BC Geological Survey
Assessment Report
39776

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: **Airborne magnetic survey, geological reconnaissance and XRF prospecting on the Junkers property north-central British Columbia**

TOTAL COST: **$91,959.91**

AUTHOR(S): **Andrew Lee Smith, P.Geo**

SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):
STATEMENT OF WORK EVENT NUMBER(S)/DATE(S):

YEAR OF WORK: **2021**
PROPERTY NAME: **JUNKERS**
CLAIM NAME(S) (on which work was done): **1077517, 1079836 and 1079837**

COMMODITIES SOUGHT: **Cu,Au,Ag**

MINING DIVISION: **Omenica/Laird Mining Division**
NTS / BCGS: **NTS 94E/10**

LATITUDE: **57 º 33’ 5” N**
LONGITUDE: **126º 55’ 36” W**

UTM Zone: **NAD 83 Zone 9** EASTING: **625,000mE** NORTHING: **6,382,000mN**

OWNER(S): **West Mining Corporation**

MAILING ADDRESS: **3500-1055 Dunsmuir Street, PO Box 49114, Vancouver BC V7X 1H7 Canada.**

OPERATOR(S) [who paid for the work]: **West Mining Corporation**

MAILING ADDRESS: **same as above**

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. **Do not use abbreviations or codes**): **Junkers, Copper, Gold, Silver, Jurassic, Cu-Au quartz veins, hydrothermal**

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: **094E 299**

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (Metric Units)	CLAIMS ON WHICH THE WORK WAS COMPLETED	CLAIM AREA (ha)	APPORTIONED PROJECT COSTS (support included - net of GST)
GEOLOGICAL (scale, area)				
Ground, mapping				
Photo interpretation				
GIS Compilation		**1077517**	1093.8	$ 5,597.35
		1079836	520.8	$ 2,665.11
		1079837	486.1	$ 2.487.54
			Total	***$ 10,750.00***
GEOPHYSICAL (line-kilometres)				
Ground				$ -
Magnetic				$ -
Electromagnetic				$ -
Induced Polarization				$ -
Radiometric				$ -
Seismic				$ -
Other				$ -
Airborne				$ -
Magnetic	**238**	**1077517**	1093.8	$ 20,827.34
		1079836	520.8	$ 9,916.69
		1079837	486.1	$ 9,255.96
Electromagnetic				
Radiometric				
			Total	**$ 40,000.00**
GEOCHEMICAL (number of samples)				
Soil - Talus Fines	9	**1077517**	1093.8	$ -
		1079836	520.8	
Silt				$ -
Rock	10	**1077517**	1093.8	$ 386.45
		1079836	520.8	$ 184.00
Otther - XRF Readings	37			$ -
			Total	**$ 570.45**
DRILLING (total metres, number of holes, size, storage location)				
Core				$ -
Non-core				$ -
			Total	**$ -**
RELATED TECHNICAL				
Sampling / Assaying				$ -
Petrographic				$ -
Mineralographic				$ -
Metallurgic				$ -
			Total	**$ -**
PROSPECTING and GEOLGICAL RECCNNAISSENCE (scale/hecares)				
Geological Reconnaissence (incl. support)	**1009.0**	**1077517**	794.5	$ 33,575.15
		1079836	214.5	$ 9,064.31
			Total	**$ 42,639.46**
PREPATORY / PHYSICAL				
Line/grid (km)				$ -
Topo/Photogrammetric (scale, area)				$ -
Legal Surveys (scale, area)				$ -
Road, local access (km)/trail				$ -
Trench (number/metres)				$ -
Underground development (metres)				$ -
Other				$ -
			Total	**$ -**
			TOTAL COST	$ 91,959.91
ASSESSMENT CREDITS PER CLAIM				
		1077517	1093.8	$ 47,882.02
		1079836	520.8	$ 22,798.46
		1079837	486.1	$ 21,279.44

West Mining Corp.

Junkers Property Assessment Report

Geological Reconnaissance and Airborne Magnetic Survey on the Junkers Property North-Central British Columbia

Smithers Mining District
Omenica/Laird Mining Division
Toodoggone Lake Area
British, Columbia Canada

Mineral Titles
1077517, 1079836
& 1079837

NTS 94E/10
(UTM NAD 83 Zone 9)
6,382,000mN, 625,000mE
Lat. 57° 33' 5"N, Lon. 126° 55' 36"W
Mount Cushing Map Sheet (1:50,000)

By: **Andrew Lee Smith, P, Geo**
Iron Mask Explorations Ltd.
595 Burrard Street
PO Box 48201, Stn. Bentall Centre
Vancouver, BC V7X 1N8 Canada
e-mail: ironmask@shaw.ca
phone: (604) 505-2233

On behalf of Owner and Operator:
West Mining Corp.
3500-1055 Dunsmuir Street
PO Box 49114
Vancouver, BC V7X 1H7 Canada
phone:+1 604 727 9434

February 20, 2022

SUMMARY

The current state of the Junkers Property is best described as an early stage, grass roots gold-copper-lead-silver prospect.

The Junkers property is comprised of three mineral titles with a total area of 2,100 hectares located 5 kilometres east of Junkers Creek, southeast of Chuckachida Lake, 392 kilometres southeast of the community of Dease Lake. West Mining Corp. owns a 100% interest in the Junkers mineral titles.

The Junkers claims cover an area of mountainous terrain of moderate relief ranging from 1400 m ASL in the central portion of the claims to 2200 m ASL on the ridges that border the claims to the west, east and south.

Historical exploration on the property consists of a geochemical sampling and prospecting field program conducted by Stealth Minerals Limited in 2004. The discovery of the Junkers mineral occurrence was the result of the 2004 field work initiated to follow-up a single 1995 RGS silt survey sample which returned 175 ppb Au from a north draining stream, central to the claims (East Valley Creek). Rock sample 151405, collected in 2004 from the southwest quadrant of the property, returned assay results of 0.1% Cu and 1.08 g/t Au (Barrios and Kuran, 2004, Assessment Report #27637). This sample is described as collected from pyritic quartz vein subcrop. Further, anomalous samples from float and the Cu-Au bearing quartz vein samples, recorded in BC Minfile 94E 299 as the "Junkers Showing", were returned from a talus fan at the southern end of the West Ridge.

The results of the 2004 exploration program indicated mineralization of economic interest found in stream and float samples pointed to a source of origin from the southern half of the West Ridge. Stream sediment anomalies collected from the East and West Valleys were associated streams draining from the east and west slopes of the southern part of the West Ridge.

The 2021 exploration program was executed in two phases; the completion of 238 line kilometres of airborne magnetic survey, followed by field work to ground truth the interpreted airborne geophysical data and to complete a reconnaissance level follow-up on the results from the 2004 field program. Access to the property was by helicopter from Dease Lake, BC.

Ten rock/float samples and nine talus fine contour samples were collected for laboratory analysis by ALS Global Labs, North Vancouver, BC. In addition, nineteen XRF elemental concentration readings were taken in the field. The 2021 exploration program has verified the results of the 2004 program and advanced the exploration agenda through the acquisition of detailed airborne magnetometer survey data that reveals a structural framework spatially associated with mineral occurrences and alteration.

Additional field work is recommended to initiate exploration targeting through advanced prospecting, geological mapping and contour sampling with a focus on the southern portion of the West Ridge where linear structures are associated with mineralization.

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1 INTRODUCTION

The Junkers Property ("Property") is best described as an early stage, grass roots copper-gold-silver-lead prospect. Historical exploration on the property consists of a geochemical sampling and prospecting field program conducted in 2004.

The Property is owned 100% by West Mining Corp, ("Company") of Vancouver, BC. The Company contracted Iron Mask Exploration Services Ltd. ("IMX") of Vancouver, BC to conduct the 2021 exploration program on the Junker Property.

The discovery of the Junkers mineral occurrence, was the result of the 2004 field work, initiated to follow-up a single 1995 RGS silt survey sample which returned 175 ppb Au from a north draining stream, central to the claims (East Valley Creek). One of nineteen 2004 rock samples (sample 151405) collected from the southwest quadrant of the property, is described as a pyritic quartz vein found in subcrop and returned assay results of 0.1% Cu and 1.08 g/t Au (Barrios and Kuran, 2004, BC ARIS Report #27637 and BC Minfile 94E 299). Several recommendations were included in the 2004 report, including geological mapping and contour soil sampling at lower elevations to outline potential targets. The results of the 2004 exploration program indicated mineralization of economic interest found in stream and float samples pointed to a source of origin from the southern half of the West Ridge. Stream sediment anomalies collected from the East and West Valleys were associated streams draining from the east and west slopes of the southern part of the West Ridge.

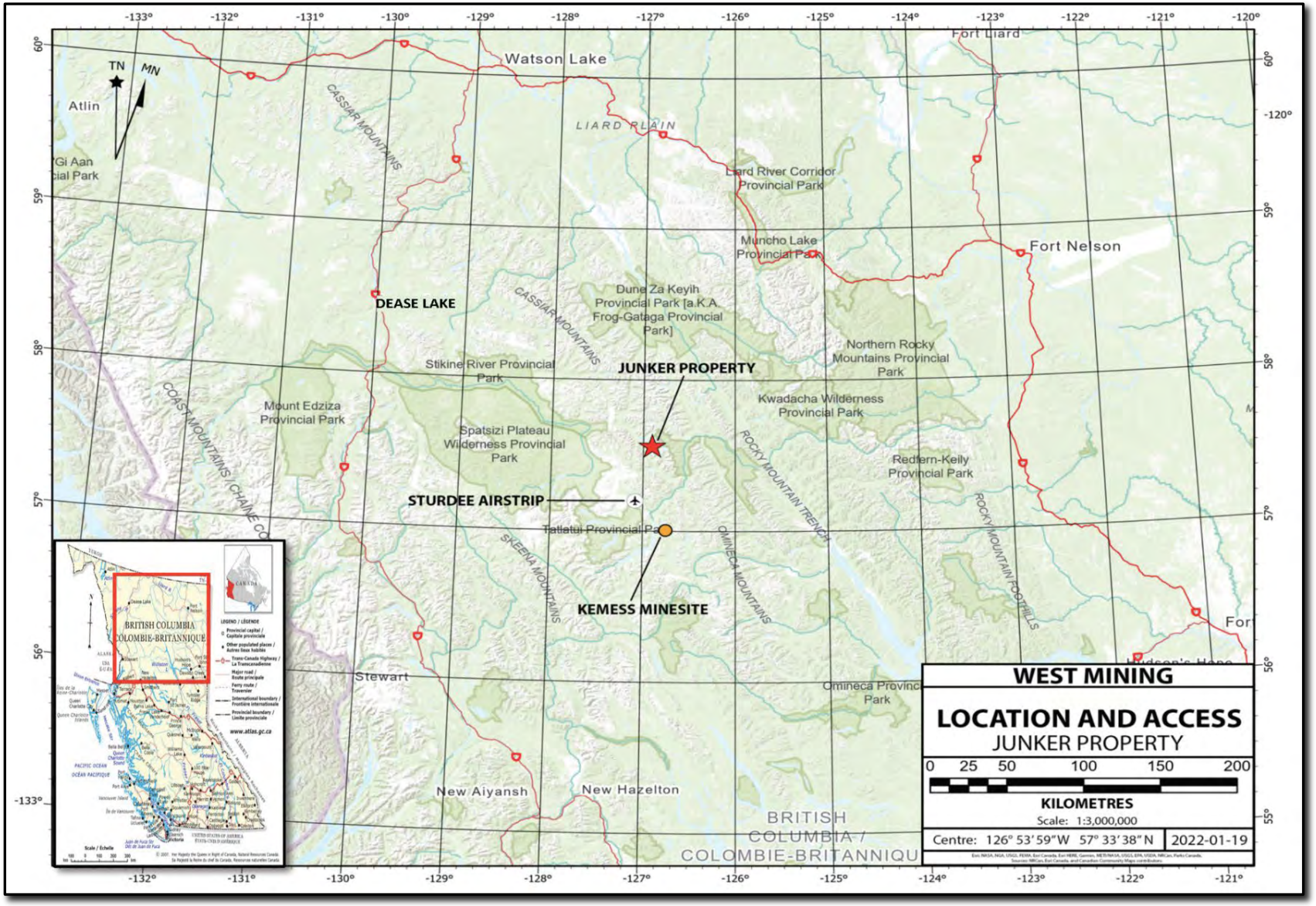
The 2021 field program was established to advance the Junker property through confirmation of the 2004 assay results and the completion and ground-truthing of an airborne magnetometer survey in an effort to establish a framework for exploration targeting.

The program was executed in two phases; the completion of 238 line kilometres of airborne magnetic survey followed by field work to ground truth the interpreted geophysical anomalies and complete a reconnaissance level follow-up on the results of the 2004 field program. The 2021 field program accessed the property by helicopter from Dease Lake, BC.

A total of ten rock/float samples and nine talus fine contour samples were collected for laboratory analysis. In addition, nineteen XRF elemental concentration readings were taken in the field. The results confirm the copper-silver mineralization as initially identified at Junkers.

In preparing this report, IMX has used data and information compiled from government archives and data bases, geoscientific literature and the assessment report by **Barrios, A. and Kuran, D.L. (2004),** ***Geochemical Report on the Junker 1 -2 Claims, Toodoggone Lake Area NTS (94E-056)***, BC ARIS Report #27637, as primary sources for geological and historical information.

Figure 1: *Junkers Property Location and Access*



2 LOCATION AND ACCESS

2.1 LOCATION:

The Junkers Claims are located about 392 kilometres southeast of the community of Dease Lake in the Smithers Mining District, on the border of the Omineca/Laird Mining Division, Stikine Region, British Columbia, Canada. The claims are located on NTS mapsheet 94E/10, centred at 6,382,000mN, 625,000mE (UTM NAD 83 Zone 9) or Lat. 57° 33' 5"N, Lon. 126° 55' 36"W.

