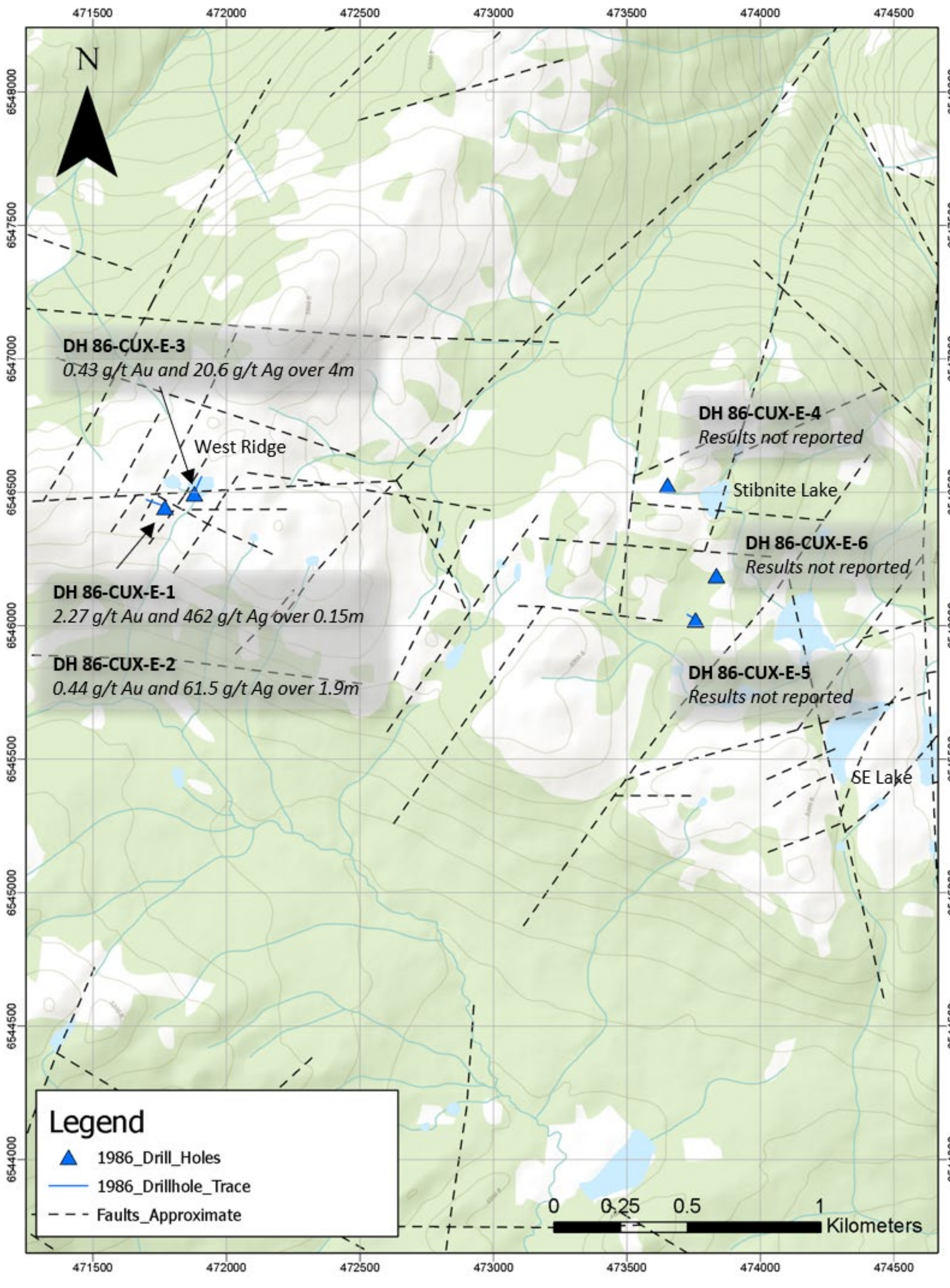

Figure 5 *Digitized historic diamond drilling at the West Ridge, Stibnite Lake and SE Lake Zones. Three of the six holes have unreported results. Approximate fault structures interpreted from historic data and from 2021 airborne geophysics.*

8.0 GEOPHYSICS

In September, 2021, Golden Sky Minerals Corp. carried out an airborne magnetic, VLF-EM and radiometric survey covering a 39 km^2 (3900-hectare) block over the 100 km^2 Eagle Mountain Property (Figure 6). The survey was flown by Precision Geosurveys using helicopter-transported equipment on north-south flight lines spaced 100 m apart. The report by Precision is included in its entirety in Appendix B of this report. The objective of the program was to define any magnetic anomalies related to structural/lithological changes and to test for other features indicative of massive sulphide deposits.

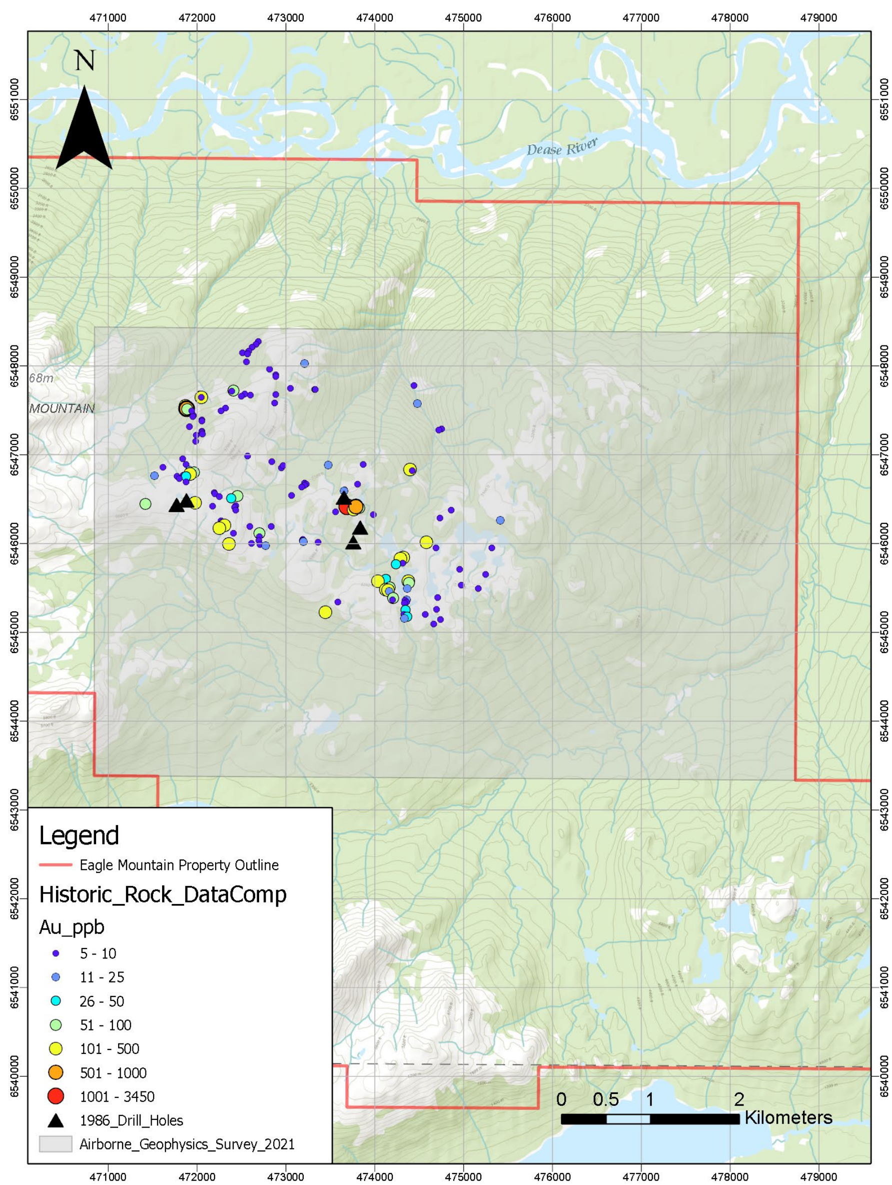

Figure 6 *2021 airborne geophysics survey block over digitized historic drill collars and historic gold (ppb) grab samples.*

Magnetic data obtained from Aeromagnetic surveys can prove useful in aiding geological mapping by outlining lithological changes, structures and alteration. Orogenic gold deposits are spatially and temporarily related to an accretionary event which can result in gold-bearing quartz veins developing within structural features such as faults, shears, or bedding planes. These prospective geological features can often be outlined by magnetic lows due to the alteration of magnetite in the host rock.

The 2021 airborne survey included measurement of natural radioactivity (gamma rays) from the radioelements uranium (U), thorium (Th), and potassium (K), emitted from surface rocks and soil. Changes in the concentration and ratios of these three radioelements may reflect major changes in lithology and in alteration, and can therefore be a useful method in reconnaissance exploration and geological mapping. In a potassic altered zone, the thorium content of the host rocks is often unchanged and zones with lower-than-normal Th/K values may be occurring due to the increased potassium content.

9.0 RESULTS

The 2021 airborne geophysics program on the Eagle Mountain Property was conducted over 2 days. This program was designed to support interpretation with historical fieldwork data but to also aid in the planning for future exploration programs.

9.1 Magnetics

Figure 7 is a plot of Calculated Vertical Gradient (CVG), or First Vertical Derivative, that is filtered to highlight the gradient of magnetic anomalies. This has the effect of emphasizing the strongest anomalies which could be due to structural or lithological changes in the bedrock. The 2021 survey outlined numerous linear magnetic lows or “breaks” within the magnetic anomalies, which likely outline structures and/or lithological contacts trending northwest, west-east, and northeast. Additionally, two large magnetic anomalies are present on the survey block; one located south-central and the other in the northeast section of the survey. The south-central magnetic response appears to have diffuse edges to the magnetic gradient, whereas the northeast magnetic response is defined by sharper edges to the magnetic gradient. This could be due to the dip of the geological structures (such as faults or bedding) or may be due to changes in host rock lithology.

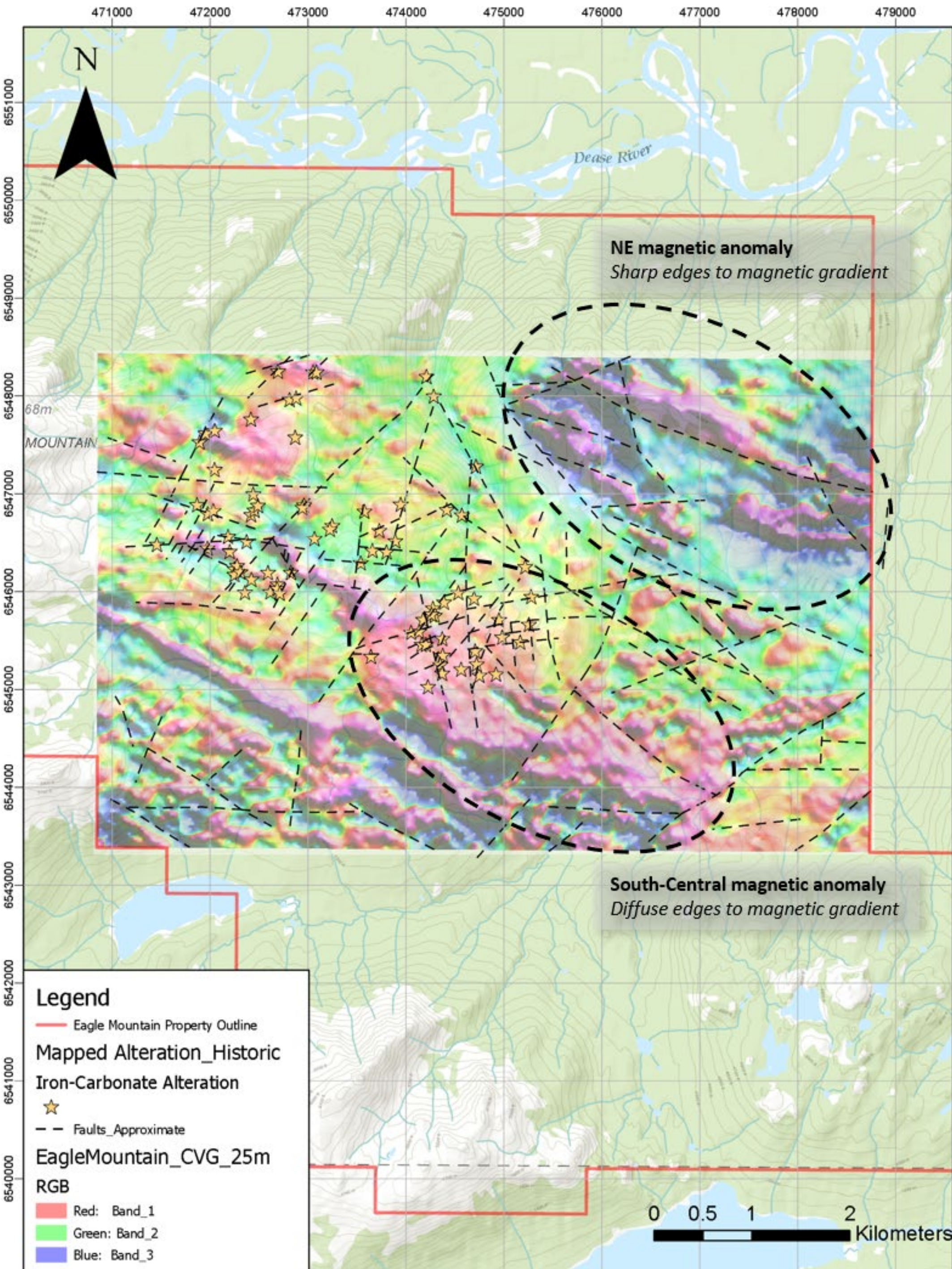

Figure 7 *Calculated Vertical Gradient from the 2021 geophysical survey outlining changes in magnetic gradient from south-central area to the northeast area.*

9.2 Radiometrics

Figure 8 is a Ternary Radioelement Image Map that is a graphic representation of the relative proportion of the radioelement concentrations of %K, eTh, and eU components in proportion to the respective colors blue (cyan), red (magenta), and yellow. Since each distinct color is used to represent each ternary ratio on the map, zones with similar ratios will be represented by a unique color. Dark and light colors indicate high and low values for all three radionuclides respectively (Precision Geophysics Report for Golden Sky, see Appendix B). Digitized historical data is projected onto the ternary plot and shows a close correlation between darker colors (high values for eTh and %K) and mapped zones of iron carbonate alteration and gold mineralization. This also correlates well with geologically mapped zones of mafic-sedimentary-ultramafic rock stratigraphy from 1983/1984 (AR12218 and AR 12495). Low values appear on the outer margins of the dark colored zones, often rimmed by yellow (eU), which could be masked due to low radioactivity, and therefore low signal to noise ratios. It is possible that the darker colored areas are due to more concentrated eTh and %K components, which could be attributed to the abundance of historically mapped interbeds of sedimentary rock in those areas. Mafic rocks typically have comparatively lower concentrations of eTh and %K.

As outlined in Section 7.1 of this report, Division II of the Sylvester Allochthon is composed of interleaved basalt, diabase, and sedimentary packages with ultramafic-gabbro slivers and is host to several gold deposits in the area. Historic geological mapping supported with 2021 radiometric geophysical data would suggest that a similar geological stratigraphy may exist at West Ridge, Stibnite Lake and SE Lake.

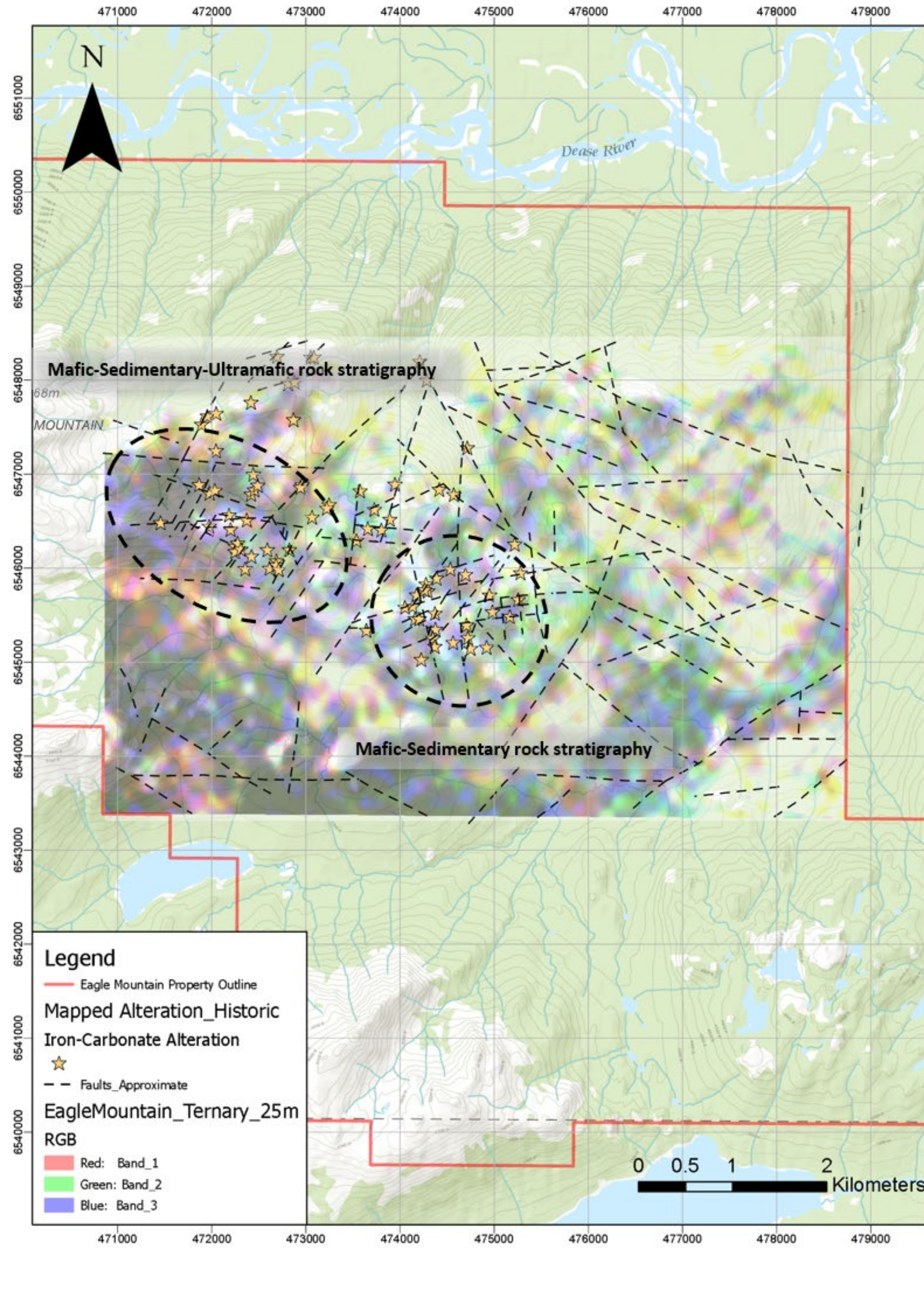

Figure 8 *Ternary radioelement image map from the 2021 geophysical survey outlining changes in radioelement concentrations overlying stratigraphy. Dashed areas are where the most detailed geological mapping was conducted in 1983/1984.*

10.0 DISCUSSION and CONCLUSIONS

Though limited in scope, the Eagle Mountain Property area has had some detailed work programs in 1983, 1984, and 1986. This included geological mapping, prospecting, trenching and diamond drilling, however, this work has been largely concentrated at the known mineral showings near Stibnite Lake, SE Lake, and the West Ridge zones.

The data collected from the 2021 airborne geophysical surveys proved effective at corroborating and extending many of the stratigraphic contacts and geological structures delineated by historic geological mapping in the 1980s. The dominant trends of the geological structures were to the northwest, west-east, and northeast, which is very similar to the orientations observed at the Taurus, Cusac, Bain, and Vollaug mines. There is a strong association between historic grab samples and the interpreted structures on the Eagle Property, with grab and float samples assaying up to 3,450 ppb gold (3.45 g/t Au). Historic mapping of iron carbonate alteration also appears to be closely associated with interpreted structures (Figure 8). During the 1983 fieldwork, these zones were observed to be commonly accompanied by weak to moderate silicification and minor amounts of sericite, clay, mariposite, pyrite and/or arsenopyrite. This further supports the interpretation that the project may overlie a structurally complex corridor with several potential gold targets.

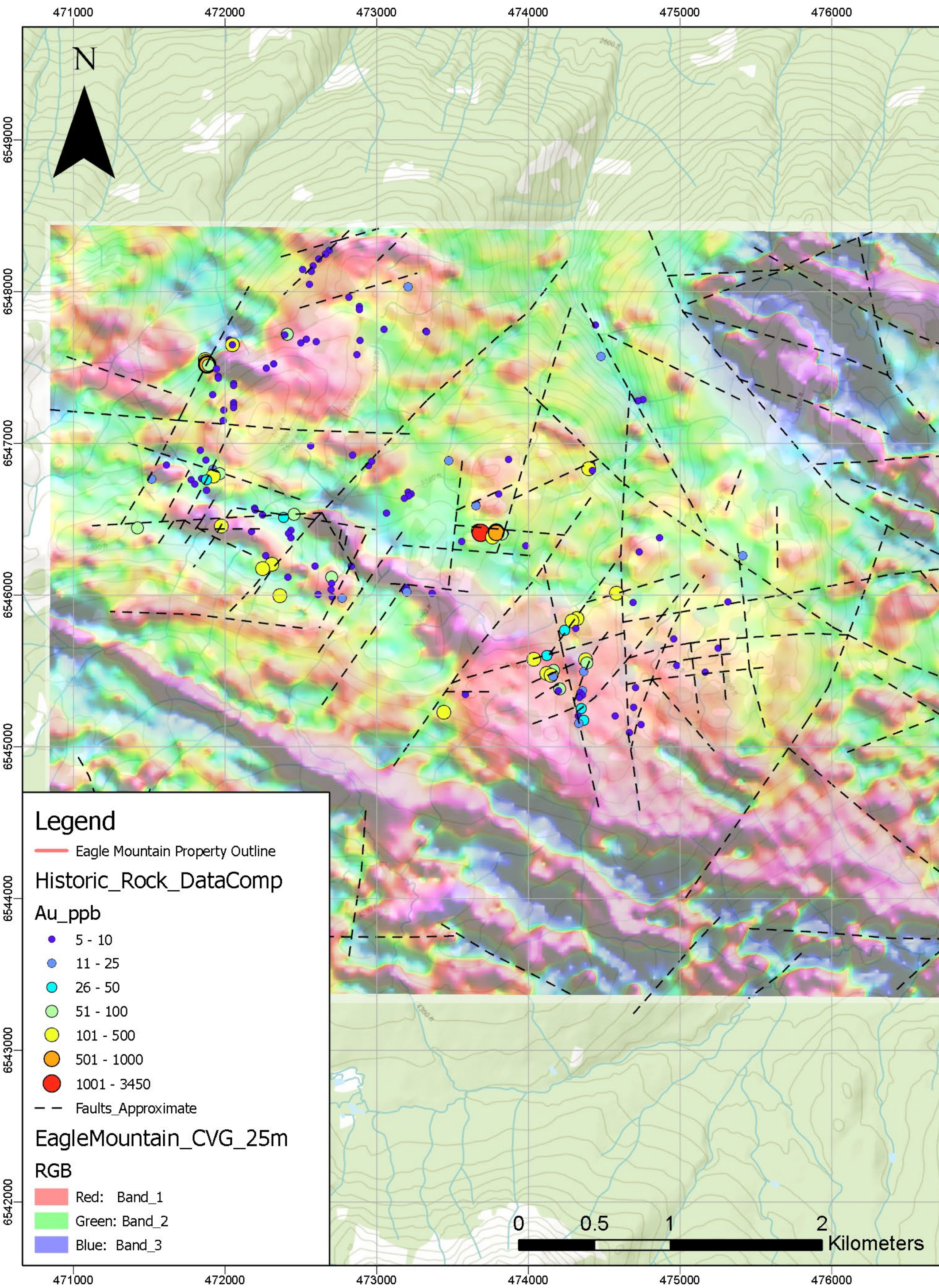

Figure 9 *Historical rock grab sample gold (ppb) assays over 2021 geophysical CVG plot. Note the elevated gold grades along structures interpreted from the geophysical data.*

11.0 RECOMMENDATIONS

Infill soil sampling should be conducted over the West Ridge, Stibnite Lake and SE Lake zones where interpreted structures with anomalous gold values in grab samples are located. Sample lines should be a minimum of ~100 m apart with 25 m sample intervals.

Deep induced polarization (IP) surveys should be conducted over the best target areas, this may require up to 10 line-kilometres. A minimum of 300m depth is recommended.

Additional field exploration should be conducted across the property, particularly along the margins of magnetics highs where historical grab samples yielded anomalous gold values. Groundtruthing the geophysical magnetic and radiometric anomalies will be critical for expanding future programs beyond the historical showings. The estimate for this follow-up program would be approximately $60,000 (CAD).

11.0 STATEMENT OF QUALIFICATIONS

I, Cameron J. Dorsey, MSc Geologist, VP Exploration for Golden Sky Minerals Corp., do hereby certify that:

1. I graduated as a geologist from the University of Calgary, Alberta, with a degree of Bachelor of Science in Geology in 2013.
2. I graduated as a geologist from the University of Calgary, Alberta, with a degree of Master of Science in Geology and Geophysics in 2019.
3. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (registration #225751) and am a ‘Qualified Person’ in relation to the subject matter of this technical report.
4. I have worked continuously as a geologist since my graduation from university in 2013.
5. This report is based upon knowledge of the property gained from a 2021 airborne geophysical survey conducted by Precision GeoSurveys Inc. and from a review of industry and government reports.
6. That this report pertaining to the Eagle Mountain Project was written by myself, who is VP Exploration for Golden Sky Minerals Corp.

Dated this 30th day of September 2022 in Nanaimo, BC.

____

Cameron Dorsey, M.Sc., VP Exploration, Golden Sky Minerals Corp.
EGBC #225751

12.0 REFERENCES

Heagy, A.E. 1983. Geological and Geochemical Report on the Eagle Claim Group, Liard Mining Division, BC; *Assessment Report*; *12218 dated September, 1983.*

Heagy, A.E. and Stephen, J.C. 1984. Geological and Sampling Report on the Eagle Claim Group, Liard Mining Division, BC; *Assessment Report*; *12495 dated August, 1984.*

Heagy, A.E. 1986. Geophysical Report on the 1986 Phase I Program on the Eagle Property, Liard Mining Division, BC; *Assessment Report*; *15150 dated August, 1986.*

Heagy, A.E. 1986. Diamond Drilling Report on the 1986 Phase II Program on the Eagle Property, Liard Mining Division, BC; *Assessment Report*; *15839 dated March, 1987.*

Nelson, J.L. and Bradford, J.A., 1993. Geology of the Midway – Cassiar Area, Northern British Columbia (104O, 104P), B.C. Ministry of Energy, Mines and Petroleum Resources, Bulletin 83.

APPENDIX A – Statement of Expenditures

Work Performed	Description of Work	From (date)	To (date)	# Units of Work	Cost Per Unit	Actual Costs ($) Incl. HST	Invoice Copy	Comments
Geological	~4 days of project preparation, data compilation, planning, data review, map making, etc.	25-July-2021	28-July-2021	1 person-days	$600	$2,400	No	Golden Sky Minerals Corp. Cameron Dorsey (VP of Exploration – MSc Geologist)
Geological	~7 days of data review, QA/QC and analysis, digitizing maps, report writing etc.	29-June-2022	30-Sept-2022	1 person-days	$600	$4,200	No	Golden Sky Minerals Corp. Cameron Dorsey (VP of Exploration – MSc Geologist)
Geophysical Survey (Precision Geophysics Inc.)	Conduct Survey, Prepare Report	2-Sept-2021	5-Oct-2022	NA	NA	$44,100	Yes	
				Total Expense Claimed		$50,700		

APPENDIX B – Airborne Geophysical Survey Report

Eagle Mountain Survey Block

by

Precision GeoSurveys Inc.

Precision GeoSurveys

AIRBORNE GEOPHYSICAL SURVEY REPORT

Eagle Mountain Survey Block

Dease Lake, British Columbia

Golden Sky Minerals Corp.

Precision GeoSurveys Inc.
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1.0 Introduction

This report outlines the geophysical survey operations and data processing procedures taken during the high resolution helicopter-borne magnetic, VLF-EM, and radiometric survey flown over the Eagle Mountain survey block for Golden Sky Minerals Corp. The survey block is located in northern British Columbia (Figure 1) and it was flown on September 2, 2021.