The Junkers, Junkers East and Junkers West claims are located 5 km east of Junkers Creek, southeast of the Chuckachida Lake, and approximately 15 km north of the Toodoggone Lake (Figure 1).

The 2021 field program accessed the property via Tundra Helicopters from Dease Lake, BC. The remote location and lack of local infrastructure represents a significant challenge in developing a sustained exploration program and would add significantly to the costs of any future field work. Alternative access options and fly camps are available and should be considered going forward.

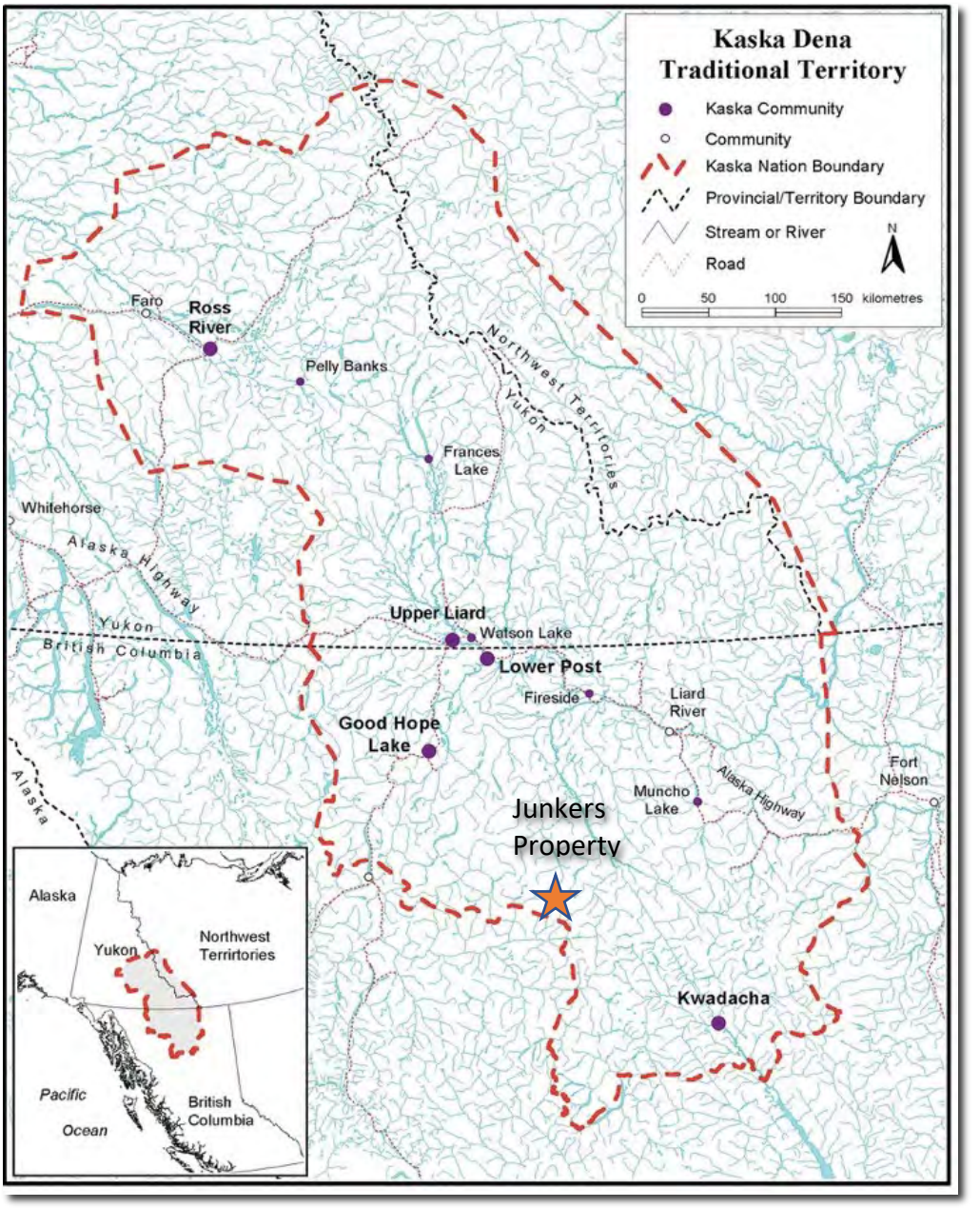
The 2004 campsite at Firesteele River used by Stealth Minerals is accessible by the all-weather Omineca Mining Road. The road travels approximately 410 km north from Windy Point, BC, to the Kemess Mine gate, then approximately 22 km of summer access road to the campsite. Travel time from Prince George is approximately 10 hours, or 7 hours from Mackenzie. In addition, there are hunting camps on Chukachida Lake that could potentially be rented to support a future field program.

Alternate mobilization access is also possible from airstrips at the Kemess South Mine or Sturdee Valley (Figure 1) .

2.2 FIRST NATIONS TRADITIONAL TERRITORY:

The Junkers property is located within the Traditional Territory of the Kaska Dena First Nation (Figure 2). The Territory is 24 million hectares in area, spans three provinces and territories (British Columbia, Yukon and Northwest Territories) and constitutes fully 25% of the Yukon Territory and 10% of the entire land area of BC.

Figure 2: *Kaska Dena Traditional Territory*
(source: https://kaskadenacouncil.com/



3 STATUS OF MINERAL TITLES

3.1 OWNERSHIP

The three Junkers mineral tenures are owned 100% by West Mining Corp. (FMC 288430), Suite 3500 - 1055 Dunsmuir Street, Vancouver, BC, Canada V7X 1L3 (Figure 3). There are no underlying royalties associated with the tenures. The claims have not been surveyed.

TABLE 1 – CLAIM INFORMATION

Title Number	Claim Name	Owner	Title Type	Title Sub Type	Map Number	Issue Date	Good To Date	Status	Area (ha)
1077517	**JUNKERS**	288430 (100%)	Mineral	Claim	094E	2020/JUL/23	2026/OCT/15	GOOD	1093.8
1079836	**JUNKER WEST**	288430 (100%)	Mineral	Claim	094E	2020/DEC/01	2026/OCT/15	GOOD	520.8
1079837	**JUNKER EAST**	288430 (100%)	Mineral	Claim	094E	2020/DEC/01	2026/OCT/15	GOOD	486.1
									2100.7

The 2021 field program provided full coverage of the three Junkers mineral tenures with an airborne magnetic survey. As well, digital prospecting using handheld x-ray fluorescence (XRF) and follow-up rock grab and talus fine sampling was conducted on the Junkers Claim.

3.2 ENVIRONMENTAL LIABILITIES

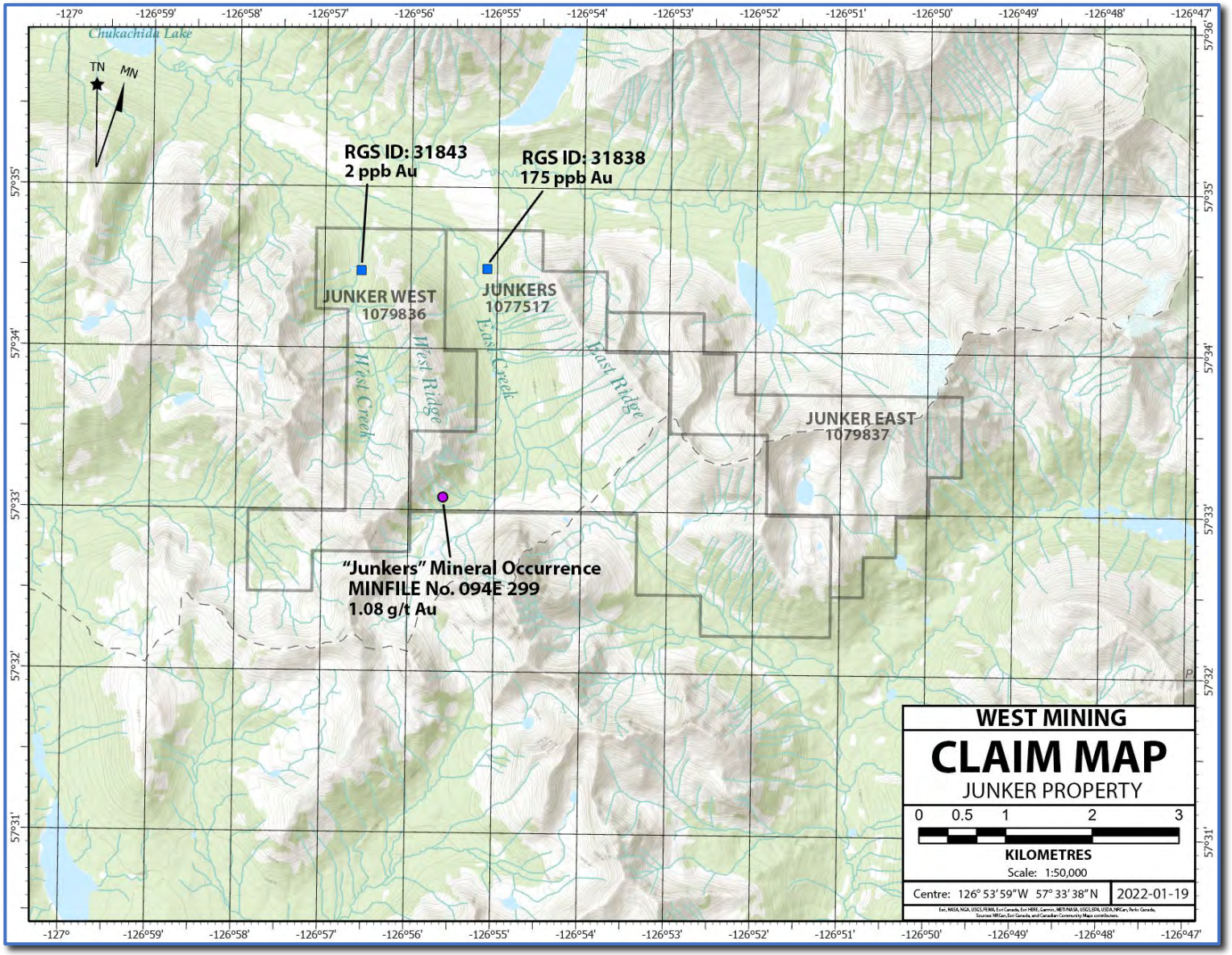
There has been limited human activity in this remote region of northern British Columbia. During field operations, no ground disturbance or other environmental liabilities were identified on the Junkers property, other than game and horse trails used for hunting from the East Creek Valley.

3.3 CHUKACHIDA PROTECTED AREA

Chukachida Protected Area covers area of 20,000 hectares of protected habitat on both sides of the Chukachida River. The protected area provides important wildlife habitat to moose, grizzly bears, caribou and several fish species. It is a key wildlife corridor, providing connectivity to high value habitat in adjacent areas. Recreation opportunities include moose hunting and fishing in the wide u-shaped valleys in this protected area (BC Parks, 2021).

The Junkers property does not include any of the protected area but parts of the claim block are in close proximity. Any future exploration program should be aware of access restrictions.

Figure 3: *Claim Map*



4 CLIMATE AND PHYSIOGRAPHY

4.1 CLIMATE

Seasonal temperatures can vary from -35°C in winter to over 30°C during the 4 months of summer. The mean daily temperatures for July and January are approximately 14°C and -15°C to -20°C, respectively. Precipitation between 50 and 75 centimeters occurs annually, with most during the winter months as snow cover of approximately 2 metres.

The optimal time for surface exploration on the Junkers property is between mid-late June and mid-October.

4.2 PHYSIOGRAPHY

The Junkers claims cover an area of mountainous terrain of moderate relief ranging from 1400 m ASL in the central portion of the claims to 2200 m ASL on the ridges that border the claims to the west, east and south. The central, north flowing stream follows an alpine glacial valley and is covered by variable till overlain by talus slides at higher elevations.

The prominent topographic features represented by the "East" and "West" ridges can be described as "razorback" in form, attaining peak elevations of 2040 m ASL with narrow ridge tops bounded by sheer cliff faces.

Vegetation ranges from wide spaced Jack pine and spruce in the valley bottom through stunted balsam and willows at tree line at 1500 m to barren rock with patchy balsam and sedges at higher elevation.

4.2.1 THE GREAT DIVIDE

The Continental Divide of Americas, or the Great Divide, is the topographic divide separating the Pacific watershed from the Arctic watershed and cuts across the southern portion of the Junkers claims. The claim group contains streams that drain into both the Pacific and Arctic watershed (*source: http://www.thecanadianencyclopedia.ca/en/article/great-divide-trail*).

The Great Divide is the boundary between two BC Geological Survey Branch Mapping Regions; north of the Divide is the Northwest Mapping Region while portions of the Junkers property south of the Divide is classified as the Northeast/Central Mapping Region.

4.3 WORK DONE BY WEST MINING IN 2021

In 2021, the Company completed 2 stages of exploration work on the Junker Property. Precision GeoSurveys Inc. was contracted to fly a total of 238 line kilometres of airborne magnetic survey. A field prospecting and sampling program conducted by IMX was designed to ground truth the interpreted geophysical anomalies and to follow-up on the results of the 2004 field program.

A total of ten rock/float samples and nine talus fine contour samples were collected for laboratory analysis. In addition, nineteen XRF elemental concentration readings were taken in the field.

The airborne magnetometer survey work was completed on July 12, 2021, and the field sampling program from August 14 to 22, 2021. The 2021 field program was completed by a 3 person crew working via helicopter out of Dease Lake, BC.

5 EXPLORATION HISTORY

The current state of the Junkers property is best described as an early stage, grass roots prospect. Historical exploration on the property consists of a single rock and silt sampling field program conducted in 2004, executed to follow-up a 1995 RGS silt survey sample, from a north draining stream central to the claims, which returned 175 ppb Au.

The 2004 field program carried out by Stealth Minerals Limited (Barrios and Kuran, BC ARIS Report #27637) collected 19 rock samples and 13 silt samples for geochemical analysis. Only three of the rock samples were not float and these were labelled as subcrop. Sample 151405, of pyritic quartz vein subcrop collected from the southwest quadrant of the property, yielded 0.1% copper and 1.08 g/t gold. This sample has been included in the BC Minfile database described as the "Junkers Occurrence" (BC Minfile number 94E 299).

A dacitic subcrop sample (sample 151401) containing thin quartz stringers with pyrite yielded 0.2 per cent lead and 8.64 grams per tonne silver. This sample was located about 500 metres east of sample 151405. Several other float samples taken on the Junkers property in 2004 assayed between 1 and 4.1 grams per tonne gold.

In 2021, the Company completed 2 stages of exploration work on the Junker Property. Precision GeoSurveys Inc. was contracted to fly a total of 238 line kilometres of airborne magnetic survey. A field prospecting and sampling program conducted by IMX was designed to ground truth the interpreted geophysical anomalies and to follow-up on the results of the 2004 field program.

Until 2021, there is no documentation of any additional mineral exploration having taken place on the Junkers property since 2004.

6 GEOLOGY

6.1 REGIONAL GEOLOGY

While the area of the Junkers property has not been mapped in detail by the BC Geological Survey or any other entity , the geology of the region immediately to the west of Junkers was mapped at 1:50,000 scale as presented in the British Columbia Geological Survey Geoscience map 2006-6 (Figure 5)).

In the accompanying report, Diakow (2006) describes the regional geology to the immediate west of the Junkers Property as lying within the eastern margin of the Intermontane Tectonic Belt. The Intermontane Belt is made up of four unique Terranes and the project areas lay within the Stikinia and, in part the Quesnellia Terranes (Figure 4). The Stikinia and Quesnellia Terranes consist mainly of island-arc volcanic, plutonic and sedimentary rocks of Late Triassic to Early Jurassic age with a Lower Permian basement represented by the Asitka Group (Diakow and Metcalfe, 1997). To the east older metamorphosed Precambrian and younger strata (clastic and chemical sedimentary rocks) of the Cassiar Terrane (Omineca Belt) is separated from the Intermontane Belt by a regional system of transcurrent faults (Diakow, Panteleyev and Schroeter, 1993). The Toodoggone regional geology consists of a series of NW trending volcanic belts some 90 km long and 40 km wide.

6.1.1 STRATIGRAPHY

As a result of recent regional mapping by the BC Geological Survey, evaluating the regional stratigraphy immediately west of the Junkers Property in exposures in the Junkers Creek valley, Daikow and Rhodes (2006) proposed to replace the name of the previously defined 'Quartz Lake member' to the "Junkers" member. This change reflects superior exposure of stratigraphy equivalent to the Quartz Lake member mapped north of the Toodoggone River, particularly on ridges adjacent to Junkers Creek, which drains into the south side of Chukachida Lake.

Junkers strata are lithologically heterogeneous, composed of massively interbedded, reworked, polymictic lapilli tuff, debris flows, volcanic conglomerate, sandstone-siltstone (95%; subunit TJs), pyroxene-bearing porphyritic basaltic andesite to andesite lava flows (5%; sub unit TJv) and comparatively small-volume flows of rhyodacitic composition (sub unit TJr). Unit TJs is dominated by conglomerate with interbedded sandstone and siltstone derived from basaltic lava flows and volcaniclastic rocks. Conglomeratic beds are typically poorly sorted and contain subrounded to subangular clasts that vary from cobble to boulder size. Except on weathered surfaces, the clasts are difficult to identify and blend into the dark green to maroon matrix. The clasts are wholly derived from a volcanic source, composed predominantly of fine-grained (0.5–2 mm) plagioclase-pyroxene-phyric basalt. Interbeds of maroon to reddish brown sandstone and siltstone are generally less than several metres thick. They display planar bedding, graded bedding and rare low-angle cross-laminations. Tube-shaped concretions have been found in some finer siltstone beds. Sandstone is typically rich in plagioclase with lesser amounts of pyroxene. However, locally common quartz, hornblende and titanite reflect different volcanic sources within the Toodoggone Formation. Clastic rocks containing mainly plagioclase and

pyroxene grains with fine-grained basaltic lithic clasts may be derived locally from either basaltic flows that form part of the upper Toodoggone Formation or from the older Takla Group.

Rare accretionary lapilli tuff, found at the lowest exposure in the section south of Chukachida Lake, indicates the presence of ash fall out and suggests local deposition in a subaerial environment. Elsewhere, rocks suspected to have a pyroclastic origin include pyroclastic breccia and lapilli and finer, well-bedded ash-rich tuffs. Rounding of pyroclasts and mechanical sorting within these deposits, however, suggests varying degrees of syn to post-depositional reworking.

Pyroxene-bearing basaltic lavas (unit TJv) occur at the top of the Junkers unit in three localities and are sharply overlain by the Graves member. In the absence of intervening rocks of the Graves member, the Junkers basalt is indistinguishable in the field from a succession of similar flows stratigraphically higher within the Pillar member. At Mount Gordonia, these basaltic lavas are about 70 m thick and over lie a distinctive red epiclastic-volcaniclastic layered sequence about 100 m thick. In turn, they are sharply overlain by Graves ash-flow tuffs. The lavas are generally purplish grey-green, medium grained with plagioclase up to 4 mm (20–25%) and sub-vitreous pyroxene up to 3 mm (2%). Oxidation of the flows is apparent as reddish hematite staining that varies in intensity and manifests as Liesegang banding. Basaltic flows in the Gordonia section display a textural gradation not observed at any other locality. Near the bottom of this section, typical medium-grained porphyritic flows pass up-section into sparsely porphyritic to aphanitic lavas, then into a distinctive, coarse-bladed plagioclase-phyric variety at the top of the section. Slender plagioclase laths between 6 and 14 mm characterize these bladed flows. Although bladed plagioclase porphyry flows are locally voluminous in the Takla Group, those at Mount Gordonia are the only known occurrence in the Toodoggone Formation.

Lavas of dacitic to rhyodacitic composition (unit TJr) cap Mount Estabrook. Although unequivocal stratigraphic contacts have not been observed with nearby Junkers clastic rocks, these and other similar lavas west of Mulvaney Creek are believed to form lens-shaped deposits within the Junkers unit. Rhyodacite contains up to 20% plagioclase and several percent relict biotite and hornblende phenocrysts scattered in a dark reddish brown and greenish pink groundmass that commonly displays flow laminations.

The Junkers succession is interpreted as broad, low-angle alluvial fans built up along margins of uplifted fault blocks or, alternatively, represent the distal, largely clastic aprons of stratovolcano centres, prograding over older peneplaned rocks. Small-volume basaltic lava flows and their scattered distribution might suggest localization within irregular channels developed on coalescing fan surfaces. The Junkers member was deposited subaerially, with traction features in some sandstone beds suggestive of fluvial transport. The location of perceived central volcanoes, which fed the basaltic lavas and sourced the large volume of basaltic detritus occupying clastic deposits, likely lay east of present exposures of the Junkers member.

6.1.2 Intrusive Rocks

Three stock-size intrusions mapped by the BC Geological Survey in the Toodoggone region include the Jack Lee pluton, immediately southwest of the western boundary of the Junkers

property. These intrusive plutons are assigned to the Black Lake intrusive suite; the McClair, Midas and Jack Lee pluton.

The Jack Lee is the largest of the plutons in the area, covering roughly 30 km^2 and spatially associated with the Junkers Property. In the west, it is extrapolated beneath the drift-covered valley of Jack Lee Creek, its contact coinciding with the trace of the Black fault. Several outliers of Junkers strata rest on the Jack Lee pluton, outboard of an extensively exposed non-conformable contact. Boulder-size clasts of monzodiorite, derived from the Jack Lee pluton, have been found at one locality in polymictic conglomerate deposited directly on the pluton.

The Jack Lee pluton consists mainly of medium-grained, inequigranular monzodiorite composed of plagioclase phenocrysts up to 4 mm set in a finer grained mosaic of anhedral potassium feldspar and quartz. Quartz constitutes up to 5% of plutonic specimens, and mafic minerals (hornblende, biotite and pyroxene, in decreasing relative abundance) make up 5–7%. Fresh exposures typically display a greenish coloration due to moderate to pervasive chlorite and epidote alteration of feldspars and mafic minerals, and coatings on joint and fracture surfaces. Locally, intense oxidation of the pluton is imparted by hematite.

Mineralogically the Jack Lee pluton resembles the Jock Creek pluton, a ca. 197 Ma monzonitic body mapped south of the Toodoggone River, where it is spatially and possibly genetically associated with important porphyry-style exploration targets at Sofia and Alexandra (Diakow et al., 2005a).

6.1.3 STRUCTURE

A system of high-angle normal and possibly contraction faults trend between 120 degrees and 150 degrees in azimuth and occur locally with secondary faults trending from 20 to 40 degrees, and 60 to 80 degrees in azimuth. These structures may impart primary control of high-level co-magmatic plutons and deposition of the Toodoggone Formation rocks (Schiarizza 2011a).

Figure 4: *Map showing major terranes and superterranes of the Canadian Cordillera* (from Nelson and Colpron, 2007)

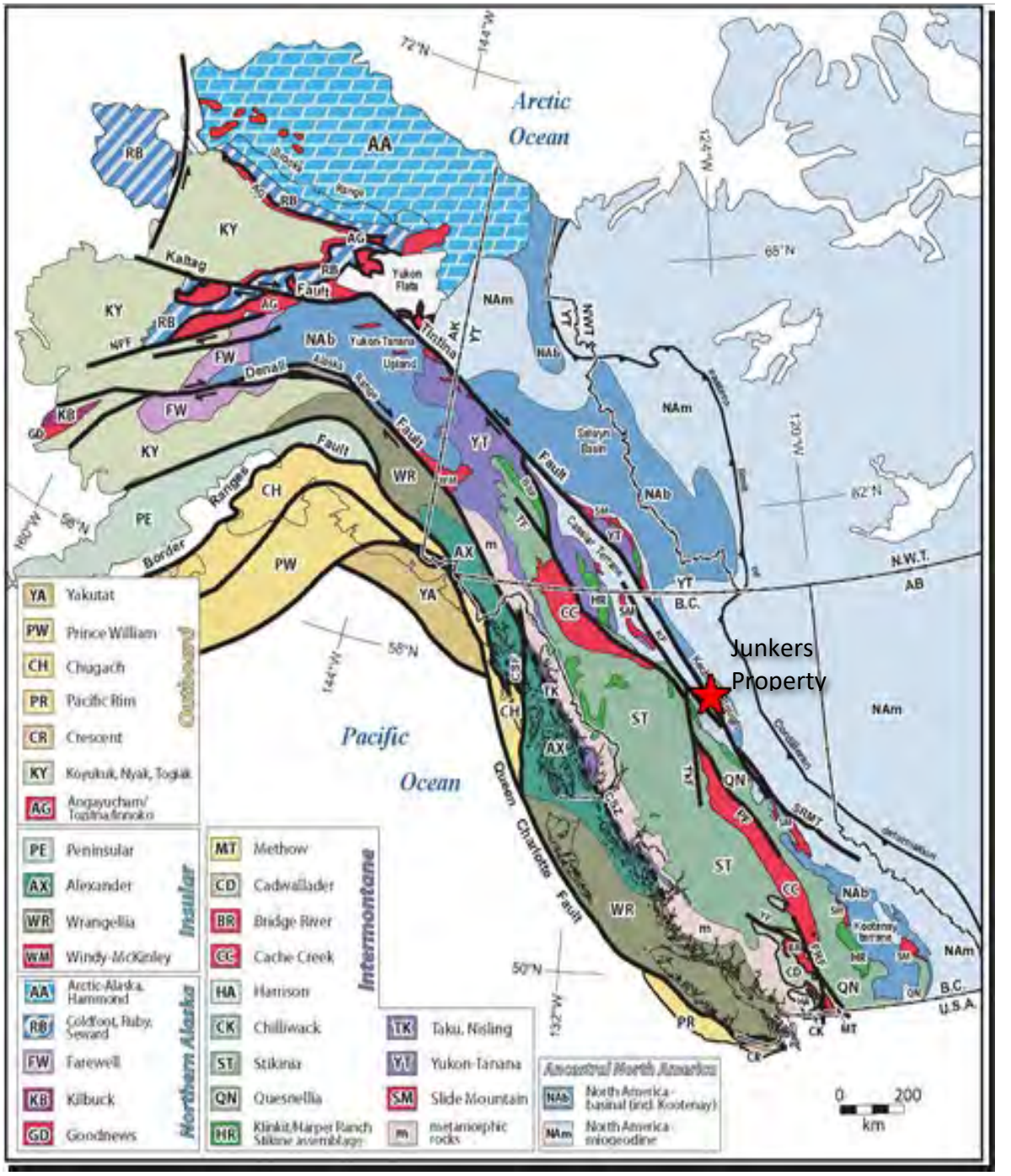
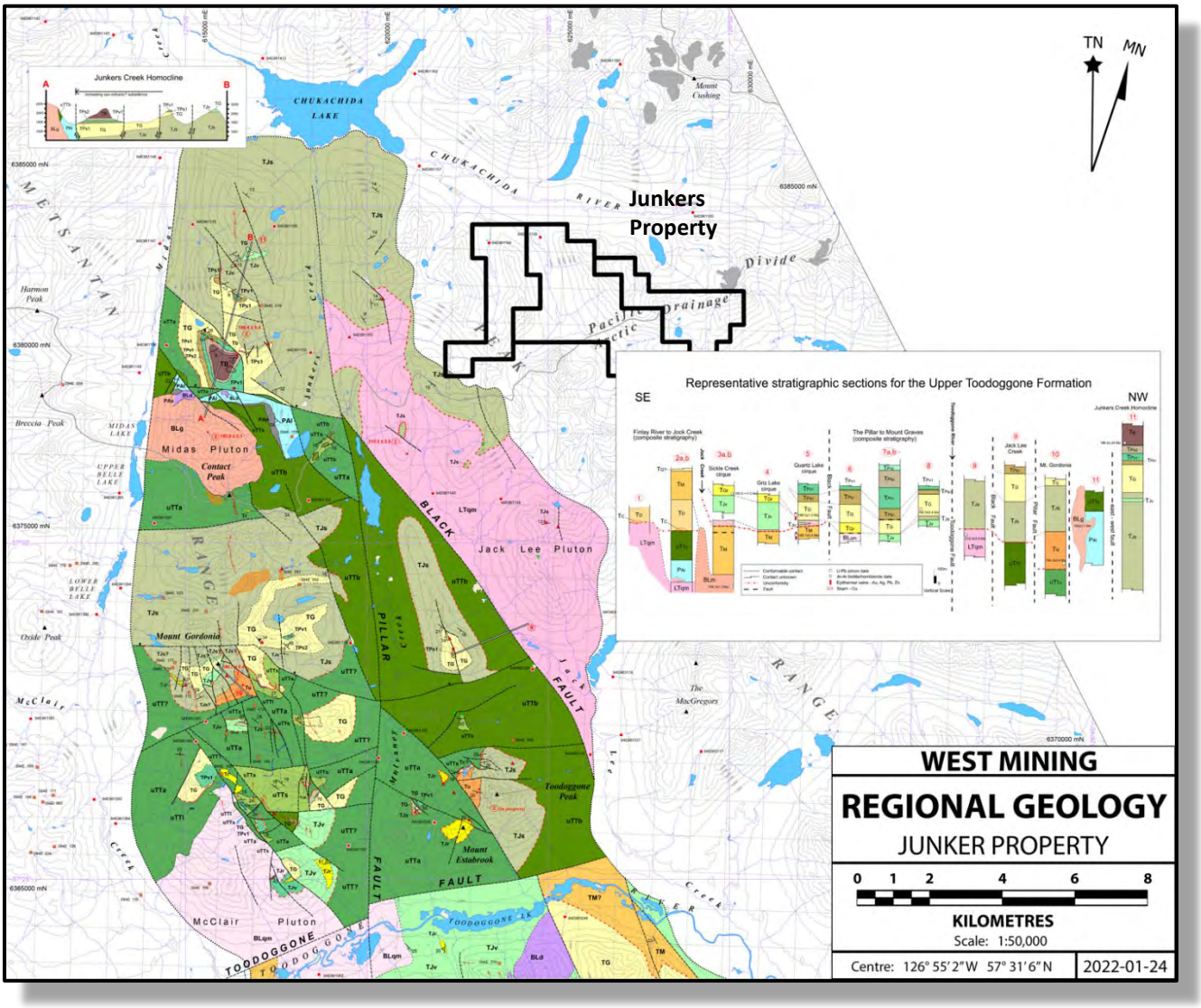