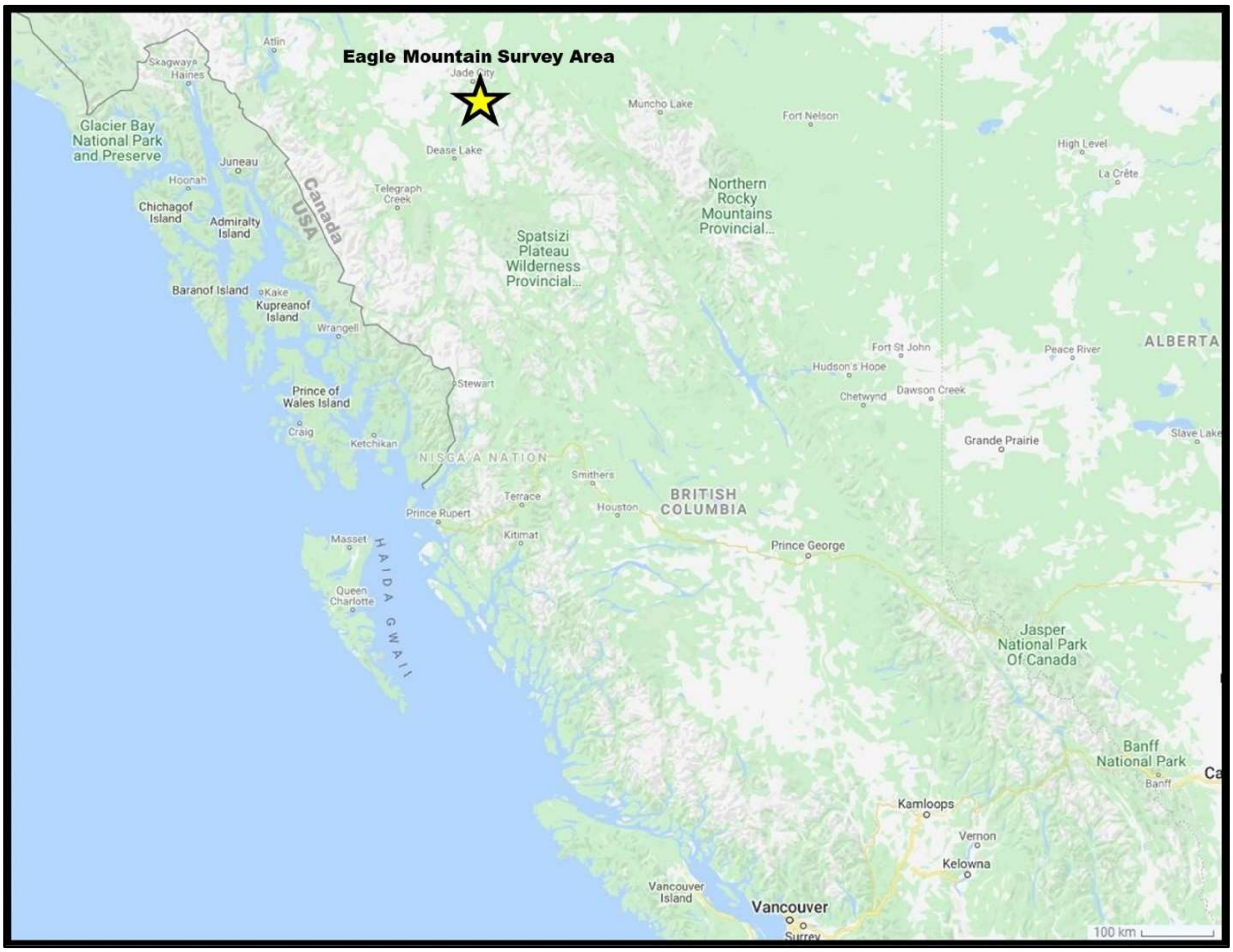


Figure 1: Eagle Mountain survey area located in northern British Columbia.

1.1 Survey Area

The Eagle Mountain survey block is located approximately 75 km northeast of Dease Lake, British Columbia (Figure 2).

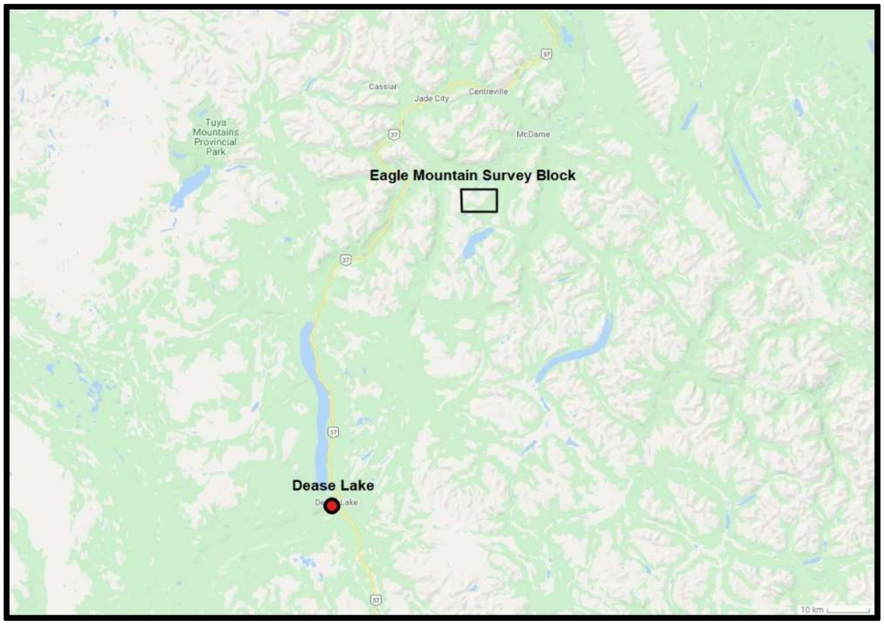


Figure 2: Eagle Mountain survey block northeast of Dease Lake, British Columbia.

The Eagle Mountain survey block was flown at 100 m line spacing at a heading of 000°/180°; tie lines were flown at 1000 m spacing at a heading of 090°/270° (Figures 3 and 4).

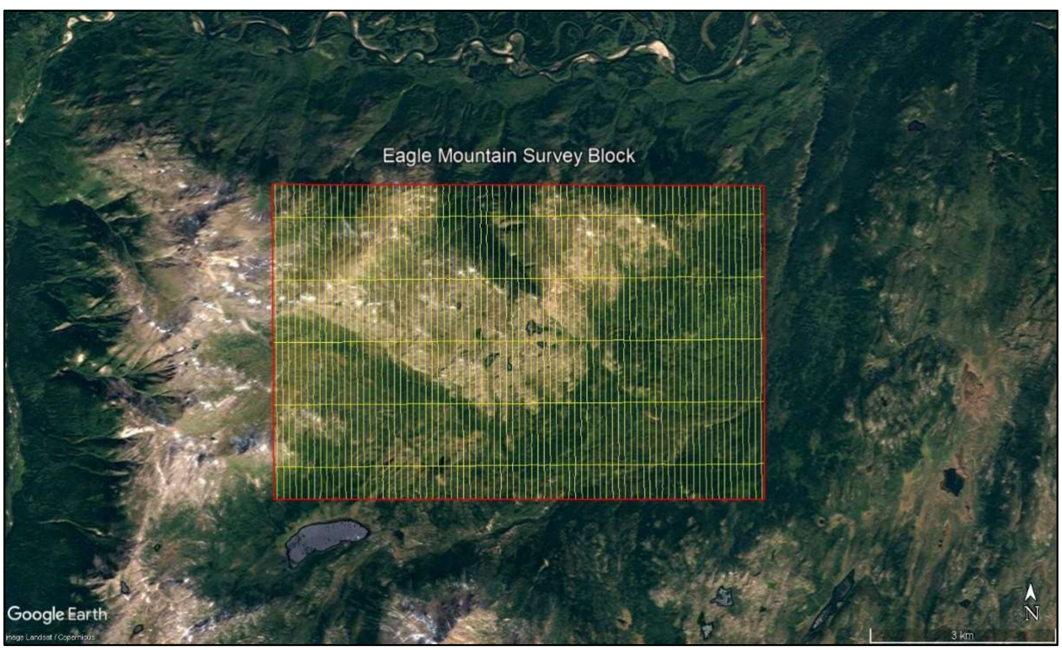


Figure 3: Plan View – Eagle Mountain survey block with actual flight lines in yellow, survey block boundary in red.

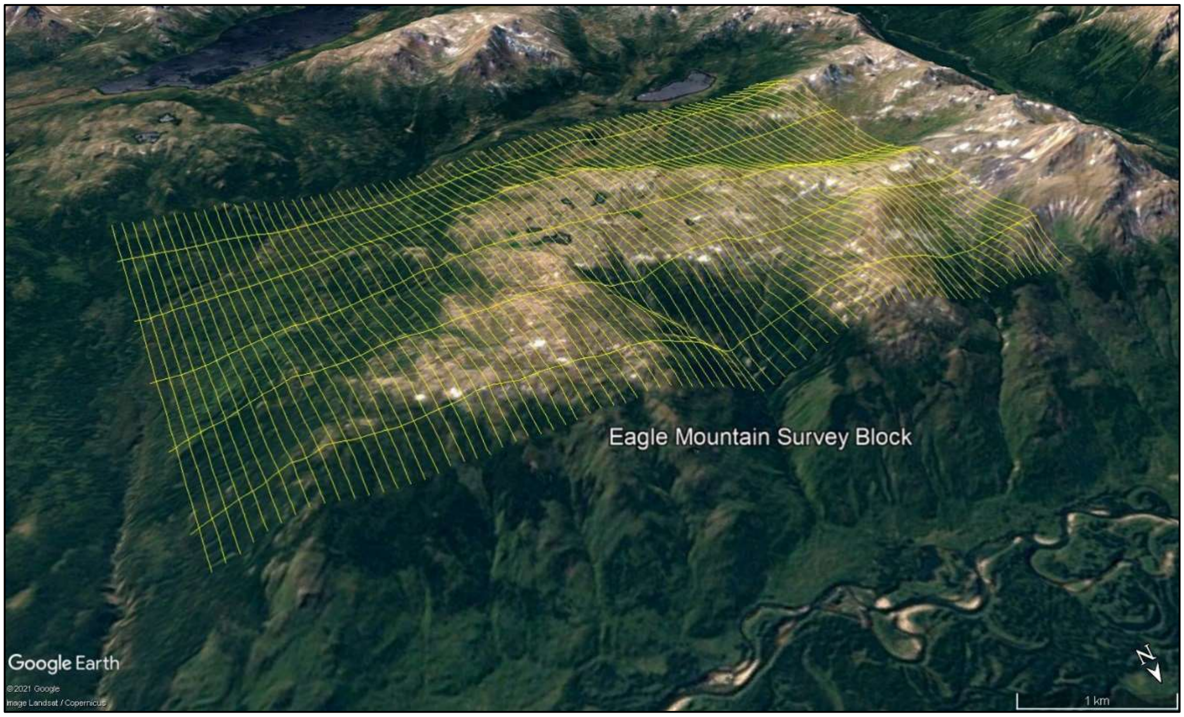


Figure 4: Terrain View – Eagle Mountain survey block with actual flight lines in yellow.

1.2 Survey Specifications

The geodetic system used for the geophysical survey was WGS 84 in UTM Zone 9N. A total of 438 line km was flown over an area of 39.9 km^2 (Table 1). Polygon coordinates for the Eagle Mountain survey block are specified in Appendix A.

Survey Block	Area (km^2)	Line Type	No. of Lines Planned	No. of Lines Completed	Line Spacing (m)	Line Orientation (UTM grid)	Total Planned Line km	Total Actual km Flown
Eagle Mountain	39.9	Survey	79	79	100	000°/180°	398	398
		Tie	5	5	1000	090°/270°	40	40
		Total	**84**	**84**			**438**	**438**

Table 1: Survey flight line specifications for Eagle Mountain survey block.

2.0 Geophysical Data

Geophysical data are collected in a variety of ways and are used for many purposes including aiding in the determination of geology, mineral deposits, oil and gas deposits, geotechnical investigations, contaminated land sites, and UXO (unexploded ordnance) detection.

For the purposes of this survey, airborne magnetic, VLF-EM, and radiometric data were collected to serve in geological mapping and exploration for mineral deposits.

2.1 Magnetic Data

Magnetic surveying is the most common airborne geophysical technology used for both mineral and hydrocarbon exploration. Aeromagnetic surveys measure and record the total intensity of the magnetic field at the magnetometer sensor, which is a combination of the desired geomagnetic field as well as influences from the constantly varying solar wind and the aircraft's magnetic field. By subtracting temporal and aircraft magnetic effects, the resulting aeromagnetic maps show the spatial distribution and relative abundance of magnetic minerals - most commonly the iron oxide mineral magnetite - in the upper levels of Earth's crust, which in turn are related to lithology, structure, and alteration of bedrock. Survey specifications, instrumentation, and interpretation procedures depend on the objectives of the survey. Magnetic surveys are typically performed for:

- Geological Mapping - to aid in mapping lithology, structure, and alteration.
- Depth to Basement Mapping - for exploration in sedimentary basins or mineralization associated with the basement surface.

2.2 VLF-EM Data

Electromagnetic (EM) surveys measure the Earth's response to EM energy as variations in subsurface electrical conductivity and resistivity. Very Low Frequency (VLF) surveys are a type of EM technology that respond to EM waves in the range of 15 to 30 kHz. VLF measurements are passive and therefore do not interfere with other geophysical sensors.

VLF transmitters are used for military communications and are located remote from the survey site. VLF source (primary) fields are effectively planar and parallel to the ground. The primary field induces current in long linear conductors that strike in the direction of the transmitter. In the presence of a conductive body, these currents produce vertical secondary magnetic fields. Conductors are detected by the presence of this anomalous vertical component of the secondary field, whose strength depends not only on conductivity, but also on the orientation of the conductors with respect to the source fields.

Measuring signals from two or more VLF transmitters in perpendicular directions can be beneficial in determining the location and geometry of conductors; however, this is not always possible due to the fixed direction to transmitters and unreliable schedules. Total field strength and vertical quadrature can be measured to provide estimates of relative conductivity and apparent phase. Conductivity can be related to subsurface conductors including graphite, sulfide mineralization, clay alteration, cultural objects, and ground water.

2.3 Radiometric Data

Radiometric surveys are used to determine either the absolute or relative concentrations of the naturally occurring radioelements uranium (U), thorium (Th), and potassium (K) in surface rocks and soils using radioactive emanations. Gamma radiation is utilized due to its greater penetration depth compared with alpha and beta radiation. Radiometric data are useful for mapping lithology, alteration, and structure as well as providing insights into weathering. For example, individual radioelements follow very different pathways of evolution during alteration of rocks, natural radioactivity of igneous rocks generally increases with SiO_2 content, and clay minerals tend to fix the natural radioelements.

Gamma rays are electromagnetic waves with frequencies between 10^{19} and 10^{21} Hz emitted spontaneously from an atomic nucleus during radioactive decay, in packets referred to as photons. The energy E transported by a photon is related to the wavelength λ or frequency ν by the formula:

$$E = h\nu = hc/\lambda$$

where: c is the velocity of light
h is Planck's constant (6.626×10^{-34} joule)

All detectable gamma radiation from Earth materials comes from the natural decay products of three primary radioelements: U, Th, and K. Each individual nuclear species (element) emits gamma rays at one or more specific energies, as shown in Figure 5. Of these elements, only potassium (^{40}K) emits gamma energy directly, at 1.46 MeV. Uranium (^{238}U) and thorium (^{232}Th) emit gamma rays through their respective decay series; ^{214}Bi at 1.76 MeV for uranium and ^{208}Tl at 2.61 MeV for thorium. Accordingly, the ^{214}Bi and ^{208}Tl measurements are considered equivalents for uranium (eU) and thorium (eTh), as the daughter products will be in equilibrium under most natural conditions.

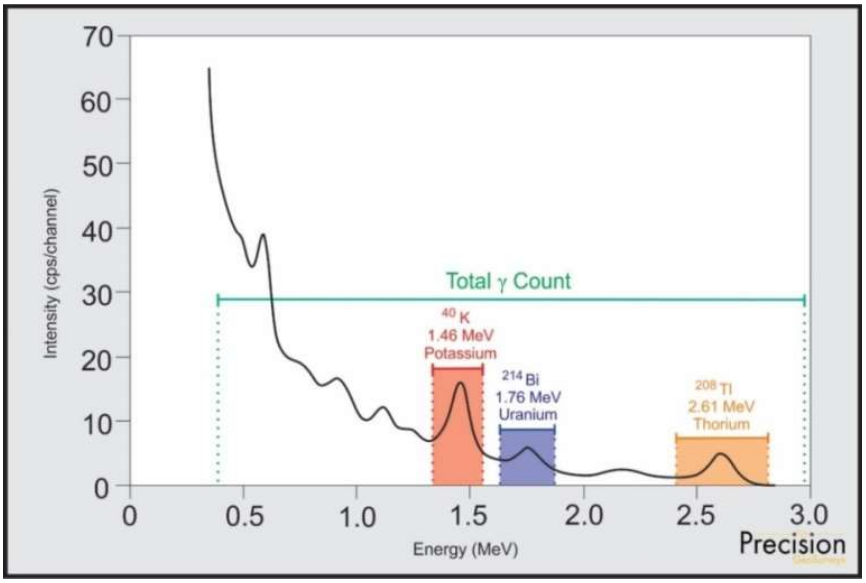


Figure 5: Typical natural gamma spectrum showing the three spectral windows (^{40}K 1.37-1.57 MeV, ^{214}Bi 1.66-1.86 MeV, ^{208}Tl 2.41-2.81 MeV) and total count (0.40-2.81 MeV) window.

3.0 Aircraft and Equipment

All geophysical and subsidiary equipment were carefully installed on an aircraft by Precision GeoSurveys to collect magnetic, VLF-EM, and radiometric data.

3.1 Aircraft

Precision GeoSurveys flew the survey using an Airbus AS350 helicopter, registration C-GSVY.

3.2 Geophysical Equipment

The survey aircraft (Figure 6) was equipped with a data acquisition system, GPS navigation system, pilot guidance unit (PGU), laser altimeter, cesium vapor magnetometer, fluxgate magnetometer, a VLF-EM receiver, gamma ray spectrometer, barometer, and temperature/humidity probe. A magnetic base station was used to record temporal magnetic variations. Technical specifications for the geophysical equipment are provided in Appendix B.

Figure 6: Survey helicopter equipped with a magnetic sensor for magnetic data acquisition, VLF-EM system, and gamma spectrometer.

3.2.1 IMPAC

The Integrated Multi-Parameter Acquisition Console (IMPAC) (Figure 7), manufactured by Nuvia Dynamics Inc. (previously Pico Envirotec Inc.), is the main computer used in integrated data recording, data synchronizing, providing real-time quality control data for the geophysical operator display, and the generation of navigation information for the pilot and operator display systems.

Figure 7: IMPAC data acquisition system.

IMPAC uses the Microsoft Windows operating system and geophysical parameters are based on Nuvia's Airborne Geophysical Information System (AGIS) software. Depending on survey specifications, information such as magnetic field, electromagnetic response, total gamma count, counts of various radioelements (K, U, Th, etc.), cosmic radiation, barometric pressure, atmospheric humidity, temperature, aircraft attitude, navigation parameters, VLF-EM response, and GPS status can all be monitored on the AGIS on-board display (Figure 8).

While in flight, raw magnetic response, magnetic fourth difference, compensated and uncompensated data, VLF-EM response, radiometric spectra, aircraft position, survey altitude, cross track error, and other parameters are recorded (depending on sensor configuration) and can be viewed by the geophysical operator for immediate QC (quality control). Additional software allows for post or real time magnetic compensation and VLF-EM calibration.

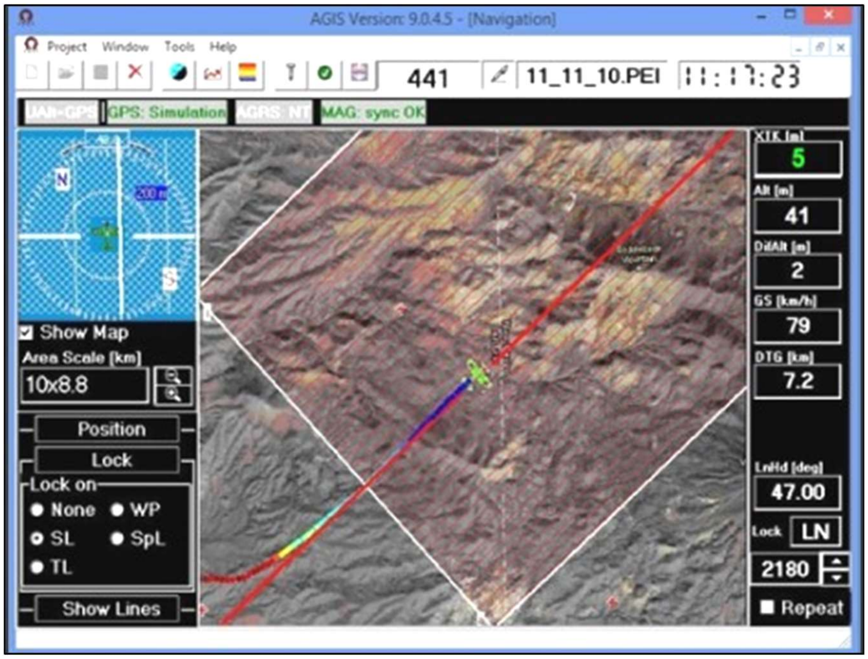


Figure 8: AGIS operator display showing real time flight line recording and navigation parameters. Additional windows display real-time geophysical data to operator.

3.2.2 GPS Navigation System

A Hemisphere R330 GPS receiver (Figure 9) and a Novatel GPS antenna on the tail of the aircraft integrated with the AGIS navigation system and pilot display (PGU) provide accurate navigational information and position control. The R330 GPS receiver supports fast updates at a rate of up to 20 Hz (20 times per second); delivering sub-meter positioning accuracy in three dimensions. It receives GNSS (GPS/GLONASS) L1 and L2 signals.

The receiver supports differential correction methods including L-Band, RTK, SBAS, and Beacon. The R330 employs innovative Hemisphere GPS Eclipse SureTrack technology, which allows it to model the phase on satellites that the airborne unit is currently tracking. With SureTrack technology, dropouts are reduced and speed of the signal reacquisitions is increased; enhancing accurate positioning when base corrections are not available.

Figure 9: Hemisphere R330 GPS receiver.

3.2.3 Pilot Guidance Unit

Steering and elevation (ground clearance) information is continuously provided to the pilot by the Pilot Guidance Unit (PGU). The graphical display is mounted on top of the aircraft's instrument panel, remotely from the data acquisition system. The PGU is the primary navigation aid (Figure 10) to assist the pilot in keeping the aircraft on the planned flight path, heading, speed, and at the desired ground clearance.

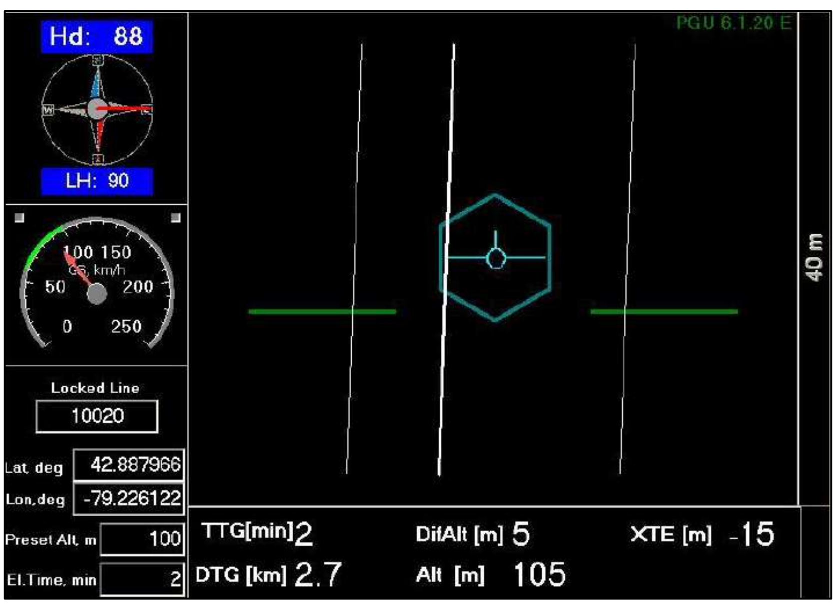


Figure 10: PGU screen displaying navigation information.

PGU information is displayed on a full VGA 600 x 800 pixel 7 inch (17.8 cm) LCD display. The CPU for the PGU is contained in a PC-104 console and uses Microsoft Windows operating system control, with input from the GPS antenna on the aircraft, laser altimeter, and AGIS.

3.2.4 Laser Altimeter

Terrain clearance is measured by an Opti-Logic RS800 Rangefinder laser altimeter (Figure 11) attached to the aft end of the magnetometer boom. The RS800 laser is a time-of-flight sensor that measures distance by a rapidly modulated and collimated laser beam that creates a dot on the target surface. The maximum range of the laser altimeter is 700 m off natural surfaces with accuracy of ±1 m on 1 x 1 m diffuse target with 50% (±20%) reflectivity. Within the sensor unit, reflected signal light is collected by the lens and focused onto a photodiode. Through serial communications and digital outputs, ground clearance data are transmitted to an RS-232 compatible port and recorded and displayed by the AGIS and PGU at 10 Hz in meters.

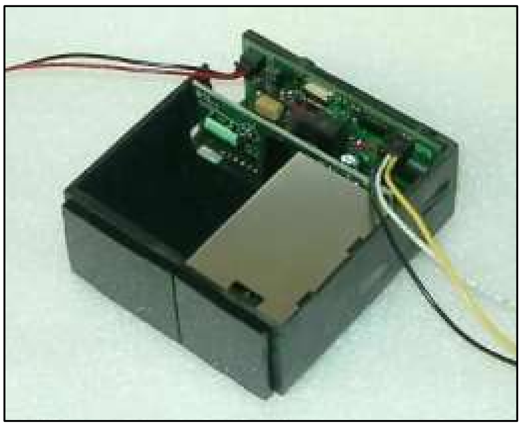


Figure 11: Opti-Logic RS800 Rangefinder laser altimeter.

3.2.5 Magnetometer

The survey was flown with a Scintrex CS-3 split-beam cesium vapor magnetometer (Figure 12) mounted on the front of the helicopter in a non-magnetic and non-conductive "stinger" configuration to measure total magnetic intensity. The magnetometer sensor (Figure 13) was rotated 45° from vertical to couple with local magnetic field at Eagle Mountain survey area.

Figure 12: View of CS-3 cesium vapor magnetometer.

Figure 13: View of “stinger” configuration with magnetic sensor.

3.2.6 Fluxgate Magnetometer

As the survey helicopter flies along a survey line, small attitude changes (pitch, roll, and yaw) are measured by a triaxial fluxgate magnetometer (Figure 14). The fluxgate consists of three magnetic sensors, X, Y, and Z, operating independently and simultaneously. Each sensor has an analog output corresponding to the directional component of the ambient magnetic field along its axis. Response of the sensors is proportional to the cosine of the angle between the applied field and the sensor’s sensitive axis.

Figure 14: Billingsley TFM100G2 triaxial fluxgate magnetometer.

3.2.7 Magnetic Base Station

Temporal variations of Earth’s magnetic field, particularly diurnal, were monitored and recorded by a GEM GSM-19T base station magnetometer. It was operated at all times while airborne data were being collected. The base station was located in an area with low magnetic gradient, away from electric power transmission lines and moving ferrous objects, such as motor vehicles, that could affect the survey data integrity.

The GEM GSM-19T magnetometer (Figure 15) with integrated GPS time synchronization uses proton precession technology with absolute accuracy of ±0.20 nT and sensitivity of 0.15 nT at 1 Hz. Base station magnetic data were recorded on internal solid-state memory and downloaded onto a field laptop computer using a serial cable and GEMLink 5.4 software. Profile plots of the base station readings were generated, updated, and reviewed at the end of each survey day.

Figure 15: GEM GSM-19T proton precession magnetometer.

3.2.8 VLF-EM System

Electromagnetic fields radiated from very low frequency (VLF) transmitter stations with frequencies ranging from 15 to 25 kHz are received with a Herz Totem-2A system (Figure 16). The system can be configured to receive two VLF transmitting stations simultaneously and the parameters normally measured are the change in the total field and the vertical quadrature components. The Herz Totem-2A system includes a sensor comprised of three mutually orthogonal air-cored coils and a pre-amplifier which is placed inside the stinger system to minimize interference from EM fields generated by the helicopter.

Figure 16: Herz Totem-2A VLF console and sensor (air-cored coils).

3.2.9 Spectrometer

Gamma radiation data were collected by an Advanced Gamma Ray Spectrometer (AGRS-5) manufactured by Nuvia Dynamics. The AGRS is an intelligent, self-calibrating, fully integrated gamma detection system (Figure 17) containing five thallium-activated synthetic sodium iodide crystals; 16.8 litres (four crystals of 4.2 litres each) downward-looking and 4.2 litres upward-looking (one crystal of 4.2 litres), with user-selectable 256, 512, or 1024 channel output at 1 Hz sampling rate. The downward-looking crystals are designed to measure gamma rays from below the aircraft. The upward-looking crystal is mounted directly on top of the four downward-looking crystals to measure cosmic and solar gamma radiation originating from above the survey aircraft and is shielded from terrestrial radiation by the downward-looking crystals. The AGRS system is installed in the rear passenger cabin of the helicopter away from the fuel tank to minimize variable gamma attenuation from fluctuating fuel levels.

Figure 17: AGRS-5 gamma spectrometer system with five detectors (four down, one up).

4.0 Survey Operations

The Eagle Mountain geophysical survey was flown on September 2, 2021 in dry and snow-free conditions. The experience of the pilot ensured that data quality objectives were met, and that safety of the flight crew was never compromised given the potential risks involved in airborne geophysical surveying. Field processing and quality control checks were performed daily.

4.1 Operations Base and Crew

The base of operation for the Eagle Mountain survey was at Dease Lake airport (CYDL), British Columbia, southwest of the survey block.

Precision's geophysical crew consisted of five members (Table 2):

Crew Member	Position
Harmen Keyser, P.Geo.	Helicopter pilot
Ryan Snow	Geophysical technician and helicopter mechanic
Jenny Poon, B.Sc., P.Geo.	Geophysicist – data processor (off-site)
Vicki Thomson, M.Sc. P.Geo.	Geophysicist – data processor (off-site)
Shawn Walker, M.Sc. P.Geo.	Geophysicist – data processor, mapping, and reporting (off-site)

Table 2: List of survey crew members.

4.2 Magnetic Base Station Specifications

Changes in the Earth's magnetic field over time, such as diurnal variations, magnetic pulsations, and geomagnetic storms, were measured and recorded by a stationary GEM GSM-19T proton precession magnetometer. The magnetic base station was installed at the Dease Lake airport, southwest of the survey block, in an area (Table 3; Figures 18 and 19) away from sources of potential interference such as ferromagnetic objects, vehicles, and power lines that could affect the base station data and ultimately the survey data.

Station Name	Easting/Northing	Latitude/Longitude	Datum/Projection
GEM 5 S/N 1094678	440489 m E 6476414 m N	58° 25' 27.89" N 130° 1' 8.06" W	WGS 84, Zone 9N

Table 3: Magnetic base station location.

Magnetic readings were reviewed at regular intervals to ensure that no airborne data were collected during periods of high magnetic activity (in excess of 10 nT from a linear chord length of five minutes).

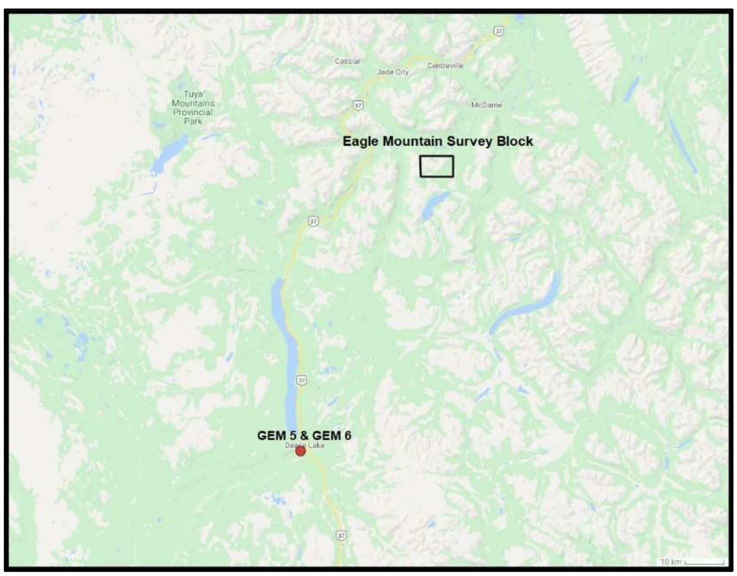


Figure 18: Location of GEM 5 magnetic base station southwest of the survey block.

Figure 19: GEM 5 magnetic base station.

4.3 VLF-EM Transmitter Stations

The Herz Totem-2A very low frequency electromagnetic (VLF-EM) system is capable of receiving frequencies from two VLF transmitters simultaneously. The two stations used were Seattle, Washington and Cutler, Maine (Table 4 and Figure 20).

Station	Location	Frequency (kHz)	Bearing (true)	Approximate distance (km)
NLK (line)	Seattle (Jim Creek), Washington	25.2	166°	1300
NAA (ortho)	Cutler, Maine	24.0	082°	4370

Table 4: VLF transmitter stations used for Eagle Mountain survey.

Signal strength from Cutler (NAA) was weak and unreliable; therefore incomplete VLF-EM data were collected.

Figure 20: NLK and NAA VLF transmitter stations relative to Eagle Mountain survey block.

4.4 Field Processing and Quality Control

Survey data were transferred from the aircraft's data acquisition system onto a USB memory stick and copied onto a field data processing laptop on a flight-by-flight basis. The raw data files in PEI binary data format were converted into Geosoft GDB database format. Using Geosoft Oasis Montaj 9.10.0.23, the data were inspected to ensure compliance with contract specifications (Table 5; Figures 21 to 23).

Parameter	Specification	Tolerance
Position	Line Spacing	Flight line deviation within 8 m L/R from ideal flight path. No exceedance for more than 1 km.
	Height	Nominal flight height of 50 m above ground level (AGL) with tolerance of ±10 m. No exceedance for more than 1 km, provided deviation is not due to tall trees, topography, mitigation of wildlife/livestock harassment, cultural features, or other obstacles beyond the pilot's control.
	GPS	GPS signals from four or more satellites must be received at all times, except where signal loss is due to topography. No exceedance for more than 1 km.
Magnetics	Temporal/Diurnal Variations	Non-linear temporal magnetic variations within 10 nT of a linear chord of 5 minutes length.
	Normalized 4^{th} Difference	Magnetic data within 0.02 nT peak to peak. No exceedance for distances greater than 1 km or more, provided noise is not due to geological or cultural features.
VLF-EM	Transmitter station schedule	Collected at best effort. Survey will not stop if a suitable VLF signal was not available.
Radiometrics	Moisture Conditions	No delays shall be incurred due to unfavourable radiometric survey conditions.

Table 5: Contract survey specifications.

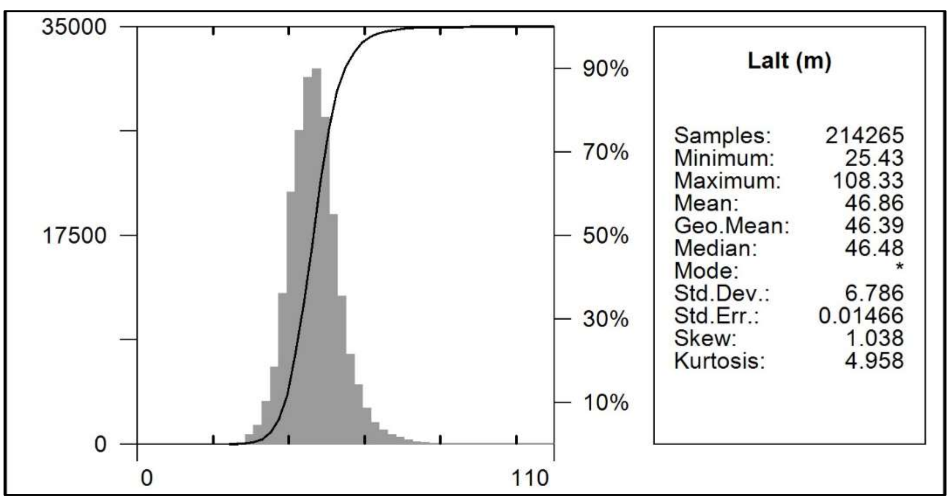


Figure 21: Histogram showing survey elevation vertically above ground.

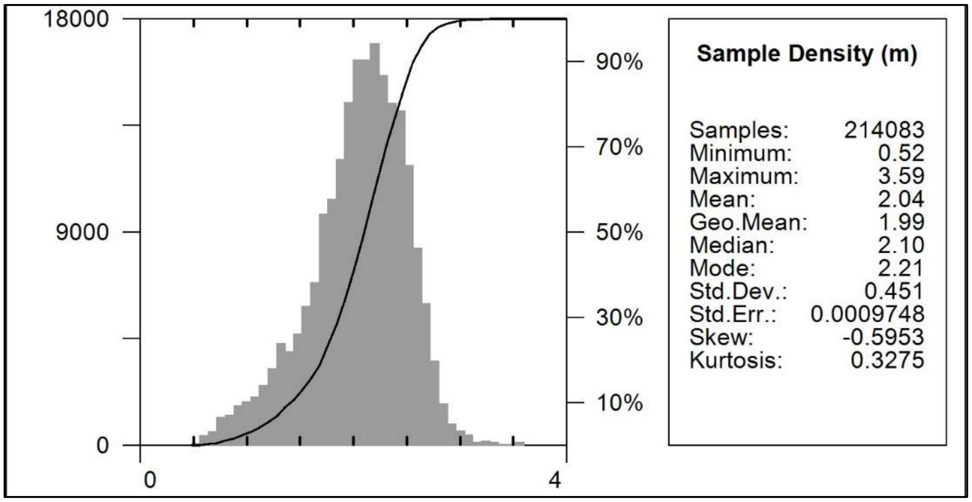


Figure 22: Histogram showing magnetic sample density. Horizontal distance in meters between adjacent measurement locations; magnetic sample frequency 20 Hz.

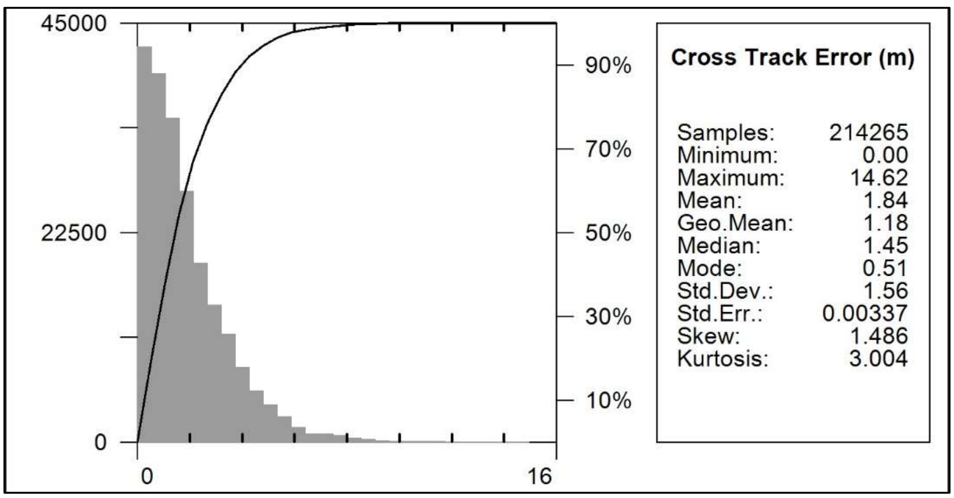


Figure 23: Histogram showing cross track error of survey helicopter.

5.0 Data Acquisition Equipment Checks

Equipment tests and calibrations were conducted for the laser altimeter, magnetometer, VLF-EM system, and spectrometer at the start of the survey to ensure compliance with contract specifications and to deliver high quality airborne geophysical data. A lag test was conducted for all sensors. For the airborne magnetometer, compensation and heading error test flights were flown. There were three tests conducted for the gamma spectrometer: calibration pad test, cosmic flight test, and altitude correction and sensitivity test.

5.1 Laser Altimeter Calibration

The Opti-Logic RS800 laser altimeter used on the survey helicopter was tested and calibrated in accordance with manufacturer's instructions prior to starting the survey. This ensured that heights reported by the laser were accurate within the normal survey operating range.

5.2 Lag Test

A lag test was performed to determine the difference in time the digital reading was recorded for the magnetometer, VLF-EM system, spectrometer, and laser altimeter with the position fix time that the fiducial of the reading was obtained by the GPS system resulting from a combination of system lag and different locations of the various sensors and the GPS antenna. The test was flown in reciprocal headings over identifiable features at survey speed and height to isolate position changes. The resulting data (Table 6) were used to correct for time and position.

Instrument	Source	Lag Fiducial	Correction (sec)
Magnetometer	Logging machinery	20	1.00
Laser	Sharp gully	18	0.90
VLF-EM	Railroad tracks	2	0.10
Spectrometer	Lake edge	9	0.45

Table 6: Survey lag correction values. Magnetic and VLF-EM data at 20 Hz; laser altimeter and spectrometer were resampled to 20 Hz.

5.3 Magnetometer Tests

The magnetometer was tested and calibrated with a series of dedicated flights specifically for removing instrument offset errors and undesired effects of aircraft movement, speed, and heading direction.

5.3.1 Compensation Flight Test

During aeromagnetic surveying, a small but significant amount of noise is introduced to the magnetic data by the aircraft itself, as the magnetometers are within the aircraft's magnetic field. Changes in aircraft attitude combined with the permanent magnetization of certain ferrous aircraft parts contribute to this noise. The aircraft was degaussed using proprietary technology prior to starting the survey and the remaining magnetic noise was removed by a process called magnetic compensation.

A magnetic compensation flight was completed for this survey. The process consists of a series of prescribed maneuvers (±10° roll, ±10° pitch, and ±10° yaw) where the aircraft flies in the four orthogonal headings required (000°/090°/180°/270° in the case of this survey) at a sufficient altitude (typically > 2,500 m AGL) in an area of low magnetic gradient where Earth's magnetic field becomes nearly uniform at the scale of the compensation flights. In each heading direction, three specified roll, pitch, and yaw maneuvers (total 36) are performed by the pilot at constant elevation so that any magnetic variation recorded by the airborne magnetometer can be attributed to aircraft movement. These maneuvers are determined by the airborne fluxgate magnetometer and provide the data that are required to calculate the necessary parameters for compensating the magnetic data to remove aircraft noise from survey data. Compensation flight test results are summarized in Table 7.

Pre-Compensation (nT)					Post-Compensation (nT)				
Heading	**Roll**	**Pitch**	**Yaw**	**Total**	**Heading**	**Roll**	**Pitch**	**Yaw**	**Total**
000°	1.6897	1.2403	1.4576	4.3876	000°	0.1504	0.1798	0.1685	0.4987
090°	1.0727	0.7727	0.6563	2.5017	090°	0.2090	0.2626	0.1732	0.6448
180°	0.8706	0.5650	0.5539	1.9895	180°	0.1924	0.2130	0.2125	0.6179
270°	1.0819	0.6940	0.5311	2.3070	270°	0.1825	0.2064	0.1820	0.5709
Figure of Merit = 11.1858					**Figure of Merit = 2.3323**				

Table 7: Results of compensation flight.

5.3.2 Heading Correction Test

To determine heading errors and other offsets, a cloverleaf pattern flight test was conducted at high altitude to minimize the effect of natural magnetic gradient. The cloverleaf test was flown in the same orthogonal headings as the survey and tie lines (000°/090°/180°/270° in the case of this survey) at >2500 m AGL in an area with low magnetic gradient. For all four directions of the cloverleaf test the survey helicopter must pass over the same point, at the same elevation, with the aircraft in straight and level flight. The difference in magnetic values obtained in reciprocal headings is the heading error. Heading correction values derived from the test flight are summarized in Table 8.

Heading	Heading Correction (nT)
000°	-0.3325
090°	-6.0325
180°	2.4675
270°	3.8975
Total:	**0.0000**

Table 8: Magnetic sensor heading corrections.

5.4 Gamma-ray Spectrometer Tests and Calibrations

Calibration and testing of the AGRS-5 airborne gamma-ray spectrometry system was carried out prior to starting the survey. Spectrometer calibration involved three tests which enabled the conversion of airborne data to ground concentration of natural radioactive elements. These tests were the calibration pad test, cosmic flight test, and the altitude correction and sensitivity test. Procedures were generally in accordance with IAEA technical report series No. 323, *Airborne Gamma Ray Spectrometer Surveying*, and AGSO Record 1995/60, *A Guide to the Technical Specifications for Airborne Gamma-Ray Surveys*.

5.4.1 Calibration Pad Test

The calibration pad test was conducted using Geological Survey of Canada (GSC) portable calibration pads. The pads are slabs of concrete containing known concentrations of the natural radioelements K, Th, and U and are used to simulate ideal geological sources of radiation. The measurements collected from the calibration pad test were used to determine Compton scattering and Grasty backscatter (spectral overlap between element windows) coefficients.

5.4.2 Cosmic Flight Test

While the background source of gamma radiation from the aircraft itself is essentially constant, the amount of signal detected from ground sources varies with ground clearance. As the height of the aircraft increases, the distance between the ground and the spectrometer crystals increases, and the proportion of cosmic radiation in each spectral window increases exponentially. The cosmic flight test is conducted to determine the aircraft's background attenuation coefficients for the detector crystal packs and the cosmic coefficients. The pilot is required to fly over the same low gamma source location (such as a large lake) repeatedly at 4000, 5000, 6000, 7000, and 8000 feet (1220, 1520, 1830, 2130, and 2440 m) above ground, for approximately two minutes each, to collect gamma data used to determine the amount of non-terrestrial signal present in the total gamma signal.

5.4.3 Altitude Correction and Sensitivity Test

The altitude and sensitivity test is similar to the cosmic flight test but is conducted at lower elevations. The aircraft is required to fly over the same location at 30, 40, 50, 60, 70, 100, and 120 m above ground, for two minutes each. As the distance between the gamma detectors on the aircraft and the radioactive ground source increases, the source signature exponentially degrades. As a result, this test is used to determine the altitude attenuation coefficients and the radio-element sensitivity of the airborne spectrometer system.

6.0 Data Processing

After all data were collected, several procedures were undertaken to ensure that the data met a high standard of quality. Magnetic, VLF-EM, and radiometric data recorded by the AGIS were converted into Geosoft or ASCII file formats using Nuvia Dynamics software. Further processing (Figure 24) was carried out using Geosoft Oasis Montaj 9.10.0.23geophysical processing software along with proprietary processing algorithms.

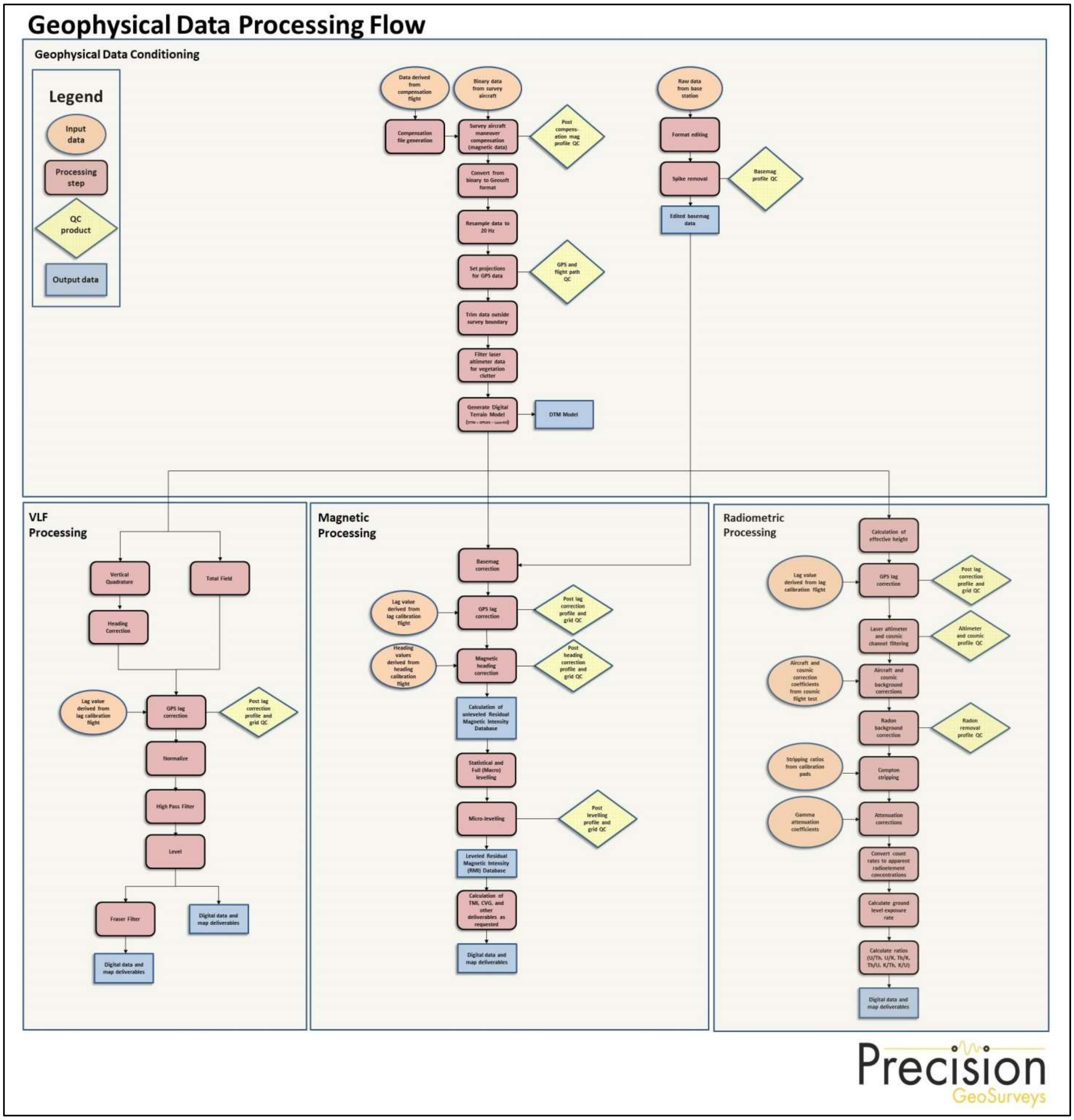


Figure 24: Magnetic, VLF-EM, and radiometric data processing flow.

6.1 Position Corrections

In order to collect high resolution geophysical data, the location at which the data were collected and recorded must be accurate.

6.1.1 Lag Correction

A correction for lag error was applied to the geophysical data recorded at each individual sensor to compensate for the combination of lag in the recording system and the sensing instrument flying in a different location from the GPS antenna, as determined during the lag test. Validity of the lag corrections was confirmed by the absence of grid corrugations in adjoining reciprocal lines.

6.2 Flight Height and Digital Terrain Model

Laser altimeters are unable to provide valid data over glassy water or fog which dissipate the laser so that a “zero” reading is obtained. In these cases, estimates of correct height are inserted manually. Dense vegetation generates high frequency variations from leaf and branch reflections. A Rolling Statistics filter is applied to the lag corrected (0.9 seconds lag) laser altimeter data to remove vegetation clutter followed by a Low Pass filter to smooth out the laser altimeter profile to eliminate isolated high frequency noise and generate a surface closely corresponding to the actual ground profile.

As the GPS antenna is on the tail of the helicopter, altitude data were corrected by subtracting 3.1 m to place measured heights the same plane as the laser altimeter. A Digital Terrain Model (DTM) was determined by subtracting the laser altimeter data from the filtered GPS altimeter data defined by the WGS 84 ellipsoidal height. DTM accuracy is affected by the attitude of the aircraft, slope of the ground, sample density, and satellite geometry. Small inconsistencies in recorded flight height at the intersection points of survey lines and tie lines resulted in small spatial variabilities in the digital terrain model. Conventional leveling and micro-leveling were applied to correct for these variations and a fully leveled digital terrain model was generated.

6.3 Magnetic Processing

Magnetic data were compensated and then corrected for temporal variations (including diurnal), lag, and heading. The data were examined for magnetic noise and spikes, which were removed as required. The background magnetic field, International Geomagnetic Reference Field (IGRF) of the Earth, was removed and survey and tie line data of the resulting residual magnetic field were then leveled.

6.3.1 Flight Compensation

Data obtained from the compensation flight test were applied to the raw magnetic data as the first step of data processing. A computer program called MAGComp was used to create a model from the compensation flight test for each survey to remove the noise induced by the aircraft and its movement; this model was applied to data from each survey flight.

6.3.2 Temporal Variation Correction

The intensity of Earth's magnetic field varies with location and time. The time variable, known as diurnal or more correctly temporal variation, is removed from the recorded airborne data to provide the desired magnetic field at a specified location. Magnetic data from base station GEM 5 were used for correcting the airborne magnetic survey data. The data were edited, plotted, and merged into a Geosoft database (.GDB) on a daily basis.

Base station measurements were averaged to establish a magnetic reference datum of 56152.95 nT. Magnetic deviations relative to the reference datum were used to calculate the observed variations of the Earth's magnetic field during the time it took to complete the survey. The airborne magnetic data were then corrected for temporal variations by subtracting the base station deviations from the data collected on the aircraft, effectively removing the effects of diurnal and other temporal variations.

6.3.3 Heading Correction

For each survey heading, changes in instrument magnetic fields along a survey flight line are detected and these systematic shifts are recorded. These values are used to construct a heading table (.TBL) file. An intersection table was created, containing all magnetic field values where tie lines intersected the survey lines and the overall average magnetic field value was calculated. For each of the four headings, the averages were calculated and then compared to the overall average to determine four values which were used to correct heading and offset errors in each flight direction.

6.3.4 IGRF Removal

The International Geomagnetic Reference Field (IGRF) model is the empirical representation of Earth's dynamic magnetic field (main core field without external sources) collected and disseminated from satellite data and from magnetic observatories around the world. The IGRF has historically been revised and updated every five years by a group of modellers associated with the International Association of Geomagnetism and Aeronomy (IAGA).

The initial unleveled Residual Magnetic Intensity (RMI) was calculated by taking the difference between the 13th generation IGRF (IGRF-13, released in December 2019) and the non-leveled Total Magnetic Intensity (TMI) to create a more valid model of individual near-surface magnetic anomalies. This model is independent of time to allow for other magnetic data (previous or future) to be more easily incorporated into each survey database.

6.3.5 Leveling and Micro-leveling

Small inconsistencies in flight height and line location result in variabilities in magnetic intensity measured at the intersection points of survey lines and tie lines. Using the initial Residual Magnetic Intensity (RMI) data (TMI with the IGRF removed), RMI data from survey and tie lines were leveled to each other. Two types of leveling were applied to the corrected data: conventional leveling and micro-leveling. There were two components to conventional leveling: statistical leveling to level tie lines and full leveling to level survey lines. The statistical leveling method corrected the SL/TL intersection errors that follow a specific pattern or trend. Through the error channel, an algorithm calculated a least-squares trend line and derived a trend error curve, which was then added to the channel to be leveled. The second component was full leveling. This adjusted the magnetic value of the survey lines so that all lines matched the trended tie lines at each intersection point.

Following statistical leveling, micro-leveling was applied to corrected conventional leveled data. This iterative grid-based process removed low amplitude components of flight line noise that still remained after tie line and survey line leveling and resulted in fully leveled RMI data. The IGRF was then added back onto the RMI to allow for the production of a leveled TMI grid and map.

6.3.6 Reduction to Magnetic Pole

Reduced to Magnetic Pole (RTP) data were determined from the leveled Residual Magnetic Intensity (RMI) data. The RTP filter was applied in the Fourier domain and rotates the observed magnetic inclination and declination field to what the field would look like at the north magnetic pole, to allow observation of magnetic trends and patterns independent of magnetic inclination and declination. Reducing the dipolar nature of magnetic anomalies is useful for interpretation because peak RTP magnetic values can be related to the centre of magnetic rock bodies and asymmetries in the RTP imagery closely reflect true dips and plunges.

Inclination and declination were calculated by using the specified date August 26, 2021. The derived values were used in the following formula:

$$RTP\ (\theta) = \frac{[\sin(I) - I \ \cdot \cos(I) \cdot \cos(D - \theta)]^2}{[\sin^2(I_a) + \cos^2(I_a) \cdot \cos^2(D - \theta)] \cdot [\sin^2(I) + \cos^2(I) \cdot \cos^2(D - \theta)]}$$

where: I is geomagnetic inclination in ° from horizontal
D is geomagnetic declination in ° azimuth from magnetic north
I_a is the inclination for amplitude correction (never less than I). Default is ± 20°. If $|I_a|$ is specified to be less than $|I|$, it is set to I

6.3.7 Horizontal Gradient

Calculated Horizontal Gradient (CHG) is the magnitude of the total horizontal gradient of Residual Magnetic Intensity. It is used to estimate contact locations of magnetic bodies at shallow depths, reveal anomaly texture, and highlight anomaly-pattern discontinuities.

If M is the magnetic field, then the CHG is calculated as:

$$\mathrm{CHG}(x, y) = \sqrt{\left(\frac{\partial M}{\partial x}\right)^2 + \left(\frac{\partial M}{\partial y}\right)^2}$$

6.3.8 Calculation of Vertical Gradient

Calculated Vertical Gradient (CVG) is the first order vertical derivative of the leveled Residual Magnetic Intensity (RMI) data. It is the vertical rate of change in the magnetic field per unit distance. The vertical gradient is used to enhance shorter wavelength signals; therefore, edges of magnetic anomalies are highlighted, and deep geologic sources in the data are suppressed.

The first vertical derivative calculated from the RMI was designated as Calculated Vertical Gradient of RMI, or CVG.

The filter, L, used to produce the n^{th} vertical derivative is described by:

$$L(r) = r^n$$

where: r is the radial component in the wavenumber domain

6.4 VLF-EM Processing

Total field strength and vertical quadrature VLF-EM data were acquired for NLK Jim Creek, and vertical quadrature data for NAA Cutler were acquired. The data were lagged and then normalized to the mean of all the survey lines. Then the data were leveled and a 2D high pass filter was applied to the gridded data to isolate low frequency noise and generate a decorrugated and clean data set.

To convert cross-over of the current polarity into peaks, a Fraser filter was applied by differencing successive values of the in-phase component along the profile in accordance with the formula:

$$f_i = -p_{i-2} - p_{i-1} + p_{i+1} + p_{i+2}$$

where: p_i is the i^{th} data point of the vertical quadrature field

The Fraser filter converts maximum gradients to peaks so that positive anomalies correspond directly with ground conductors to allow contouring. Lastly, a directional correction was applied to the Fraser filtered vertical quadrature data to remove the remaining line errors and a small decorrugation filter was applied to smooth the final data.

6.5 Radiometric Processing

Radiometric surveys map gamma rays from the concentration of radioelements at or near Earth's surface; typically up to 1 m below surface. Before airborne radiometric data are processed, the spectrometer system is calibrated with the calibration pad test, cosmic flight test, and altitude correction and sensitivity test. Once calibration of the system was completed, radiometric data were processed by windowing the full 256 channel spectrum to create individual channels for U, Th, K, and total count (TC).