Figure 5: *Regional Geology (modified from Diakow 2006)*



EARLY JURASSIC
Upper Toodoggone

Graves member

TG	Dacite ash-flow tuff; light green to maroon, texturally variable including nonwelded, locally lithic rich, and thick (100-150m) welded columnar jointed zones; diagnostic accidental pyroclasts include pink quartz-biotite dacite porphyry and biotite-hornblende quartz monzonite; rare cross-laminated ground surge tuff or layered fallout ash and fine lapilli tuff at the base.
TGr	Rhyolitic flows and related monolithic flow breccias; maroon to reddish-brown; flow laminated, spherulitic crystallization widespread; thin fallout ash tuff locally at the base yields a U-Pb date of 192.0+1/-2 Ma.

Junkers member (renamed after Quartz Lake member)

	Debris flow or volcanic conglomerate; subangular to rounded boulders of monolithic medium-grained andesite porphyry, reddish oxidized muddy matrix, interbeds of sandstone and siltstone; similar conglomeratic rocks west of the Pillar Fault are unconformable on unit TS.
TJv	Basalt and andesite lava flows characterized by crowded plagioclase 1mm long or less and relatively fresh pyroxene.
TJr	Dacite to rhyolite lava flows; lenticular; commonly flow-laminated deposits.
TJs	Conglomerate and sandstone dominated by fine grained basaltic detritus that is presumably derived in part from units TJv or uTTa; reworked polymict lapilli tuffs and volcanic breccias; heterolithic unit comprising diffusely layered very thick beds.

EARLY JURASSIC

BLACK LAKE INTRUSIVE SUITE

STOCKS

BLqm	Quartz monzonite; pink, medium to coarse inequigranular subhedral plagioclase, potassium feldspar and 10-20% anhedral quartz, and variably chlorite-altered hornblende (10-15%) and biotite (3-5%).
BLm	Monzonite; orange to pink, coarse inequigranular to porphyritic texture, subhedral plagioclase enclosed by fine grained interstitial potassium feldspar and typically less than 5% quartz, anhedral chloritized hornblende and biotite
BLmd	Hornblende monzodiorite; medium to coarse inequigranular texture; widespread epidote-chlorite-hematite alteration minor malachite within fractures.

6.2 PROPERTY GEOLOGY

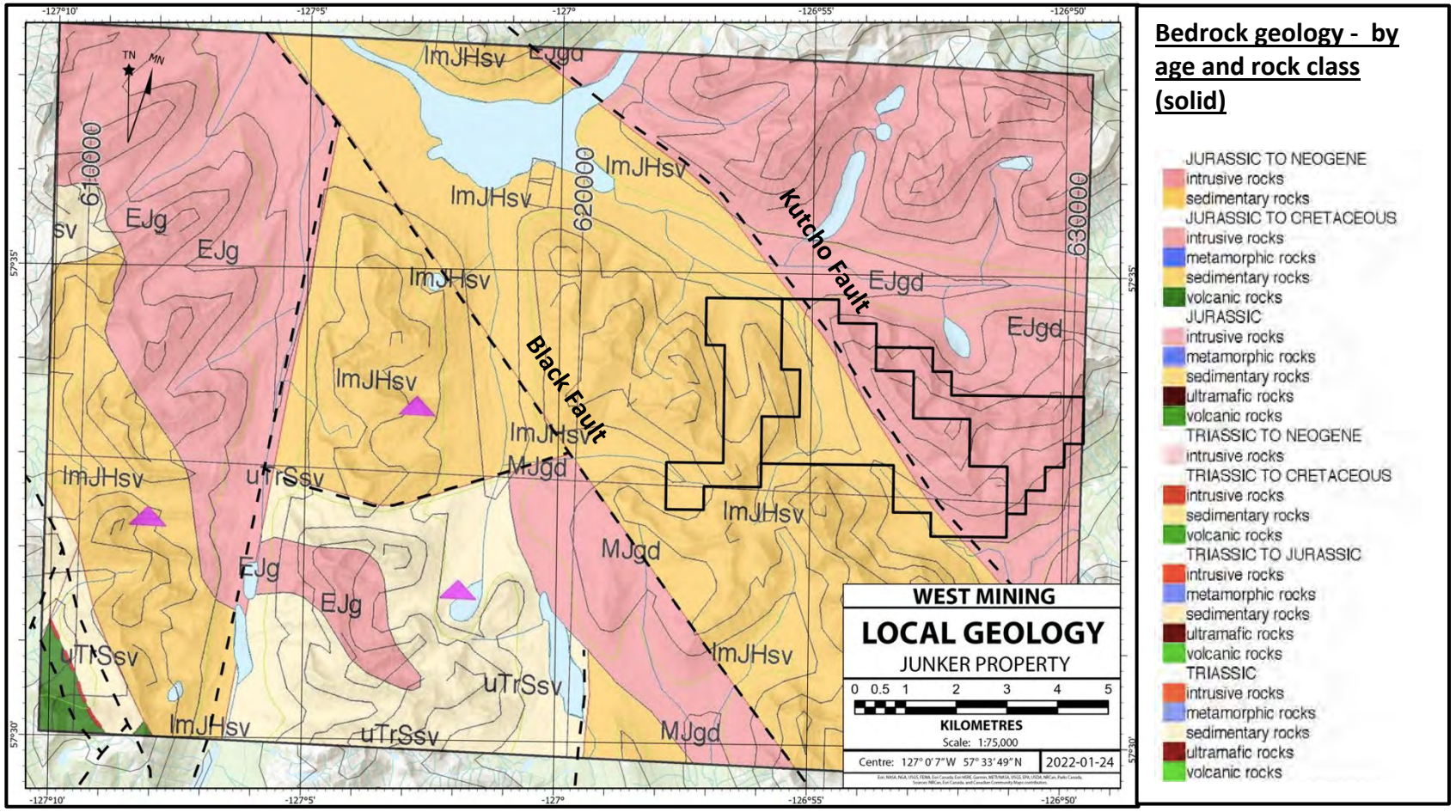
Detailed bedrock geological mapping has not been completed on the property. Figure 6 shows that the Junkers claims are underlain by Hazelton group volcanic rocks, except for the north-east corner of the Junkers 2 claims which are underlain by Early Jurassic granodiorite (Diakow and Shivers, 2004).

The prominent northwest striking regional Kutcho fault transects the east-central part of the Junkers property, where it is interpreted as truncating the Junkers members (TJs/JHv) and unconformably juxtaposes them against Early Jurassic granodiorite (EJgd) rocks of Quesnel terrane. The fault is projected to be located under talus cover at the base of the East Ridge. The Kutcho is described by Schiarizza (2011a) as being part of a network of orogen-parallel dextral strike-slip faults, of Cretaceous to Eocene age, with a combined displacement of several hundred kilometres.

Due to better exposure at Junkers Creek and mapped geology similar to members of the Toodoggone Group to the south, Diakow (2006l) proposed the reassignment of the Quartz Lake member from the Jurassic Hazelton Group (JHsv) to the Junkers member of the Early Jurassic Upper Toodoggone Group (TJvs). Diakow's description of the Junkers Creek type-section are consistent with the observed geology from the Junkers property.

While limited accessible bedrock exposures are available to be mapped, rock material in talus slopes provide indications of the stratigraphy present in the cliff faces of the West Ridge. Examination of the talus slopes indicate the presence of rock types consistent with those described from Diakow's work; reworked, polymictic lapilli tuff, debris flows, volcanic conglomerate with interbeds of maroon to reddish brown, sandstone and siltstone. Also present are lapilli tuffs, pyroclastic breccia and lapilli and ash-rich tuffs.

Figure 6: *Local Geology (modified from Diakow and Shivers, 2004)*



6.3 MINERALIZATION

Mineralization of potential economic significance observed on the Junkers property is represented by vein mineralization as observed from float/subcrop on scree slopes on the southern end of the West Ridge. These veins are described as epithermal to sub-epithermal polymetallic Au-quartz veins with accessory Ag-Pb-Zn+/-Au (Barrios and Kuran, 2004).

McMillan and Pantelayev (2000) concluded regional gold mineralization in this area was emplaced during an active period of plate tectonic in the Mesozoic. This tectonic activity initiated large-scale, deeply circulating, hydrothermal flow regimes in convergent continental margin settings. Mineralization during Middle Jurassic to mid-Cretaceous time also resulted when Paleozoic and early Mesozoic oceanic and island-arc rocks of Superterrane I collided with the continental margin clastic wedge to produce the Omineca Crystalline Belt. Table 1 shows Junkers and surrounding mineral occurrences as found in BC Minfile.