Potassium (^{40}K) is measured directly at 1.461 MeV, and is reported as %K. Secular equilibrium in the decay chains of uranium (^{238}U determined from the radon daughter ^{214}Bi) and thorium (^{232}Th determined from ^{208}Tl) is assumed and the ground concentration results are reported as equivalent uranium (eU, ppm) and equivalent thorium (eTh, ppm). Total gamma count (TC) data (energy range from 0.41 to 2.81 MeV) is reported in dose rate (nGy/hr).

Radiometric processing generally followed the procedures provided by the International Atomic Energy Agency (IAEA) report 1363, *Guidelines for Radioelement Mapping using Gamma Ray Spectrometry Data*.

6.5.1 Calculation of Effective Height

Effective height (h_{ef}) in meters was determined using laser/radar altimeter, temperature, and pressure data, according to the formula below:

$$h_{ef} = h * \frac{273.15}{T + 273.15} * \frac{P}{1013.25}$$

where: h is observed laser/radar altitude in meters

T is measured air temperature in degrees Celsius
P is barometric pressure in millibars

6.5.2 Aircraft and Cosmic Background Corrections

Aircraft background and cosmic stripping corrections are applied to total gamma count and all three individual radioelements using the following formula:

$$C_{ac} = a_c + b_c * Cos_f$$

where: C_{ac} is the background and cosmic corrected channel
a_c is the aircraft background for this channel
b_c is the cosmic stripping coefficient for this channel
Cos_f is the filtered cosmic channel

6.5.3 Radon Background Correction

Atmospheric radon can influence the gamma response of airborne radiometric data. The upward-looking detector provides directional sensitivity and the ability to discriminate between radiation from the atmosphere and radiation from the ground, to allow the removal of atmospheric radon effects from the downward-looking detectors.

Radon contribution to the uranium window of the "downward" uranium window is given by:

$$U_r = \frac{u - a_1 U - a_2 T + a_2 b_t - b_u}{a_u - a_1 - a_2 a_t}$$

where: U_r is radon background in the "downward" U window
u is count rate in the "upward" U window
U is count rate in the "downward" U window
T is count rate in the "downward" Th window
a_1, a_2, a_u, a_t, b_u, and b_t are constants derived by calibration

6.5.4 Compton Stripping

Spectral overlap corrections are applied to potassium, uranium, and thorium as part of the Compton stripping process. This is done by using the stripping ratios that have been calculated for the spectrometer by prior calibration.

For each of the stripping ratios α, β, and γ, height corrections at STP are made by using the following formulas:

$$\alpha_h = \alpha + h_{ef} * 0.00049$$

$$\beta_h = \beta + h_{ef} * 0.00065$$

$$\gamma_h = \gamma + h_{ef} * 0.00069$$

where: α, β, and γ are the Compton stripping coefficients
α_h, β_h, and γ_h are the height-corrected Compton stripping coefficients
h_{ef} is the effective height above ground in metres at STP

Stripping corrections are then carried out using the following formulas:

$$Th_c = Th_{bc}(1 - g\beta_h) + U_{bc}(b\gamma_h - a) + K_{bc}(ag - b)/A$$

$$U_c = Th_{bc}(g\beta_h - \alpha_h) + U_{bc}(1 - b\beta_h) + K_{bc}(b\alpha_h - g)/A$$

$$K_c = [Th_{bc}(\alpha_h\gamma_h - \beta_h) + U_{bc}(a\beta_h - \gamma_h) + K_{bc}(1 - a\alpha_h)]/A$$

where: U_c, Th_c, and K_c are stripping-corrected uranium, thorium, and potassium
α_h, β_h, and γ_h are height-corrected Compton stripping coefficients
U_{bc}, Th_{bc}, and K_{bc} are background corrected uranium, thorium, and potassium
a is the spectral ratio Th/U
b is the spectral ratio Th/K
g is the spectral ratio U/K
$A = 1 - g\gamma_h - (\alpha_h - g\beta_h) - b(\beta_h - \alpha_h\gamma_h)$ is the backscatter correction

6.5.5 Attenuation Corrections

Total count, potassium, uranium, and thorium data are then corrected to a nominal survey altitude (corrected to remove vegetation clutter from radar/laser altimeter data); in this case the nominal survey height was 50 m AGL. This is done according to the equation:

$$C_a = C * e^{\mu(h_{ef} - h_0)}$$

where: C_a is the output altitude-corrected channel
C is the input channel
μ is the attenuation correction for that channel
h_{ef} is the effective altitude
h_0 is the nominal survey altitude used as datum

6.5.6 Conversion to Apparent Radioelement Concentrations

With all corrections applied to the radiometric data, the final step is to convert the corrected potassium (^{40}K), uranium (from ^{214}Bi), and thorium (from ^{212}Tl) to apparent radioelement concentrations using the following formula:

$$eE = C_{cor}/S$$

where: eE is the element concentration of K (%) and equivalent element concentrations of U (ppm) & Th (ppm)
S is the experimentally determined sensitivity
C_{cor} is the fully corrected channel

Conversion of total count to natural exposure rate (Grasty et al, 1984) is determined by using the following formula:

$$\text{Natural Exposure} = [(1.505 * K) + (0.625 * eU) + (0.31 * eTh)]$$

where: Natural Exposure is in μR/hr
K is the concentration of potassium (%)
eU is the equivalent concentration of uranium (ppm)
eTh is the equivalent concentration of thorium (ppm)

6.5.7 Radiometric Ratios

Common radiometric ratios (U/Th, Th/K, U/K, and their inverses) were calculated using the guidelines of the IAEA. Due to statistical uncertainties in the individual radioelement measurements, care was taken during ratio calculation in order to obtain statistically significant values. The following guidelines were used to determine the ratios:

1. For each concentration, the lowest corrected count rate is determined.
2. Element concentrations of adjacent points on either side of each data point are summed until they exceed a pre-determined threshold value.
3. The ratios are calculated using the accumulated sums.

With these guidelines, errors associated with the calculated ratios are minimized and comparable for all data points.

6.5.8 Ternary Radioelement Image Map

Ternary images are a graphic representation of the relative proportion of the radioelement concentrations of %K, eTh, and eU components in proportion to the respective colours blue (cyan), red (magenta), and yellow. Since each distinct colour is used to represent each ternary ratio on the map, zones with similar ratios will be represented by a unique colour. This distinct relationship between colour and ternary ratio allows the map to show surficial radioelement concentration and distribution. Dark and light colours indicate high and low values for all three radionuclides, respectively. Areas of low radioactivity, and consequently low signal to noise ratios, can be masked and are shaded in white. Because the ternary image is a three-way ratio, topographic and physiographic effects are suppressed and a visualization of the relative concentrations of the individual radioelements are presented to help discriminate between different zones of lithology and alteration.

7.0 Deliverables

Eagle Mountain survey block data are presented as digital databases, grids, maps, and a logistics report.

7.1 Digital Data

Digital files have been provided in three formats:

- GDB file for use in Geosoft Oasis Montaj,
- XYZ file,
- CSV Excel comma separated file.

Full descriptions of the digital data and contents are included in Appendix C.

7.1.1 Grids

The digital data were represented as grids as listed below:

- Digital Terrain Model (DTM)
- Total Magnetic Intensity (TMI)
- Residual Magnetic Intensity (RMI) – removal of IGRF from TMI
- Reduced to Magnetic Pole (RTP) – reduced to magnetic pole of RMI
- Calculated Horizontal Gradient (CHG) – total magnitude of the horizontal gradients of RMI
- Calculated Vertical Gradient (CVG) – first order vertical derivative of RMI
- NLK Total Field (NLK_TF) – Total Field tuned to NLK transmitter station
- NLK Vert Quad (NLK_VQ) – Vertical Quadrature tuned to NLK transmitter station
- NAA Vert Quad (NAA_VQ) – Vertical Quadrature tuned to NAA transmitter station
- Potassium – Percentage (%K)
- Thorium – Equivalent Concentration (eTh)
- Uranium – Equivalent Concentration (eU)

- Total Count (TC)
- Total Count – Exposure Rate (TCexp)
- Potassium over Thorium Ratio (%K/eTh)
- Potassium over Uranium Ratio (%K/eU)
- Uranium over Thorium Ratio (eU/eTh)
- Uranium over Potassium Ratio (eU/%K)
- Thorium over Potassium Ratio (eTh/%K)
- Thorium over Uranium Ratio (eTh/eU)
- Ternary Image (TI)

Digital magnetic, VLF-EM, and radiometric data were gridded and displayed using the following Geosoft parameters:

- Gridding method: minimum curvature
- Grid cell size: 25 m
- Low-pass desampling factor: 2
- Tolerance: 0.001
- % pass tolerance: 99.99
- Maximum iterations: 100
- Shading effect: sun inclination at 45° and declination at 045°

Gradient magnetic grids were drawn with a wet-look colour shade and all other magnetic, VLF-EM, and radiometric grids were drawn with a conventional RGB colour shade. More description of colour scales are described in Appendix C.

7.2 KMZ

Gridded digital data were exported into .KMZ files which can be displayed using Google Earth. The grids can be draped onto topography and rendered to give a 3D view.

7.3 Maps

The following digital map products were prepared for Eagle Mountain:

Overview Maps (colour images with elevation contour lines):

- Actual flight lines, with topographic features
- DTM

Magnetic Maps (colour images with elevation contour lines):

- TMI, with actual flight lines and topographic features
- TMI

- RMI
- RTP
- CHG
- CVG

VLF-EM Maps (colour images with elevation contour lines):

- NLK_TF
- NLK_VQ
- NAA_VQ

Radiometric Maps (colour images with elevation contour lines):

- %K – Percentage
- eTh – Equivalent Concentration
- eU – Equivalent Concentration
- TC
- TCexp – Exposure Rate
- %K/eTh Ratio
- %K/eU Ratio
- eU/eTh Ratio
- eU/%K Ratio
- eTh/%K Ratio
- eTh/eU Ratio
- Ternary Image

All survey maps were prepared in WGS 84 in UTM Zone 9N.

7.4 Report

A .PDF copy of the logistics report is included along with digital data and maps. The report provides information on acquisition, processing, and presentation of the Eagle Mountain survey block data.

8.0 Conclusions and Recommendations

The Eagle Mountain survey collected 438 line km of high resolution magnetic, VLF-EM, and radiometric data over one survey block. The data have been processed and plotted on maps as a representation of the magnetic, radiometric, and conductive features of the survey area.

Geophysical data processing, particularly leveling and data interpolation routines, may tend to smooth the original data so that resolution is reduced. In addition, gridding algorithms are not always able to properly calculate grids where flight height between adjacent flight lines varied due to cultural obstacles or steep terrain, where geological structures are acute to flight lines, where line spacing exceeds the size of the causative anomaly, or near grid margins as in "edge effects." Therefore, subtle geophysical features observed near survey margins or in gridded and derivative-enhanced products must be evaluated with discretion.

The airborne geophysical data were acquired to map the geophysical characteristics of the survey area, which are in turn related to the distribution of magnetic minerals, radioactive elements, and shallow conductor in the Earth. Magnetic patterns correspond to the concentration and distribution of magnetite and other magnetic minerals in the subsurface. Radiometric data are influenced by topographic features and surficial effects, and ratios can be used to evaluate the near-surface radioelement geochemistry of the survey area. When magnetic, VLF-EM, and radiometric data are integrated into a single-pass airborne survey, they provide complementary information that serves as a durable geophysical framework. Therefore, the geophysical data will be useful in mapping lithology, structure, and alteration, which will benefit mineral exploration initiatives and geological studies.

Geophysical data are rarely a direct indication of mineral deposits and therefore interpretation and careful integration with existing and new geological, geochemical, and other geophysical data are recommended to maximize value from the survey investment.

Respectfully submitted,
Precision GeoSurveys Inc.

Shawn Walker, P.Geo.
October 2021

Appendix A

Eagle Mountain Polygon Coordinates

Eagle Mountain Survey Block – WGS 84 Zone 9N

Latitude (deg N)	Longitude (deg W)	Easting (m)	Northing (m)
59.07433	129.50856	470845	6548439
59.07415	129.37044	478763	6548368
59.02895	129.37045	478735	6543334
59.02895	129.50795	470842	6543387

Appendix B

Equipment Specifications

- GEM GSM-19T Proton Precession Magnetometer (Magnetic Base Station)
- Hemisphere R330 GPS Receiver
- Opti-Logic RS800 Rangefinder Laser Altimeter
- Scintrex CS-3 Survey Magnetometer
- Billingsley TFM100G2 Ultra Miniature Triaxial Fluxgate Magnetometer
- Herz Totem-2A VLF-EM System
- Setra Model 276 Barometric Pressure Sensor
- Rotronic HygroClip HC-S3 Relative Humidity and Temperature Probe
- Nuvia Dynamics Advanced Gamma-Ray Spectrometer (AGRS-5)
- Nuvia Dynamics IMPAC data recorder system (for navigation and geophysical data acquisition)

GEM GSM-19T Proton Precession Magnetometer (Magnetic Base Station)

Sensitivity	0.15 nT @ 1 Hz
Resolution	0.01 nT (gamma), magnetic field and gradient
Absolute Accuracy	±0.2 nT @ 1 Hz
Operating Range	20,000 nT to 120,000 nT
Gradient Tolerance	Over 7,000 nT/m
Operating Ranges	Temperature: -40°C to +50°C Battery Voltage: 10.0 V minimum to 15 V maximum Humidity: up to 90% relative, non-condensing
Storage Temperature	-50°C to +50°C
Dimensions	Console: 223 x 69 x 40 mm Sensor Staff: 4 x 450 mm sections Sensor: 170 x 71 mm dia. Weight: console 2.1 kg, sensor and staff assembly 2.2 kg
Integrated GPS	Yes

Hemisphere R330 GPS Receiver

GPS Sensor	Receiver Type	L1 and L2 RTK with carrier phase	
	Channels	12 L1CA GPS 12 L1P GPS 12 L2P GPS 12 L2C GPS 12 L1 GLONASS (with subscription code) 12 L2 GLONASS (with subscription code) 3 SBAS or 3 additional L1CA GPS	
	Update Rate	10 Hz standard, 20 Hz available	
	Cold Start Time	<60 s	
	Warm Start Time 1	30 s (valid ephemeris)	
	Warm Start Time 2	30 s (almanac and RTC)	
	Hot Start Time	10 s typical (valid ephemeris and RTC)	
	Reacquisition	<1 s	
	Differential Options	SBAS, Autonomous, External RTCM, RTK, OmniSTAR (HP/XP)	
Horizontal Accuracy		RMS (67%)	2DRMS (95%)
	RTK [1, 2]	10 mm + 1 ppm	20 mm + 2 ppm
	OmniSTAR HP [1, 3]	0.1 m	0.2 m
	SBAS (WAAS) [1]	0.3 m	0.6 m
	Autonomous, no SA [1]	1.2 m	2.5 m
L-Band Sensor	Channel	Single channel	
	Frequency Range	1530 MHz to 1560 MHz	
	Satellite Selection	Manual or Automatic (based on location)	
	Startup and Satellite Reacquisition Time	15 seconds typical	
Communications	Serial Ports	2 full duplex RS232	
	Baud Rates	4800 – 115200	
	USB Ports	1 Communications, 1 Flash Drive data storage	
	Correction I/O Protocol	Hemisphere GPS proprietary, RTCM v2.3 (DGPS), RTCM v3 (RTK), CMR, CMR+NMEA 0183, Hemisphere GPS binary	
	Timing Output	1 PPS (HCMOS, active high, rising edge sync, 10 kΩ, 10 pF load)	
	Event Marker Input	HCMOS, active low, falling edge sync, 10 kΩ	
Environmental	Operating Temperature	-40°C to +70°C	
	Storage Temperature	-40°C to +85°C	
	Humidity	95% non-condensing	
Power GPS Sensor	Input Voltage Range	8 to 36 VDC	
	Consumption, RTK	<3.5 W (0.30 A @ 12 VDC typical)	
	Consumption, OmniSTAR	<4.3 W (0.36 A @ 12 VDC typical)	

[1]Depends on multipath environment, number of satellites in view, satellite geometry and ionospheric activity.
[2] Depends also on baseline length.
[3] Requires a subscription from OmniSTAR.

Opti-Logic RS800 Rangefinder Laser Altimeter

Accuracy	±1 m on 1x1 m^2 diffuse target with 50% reflectivity, up to 700 m
Resolution	0.2 m
Communication Protocol	RS232-8, N, 1 ASCII characters
Baud Rate	19200
Data Raw Counts	~200 Hz
Data Calibrated Range	~10 Hz
Data Rate	~200 Hz raw counts for un-calibrated operation; ~10 Hz for calibrated operation (averaging algorithm seeks 8 good readings)
Calibrated Range Units	Feet, Meters, Yards
Laser	Class I (eye-safe), 905 nm ± 10 nm
Power	7 - 9 VDC conditioned required, current draw at full power (~ 1.8 W)
Laser Wavelength	RS100 905 nm ± 10 nm
Laser Divergence	Vertical axis – 3.5 mrad half-angle divergence; Horizontal axis – 1 mrad half-angle divergence; (approximate beam "footprint" at 100 m is 35 cm x 5 cm)
Dimensions	32 x 78 x 84 mm (lens face cross section is 32 x 78 mm)
Weight	<227 g (8 oz)
Casing	RS100/RS400/RS800 units are supplied as OEM modules consisting of an open chassis containing optics and circuit boards. Custom housings can be designed and built on request.

Scintrex CS-3 Magnetometer

Operating Principal	Self-oscillating split-beam Cesium Vapor (non-radioactive ^{133}Cs)
Operating Range	15,000 nT to 105,000 nT
Gradient Tolerance	40,000 nT/m
Operating Zones	15° to 75° and 105° to 165°
Hemisphere Switching	a) Automatic b) Electronic control actuated by the control voltage levels (TTL/CMOS) c) Manual
Sensitivity	0.0006 nT √Hz rms
Noise Envelope	Typically 0.002 nT peak to peak, 0.1 to 1 Hz bandwidth
Heading Error	±0.20 nT (inside the optical axis to the field direction angle range 15° to 75° and 105° to 165°)
Absolute Accuracy	<2.5 nT throughout range
Output	a) Continuous signal at the Larmor frequency which is proportional to the magnetic field (proportionality constant 3.49857 Hz/nT) sine wave signal amplitude modulated on the power supply voltage b) Square wave signal at the I/O connector, TTL/CMOS compatible
Information Bandwidth	Only limited by the magnetometer processor used
Sensor Head	Diameter: 63 mm (2.5”) Length: 160 mm (6.3”) Weight: 1.15 kg (2.6 lb)
Sensor Electronics	Diameter: 63 mm (2.5”) Length: 350 mm (13.8”) Weight: 1.5 kg (3.3 lb)
Cable, Sensor to Sensor Electronics	3 m (9’ 8”), lengths up to 5 m (16’ 4”) available
Operating Temperature	-40°C to +50°C
Humidity	Up to 100%, splash proof
Supply Power	24 to 35 VDC
Supply Current	Approx. 1.5 A at start up, decreasing to 0.5 A at 20°C
Power Up Time	Less than 15 minutes at -30°C

Billingsley TFM100G2 Ultra Miniature Triaxial Fluxgate Magnetometer

Axial Alignment	Orthogonality better than ±1°
Input Voltage Options	15 to 34 VDC @ 30 mA
Field Measurement Range Options	±100 µT = ±10 V
Accuracy	±0.75% of full scale (0.5% typical)
Linearity	±0.015% of full scale
Sensitivity	100 µV/nT
Scale Factor Temperature Shift	0.007% full scale/°C
Noise	≤12 pT rms/√Hz @ 1 Hz
Output Ripple	3 mV peak to peak @ 2nd harmonic
Analog Output at Zero Field	±0.025 V
Zero Shift with Temperature	±0.6 nT/°C
Susceptibility to Perming	±8 nT shift with ± 5 Gs applied
Output Impedance	332 Ω ± 5%
Frequency Response	3 dB @ >500 Hz (to >4 kHz wide band)
Over Load Recovery	±5 Gs slew <2 ms
Random Vibration	>20 G rms 20 Hz to 2 kHz
Temperature Range	-55°C to +85°C
Acceleration	>60 G
Weight	100 g
Size	3.51 cm x 3.23 cm x 8.26 cm
Connector	Chassis mounted 9 pin male "D" type

Herz Totem-2A VLF-EM System

Primary Source	Magnetic field component radiated from VLF radio transmitters (one or two simultaneously)
Frequency Range	15 kHz – 25 kHz (standard) 10 kHz – 30 kHz (optional)
Sensitivity Range	130 mV m to 100 m V m at 20 kHz, 3 dB down at 14 kHz and 24 kHz
VLF Signal Bandpass	-3 dB at ±80Hz; < 4% variation at ±50Hz
Adjacent Channel Rejection	300 – 800 Hz: 20 – 32 dB 800 – 1500 Hz: 32 – 40 dB >1500 Hz: 40 dB (for < 2% noise envelop)
Out of Band Rejection	10 kHz – 2.5 kHz: 5 x 10^{-4} Am – 5 x 10^{-1} Am; < 2.5 kHz rising at 12 dB octave 30 kHz – 60 kHz: 5 x 10^{-4} Am – 8 x 10^{-3} Am; < 60 kHz rising at 6 dB octave
Output Filter	Time constant 1 sec for 0% - 50% or 10% - 90%, noise bandwidth 0.3 Hz
Internal Noise	1.3 mV m rms (ambient noise will exceed this)
Inputs	Power: 23 – 32 VDC 0.5 A, fused
Dimensions and Weight	Console: 480 x 45 x 340 mm (19 x 1.75 x 13.4 inches) 3.8 kg (8.3 lb)

Setra Model 276 Barometric Pressure Sensor

Performance	Accuracy RSS[1] (at constant temp)	±0.25% FS[2]
	Non-Linearity (BSFL)	±0.22% FS
	Hysteresis	0.05% FS
	Non-Repeatability	0.05% FS
	Thermal Effects[3]	Compensated range: 0°C to +55°C (+30°F to +130°F) Zero shift (over compensated range): 1% FS Span shift (over compensated range): 1% FS
	Resolution	Infinite, limited only by output noise level (0.0005% FS)
	Time Constant	10 msecs to reach 90% final output with step function pressure input
	Long Term Stability	0.25% FS / 6 months
Environmental	Temperature	Operating[4]: -18°C to +79°C (0°F to +175°F) Storage: -55°C to +121°C (-65°F to +250°F)
	Vibration	2 g from 5 Hz to 500 Hz
	Shock	50 g (Operating, 1/2 sine 10 ms)
	Acceleration	10 g
Electrical	Circuit	3-Wire[5] (Exc, Out, Com)
	Power Consumption	0.20 W (24 VDC)
	Output Impedance	5 Ω
	Output Noise	<200 µV RMS (0 to 100 Hz)

[1] RSS of non-linearity, hysteresis, and non-repeatability.
[2] FS = 300 mb for 800 – 1100 mb range; 500 for 600 – 1100 mb range; and 20 PSI for 0 to 20 PSIA.
[3] Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.
[4] Operating temperature limits of the electronics only. Pressure media temperatures may be considerable higher or lower.
[5] The separate leads for +EXC, -EXC, +Out, -Out are commoned internally. The shield is connected to the case. For best performance, either the -Exc or -Out should be connected to the case. Unit is calibrated at the factory with -Exc connected to the case. The insulation resistance between all signal leads are tied together and case ground is 100 Ω minimum at 25 VDC.

Rotronic HygroClip HC-S3 Relative Humidity and Temperature Probe

Relative Humidity	Operating Range	0 to 100% RH
	Accuracy at 23°C	±1.5% RH
	Output	0 – 1 VDC
	Typical Long-Term Stability	Better than ±1% RH per year
Temperature	Measurement Range	-40°C to +60°C
	Temperature Accuracy	-30°C to +60°C ±0.2°C -50°C to +60°C ±0.6°C (worst case)
	Output	0 – 1 VDC
Power	Supply Voltage	3.5 to 50 VDC (typically powered by data logger's 12 VDC supply)
	Current Consumption	<4 mA
Dimensions	Diameter	1.53 cm (0.60")
	Length	16.8 cm (6.6")
	Housing Material	Polycarbonate

Nuvia Dynamics Advanced Gamma-Ray Spectrometer (AGRS-5)

Crystal Volume	Four 4.2 L NaI(Tl) synthetic downward-looking and one 4.2 L NaI(Tl) upward-looking crystals. Total volume of 21 L
Resolution	256/512/1024 channels
Data Handling	Individual detector processing and calibration
Energy Resolution	< 9% (@ 662 keV)
Differential Non-linearity	< 0.1%
Integral Non-linearity	< 0.01%
Gain Stabilization	Automatic multi-peak on natural radioisotopes
Calibration	Automatic using natural background radiation
Dynamic Input Range	250,000 cps (counts/sec) per detector
Baseline Restoration	Digital Individual Pulse Baseline Restoration (IPBR). The baseline is established for each individual pulse for maximum pulse height accuracy
Sampling Rate	0.1 – 10 secs user defined
Pulse Shaping	Digital Pulse Shaping
Power	9 to 40 VDC, 15 W
Detector Power	3 W per detector
Operating Temperature	-20°C up to +50°C
Downward Shielding	6 mm thick lead plate is used for downward-shielding
Upward Shielding	RayShield® non-radioactive shielding on downward-looking crystals
Spectra	20 keV to 3 MeV (plus cosmic)
System Stabilization	Cold start-up: less than 40 secs on the ground
GPS Connectivity	Time and position synchronization; additional add-on
Weight	~115 kg

Nuvia Dynamics IMPAC data recorder system

(for navigation and geophysical data acquisition)

Functions	Integrated Multi-Parameter Airborne Console (IMPAC) with integrated dual Global Positioning System Receiver (GPS) and all necessary navigation guidance software. Inputs for geophysical sensors - portable gamma ray spectrometer GRS-10/AGRS, MMS4/MMS8 Magnetometer, Herz Totem-2A EM, A/D converter, temperature/humidity probe, barometric pressure probe, and laser/radar altimeter. Output for the multi-parameter PGU (Pilot Guidance Unit)
Display	Monitor display 600 x 800 pixels; customized keypad and operator keyboard. Multi-screen options for real-time viewing of all data inputs, fiducial points, flight line tracking, and GPS channels by operator
Navigation	Pilot/operator navigation guidance. Software supports preplanned survey flight plan, along survey lines, way-points, preplanned drape profile surfaces
Data Sampling	Sensor dependent
Data Synchronization	Synchronized to GPS position. Supports dual GPS
Data File	PEI Binary data format
Storage	80 GB
Software	DataView: Allows fast data verification and conversion of PEI binary data to Geosoft GBN or ASCII formats MAGConv: For survey preparation, calibration and conversion of maps, and survey plot after data acquisition MAGComp: For calculation of magnetic compensation coefficients AGRS/GRS10 Calibration: High voltage adjustment, linearity correction coefficients calculation, and communication test support AGIS: Real time data acquisition and navigation system. Displays chart/spectrum view in real-time for fast data Quality Control (QC)
Electrical	Multiple ethernet connections, RS232 serial ports, USB ports, and 16-bit differential analog input channels. It can support up to 4 magnetometer sensors
Power Requirement	24 VDC

Appendix C

Digital File Descriptions

- Magnetic and VLF-EM Database
- Radiometric Database
- Geosoft Grids
- Maps

Magnetic and VLF-EM Database:

Abbreviations used in the GDB/XYZ/CSV files are listed below:

CHANNEL	UNITS	DESCRIPTION
X_WGS84	m	UTM Easting – WGS84 Zone 9N
Y_WGS84	m	UTM Northing – WGS84 Zone 9N
Lat_deg	Decimal degree	Latitude – WGS84
Lon_deg	Decimal degree	Longitude – WGS84
Date	yyyy/mm/dd	Dates of the survey flight(s) – Local
FLT		Flight number(s)
LineNo		Line numbers
STL		Number of satellite(s)
GPSfix		1 = non-differential 2 = WAAS/SBAS differential
Heading	degree	Heading of the aircraft
GPStime	HH:MM:SS	GPS time (UTC)
Geos_m	m	Geoidal separation
XTE_m	m	Cross track error
Galt	m	GPS height – WGS84 Zone 9N (ASL)
Lalt	m	Laser altimeter readings (AGL)
DTM	m	Digital Terrain Model
Sample_Density	m	Horizontal distance in meters between adjacent measurement locations; sample frequency is 20 Hz
Speed_km_hr	km/hr	Ground speed of aircraft in km/hr
basemag	nT	Base station temporal variation data
IGRF	nT	International Geomagnetic Reference Field, IGRF-13
Declin	Decimal degree	Calculated declination of magnetic field
Inclin	Decimal degree	Calculated inclination of magnetic field
XFg_Step	step	X - fluxgate
YFg_Step	step	Y - fluxgate
ZFg_Step	step	Z - fluxgate
Mag_Head	nT	Diurnal, lag, and heading corrected
TMI	nT	Total Magnetic Intensity
RMI	nT	Residual Magnetic Intensity
NLK_TF		NLK (Jim Creek) Total field VLF-EM
NLK _VQ		NLK (Jim Creek) Vertical Quadrature VLF-EM
NAA _VQ		NAA (Cutler) Vertical Quadrature VLF-EM

Radiometric Database:

Abbreviations used in the GDB/XYZ/CSV files are listed below:

CHANNEL	UNITS	DESCRIPTION
X_WGS84	m	UTM Easting – WGS84 Zone 9N
Y_WGS84	m	UTM Northing – WGS84 Zone 9N
Lat_deg	Decimal degree	Latitude – WGS84
Lon_deg	Decimal degree	Longitude – WGS84
Date	yyyy/mm/dd	Date of the survey flight(s) – Local
FLT		Flight number(s)
LineNo		Line numbers
STL		Number of satellite(s)
GPStime	HH:MM:SS	GPS time (UTC)
Geos_m	m	Geoidal separation
GPSFix		1 = non-differential 2 = WAAS/SBAS differential
Heading	degree	Heading of the aircraft
XTE_m	m	Cross track error
Galt	m	GPS height – WGS84 Zone 9N (ASL)
Lalt	m	Laser altimeter height (AGL)
DTM	m	Digital Terrain Model
Sample_Density	m	Horizontal distance in metres between adjacent measurement locations; sample frequency is 20 Hz
Speed_km_hr	km/hr	Ground speed of aircraft in km/hr
BaroSTP_kPa	kPa	Barometric altitude (pressure and temperature corrected)
Temp_degC	°C	Ambient air temperature
Press_kPa	kPa	Atmospheric pressure
COSFILT	counts/sec	Spectrometer – Filtered Cosmic
UPUFILT	counts/sec	Spectrometer – Filtered Upward Uranium
Kcor	%	Concentration in Percentage - Potassium
Thcor	ppm	Equivalent Concentration - Thorium
Ucor	ppm	Equivalent Concentration - Uranium
TCcor	nGy/hour	Total Count
TCexp	μR/hour	Exposure Rate
KThratio		Spectrometer –%K/eTh ratio
KUratio		Spectrometer –%K/eU ratio
ThKratio		Spectrometer – eTh/%K ratio
ThUratio		Spectrometer – eTh/eU ratio
UKratio		Spectrometer – eU/%K ratio
UThratio		Spectrometer – eU/eTh ratio

Grids:

Eagle Mountain, WGS 84 Zone 9N, sun inclination at 45° and declination at 045°

File Name	Description	Cell Size (m)
21185_EagleMountain_DTM_25m.grd	Digital Terrain Model	25
21185_EagleMountain_TMI_25m.grd	Total Magnetic Intensity	25
21185_EagleMountain_RMI_25m.grd	Residual Magnetic Intensity	25
21185_EagleMountain_RTP_25m.grd	Reduced to Magnetic Pole of RMI	25
21185_EagleMountain_CHG_25m.grd	Calculated Horizontal Gradient of RMI	25
21185_EagleMountain_CVG_25m.grd	Calculated Vertical Gradient of RMI	25
21185_EagleMountain_NLK_TF_25m.grd	VLF-EM NLK (Jim Creek) Total Field	25
21185_EagleMountain_NLK_VQ_25m.grd	VLF-EM NLK (Jim Creek) Vertical Quadrature	25
21185_EagleMountain_NAA_VQ_25m.grd	VLF-EM NAA (Cutler) Vertical Quadrature	25
21185_EagleMountain_K_25m.grd	Potassium (%K) – in percentage	25
21185_EagleMountain_eTh_25m.grd	Thorium (eTh) – equivalent concentration	25
21185_EagleMountain_eU_25m.grd	Uranium (eU) – equivalent concentration	25
21185_EagleMountain_TC_25m.grd	Total Count (TC)	25
21185_EagleMountain_TCexp_25m.grd	Total Count (TCexp) – exposure rate	25
21185_EagleMountain_KThRatio_25m.grd	Potassium over Thorium ratio (%K/eTh)	25
21185_EagleMountain_KURatio_25m.grd	Potassium over Uranium ratio (%K/eU)	25
21185_EagleMountain_UThRatio_25m.grd	Uranium over Thorium ratio (eU/eTh)	25
21185_EagleMountain_UKRatio_25m.grd	Uranium over Potassium ratio (eU/%K)	25
21185_EagleMountain_ThKRatio_25m.grd	Thorium over Potassium ratio (eTh/%K)	25
21185_EagleMountain_ThURatio_25m.grd	Thorium over Uranium ratio (eTh/eU)	25

Maps:

Eagle Mountain, WGS 84 Zone 9N, sun inclination at 45° and declination at 045° (JPEG, PDF, and georeferenced PDF)

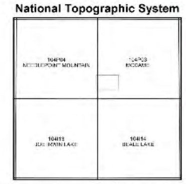
Plate Num	Plate Name	File Name	Description	Cell Size (m)	Colour Scale	Colour Shade
1	FL	21185_EagleMountain_ActualFlightLines	Plotted actual flown flight lines	NA	NA	NA
2	DTM	21185_EagleMountain_DTM_25m	Digital Terrain Model	25	Linear	NA
3	TMI_wFL	21185_EagleMountain_TMI_wFL_25m	Total Magnetic Intensity with actual flown flight lines	25	Histogram-equalized	RGB
4	TMI	21185_EagleMountain_TMI_25m	Total Magnetic Intensity	25	Histogram-equalized	RGB
5	RMI	21185_EagleMountain_RMI_25m	Residual Magnetic Intensity	25	Histogram-equalized	RGB
6	RTP	21185_EagleMountain_RTP_25m	Reduced to Magnetic Pole of RMI	25	Histogram-equalized	RGB
7	CHG	21185_EagleMountain_CHG_25m	Calculated Horizontal Gradient of RMI	25	Histogram-equalized	Wet-look
8	CVG	21185_EagleMountain_CVG_25m	Calculated Vertical Gradient of RMI	25	Histogram-equalized	Wet-look
9	NLK_TF	21185_EagleMountain_NLK_TF_25m	VLF-EM NLK (Jim Creek) Total Field	25	Histogram-equalized	RGB
10	NLK _VQ	21185_EagleMountain_NLK_VQ_25m	VLF-EM NLK (Jim Creek) Vertical Quadrature	25	Histogram-equalized	RGB
11	NAA_VQ	21185_EagleMountain_NAA_VQ_25m	VLF-EM NAA (Cutler) Vertical Quadrature	25	Histogram-equalized	RGB
12	%K	21185_EagleMountain_K_25m	Potassium (%K) – in percentage	25	Histogram-equalized	RGB
13	eTh	21185_EagleMountain_eTh_25m	Thorium (eTh) – equivalent concentration	25	Histogram-equalized	RGB
14	eU	21185_EagleMountain_eU_25m	Uranium (eU) – equivalent concentration	25	Histogram-equalized	RGB
15	TC	21185_EagleMountain_TC_25m	Total Count (TC)	25	Histogram-equalized	RGB
16	TCexp	21185_EagleMountain_TCexp_25m	Total Count (TCexp) – exposure rate	25	Histogram-equalized	RGB
17	%K/eTh	21185_EagleMountain_KThRatio_25m	Potassium over Thorium ratio (%K/eTh)	25	Histogram-equalized	RGB
18	%K/eU	21185_EagleMountain_KURatio_25m	Potassium over Uranium ratio (%K/eU)	25	Histogram-equalized	RGB
19	eU/eTh	21185_EagleMountain_UThRatio_25m	Uranium over Thorium ratio (eU/eTh)	25	Histogram-equalized	RGB
20	eU/%K	21185_EagleMountain_UKRatio_25m	Uranium over Potassium ratio (eU/%K) gridded at 25 m cell size	25	Histogram-equalized	RGB
21	eTh/%K	21185_EagleMountain_ThKRatio_25m	Thorium over Potassium ratio (eTh/%K)	25	Histogram-equalized	RGB
22	eTh/eU	21185_EagleMountain_ThURatio_25m	Thorium over Uranium ratio (eTh/eU)	25	Histogram-equalized	RGB
23	TI	21185_EagleMountain_TernaryImage_25m	Ternary ratio of all three elements (%K, eTh, eU)	25	Histogram-equalized	RGB-inverted

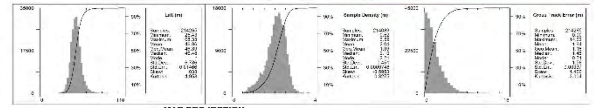
*Grids displayed on the maps are exported as GeoTIFFs (.tiff) and KMZs.

Plates

Eagle Mountain Survey Block

- Plate 1: Eagle Mountain – Actual Flight Lines (FL)
- Plate 2: Eagle Mountain – Digital Terrain Model (DTM)
- Plate 3: Eagle Mountain – Total Magnetic Intensity with Actual Flight Lines (TMI_wFL)
- Plate 4: Eagle Mountain – Total Magnetic Intensity (TMI)
- Plate 5: Eagle Mountain – Residual Magnetic Intensity (RMI)
- Plate 6: Eagle Mountain – Reduced to Magnetic Pole (RTP) of RMI
- Plate 7: Eagle Mountain – Calculated Horizontal Gradient (CHG) of RMI
- Plate 8: Eagle Mountain – Calculated Vertical Gradient (CVG) of RMI
- Plate 9: Eagle Mountain – NLK Total Field (NLK_TF)
- Plate 10: Eagle Mountain – NLK Vertical Quadrature (NLK_VQ)
- Plate 11: Eagle Mountain – NAA Vertical Quadrature (NAA_VQ)
- Plate 12: Eagle Mountain – Potassium - Percentage (%K)
- Plate 13: Eagle Mountain – Thorium - Equivalent Concentration (eTh)
- Plate 14: Eagle Mountain – Uranium - Equivalent Concentration (eU)
- Plate 15: Eagle Mountain – Total Count (TC)
- Plate 16: Eagle Mountain – Total Count - Exposure Rate (TCexp)
- Plate 17: Eagle Mountain – Potassium over Thorium Ratio (%K/eTh)
- Plate 18: Eagle Mountain – Potassium over Uranium Ratio (%K/eU)
- Plate 19: Eagle Mountain – Uranium over Thorium Ratio (eU/eTh)
- Plate 20: Eagle Mountain – Uranium over Potassium Ratio (eU/%K)
- Plate 21: Eagle Mountain – Thorium over Potassium Ratio (eTh/%K)
- Plate 22: Eagle Mountain – Thorium over Uranium Ratio (eTh/eU)
- Plate 23: Eagle Mountain – Ternary Image (TI)





MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

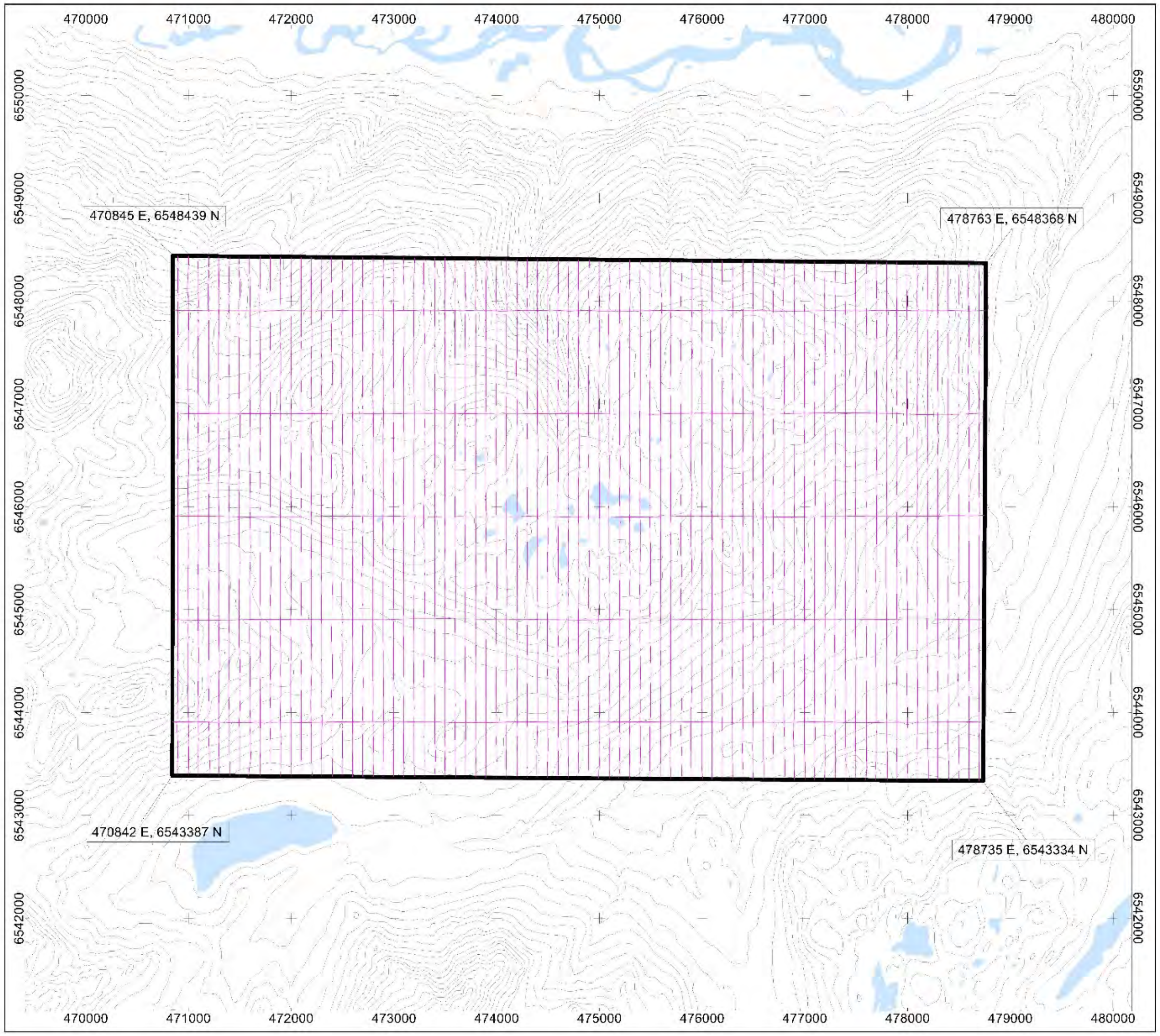
AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(TI)
Upward-Looking Crystal:	4.2 litres of NaI(TI)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

- Water Bodies
- Elevation Contours, 100 ft Intervals
- Eagle Mountain Survey Block Boundary
- Actual Flight Lines

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Scale 1:20000
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(meters)
WGS 84 / UTM zone 9N

Eagle Mountain Survey Block

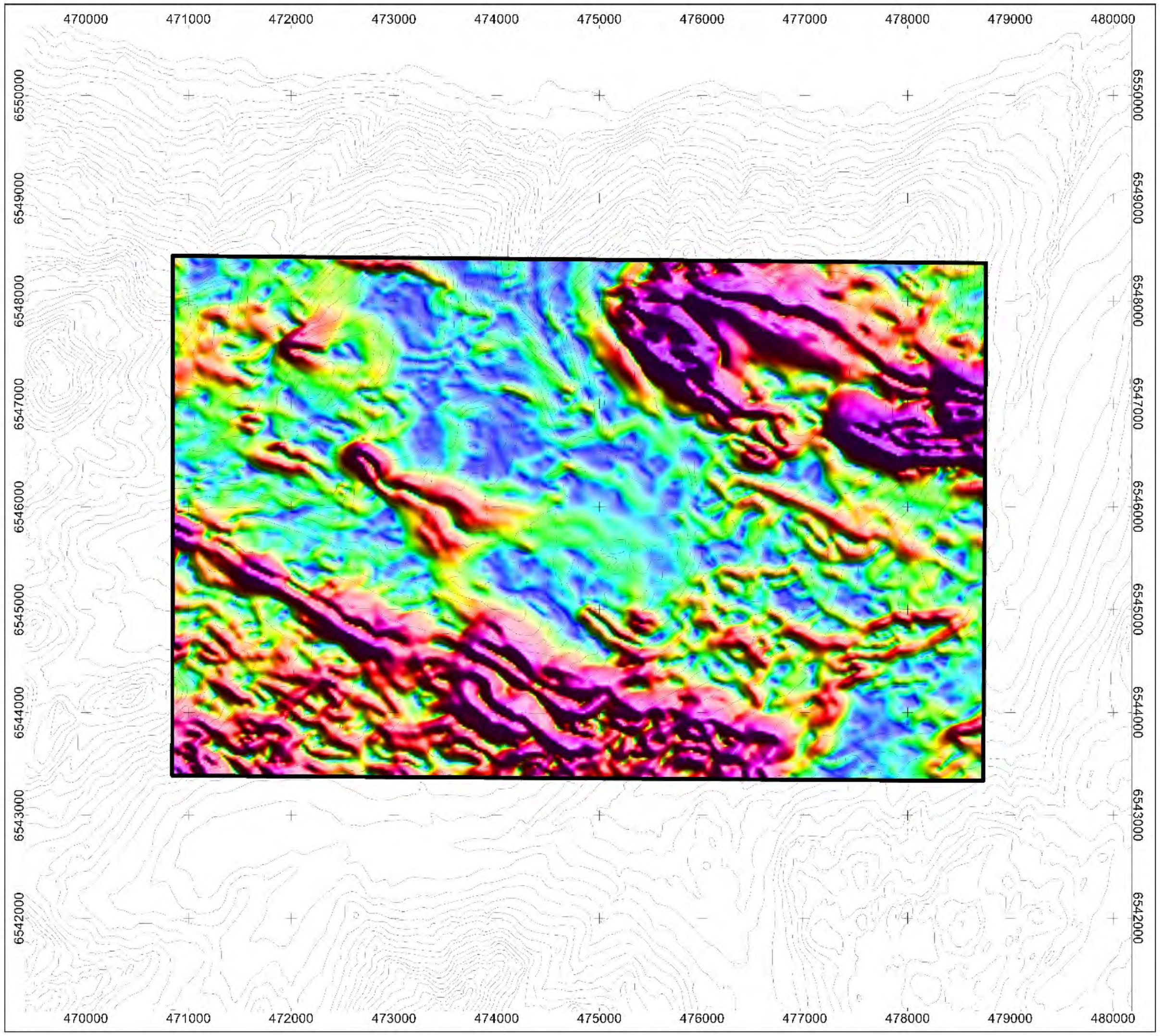
Overview Map

Actual Flight Lines

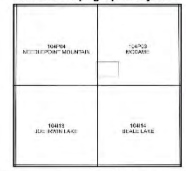
Precision GeoSurveys

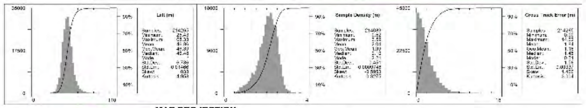
Job #21185
September 30, 2021

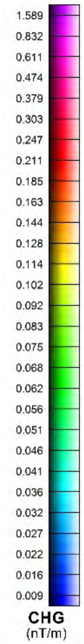
Plate 1
FL



National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals...............
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Calculated Horizontal Gradient (CHG) is the magnitude of the horizontal components of Residual Magnetic Intensity (RMI). Refer to report for details. CHG is represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Magnetic Map

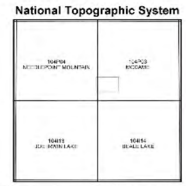
Calculated Horizontal Gradient

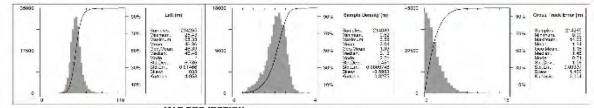
Precision GeoSurveys

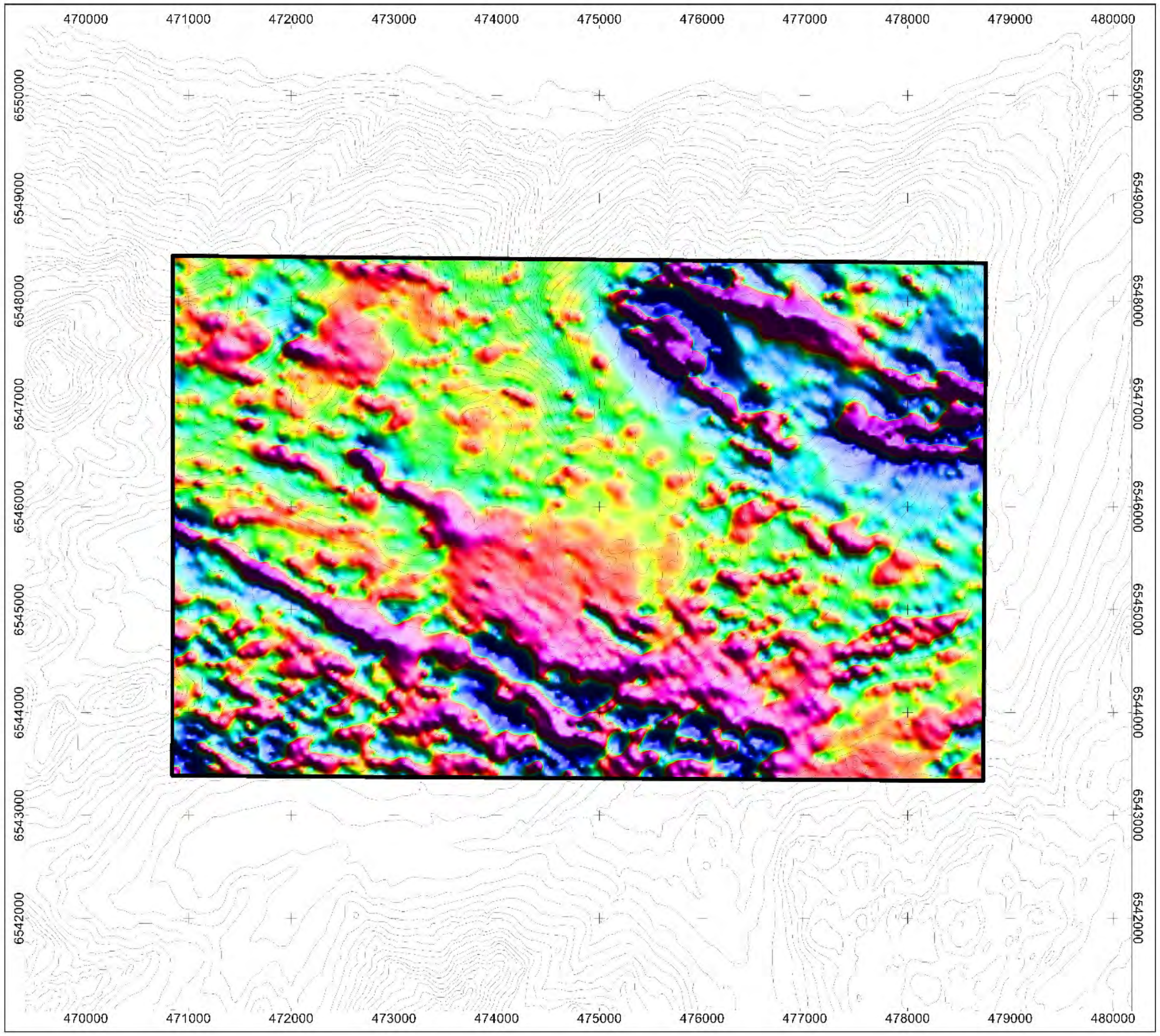
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

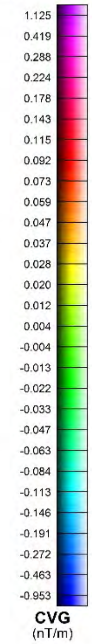
Job #21185
September 30, 2021

Plate 7
CHG









MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals................

Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Calculated Vertical Gradient (CVG) is the first order vertical component of Residual Magnetic Intensity (RMI). Refer to report for details. CVG is represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Magnetic Map

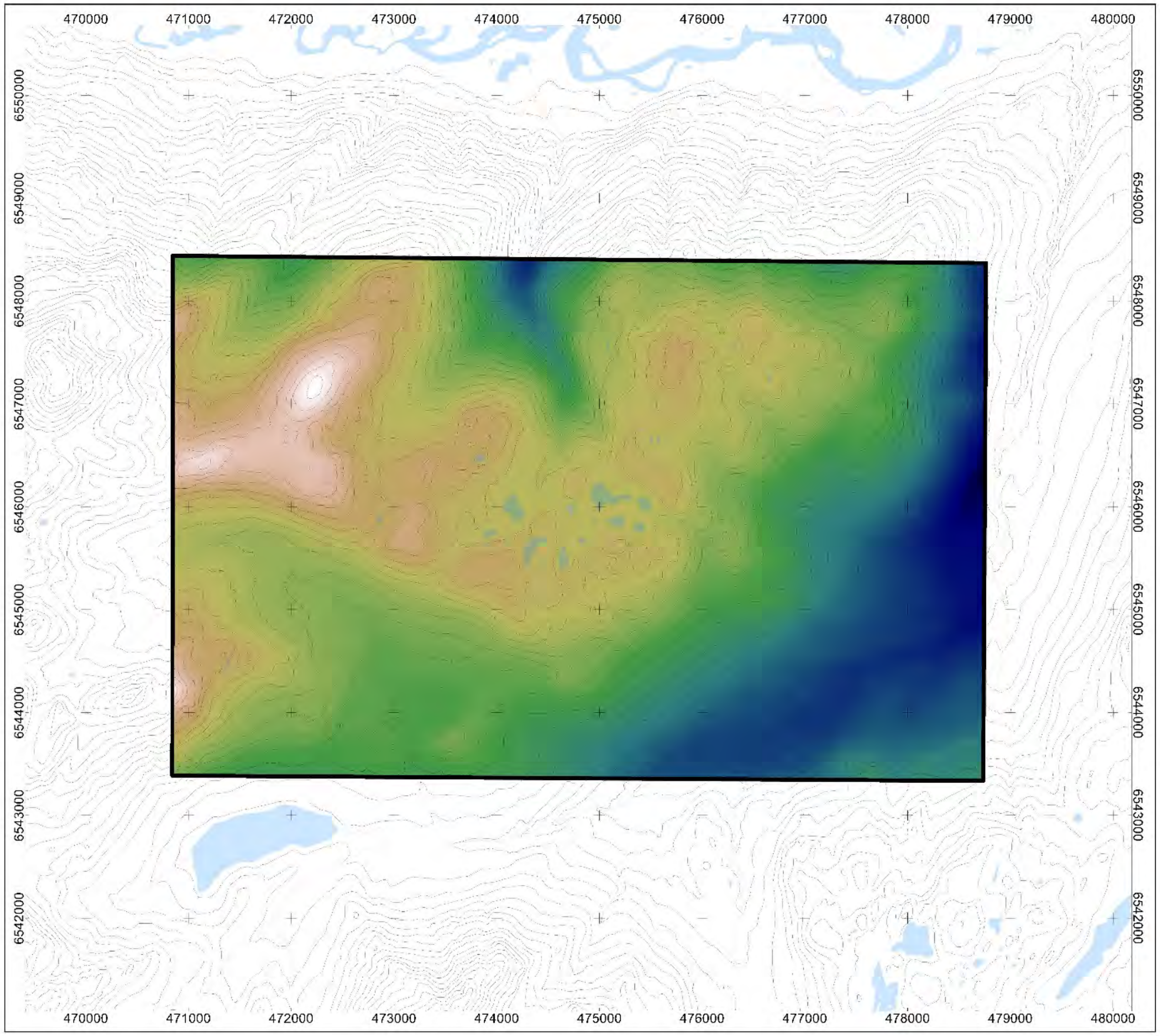
Calculated Vertical Gradient

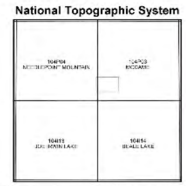
Scale 1:20000
(meters)
WGS 84 / UTM zone 9N

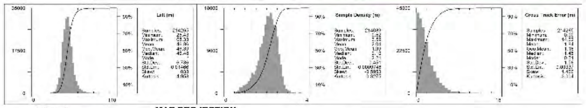
Precision GeoSurveys

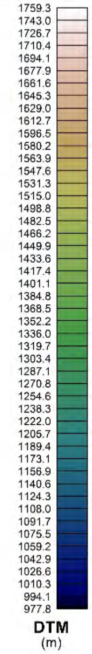
Job #21185
September 30, 2021

Plate 8
CVG









MAP PROJECTION

Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Water Bodies..
Elevation Contours, 100 ft Intervals................
Eagle Mountain Survey Block Boundary.........