Table 1: *Regional Mineral Occurrences (BC Minfile)*

MINFILE NUMBER	MINFILE NAME	STATUS	MINERALIZATION		DEPOSIT TYPE	DEPOSIT CLASS	Geological Formattion	
			Primary	Accessory Minerals			BCGS	Diakow
094E 130	BELLE	Showing	Gold	Silver	Epithermal Au-Ag: low sulphidation	Epigenetic	imJHsv	
094E 023	ED	Showing	Copper			Epigenetic	uTSsv	
094E 036	EHL	Showing	Copper	Gold Silver	Epithermal Au-Ag: low sulphidation	Volcanogenic	imJHsv	
094E 184	FALCON A1	Showing	Copper	Silver	Epithermal Au-Ag: low sulphidation	Hydrothermal	imJHsv	
094E 185	FALCON A2	Showing	Silver	Gold Lead Zinc Copper	Epithermal Au-Ag: low sulphidation	Epigenetic	imJHsv	
094E 006	GARNET	Showing	Copper	Silver		Porphyry	imJHsv	TJs
094E 051	GORD 18	Prospect	Silver	Zinc Lead Copper	Epithermal Au-Ag: low sulphidation	Epithermal	uTSsv	
094E 052	GORD 9	Showing	Silver	Lead Zinc Copper		Epigenetic	uTSsv	
094E 292	GORDO 2A	Showing	Gold	Silver Zinc	Epithermal Au-Ag: low sulphidation	Epigenetic	uTSsv	
094E 293	GORDO 2B	Showing	Gold	Copper	Epithermal Au-Ag: low sulphidation	Epithermal	uTSsv	
094E 294	GORDO 2C	Showing	Gold	Silver Copper	Epithermal Au-Ag: low sulphidation	Epigenetic	uTSsv	
094E 295	GORDO 5A	Showing	Gold	Silver Copper	Epithermal Au-Ag: low sulphidation	Hydrothermal	uTSsv	
094E 296	GORDO 5B	Showing	Gold	Silver Copper	Epithermal Au-Ag: low sulphidation	Hydrothermal	uTSsv	
094E 297	GORDO 5C	Showing	Gold	Silver Copper	Epithermal Au-Ag: low sulphidation	Hydrothermal	uTSsv	
094E 298	GORDO 5D	Showing	Silver	Copper Lead Zinc	Polymetallic veins Ag-Pb-Zn+/-Au	Hydrothermal	uTSsv	
094E 176	GULCH EAST	Showing	Gold	Silver Copper	Epithermal Au-Ag: low sulphidation	Hydrothermal	imJHsv	
094E 177	GULCH WEST	Showing	Gold	Copper Silver	Epithermal Au-Ag: low sulphidation	Hydrothermal	imJHsv	
094E 235	JD-HAIRY	Unknown	Gold	Silver	Epithermal Au-Ag: low sulphidation	Epithermal	uTSsv	
094E 174	JOANNA EAST	Showing	Gold	Silver Copper	Epithermal Au-Ag: low sulphidation	Hydrothermal	imJHsv	
094E 172	JOANNA GOLD	Prospect	Gold	Silver Copper	Epithermal Au-Ag: low sulphidation	Hydrothermal	imJHsv	
094E 173	JOANNA JD	Prospect	Gold	Silver Copper	Epithermal Au-Ag: low sulphidation	Hydrothermal	imJHsv	
094E 175	JOANNA WEST	Showing	Gold	Silver Copper	Epithermal Au-Ag: low sulphidation	Hydrothermal	imJHsv	
094E 299	JUNKERS	Showing	Gold	Copper Lead Silver	Au-quartz veins	Hydrothermal	imJHsv	TJs
094E 178	LAKE 2	Showing	Copper	Zinc Silver	Cu skarn	Skarn	uTSsv	
094E 211	NUB 1	Showing	Gold	Silver Copper Lead Zinc	Epithermal Au-Ag: low sulphidation	Epithermal	imJHsv	
094E 088	NUB 2	Showing	Gold	Silver Zinc Copper Lead		Epithermal	imJHsv	
094E 210	NUB 4	Prospect	Gold	Silver Copper Lead Zinc	Epithermal Au-Ag: low sulphidation	Epithermal	imJHsv	
094E 018	URSUS 4	Showing	Copper	Silver	Cu skarn	Skarn	imJHsv	

Regionally, numerous gold deposits are controlled by local or district-scale structures and thermal zoning related to intrusive or volcanic centres. Most are in Jurassic island-arc terranes. The host rocks are calc-alkaline to alkaline (shoshonitic), suggesting formation in island-arc and backarc tectonic settings. Environments of ore deposition range from mesozonal through transitional to epizonal. The wide variety of auriferous deposits formed includes vein, skarn,

replacement, porphyry copper, breccia, and hotspring-related deposits. Deposit distributions have been modified by Cenozoic tectonic events, particularly large, right-lateral fault movements that segment the older terranes.

The BC Geological Survey Open File 1996-13 on Mineral Deposit Profiles (Panteleyev, 1996) characterizes BC Epithermal Au-Ag: Low Sulphidation deposits, the same type of deposit that is described from mineral occurrences in the region of the Junkers property, a mineral deposit type to which the Junkers occurrence has been proposed based on the early exploration results.

As seen from limited sampling to date, mineralization occurs in sulphide bearing quartz veins, carrying gold and variable amounts of chalcopyrite and galena. Typically this deposit type has mineralization localized in structures which act as hydrothermal conduits (Figure 7).

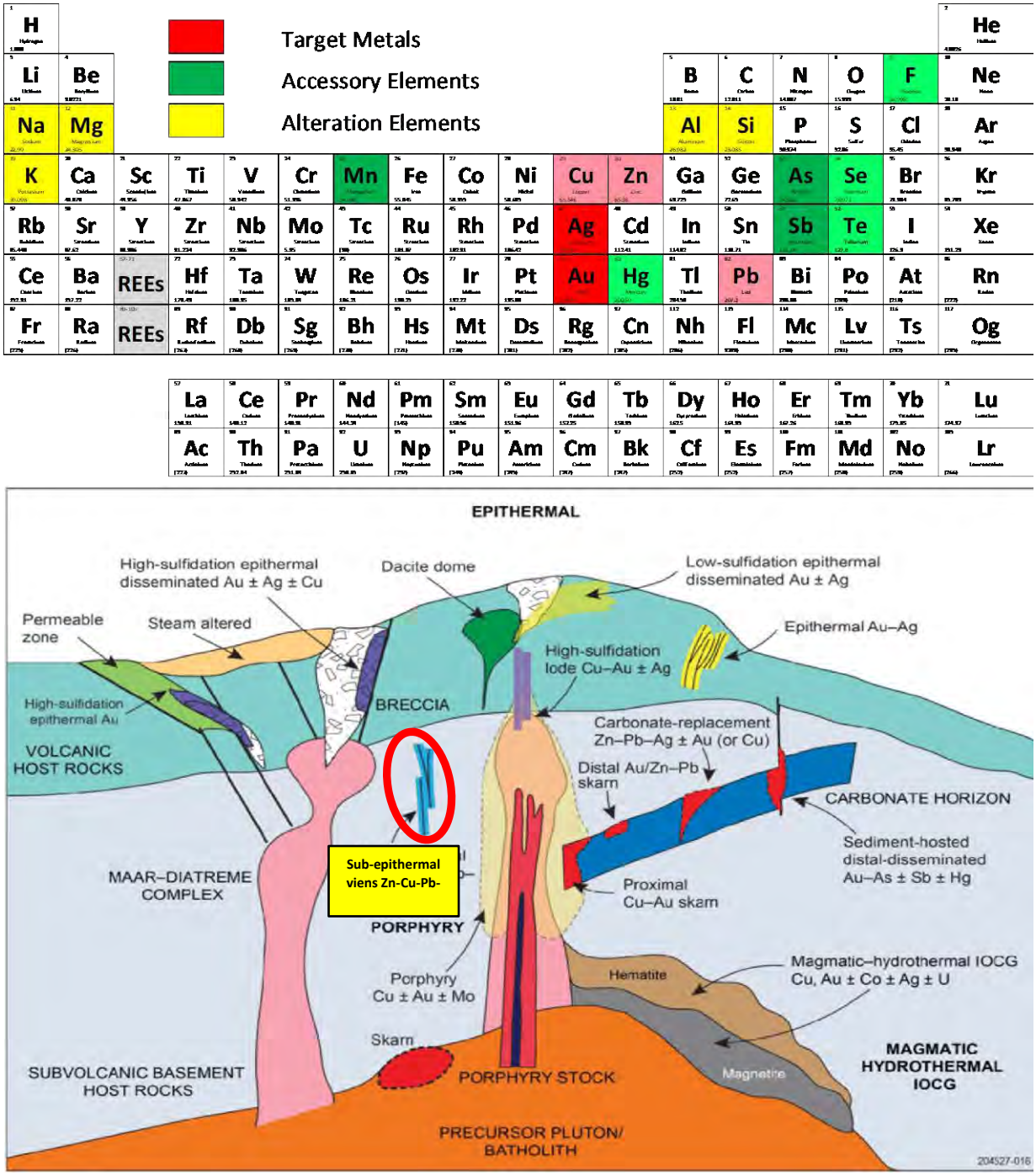


Figure 7: *BC epithermal model showing geochemical fingerprint of mineralization system*

7 GEOPHYSICS

After an analysis of the regional geology, the early-stage exploration agenda executed on the property to date, remote location, significant topographic relief, and the importance of the structural geological framework as a control on mineralization in exploration targeting, the 2021 field program was planned to include the acquisition of an airborne magnetic survey as a precedent dataset to field work

7.1 AIRBORNE MAGNETOMETER SURVEY

On July 12, 2021, Precision GeoSurveys Inc., contracted by IMX, flew a high-resolution helicopter-borne gradient magnetic survey over the Junker claims. The survey block, located in northern British Columbia, is centered 207 km southeast of Dease Lake and 285 km southwest of Fort Nelson. See Appendix 5 "Airborne Survey Report" (Poon, 2021) for additional details.

The Junker survey block was flown at 100 m line spacing at a heading of 040°/220°; tie lines were flown at 1000 m spacing at a heading of 130°/310°) for a total of 238 line kilometres (Figure 8).

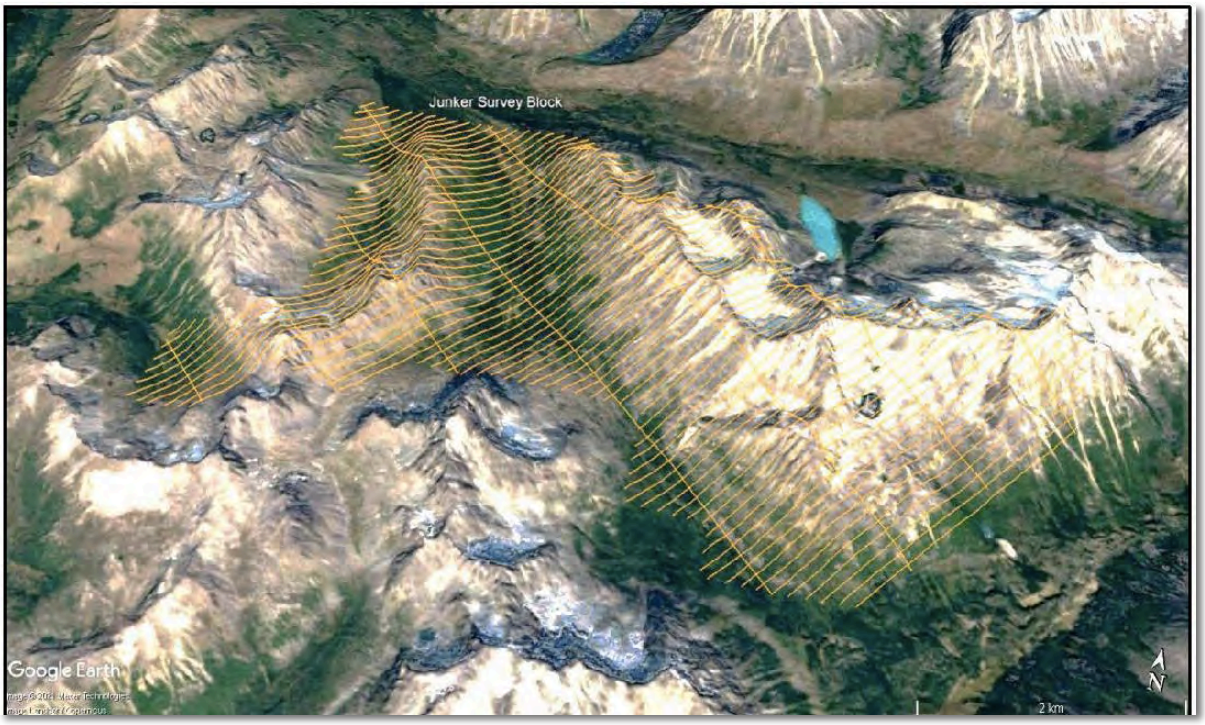


Figure 8: *Airborne flight lines (source: Poon, 2021)*

7.1.1 Survey Specifications

The geodetic system used for the geophysical survey was WGS 84 in UTM Zone 9N. Precision GeoSurveys flew the survey using an Airbus AS350 helicopter, registration C-GSVY.

The survey aircraft was equipped with a data acquisition system, GPS navigation system, pilot guidance unit (PGU), laser altimeter, triple magnetic gradient boom system, and a fluxgate magnetometer. A magnetic base station was used to record temporal magnetic variations.

The Integrated Multi-Parameter Acquisition Console (IMPAC), 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.

A Hemisphere R330 GPS receiver 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. 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 to assist the pilot in keeping the aircraft on the planned flight path, heading, speed, and at the desired ground clearance.

Terrain clearance is measured by an Opti-Logic RS800 Rangefinder laser altimeter attached to the belly of the forward 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 metres.

The primary geophysical technology used on this survey was a magnetic gradiometer system. Three widely-spaced split-beam cesium vapor magnetometers mounted in a nonmagnetic and non-conductive triple boom configuration provide total magnetic intensity as well as magnetic gradient in the cross-line (X or lateral or transverse) and in-line (Y or longitudinal) directions (Table 2). The magnetometer sensors were orientated 45 degrees from vertical to couple with local magnetic field at the Junker survey area.

Magnetometer	Model	Serial No.	Gradient Direction	Separation (m)
Mag 1	Geometrics G-822A	75656	X or Cross-line	11.5
Mag 2	Scintrex CS-3	612211	Total Field and In-line	7.3
Mag 3	Scintrex CS-3	2106649	X or Cross-line	11.5

Table 2: Magnetometer details. Cross-line gradient measured between Mag 1 and Mag 3.

As the survey helicopter flies along a survey line, small attitude changes (pitch, roll, and yaw) are measured by a Billingsley TFM100G2 triaxial fluxgate magnetometer. 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.

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 experience of the pilot ensured that data quality objectives were met, and the 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.

7.1.2 Data Processing

Magnetic data from each individual sensor were corrected for temporal variations (including diurnal) and lag. The data were examined for magnetic noise and spikes, which were removed as required. Survey and tie line data of the resulting total magnetic field were leveled and the background magnetic field, International Geomagnetic Reference Field (IGRF) of the Earth was

removed to derive the residual magnetic field. Magnetic gradients in the X and Y axes were determined to provide cross-line and in-line gradients, respectively.

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.

When magnetic values are obtained simultaneously from two or more sensors at a fixed separation, gradient of the magnetic field can be measured. Dividing the difference in magnetic values between the sensors by the distance between the sensors yields the magnetic gradient. The units are reported as nT/m and, by convention, positive magnetic polarity is defined as to the north and east, and negative to the south and west. For vertical gradient, positive is defined as downwards.

7.1.3 RESULTS

Total field magnetic data collected from the airborne survey indicates two strong magnetic high anomalies that follow the contours of the East and West ridges. Bisecting the property, trending northwest-southeast correlates with the contact between the Hazelton Group lithologies on the west with the higher magnetic signature of the granodiorites on the east (Figure 9). The notable geomorphologically conformable magnetic high features that correlate with the West and East Ridges are likely due to the volume of moderately magnetic strata that forms the core of the steep ridges.

A lineament analysis of the airborne survey data also provides evidence of the spatial association between interpreted faults and observed mineralization (Figure 10). Of particular significance are the north-northwest trending lineaments in the vicinity of the Junkers occurrence.

Figure 9: *Airborne magnetic survey, Total Field (source Poon, 2021)*

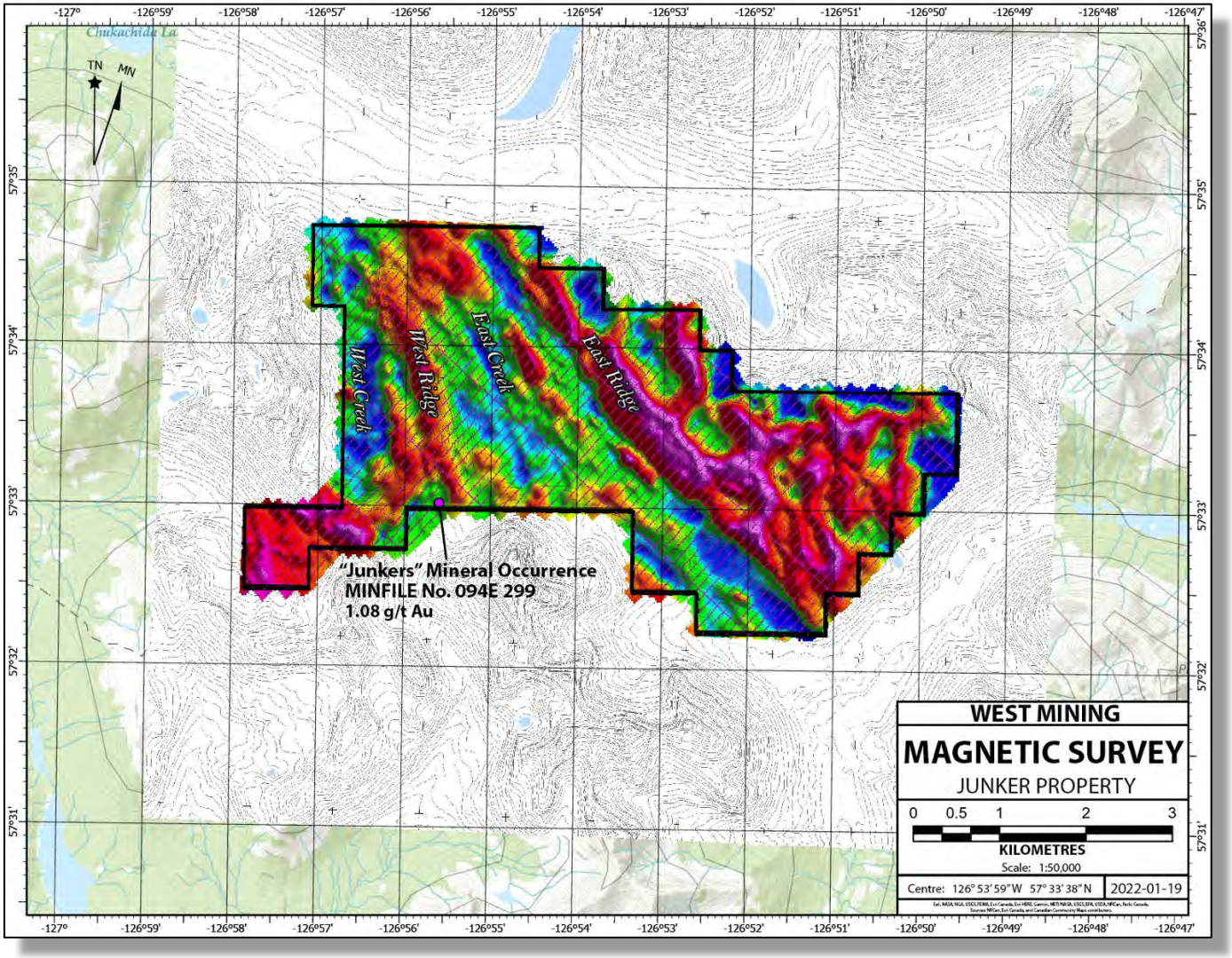
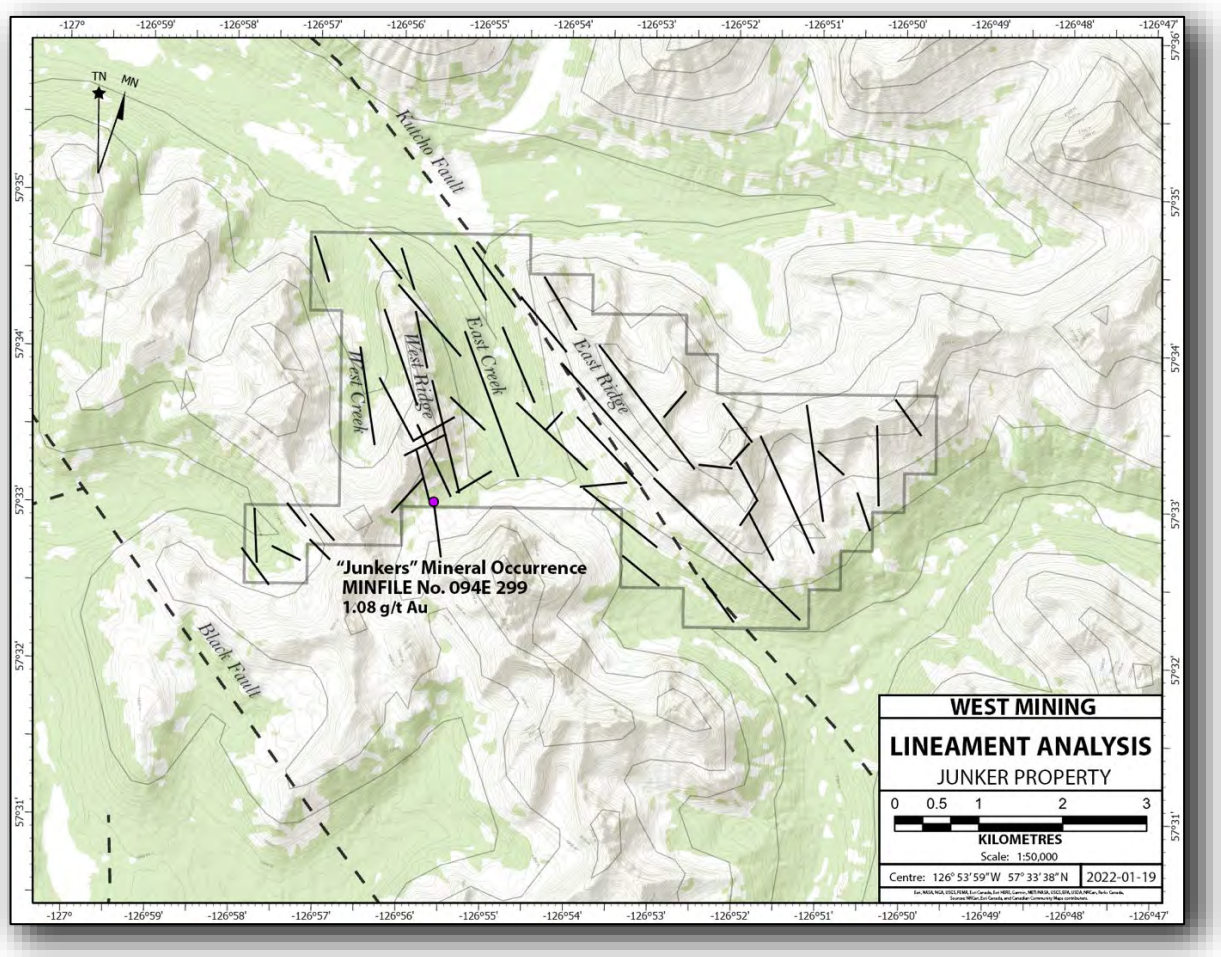

Chukachida La
TN
MN
West Creek
West Ridge
East Creek
East Ridge
"Junkers" Mineral Occurrence
MINFILE No. 094E 299
1.08 g/t Au
WEST MINING
MAGNETIC SURVEY
JUNKER PROPERTY
0 0.5 1 2 3
KILOMETRES
Scale: 1:50,000
Centre: 126° 53' 59" W 57° 33' 38" N
2022-01-19

Figure 10: *Airborne magnetic survey – Lineament analysis (after Poon, 2021)*



8 GEOCHEMISTRY

In establishing the approach for the 2021 field work program, it was apparent that anomalous mineralization from the 2004 field program was associated with the southern half of the West Ridge area; stream sediment samples from the West and East valleys all appeared be sourced from the West Ridge and the anomalous subcrop/float sample that defined the Junkers showing, while described as "subcrop" was located within the talus slope constructed for material shed from the southern end of the West Ridge area. Therefore, this area was the focus of the 2021 field program.

The original plan for ridge-mapping East and West ridge was abandoned after no suitable landing areas could be identified on the narrow, shear faced ridges. The proposed field program was revised to focus on the southern half of the West Ridge to confirm the results of the 2004 field work through re-sampling of areas where anomalous mineralization was documented, completing a test of contour talus fine sampling to establish it as a valid means to advance exploration targeting and to evaluate the distribution of mineralized float relative to structures identified in the airborne survey.

Table 2: *IMAGE: Steeply flanked razor-back ridges of the Junkers property*

Table 3: *IMAGES: 2021 Junkers Project*

Haematitic re-worked conglomeritic tuff - magnetic

East slope of West Ridge showing structurally associated alteration

Talus slope hosting Cu-Au mineralized float

Shear cliff face south West Ridge – goat for scale

9.1 Vanta XRF Readings

As part of the 2021 field program, a total of nineteen XRF elemental concentration readings were taken in the field. Contour samples were collected from talus accumulations in a selected part of the property. This selected contour area was chosen based on the recommendations from the 2004 field program, proximity to mineralization indicated from samples of float and stream sediments in 2004 and to confirm contour sampling as a viable exploration method based on the ability to generate similar response patterns in elemental concentrations indicated by the 2004 stream sediment

Samples were analysed in the field using an Olympus Vanta handheld XRF analyser (See Appendix for details).

Field operating procedures, safety guidelines and QAQC protocols employed during the Junkers field program for the collection of XRF elemental concentration readings has been adapted from Olympus Vanta field use instructions and the, US Department of Environmental Protection Agency Operating Procedures Bulletin, SESDPRC 107-04; "Field X-Ray Fluorescence Measurement" for in-situ and ex-situ measurements.

Table 5 shows the XRF results for select elements. Of note, several elevated copper readings, up to 6.38% were obtained in the vicinity of the Junker occurrence. XRF copper values are plotted on Figure 14.

9.2 Rock and Talus Samples

Ten rock grab samples and nine talus fine samples were collected in the field. Samples were placed in plastic (rock float and grab samples) or kraft paper (talus fines) bags and identified with assay tags. GPS coordinates were taken at each sample site. Sample sites were marked by flagging.

Samples were delivered directly by the field crew to the ALS Global - Geochemistry Analytical Lab in North Vancouver, BC, Canada. In the laboratory, both rock samples and talus fines were crushed to 70% passing 2mm, then riffle split with a 250 g subfraction pulverised to 85% passing 75 um. A 0.5 g sample was then analysed for 41 elements using the ME-MS41 method of aqua regia digestion with an ICP-MS finish.

Blanks and standards were not inserted into the samples sequence collected for analyses. Internal laboratory QAQC protocols validate analytical accuracy (see Appendix).

Results for select elements from the rock and talus fine sampling can be seen in Table 4. Figures 11, 12 and 13 are plots of gold, copper and molybdenum analytical results. In all instances the best rock sample results come from samples collected from float in the vicinity of the historic Junkers occurrence.