TOPOGRAPHIC REFERENCE

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Eagle Mountain Survey Block

Overview Map

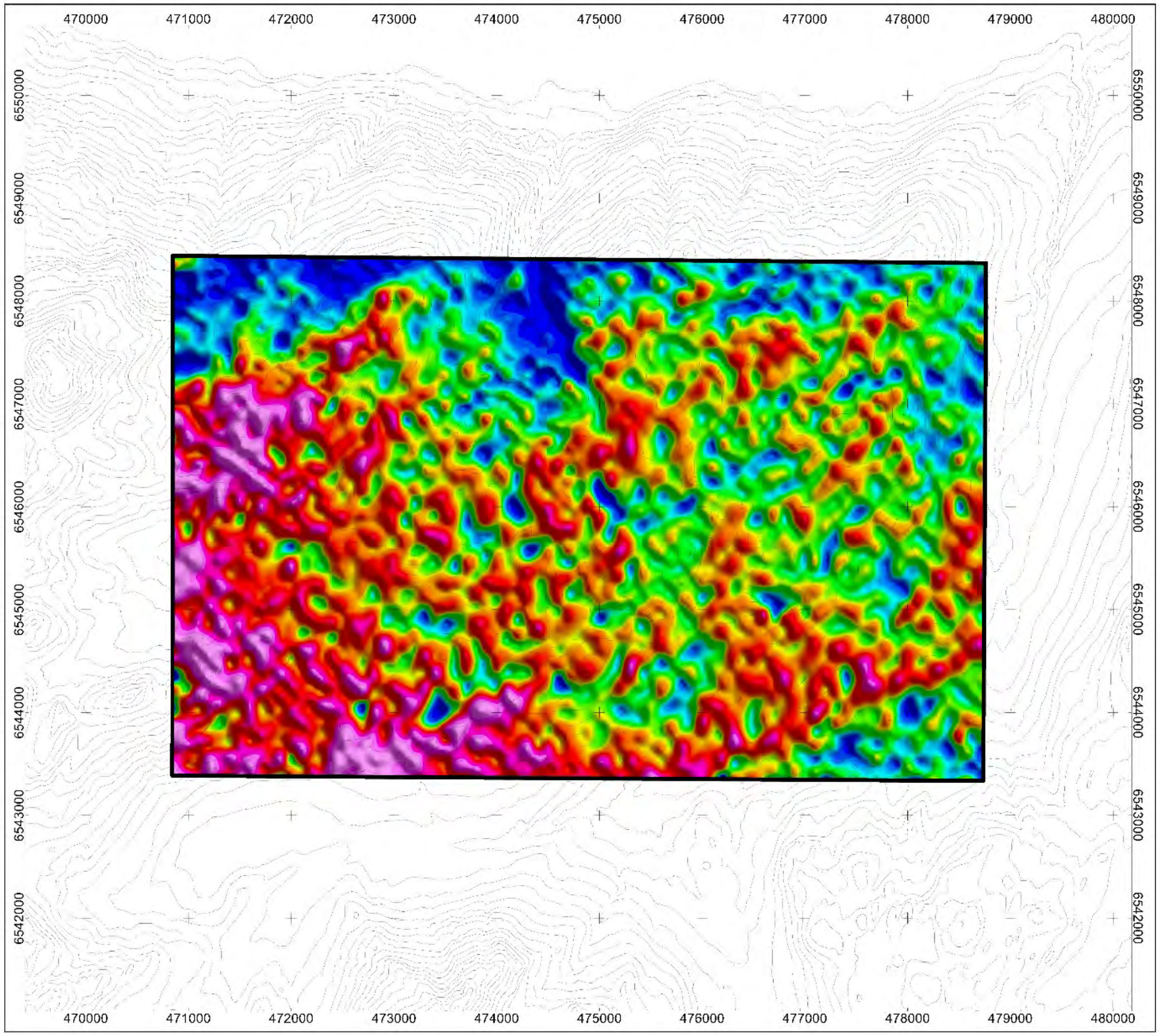
Digital Terrain Model

Precision GeoSurveys

Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

Job #21185
September 30, 2021

Plate 2
DTM

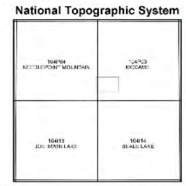


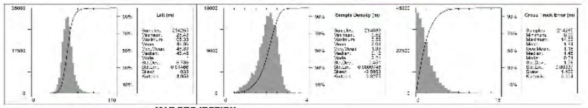
Scale 1:20000

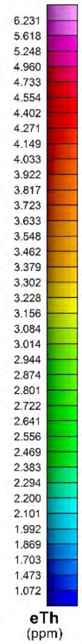
250 0 250 500 750 1000 1250 1500

(meters)

WGS 84 / UTM zone 9N







MAP PROJECTION

Projection: Universal Transverse Mercator Zone 9N

Datum: WGS 84

Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz
	NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals................

Eagle Mountain Survey Block Boundary.........

DATA REFERENCE

Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.

URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Radiometric Map

Thorium - Equivalent Concentration

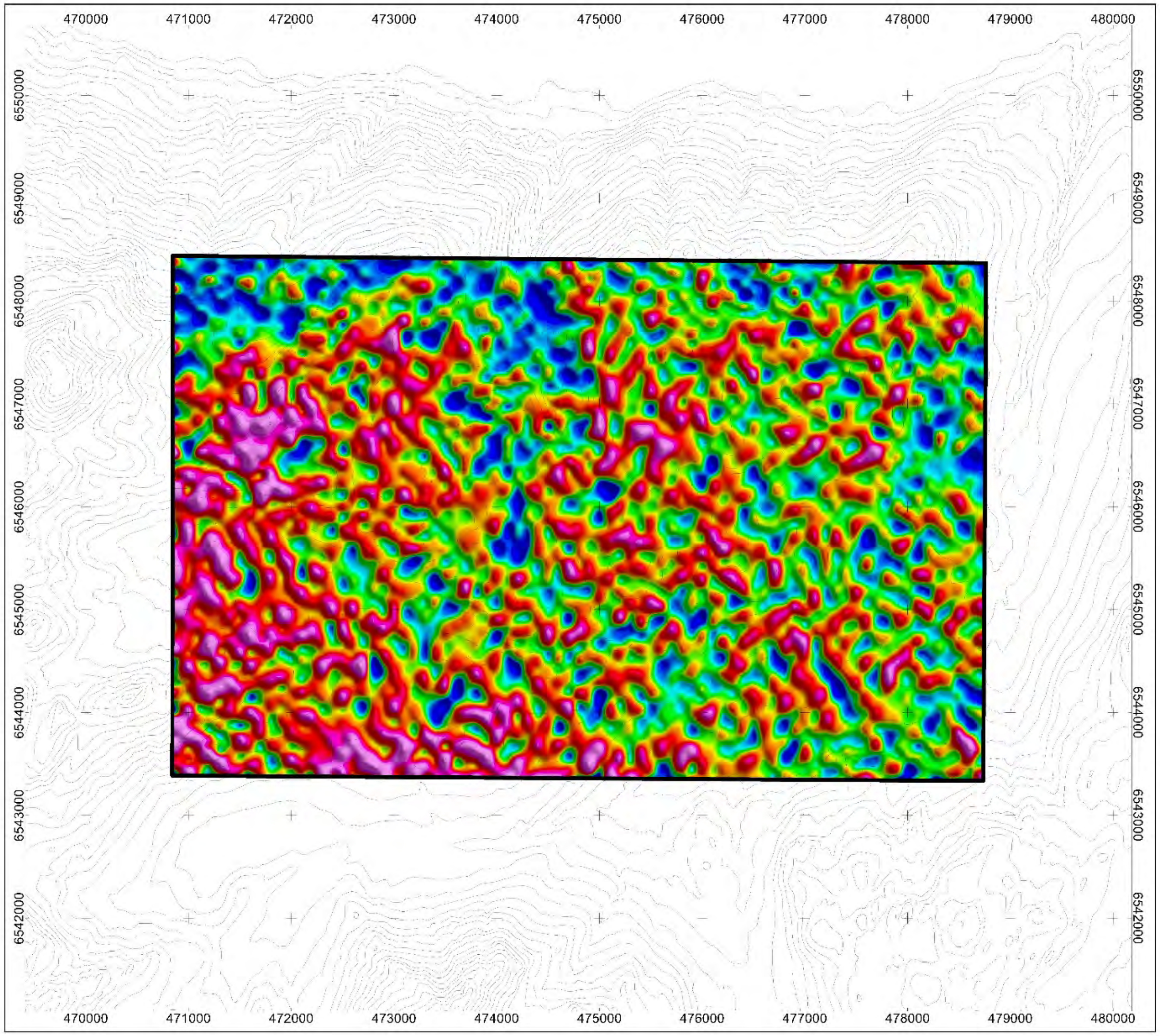
Precision GeoSurveys

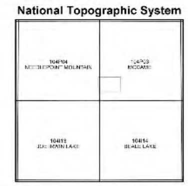
Job #21185

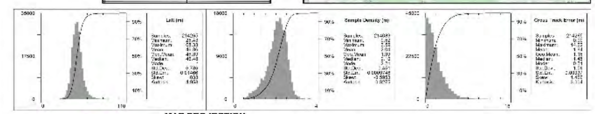
September 30, 2021

Plate 13

eTh







1.659
1.519
1.433
1.367
1.317
1.273
1.236
1.205
1.176
1.148
1.123
1.098
1.074
1.051
1.028
1.007
0.986
0.965
0.946
0.925
0.904
0.884
0.863
0.841
0.821
0.800
0.777
0.754
0.730
0.705
0.679
0.651
0.618
0.582
0.541
0.490
0.419
0.317

eU
(ppm)

MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend
Elevation Contours, 100 ft Intervals...............
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Golden Sky Minerals

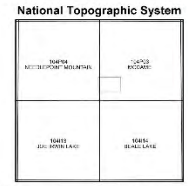
Eagle Mountain Survey Block
Radiometric Map
Uranium - Equivalent Concentration

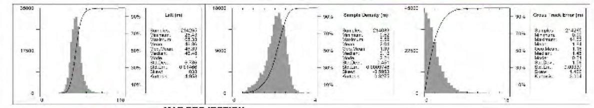
Precision GeoSurveys

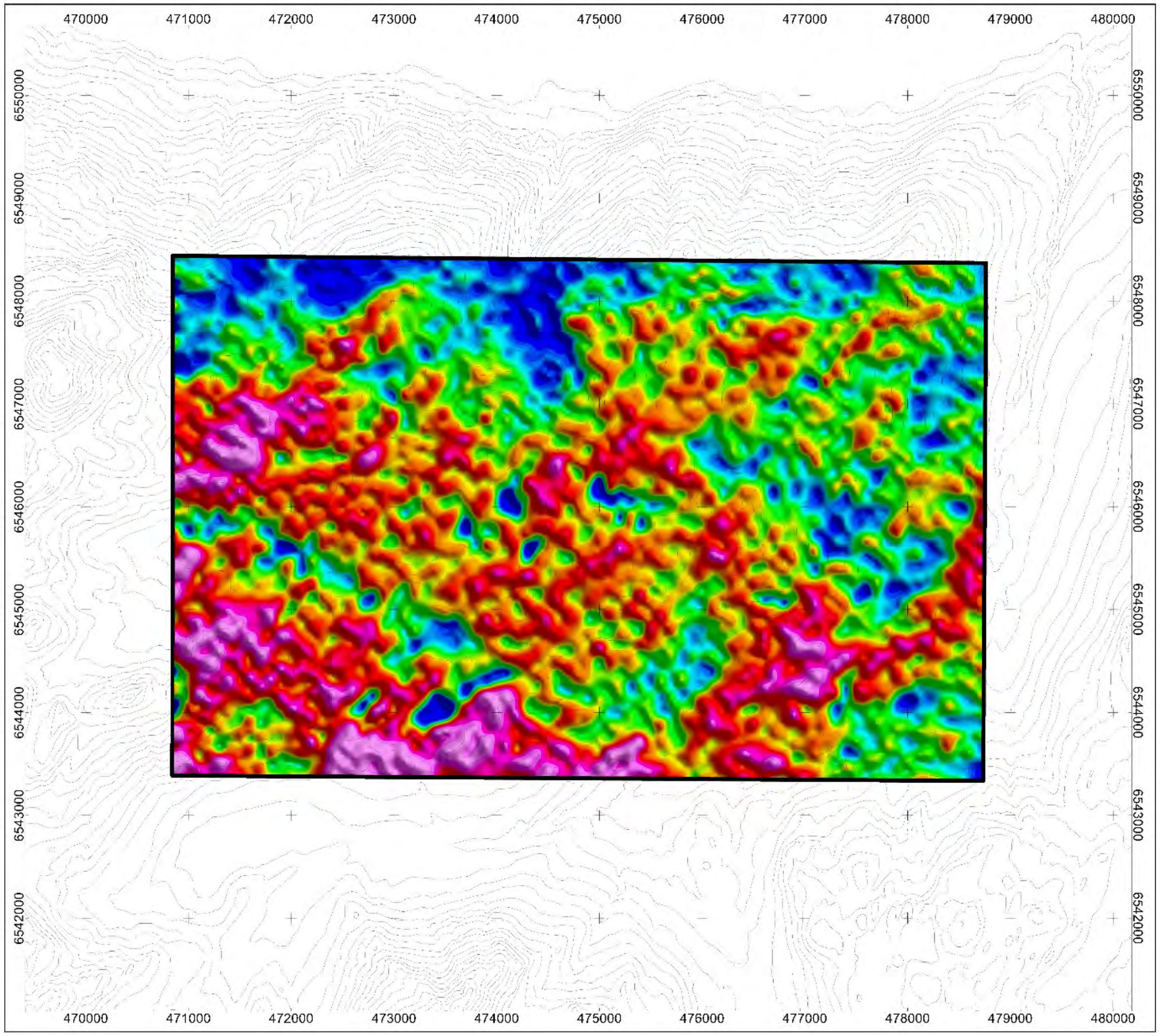
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

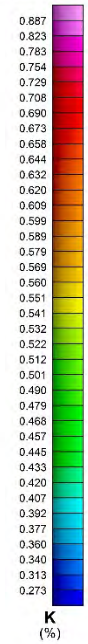
Job #21185
September 30, 2021

Plate 14
eU









MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals...............
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Radiometric Map

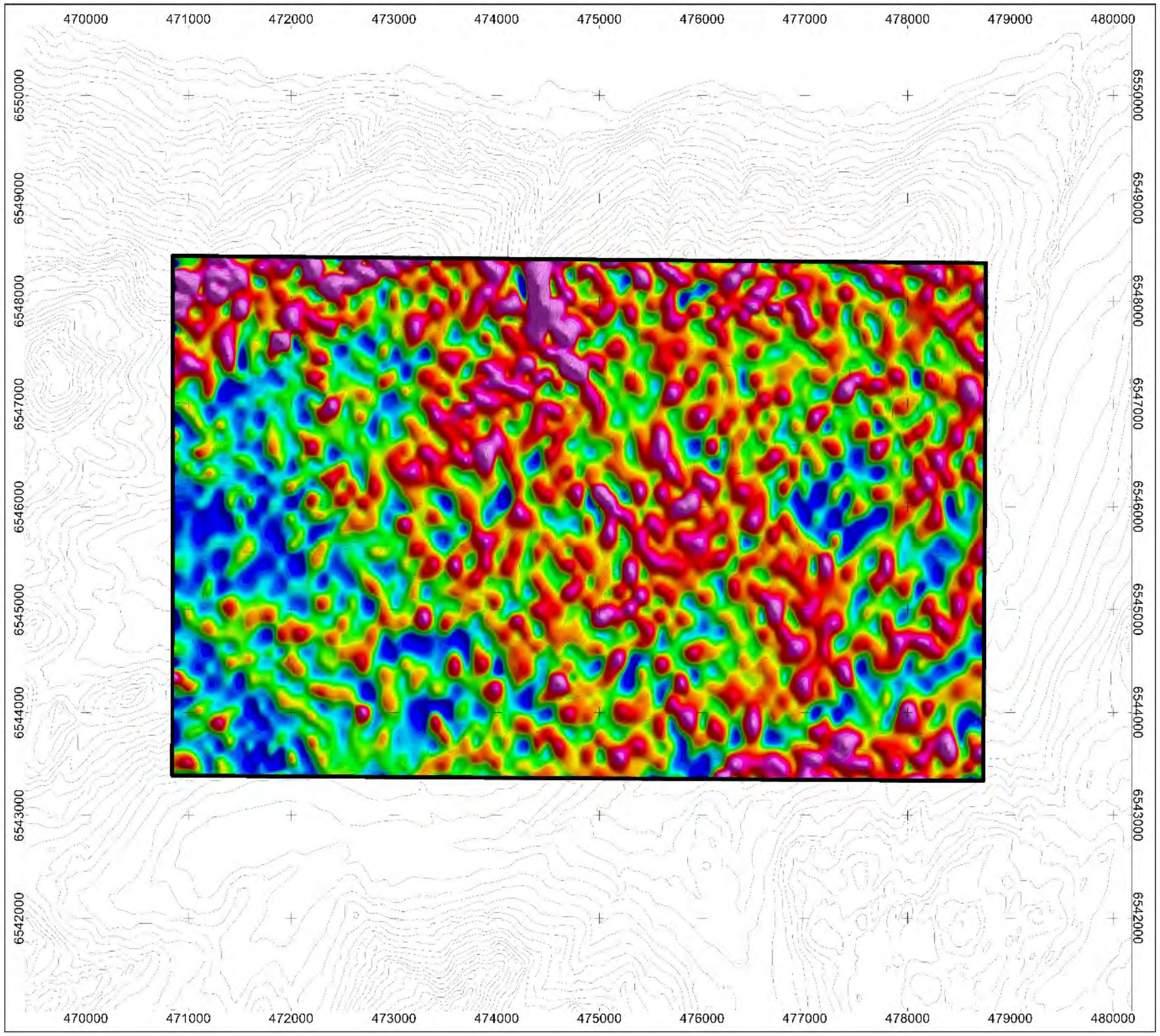
Potassium - Percentage

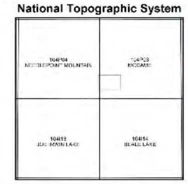
Precision GeoSurveys

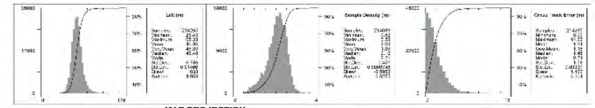
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

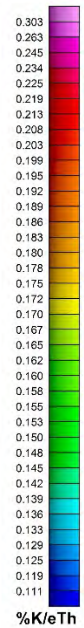
Job #21185
September 30, 2021

Plate 12
%K









MAP PROJECTION

Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals...............
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE

Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

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URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Radiometric Map

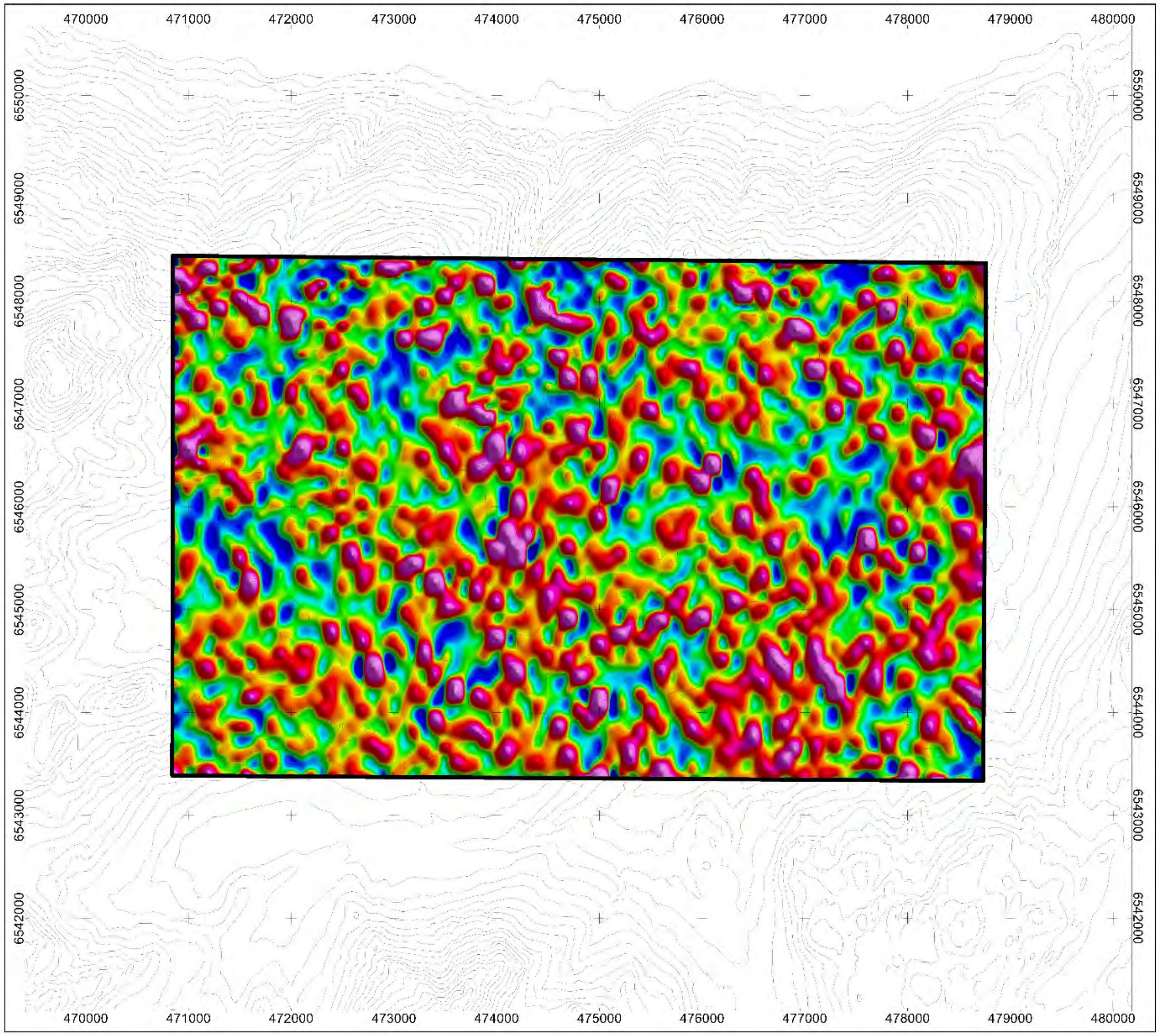
Potassium over Thorium Ratio

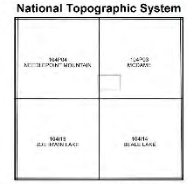
Precision GeoSurveys

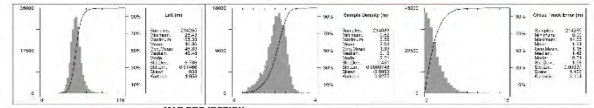
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

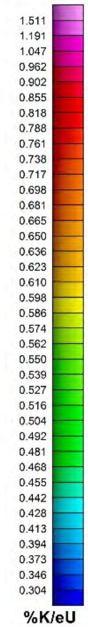
Job #21185
September 30, 2021

Plate 17
%K/eTh









MAP PROJECTION

Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals..............
Eagle Mountain Survey Block Boundary..........

DATA REFERENCE

Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

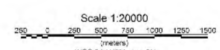
GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Radiometric Map

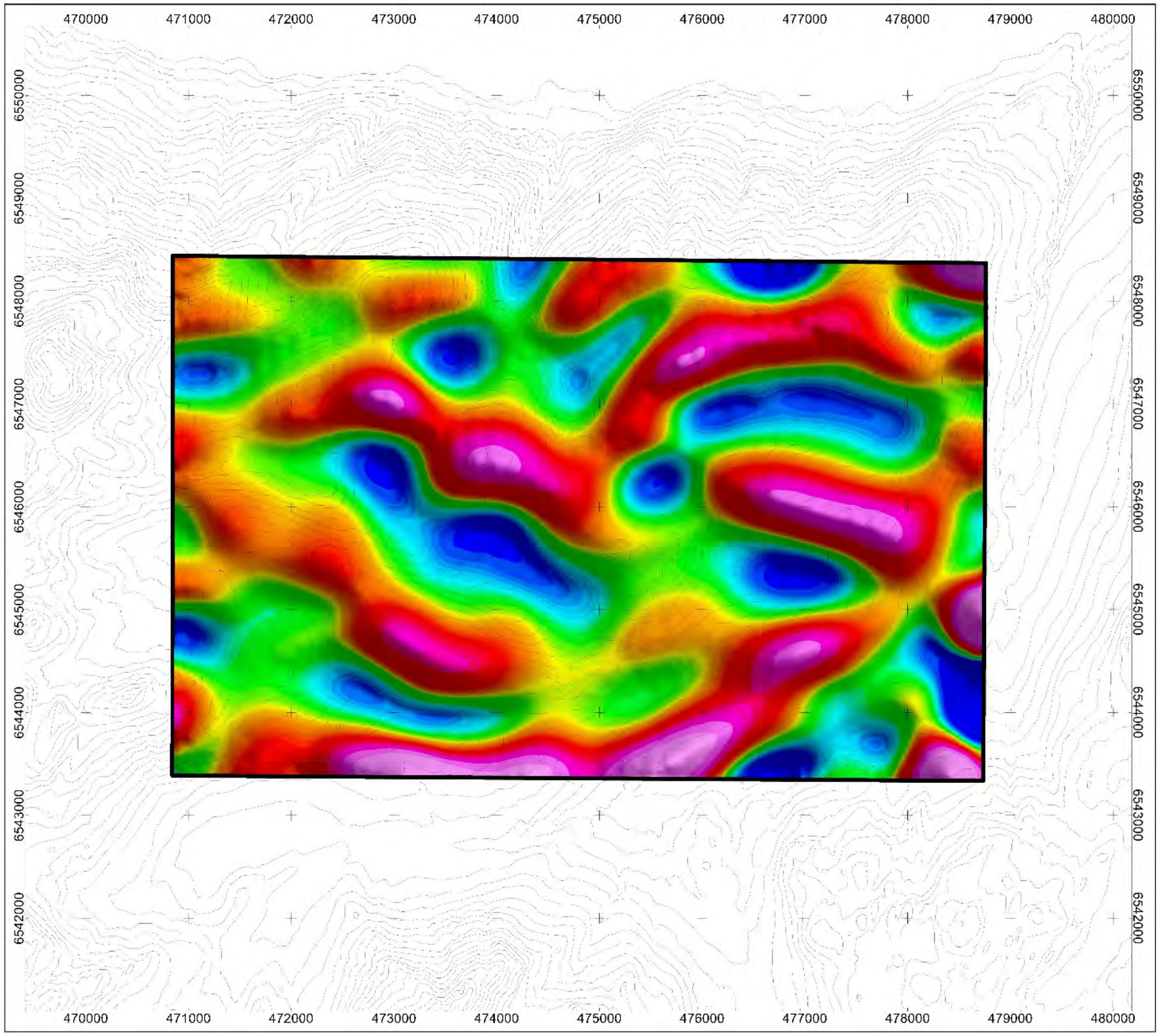
Potassium over Uranium Ratio

Precision GeoSurveys

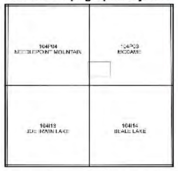


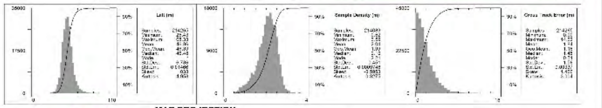
Job #21185
September 30, 2021

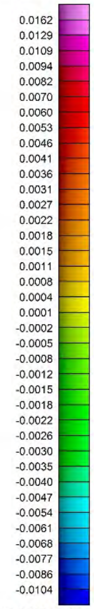
Plate 18
%K/eU



National Topographic System







NAA Vert Quad

MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals................
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
NAA Vertical Quadrature (NAA_VQ) data have been corrected for lag, direction, normalized, and Fraser filtered. Data values are arbitrary units. Refer to report for details. NAA_VQ is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

VLF Electromagnetic Map

NAA Vertical Quadrature

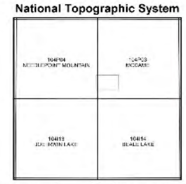
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

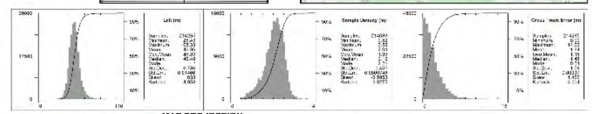
Precision GeoSurveys

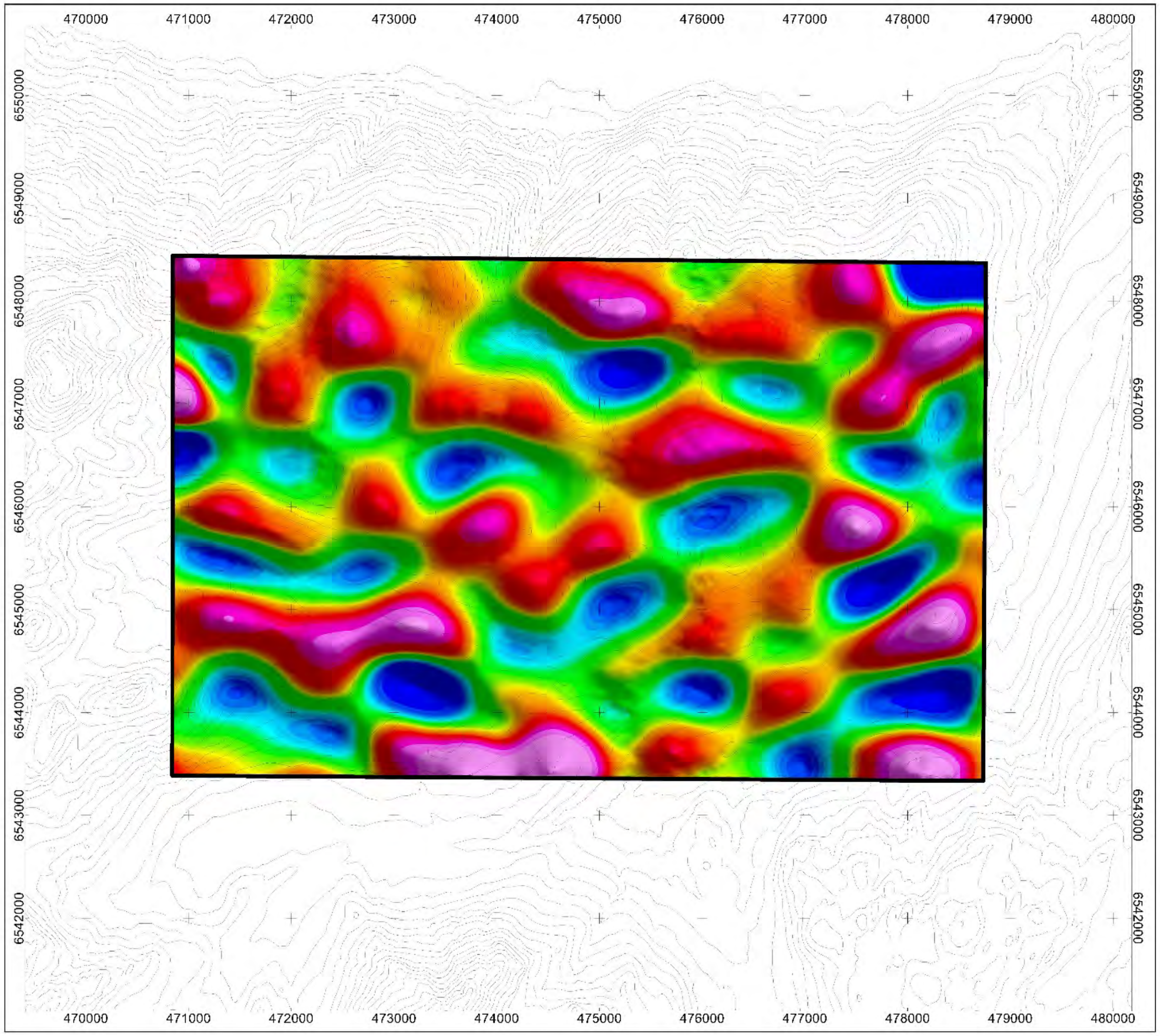
Job #21185
September 30, 2021

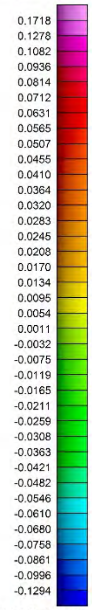
Plate 11
NAA_VQ

National Topographic System









NLK Total Field

MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals................

Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
NLK Total Field (NLK_TF) data have been corrected for lag, normalized, and leveled. Data values are arbitrary units. Refer to report for details. NLK_TF is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

VLF Electromagnetic Map

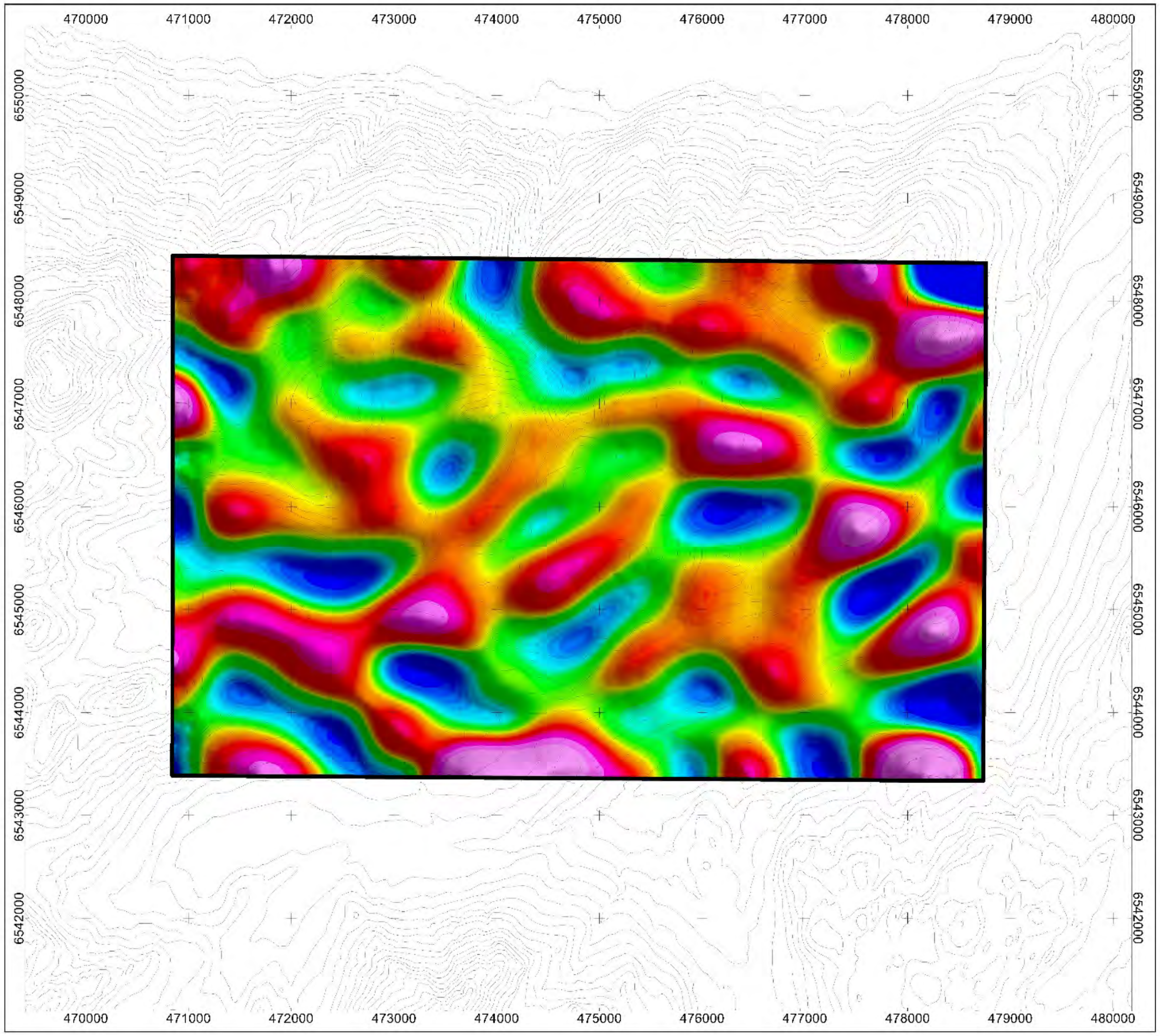
NLK Total Field

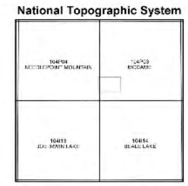
Precision GeoSurveys

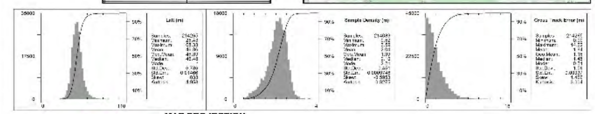
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

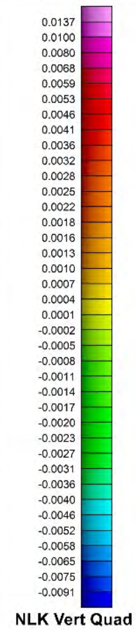
Job #21185
September 30, 2021

Plate 9
NLK_TF









MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals
Eagle Mountain Survey Block Boundary

DATA REFERENCE
NLK Vertical Quadrature (NLK_VQ) data have been corrected for lag, direction, normalized, and Fraser filtered. Data values are arbitrary units. Refer to report for details. NLK_VQ is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

VLF Electromagnetic Map

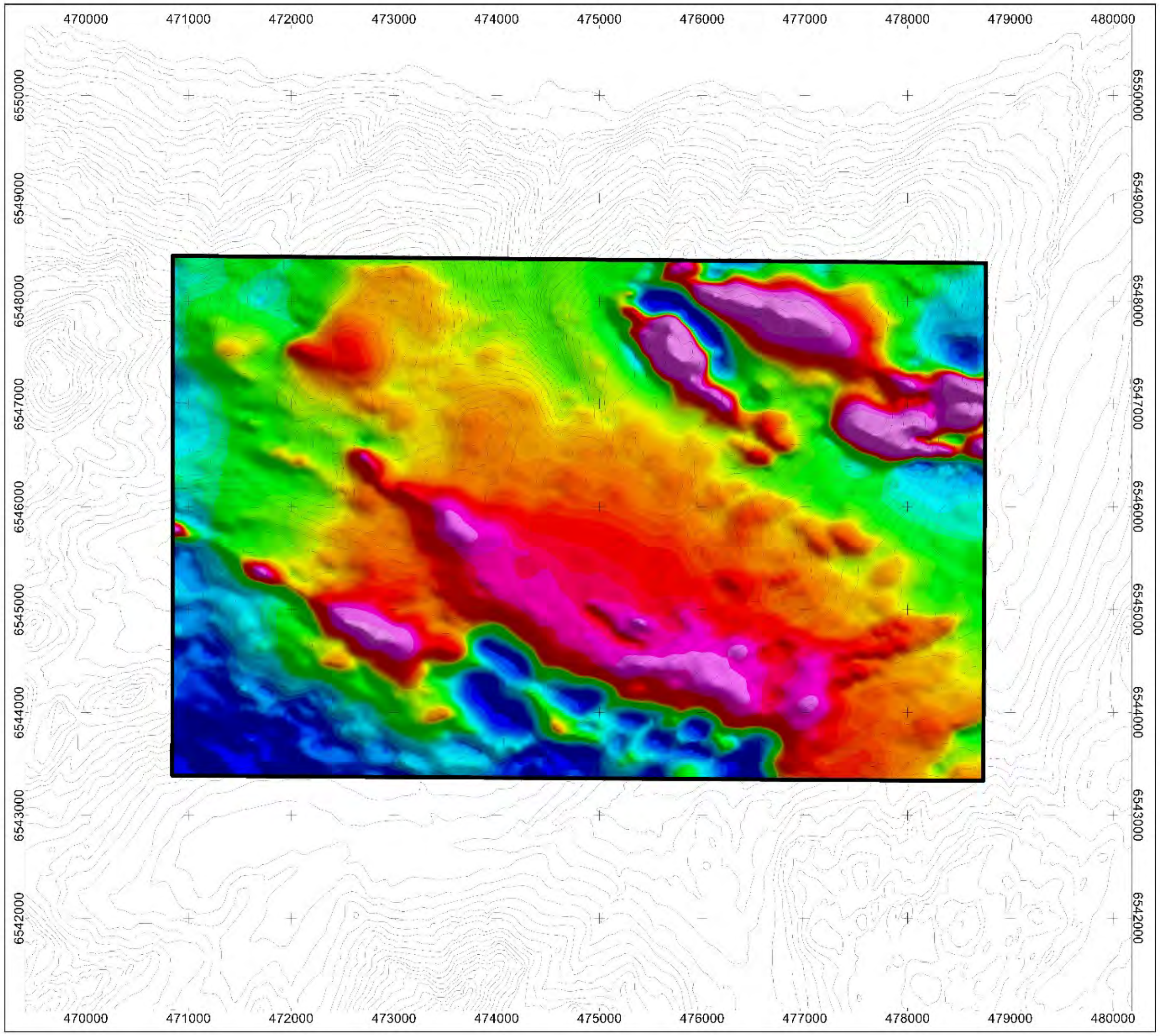
NLK Vertical Quadrature

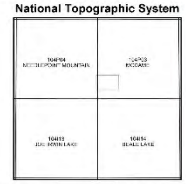
Precision GeoSurveys

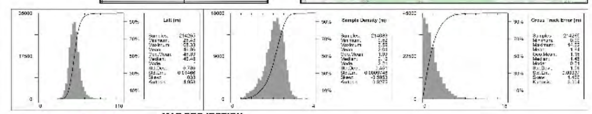
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

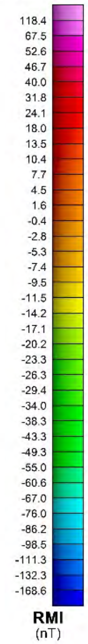
Job #21185
September 30, 2021

Plate 10
NLK_VQ









MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals................
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Residual Magnetic Intensity (RMI) is computed by taking the difference between Total Magnetic Intensity (TMI) and IGRF. Refer to report for details. RMI is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Magnetic Map

Residual Magnetic Intensity

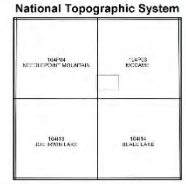
Precision GeoSurveys

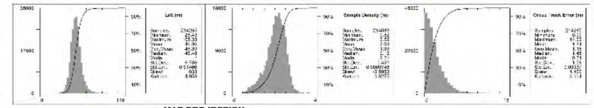
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

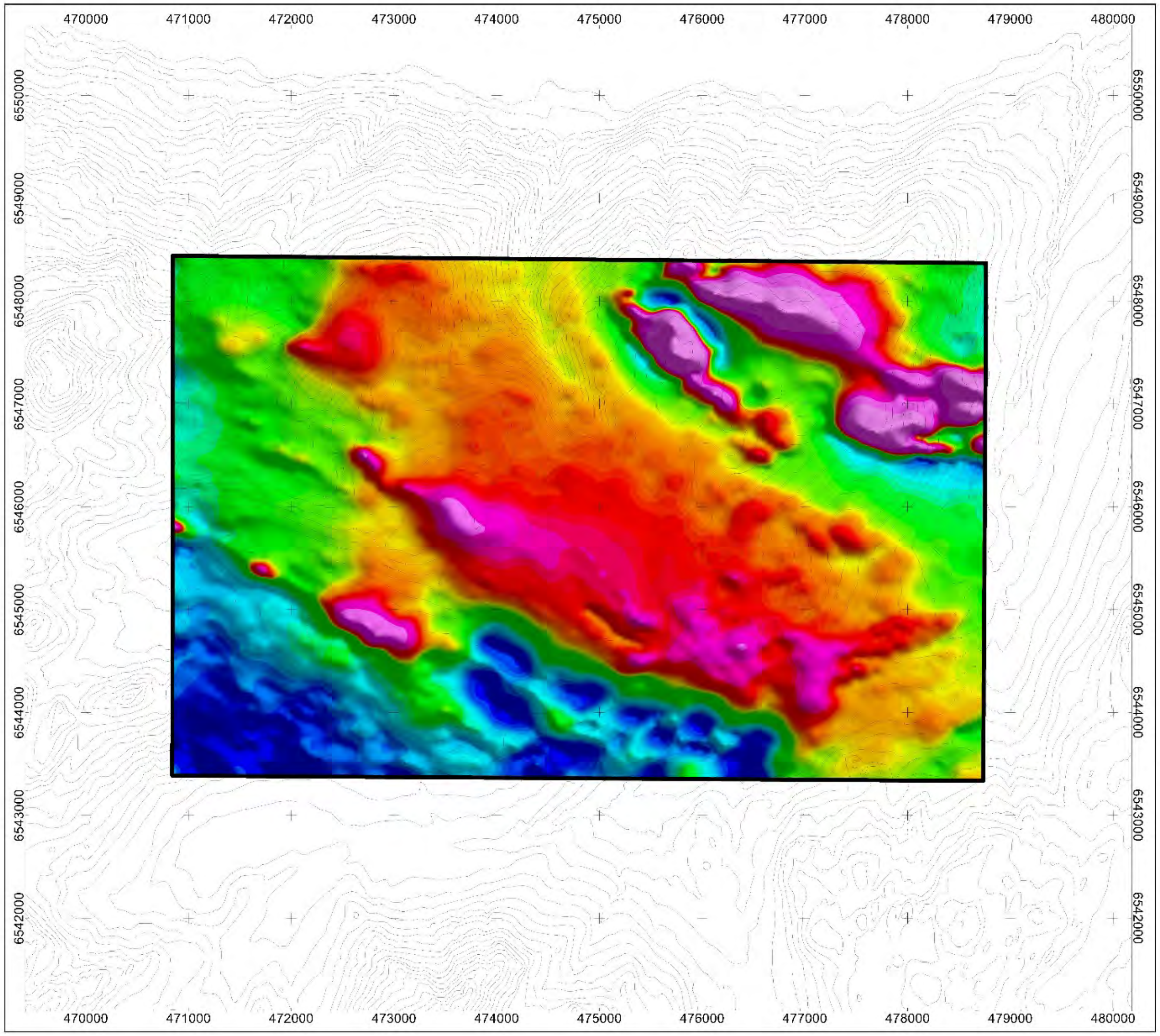
Job #21185
September 30, 2021

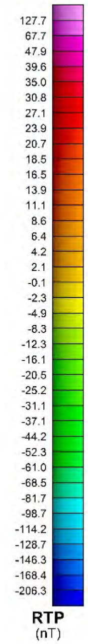
Plate 5
RMI

National Topographic System









MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals...............

Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Reduced to Magnetic Pole (RTP) is computed from Residual Magnetic Intensity (RMI). Refer to report for details. RTP is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Magnetic Map

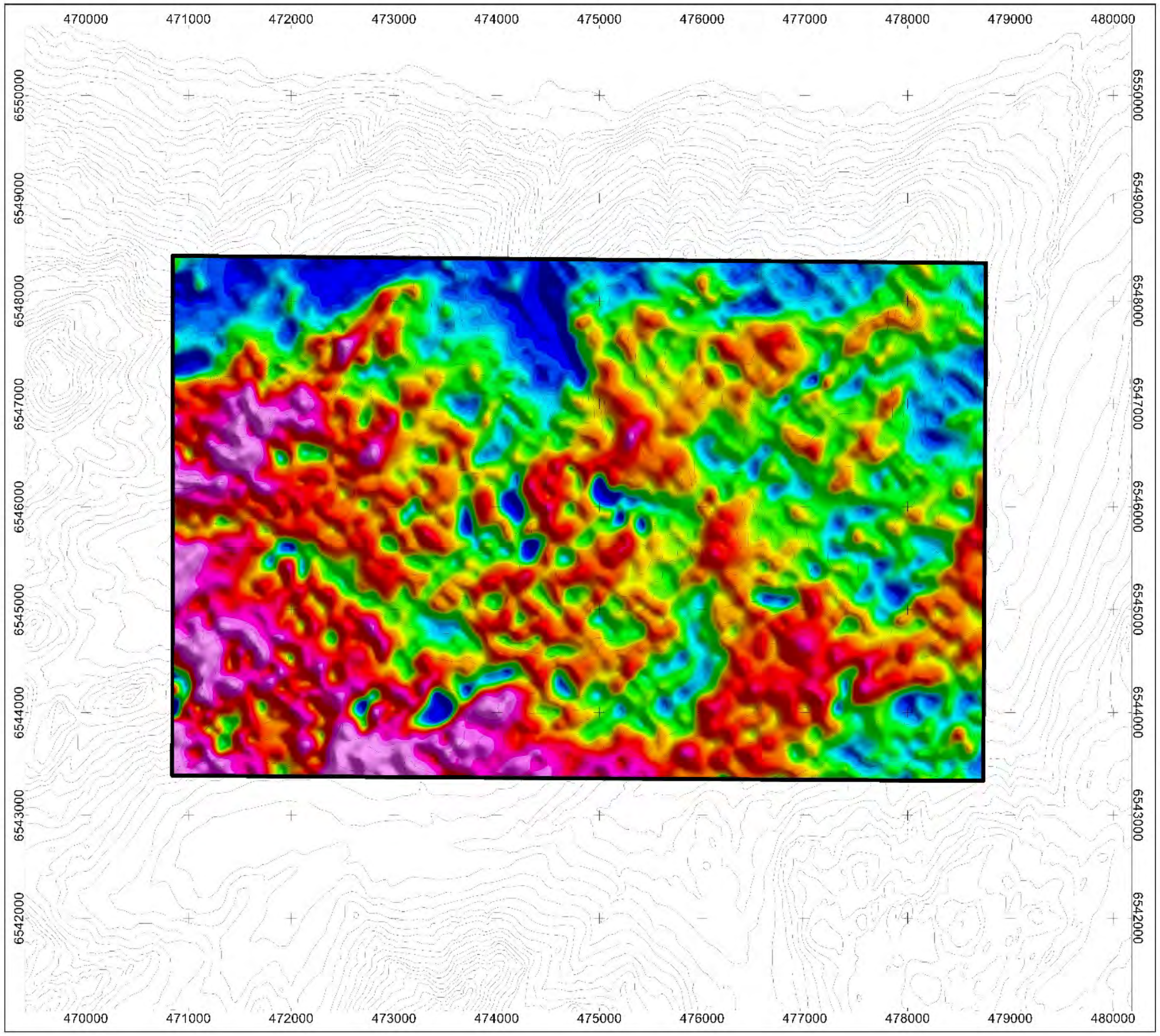
Reduced to Magnetic Pole

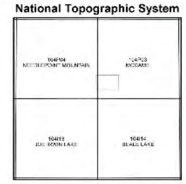
Precision GeoSurveys

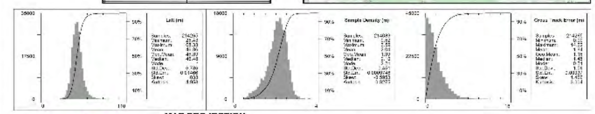
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

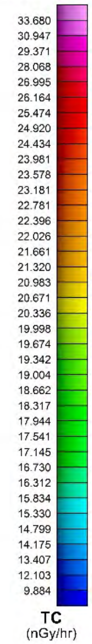
Job #21185
September 30, 2021

Plate 6
RTP









MAP PROJECTION

Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals...............

Eagle Mountain Survey Block Boundary.........

DATA REFERENCE

Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Eagle Mountain Survey Block

Radiometric Map

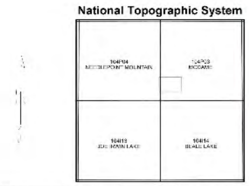
Total Count

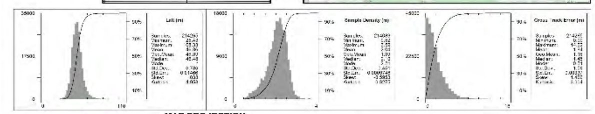
Precision GeoSurveys

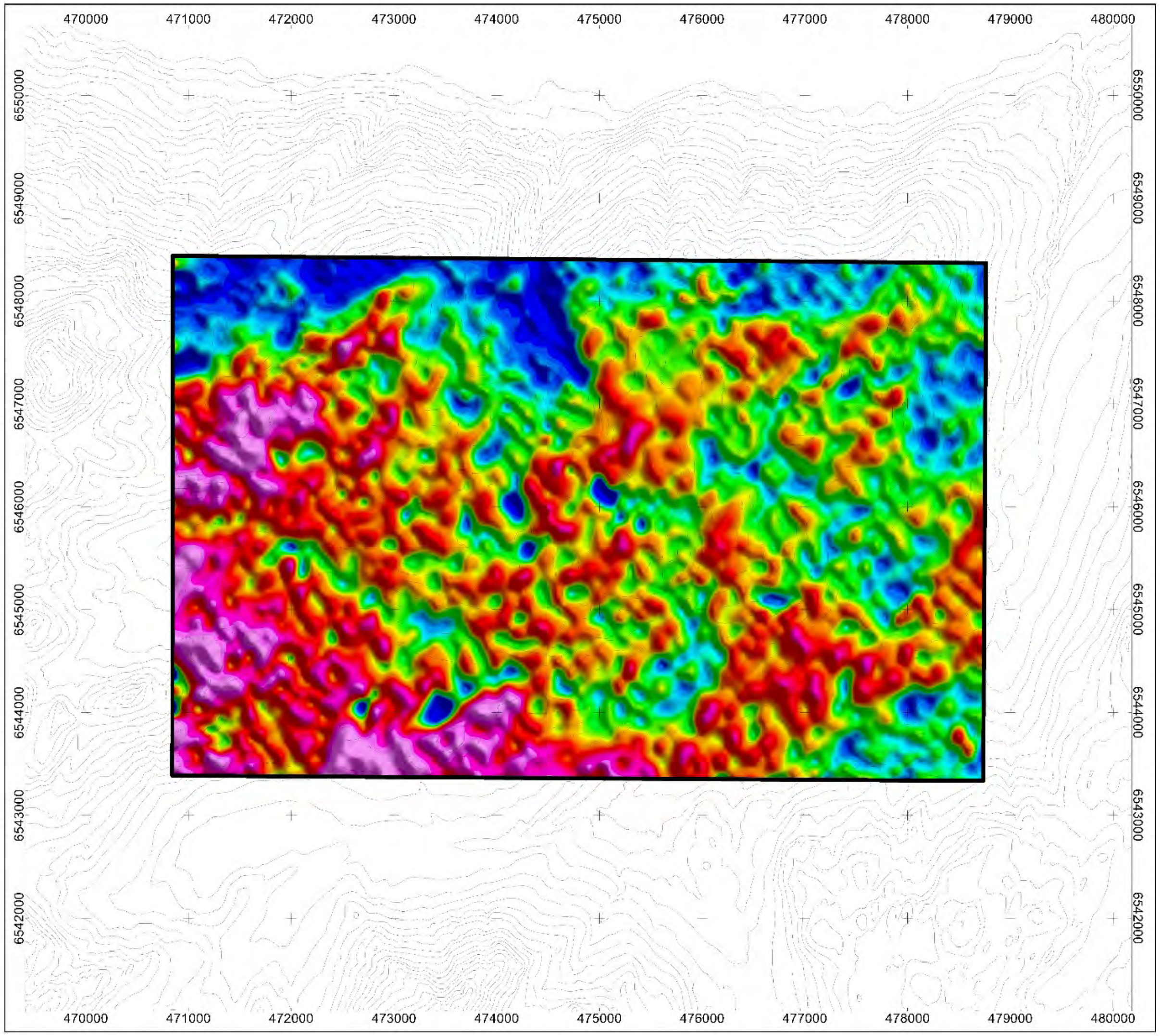
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

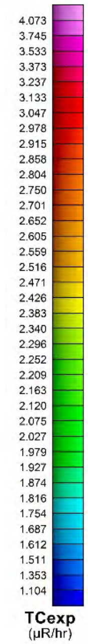
Job #21185
September 30, 2021

Plate 15
TC









MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals..............
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Radiometric Map

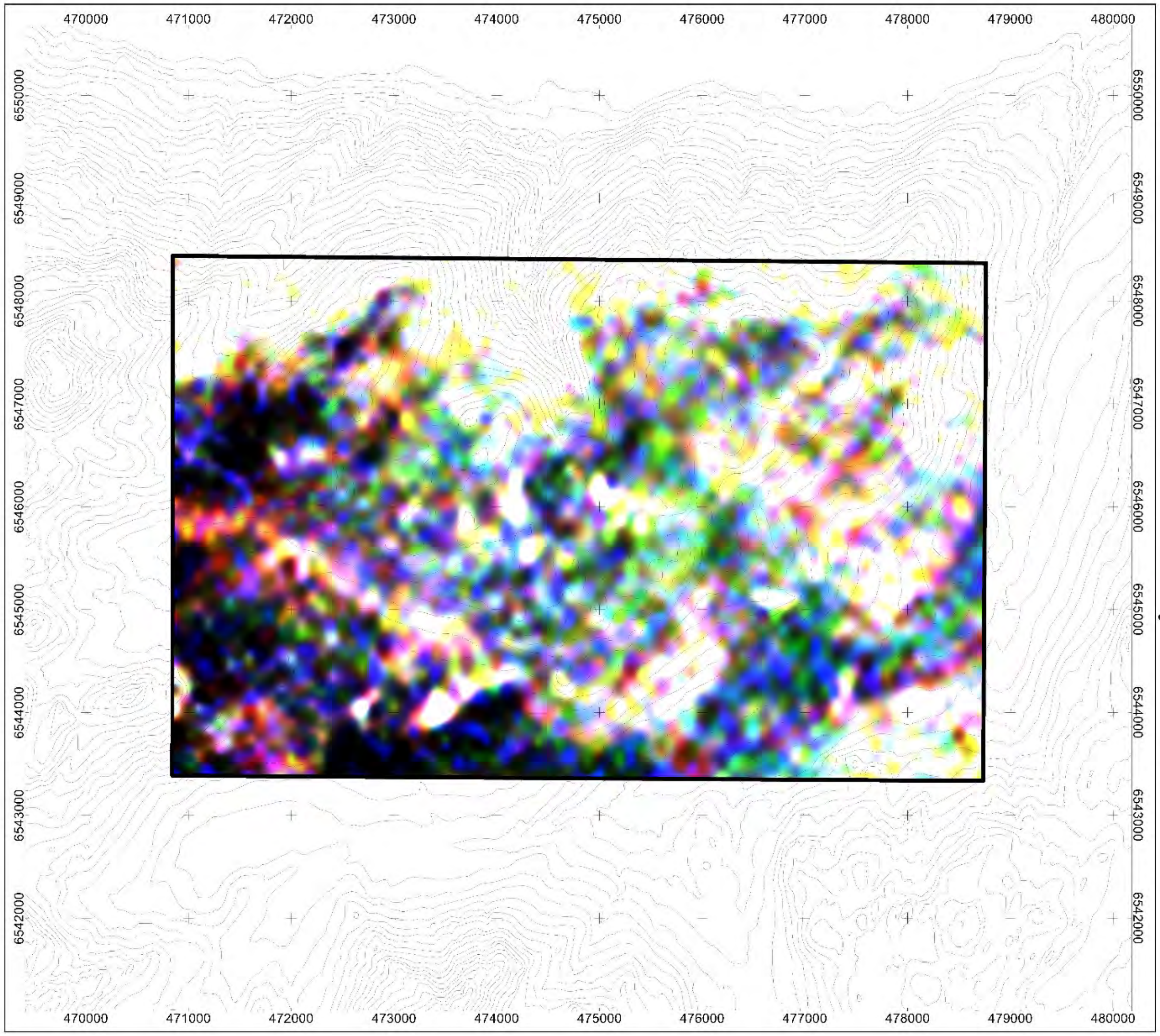
Total Count - Exposure Rate

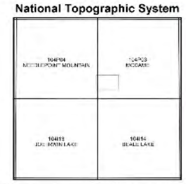
Precision GeoSurveys

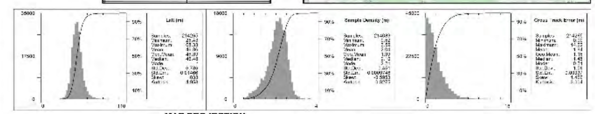
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

Job #21185
September 30, 2021

Plate 16
TCexp







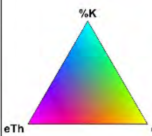
MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)



Legend

Elevation Contours, 100 ft Intervals...............

Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Radiometric Map

Ternary Image

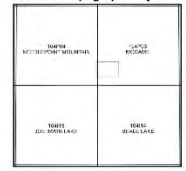
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

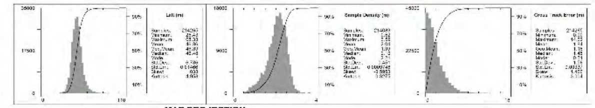
Precision GeoSurveys

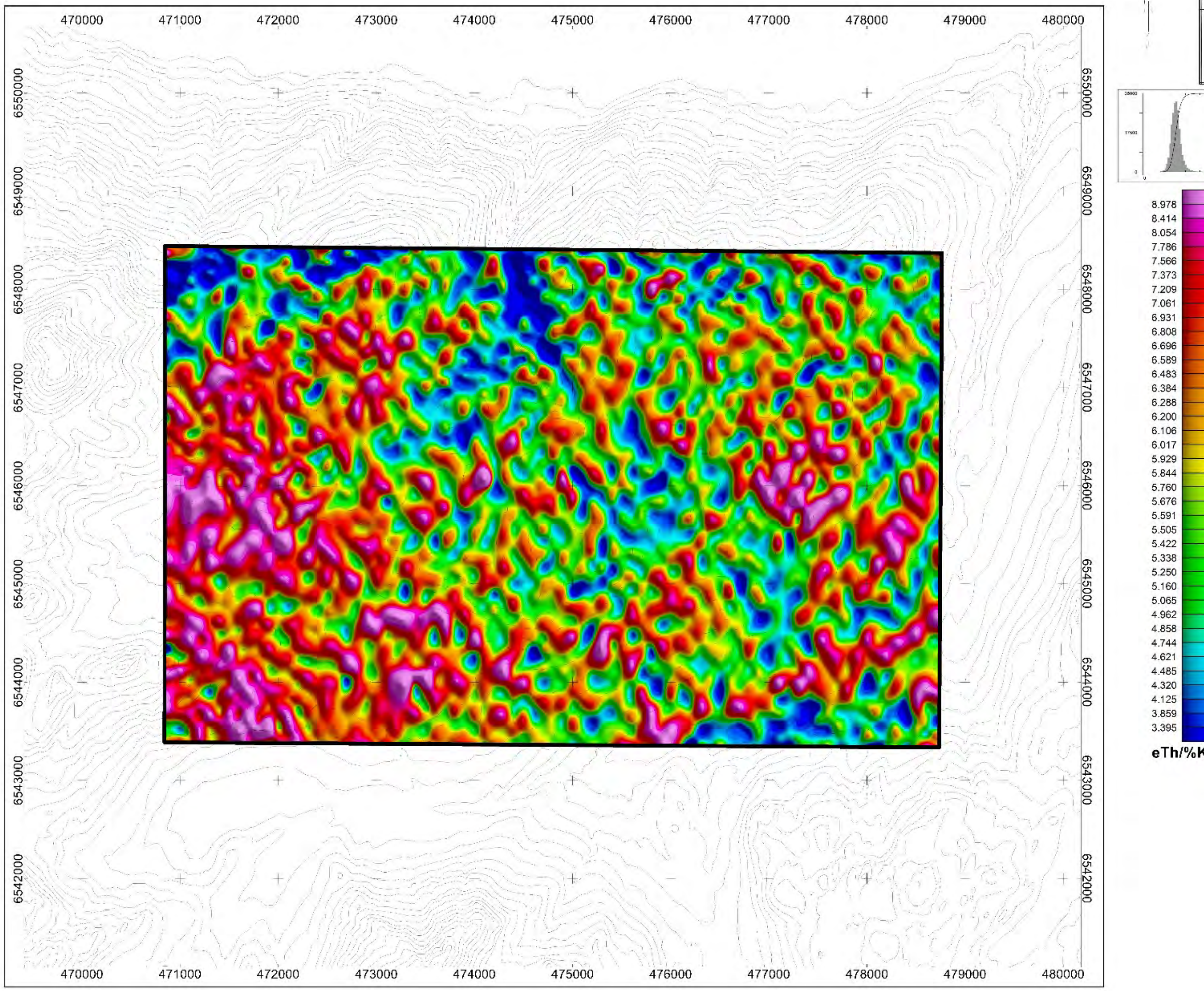
Job #21185
September 30, 2021

Plate 23
TI

National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend
Elevation Contours, 100 ft Intervals
Eagle Mountain Survey Block Boundary

DATA REFERENCE
Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Radiometric Map

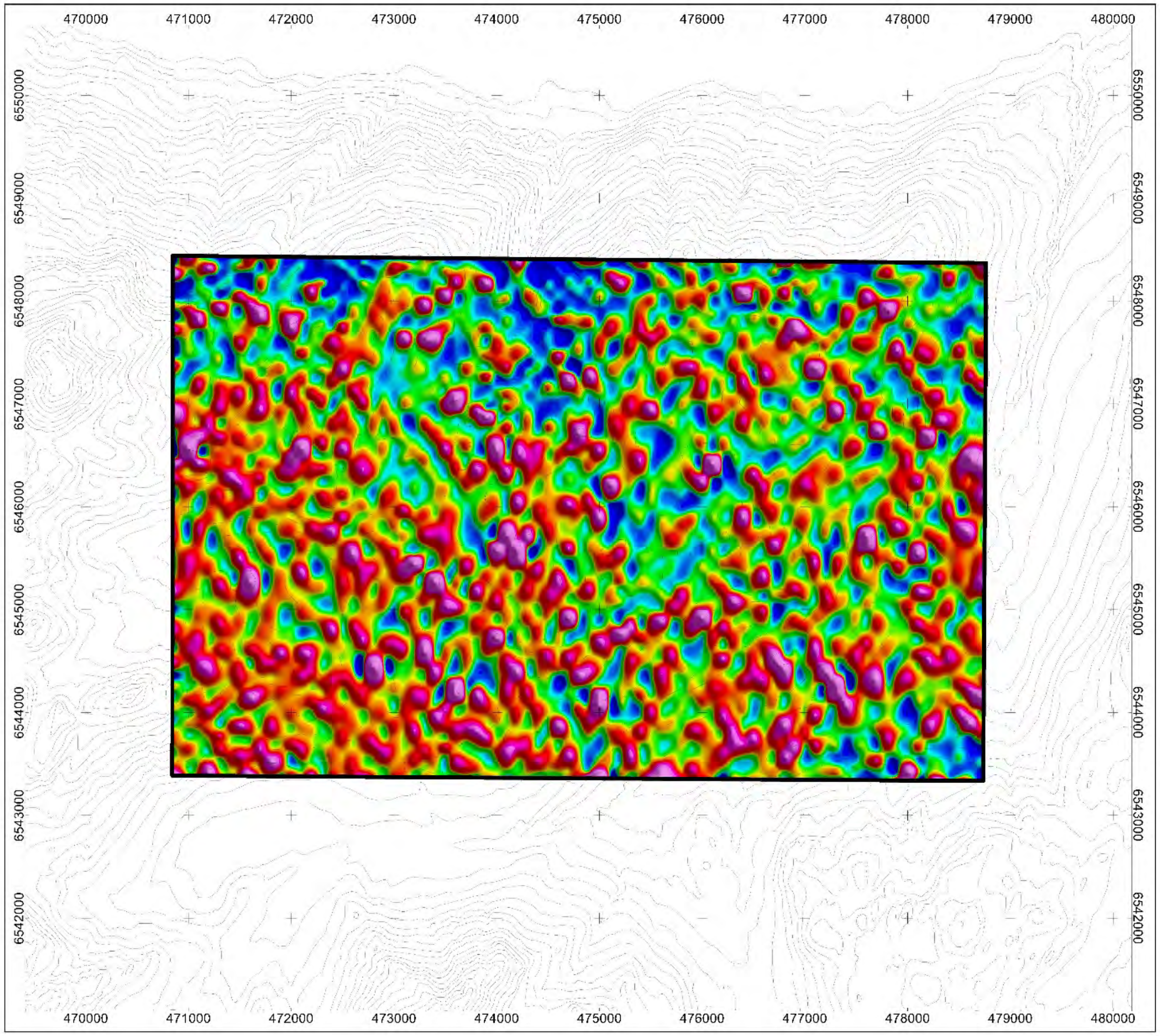
Thorium over Potassium Ratio

Precision GeoSurveys

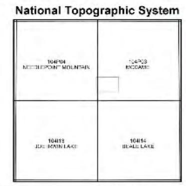
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

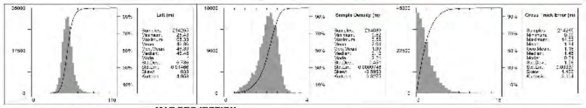
Job #21185
September 30, 2021

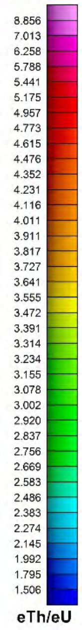
Plate 21
eTh/%K



National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals...............
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

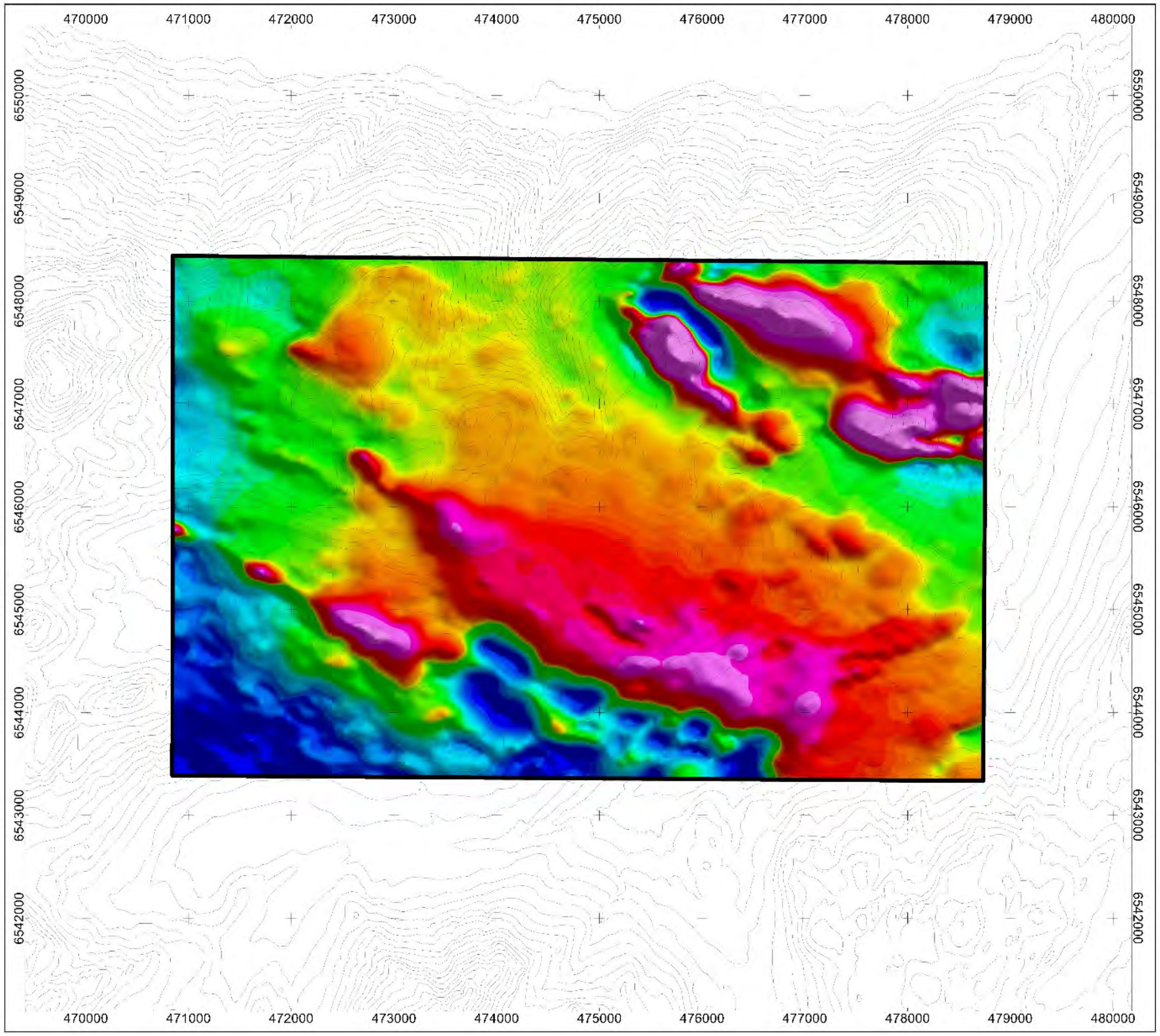
Eagle Mountain Survey Block
Radiometric Map
Thorium over Uranium Ratio

Precision GeoSurveys

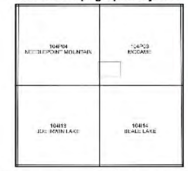
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

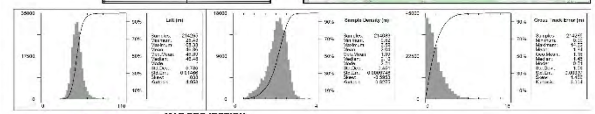
Job #21185
September 30, 2021

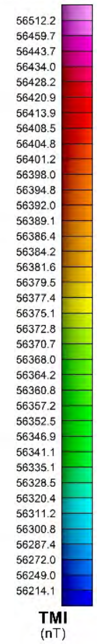
Plate 22
eTh/eU



National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals...............
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Magnetic data have been compensated and corrected for temporal variations, lag, and heading; then leveled to generate the Total Magnetic Intensity (TMI) grid. Refer to report for details. TMI is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Magnetic Map

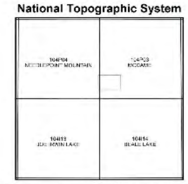
Total Magnetic Intensity

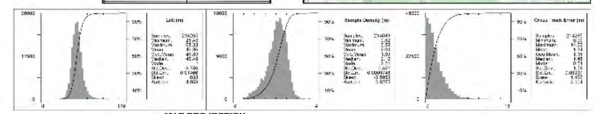
Precision GeoSurveys

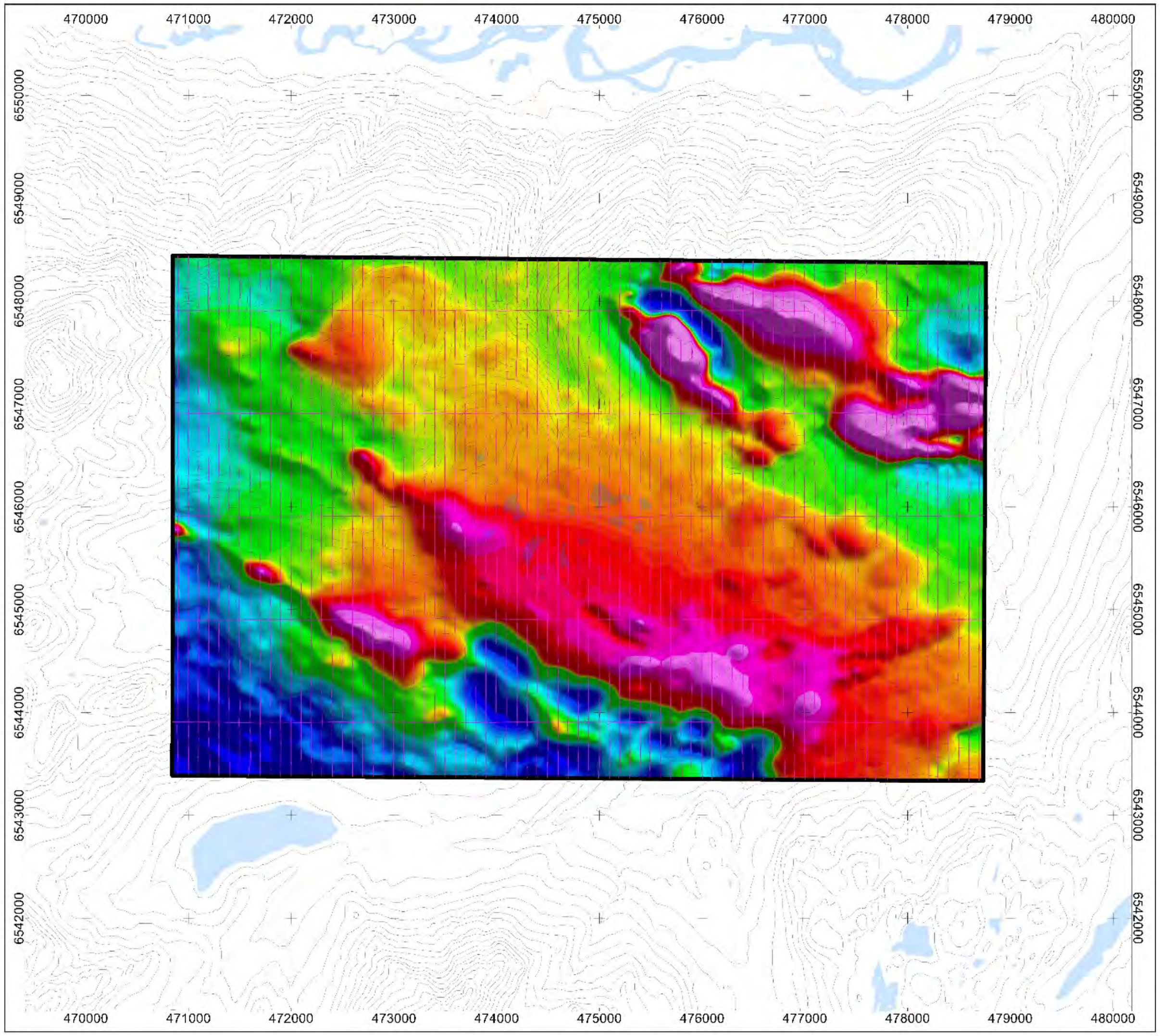
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

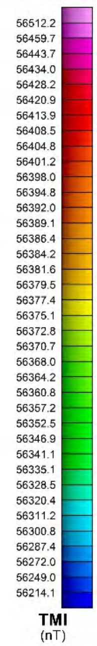
Job #21185
September 30, 2021

Plate 4
TMI









MAP PROJECTION

Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz
	NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

- Water Bodies
- Elevation Contours, 100 ft Intervals
- Eagle Mountain Survey Block Boundary
- Actual Flight Lines

DATA REFERENCE

Magnetic data have been compensated and corrected for temporal variations, lag, and heading; then leveled to generate the Total Magnetic Intensity (TMI) grid. Refer to report for details. TMI is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Magnetic Map

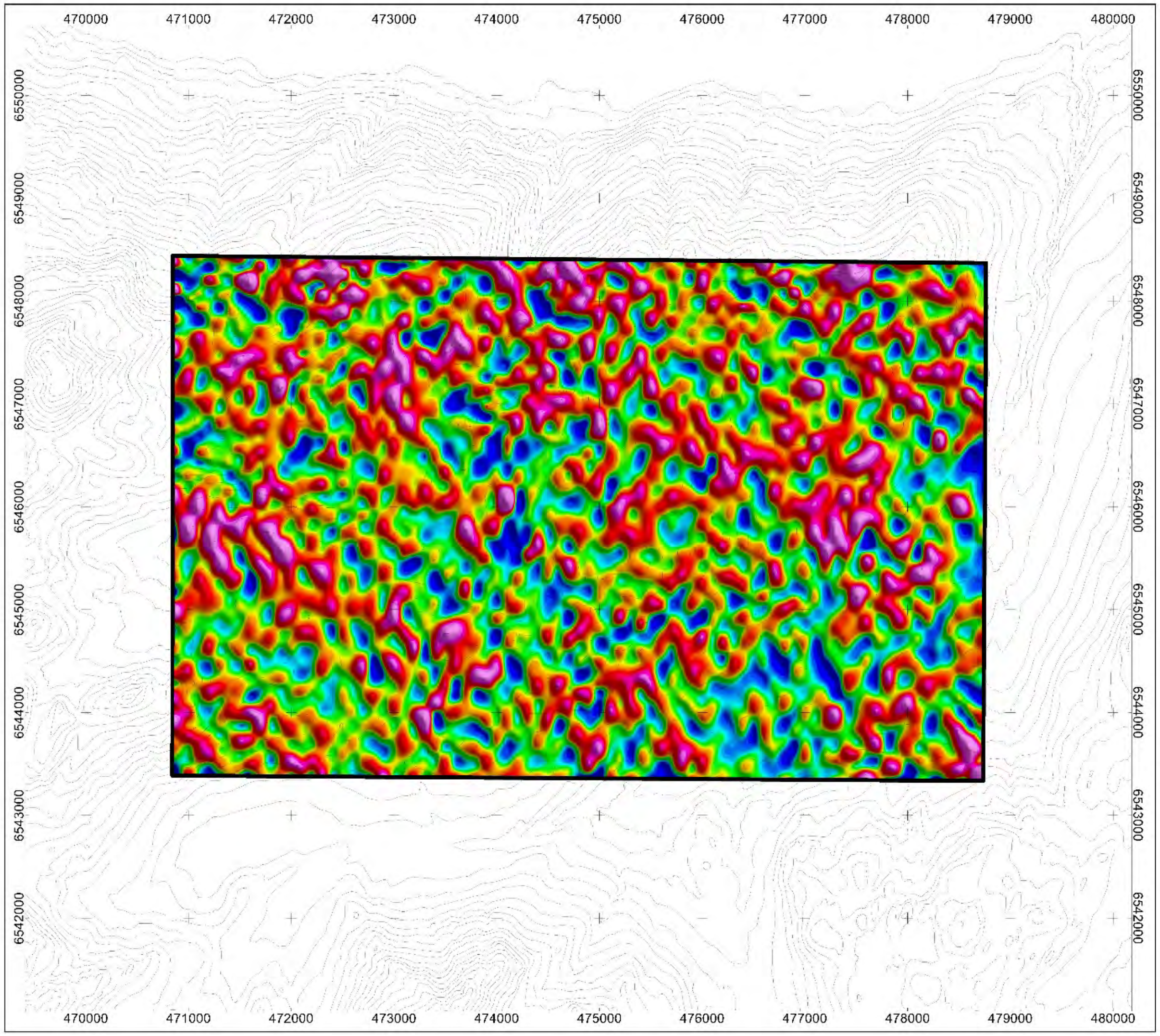
Total Magnetic Intensity with Actual Flight Lines

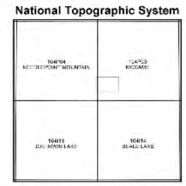
Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

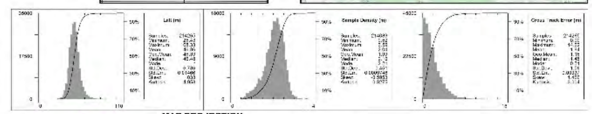
Precision GeoSurveys

Job #21185
September 30, 2021

Plate 3
TMI_wFL







3.170
2.851
2.667
2.540
2.435
2.351
2.281
2.218
2.160
2.107
2.059
2.012
1.969
1.926
1.889
1.851
1.813
1.777
1.741
1.707
1.674
1.641
1.609
1.577
1.544
1.512
1.478
1.442
1.404
1.363
1.321
1.275
1.224
1.166
1.100
1.019
0.912
0.737

eU/%K

MAP PROJECTION

Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
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Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
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Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
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Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals...............
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE

Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

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URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Radiometric Map

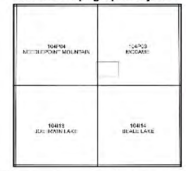
Uranium over Potassium Ratio

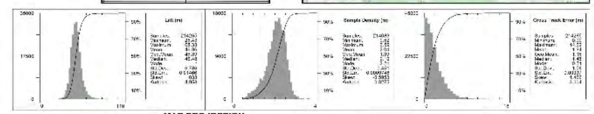
Precision GeoSurveys

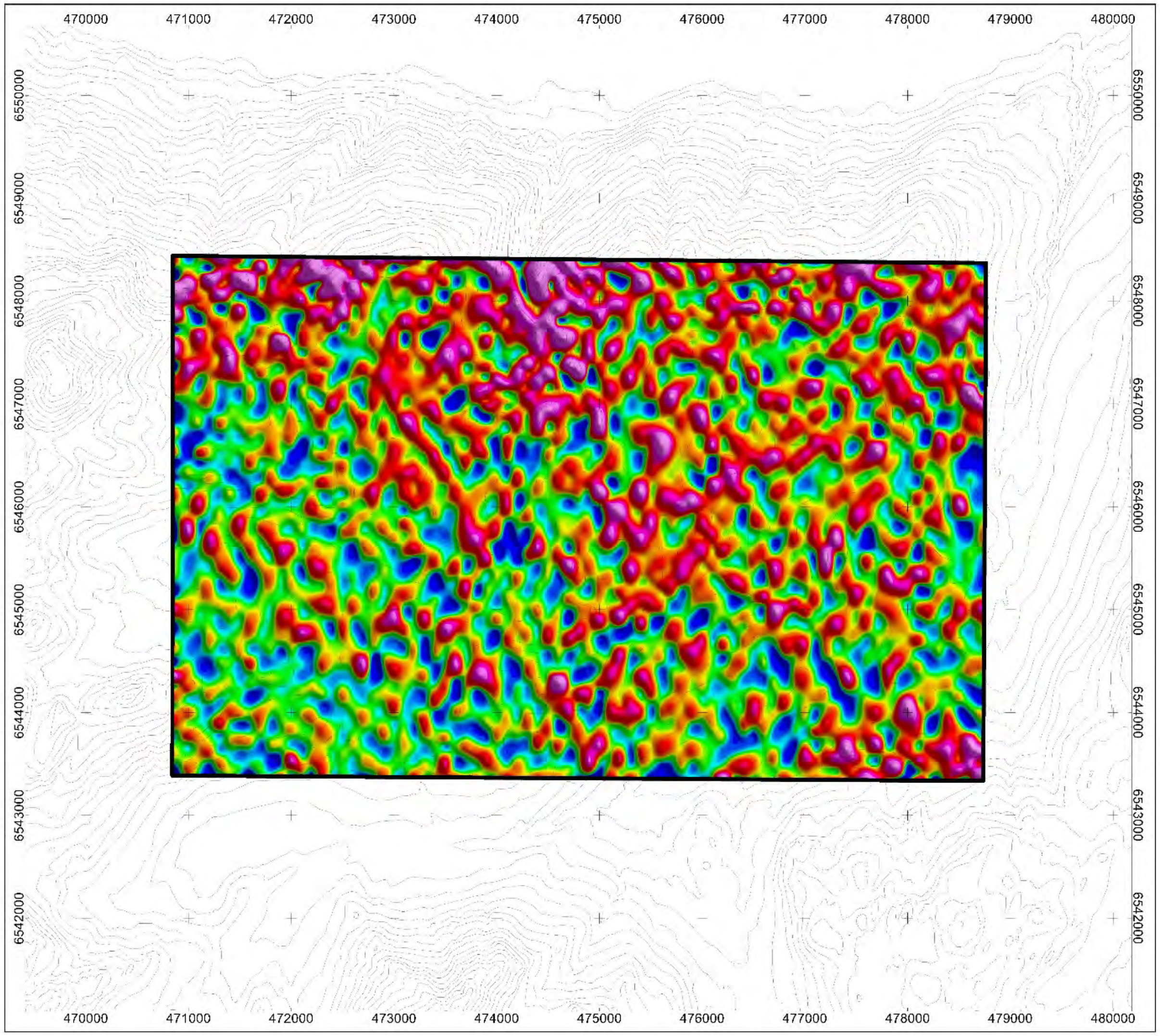
Job #21185
September 30, 2021

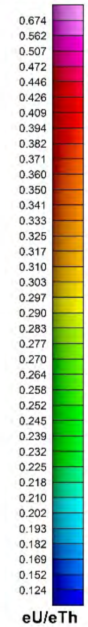
Plate 20
eU/%K

National Topographic System









MAP PROJECTION
Projection: Universal Transverse Mercator Zone 9N
Datum: WGS 84
Local Datum Transform: World

EAGLE MOUNTAIN SURVEY SPECIFICATIONS

Survey Dates:	August 31 and September 2, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Magnetic, VLF-EM, and radiometric survey
Total Line km:	438 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	000°/180°
Tie Line Spacing:	1000 meters
Tie Line Direction:	090°/270°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NAA – Cutler, ME 24.0 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals................
Eagle Mountain Survey Block Boundary.........

DATA REFERENCE
Radiometric data have been corrected for effective height, lag, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations. Radiometric data are represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 45° and declination at 045°.

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URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

GOLDEN SKY MINERALS

Eagle Mountain Survey Block

Radiometric Map

Uranium over Thorium Ratio

Precision GeoSurveys

Scale 1:20000
250 0 250 500 750 1000 1250 1500
(meters)
WGS 84 / UTM zone 9N

Job #21185
September 30, 2021

Plate 19
eU/eTh