Table 4: *Sample locations and descriptions*

ALS ROCK ASSAYS	SAMPLE DETAILS					SAMPLE DESCRIPTION				
	Latitude	Longitude	Sample Type	XRF Sample ID	ALS SAMPLE ID	Grain Size	Texture & Fabric	Colour	Weathering /Alteration	Rock Name
	57.5513	-126.9258	Rock. Float	JUK001	3728560	v fine	foliated	rust, brown	oxidized	int. tuff, tr. py cpy
	57.5515	-126.9262	Rock. Float	JUK002	3728561	v fine	massive	rust, brown	oxidized	int. tuff
	57.5513	-126.9257	Rock. Float	JUK003	3728562	v fine	crystaline, vuggy	rust, brown	oxidized	int. tuff
	57.5513	-126.9262	Rock. Float	JUK004	3728563	fine	crystalline	speckled grey.blk	unaltered	dacite, tr. bn cpy, py
	57.5510	-126.9258	Rock. Float	JUK005	3728564	fine	crys, qtz vlt	speckled grey.blk	unaltered	dacite, mal, cpy
	57.5512	-126.9256	Rock. Float	JUK006	3728565	fine	crystalline	speckled grey.blk	unaltered	dacite qtz vlt, bn cpy, py
	57.5515	-126.9257	Rock. Float	JUK007	3728566	fine	vuggy	rust, brown	oxidized	int. tuff
	57.5512	-126.9254	Rock. Float	JUK008	3728567	v fine	foliated	rust, brown	oxidized	int. tuff, <1 py cp
	57.5513	-126.9257	Rock. Float	JUK009	3728568	v fine	massive	rust, brown	oxidized	int. tuff
	57.5586	-126.9221	Rock. Float	JUF001	3728569	fine	silicified	beige, rust	siliceous altn	Altered int. volanic

ALS TALUS ASSAYS	SAMPLE DETAILS					SAMPLE DESCRIPTION				
	Latitude	Longitude	Sample Type	XRF Sample ID	ALS SAMPLE ID	Grain Size	Texture & Fabric	Colour	Weathering /Alteration	Rock Name
	57.5540	-126.9211	Talus Fines	CTS001	3728551	Coarse	heterolihic frag.	grey	Fresh	talus fines; 10 - 15mm
	57.5543	-126.9215	Talus Fines	CTS003	3728552	Coarse	heterolihic frag.	grey	Fresh	talus fines; 10 - 15mm
	57.5545	-126.9214	Talus Fines	CTS004	3728553	Coarse	heterolihic frag.	grey	Fresh	talus fines; 10 - 15mm
	57.5546	-126.9213	Talus Fines	CTS005	3728554	Coarse	heterolihic frag.	grey	Fresh	talus fines; 10 - 15mm
	57.5548	-126.9211	Talus Fines	CTS006	3728555	Coarse	heterolihic frag.	grey	Fresh	talus fines; 10 - 15mm
	57.5550	-126.9209	Talus Fines	CTS007	3728556	Coarse	heterolihic frag.	grey	Fresh	talus fines; 10 - 15mm
	57.5550	-126.9208	Talus Fines	CTS008	3728557	Coarse	heterolihic frag.	grey	Fresh	talus fines; 10 - 15mm
	57.5555	-126.9210	Talus Fines	CTS009	3728558	Coarse	heterolihic frag.	grey	Fresh	talus fines; 10 - 15mm
	57.5559	-126.9209	Talus Fines	CTS010	3728559	Coarse	heterolihic frag.	grey	Fresh	talus fines; 10 - 15mm

Sample 3728564 returned the highest copper value of 5.4% Cu. Three other samples in the same area returned 2.29, 2.20 and 1.38% Cu. The best gold value of 0.85 g/t from sample 3728567 was also collected in the same general location. The 2021 field work was successful confirming the presence of the Junkers occurrence first described in 2004. However, the mineralization sampled in 2021 retuned higher grades Cu than had been previously reported. The mineralized float (subcrop?) of the Junkers occurrence are constituents of a talus fan emanating from a linear gap in the West ridge that aligns with a lineament interpreted from the airborne magnetic data. This same lineation is also spatially associated with mineralization observed in the West Valley. Sampling therefore confirms the prior mineralization found at the Junker occurrence and provides a good location for commencing the next phase of exploration work.

The objective the of the sampling was not to generate a comparative, quantitative analysis between readings of elemental concentrations and laboratory analytics. The handheld XRF is a prospecting tool that allows relative patterns in elemental concentrations to be observed in real-time in the field. Given the different analytical techniques and sampling media (the XRF elemental readings reading are taken through a lens approximately 18mm in diameter) the

laboratory analysis generates quantitative results through 30 grams of pulverized representative of the entire rock sample.

A comparison of XRF readings collected in the field and data generated through laboratory analysis confirm the presence of qualitative patterns of elemental concentrations detected by XRF and assay results. A comparative quantitative analysis of these patterns could be achieved through the development of correlation matrices and regression analysis, however, given the small sample population, it is unlikely a statistical analysis of the two data sets would add any value to the exploration targeting initiative.

Silicic alteration as indicated by elevated elemental concentrations of K, Fe, Ba (XRF) and Ba (ALS analyses) are compatible with sub-epithermal environments. This signature represents the addition of silica to the rock, resulting in replacement or, more commonly, the fill to vugs. Silicification is common in high-sulphidation systems at porphyry to epithermal depths. It is sometimes confused with intense quartz stockwork veining at the top of some porphyry deposits (Thompson, 2012). Field observations indicate this alteration is spatially associated with a steeply dipping northeast trending structure, identified by the airborne magnetic survey, cross-cutting the West Ridge.

Table 5: *IMAGES: West Ridge Alteration*

Results from the limited contour sampling of an East Valley talus fan did not return clear indications for the presence of target metals or accessory minerals. The contour sampling program was hindered by a less than ideal sampling medium; the steep slopes of the East and West ridges are well drained and, as a result, there is little fine material to collect. Pebble sized shards of rock material were collected, crushed in the laboratory and assayed. The value of talus sampling to develop anomalies and exploration vectors is inconclusive.

Figure 11: *ALS Global Analysis - Gold*

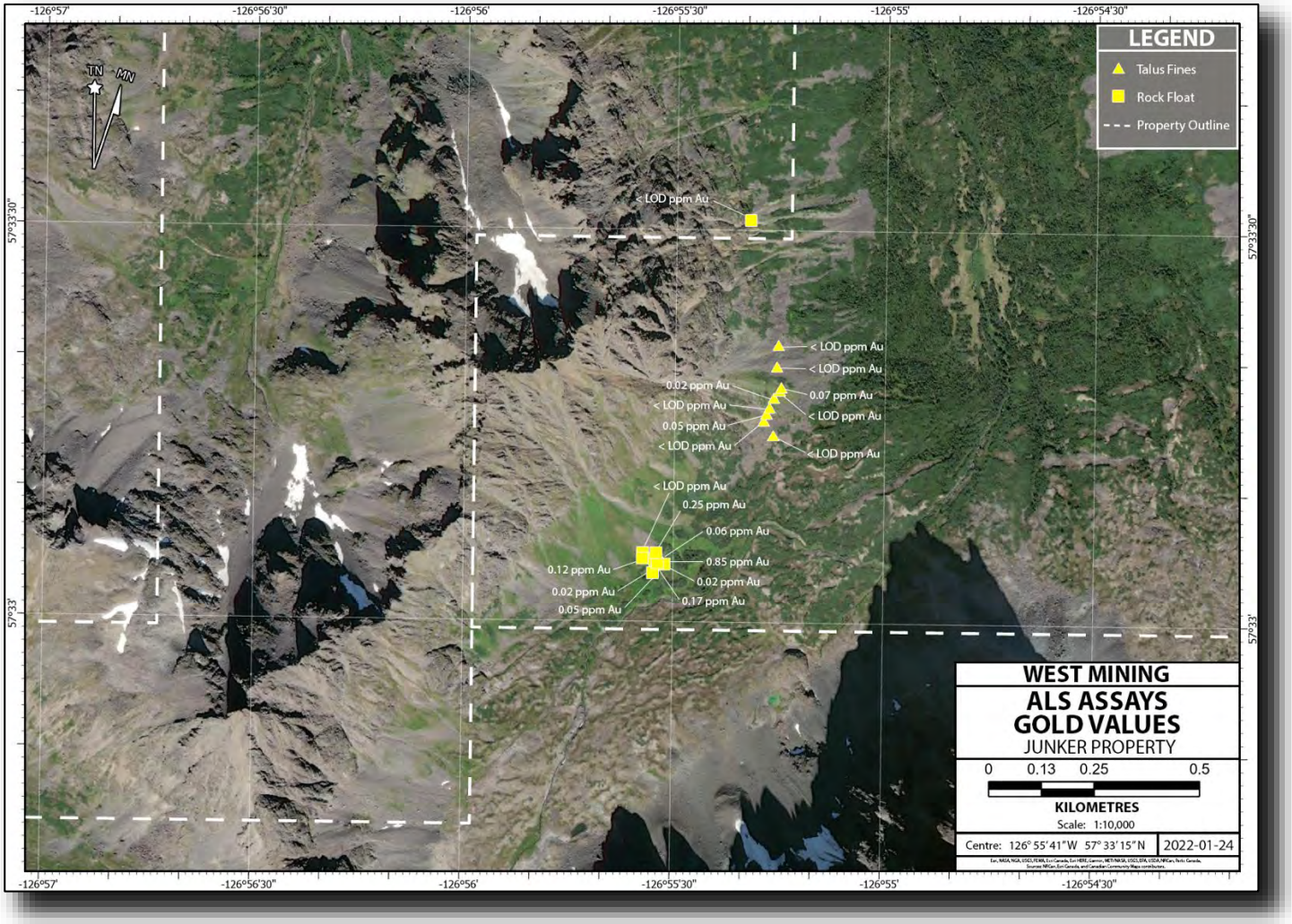


Figure 12: *ALS Global Analyses – Copper*

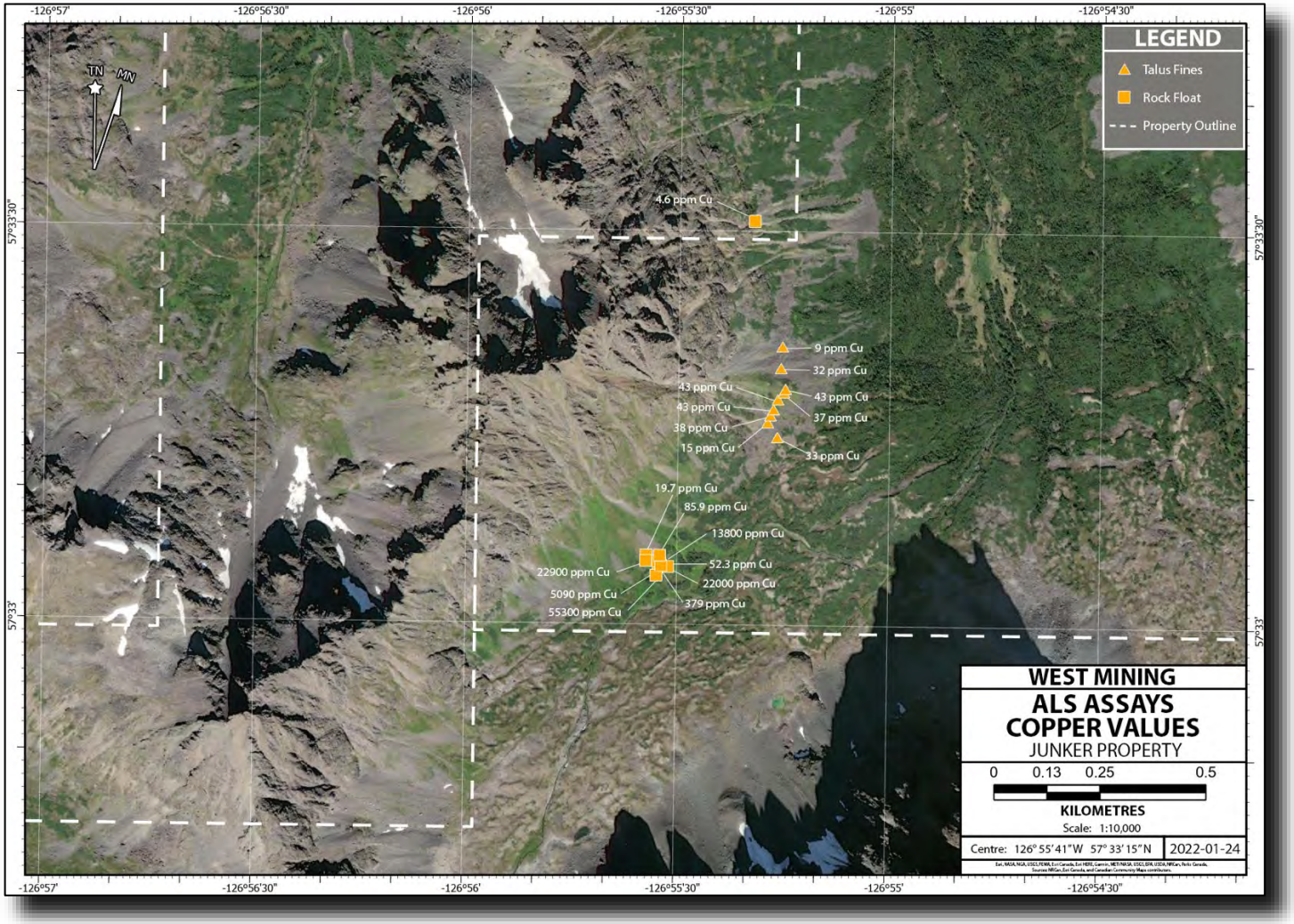


Figure 13: *ALS Global Analyses – Molybdenum*

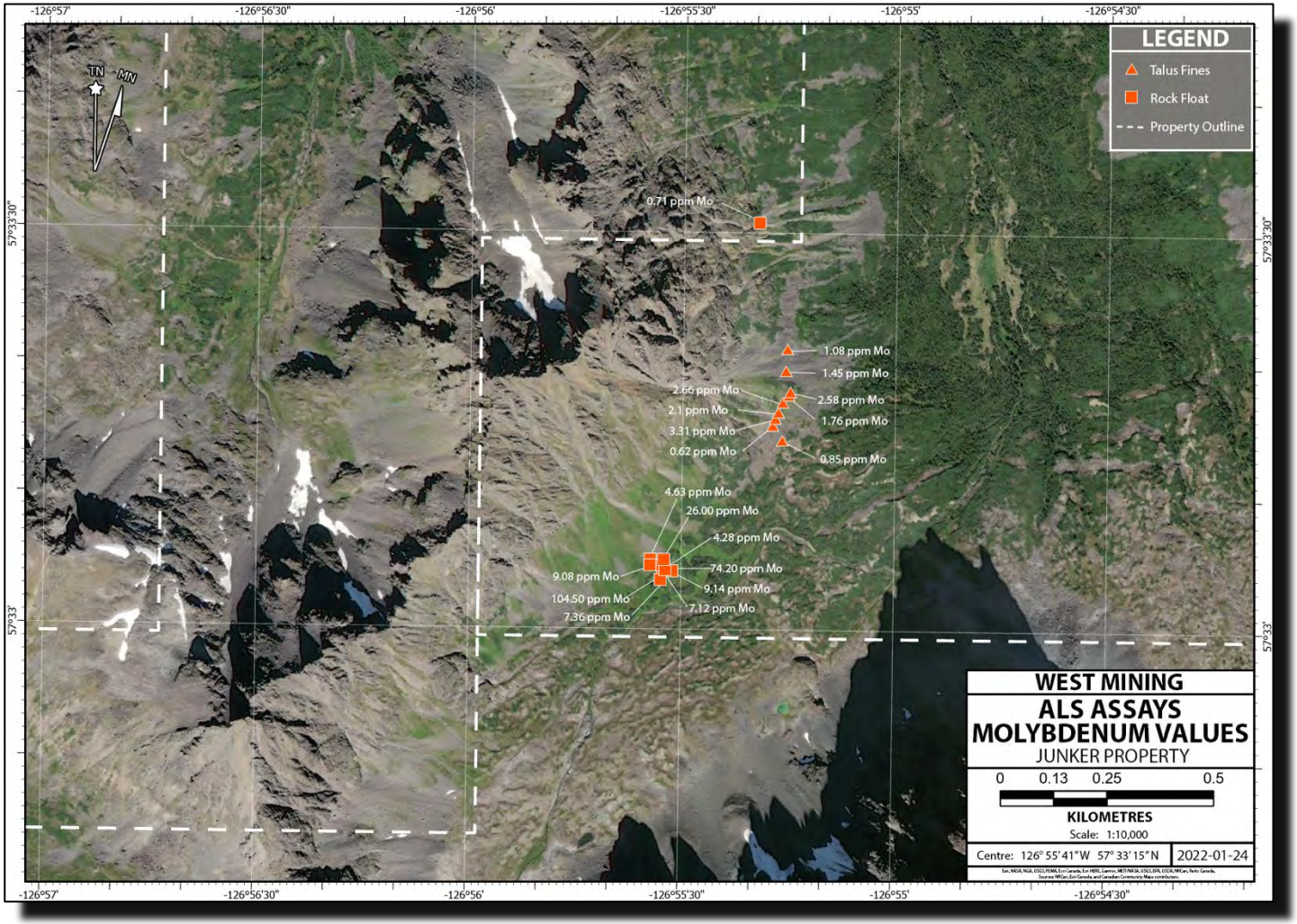


Figure 14: *XRF Elemental Concentration – Copper*

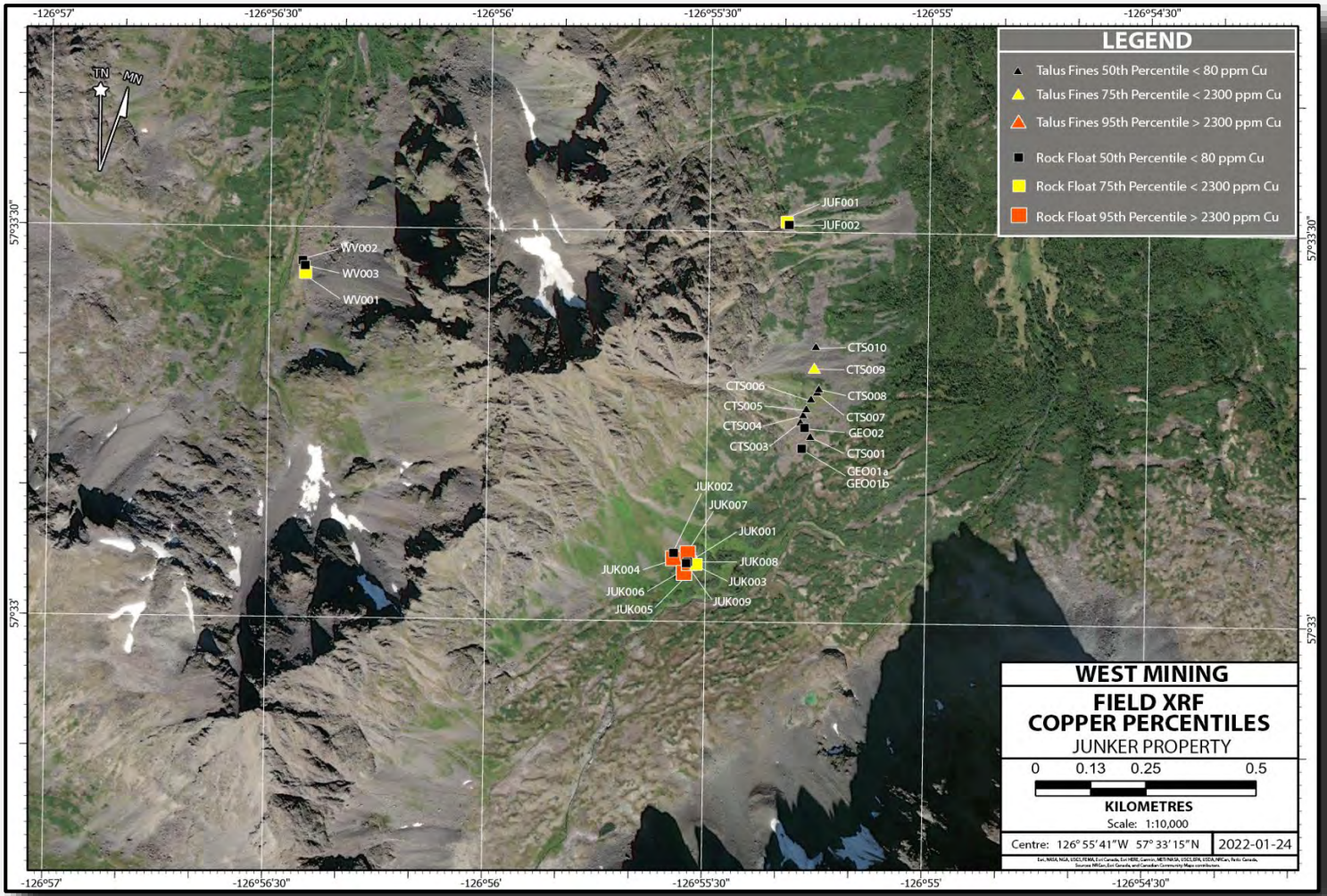


Table 6: *ALS Global Analytical Results*

ALS ROCK ASSAYS

ALS SAMPLE ID	TARGET METALS						ACCESSORY MINERALS AND ALTERATION								
	ME-MS41	Cu-OG46	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Cu		Au	Ag	Zn	Mo	K	Ca	Fe	Co	Ni	As	Hg	Pb	Ba
	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm
3728560	>10000	1.38	0.06	11.85	4	4.28	0.11	0.03	3.47	0.6	0.8	0.8	<0.01	15	120
3728561	19.7		<0.02	0.21	17	4.63	0.18	0.22	2.09	2.1	0.5	6.9	0.01	16.3	70
3728562	>10000	2.20	0.02	8.46	<2	9.14	0.03	0.01	3.01	0.3	0.6	0.5	0.01	5.3	100
3728563	>10000	2.29	0.12	5.12	6	9.08	0.09	5.25	2.44	1.4	0.3	1.2	<0.01	2.7	100
3728564	>10000	5.53	0.05	24.00	2	7.36	0.03	0.02	6.26	0.7	0.7	1.1	0.01	13.4	50
3728565	5090		0.02	11.00	5	104.50	0.16	0.07	2.59	0.7	0.6	0.6	0.02	9.5	100
3728566	85.9		0.25	0.79	66	26.00	0.15	0.17	6.3	7.3	3.9	14.6	0.01	52.5	80
3728567	52.3		0.85	1.78	220	74.20	0.05	0.13	1.27	2.4	1.2	2.2	0.07	1990	20
3728568	379		0.17	0.42	31	7.12	0.13	0.19	4.77	15.2	4.4	4.5	<0.01	13.3	30
3728569	4.6		<0.02	0.02	52	0.71	0.17	0.64	2.29	7.5	5.7	0.9	0.01	5.5	190

ALS TALUS ASSAYS

ALS SAMPLE ID	TARGET METALS						ACCESSORY MINERALS AND ALTERATION								
	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Cu		Au	Ag	Zn	Mo	K	Ca	Fe	Co	Ni	As	Hg	Pb	Ba
	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm
3728551	33	-	<0.02	0.02	85	0.85	0.25	0.45	3.58	11.90	4.70	1.60	0.01	2.50	130
3728552	15	-	<0.02	0.04	77	0.62	0.22	1.09	3.63	11.90	3.00	2.50	<0.01	4.10	130
3728553	38	-	0.05	0.12	90	3.31	0.22	1.27	3.85	12.80	5.70	3.30	<0.01	8.30	190
3728554	43	-	<0.02	0.11	86	2.1	0.22	1.04	3.93	13.80	7.30	3.10	<0.01	9.20	220
3728555	43	-	0.02	0.11	97	2.66	0.22	1.05	4.18	15.30	9.20	3.40	0.01	8.00	210
3728556	37	-	<0.02	0.08	89	1.76	0.21	1.43	4.19	13.70	7.70	2.80	<0.01	6.20	180
3728557	43	-	0.07	0.14	79	2.58	0.20	1.07	3.60	12.60	7.80	3.30	<0.01	6.50	170
3728558	32	-	<0.02	0.07	89	1.45	0.20	0.61	3.53	12.90	4.70	3.60	0.01	4.80	130
3728559	9	-	<0.02	0.04	71	1.08	0.17	0.70	2.88	11.50	2.30	3.10	<0.01	3.10	90

Table 7: *XRF Elemental Concentration Readings*

XRF READINGS - ROCK

XRF Sample ID	TARGET METALS						ACCESSORY MINERALS AND ALTERATION								
	Cu		Au	Ag	Zn	Mo	K	Ca	Fe	Co	Ni	As	Hg	Pb	Ba
	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
JUK001	4,125	0.41	<LOD	33	<LOD	10	8069	<LOD	140559	<LOD	<LOD	<LOD	<LOD	100	<LOD
JUK002	23	-	<LOD	<LOD	203	<LOD	12904	26401	87538	<LOD	<LOD	12	<LOD	<LOD	923
JUK003	72	-	<LOD	<LOD	11	19	1638	4034	3660	<LOD	<LOD	5	<LOD	<LOD	<LOD
JUK004	4,253	0.43	<LOD	<LOD	17	11	3647	74	129340	<LOD	<LOD	<LOD	<LOD	15	<LOD
JUK005	4,049	0.40	<LOD	<LOD	23	<LOD	11582	2773	6762	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
JUK006	63,771	6.38	<LOD	<LOD	230	19	2245	<LOD	94834	<LOD	<LOD	<LOD	<LOD	84	<LOD
JUK007	2,382	0.24	<LOD	<LOD	<LOD	97	2689	151	73686	<LOD	<LOD	<LOD	<LOD	13	<LOD
JUK008	88	-	<LOD	<LOD	99	18	380	148199	33950	<LOD	46	<LOD	<LOD	9	<LOD
JUK009	50	-	<LOD	<LOD	<LOD	<LOD	676	387	369	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
JUF001	142	-	<LOD	<LOD	56	9	13404	2571	137756	<LOD	21	15	<LOD	93	1299

XRF READINGS - TALUS

XRF Sample ID	TARGET METALS						ACCESSORY MINERALS AND ALTERATION								
	Cu		Au	Ag	Zn	Mo	K	Ca	Fe	Co	Ni	As	Hg	Pb	Ba
	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
CTS001	<LOD	-	<LOD	<LOD	63	10	1376	10250	19236	185	<LOD	<LOD	<LOD	<LOD	<LOD
CTS003	<LOD	-	<LOD	<LOD	82	<LOD	2002	12502	17540	206	<LOD	<LOD	<LOD	<LOD	<LOD
CTS004	42	-	-	<LOD	75	<LOD	654	4755	15342	393	<LOD	5	<LOD	5	<LOD
CTS005	58	-	<LOD	<LOD	73	<LOD	874	5124	15462	321	<LOD	5	<LOD	7	<LOD
CTS006	40	-	<LOD	<LOD	61	<LOD	368	4285	9670	318	<LOD	<LOD	<LOD	8	<LOD
CTS007	62	-	<LOD	<LOD	76	<LOD	864	3542	18394	294	<LOD	5	<LOD	10	<LOD
CTS008	55	-	<LOD	<LOD	67	<LOD	1283	4854	19144	260	<LOD	5	<LOD	7	<LOD
CTS009	141	-	<LOD	<LOD	94	<LOD	700	6984	18042	299	<LOD	<LOD	<LOD	12	<LOD
CTS010	30	-	<LOD	<LOD	73	<LOD	227	5157	15443	345	<LOD	7	<LOD	<LOD	<LOD

9 CONCLUSIONS AND RECOMMENDATIONS

The field program conducted on the Junkers property in 2021 confirmed prospectivity for epithermal to sub-epithermal mineralizing a system. Field observations made in 2004 and 2021 are consistent with the presence of geological context for the formation epithermal mineralizing systems and conformable with other mineral occurrences documented from the region. Geologic elements key to the formation of epithermal systems; crustal (Kutcho fault) and regional-scale fracture systems related to extension, subaerial volcanic activity, and island arc environments associated with subduction zones.

The 2021 exploration program has verified the results of the 2004 program and advanced the exploration agenda through the acquisition of detailed airborne magnetometer survey data that reveals a structural framework spatially associated with mineral occurrences and alteration. Additional field work is recommended to initiate exploration targeting through advanced prospecting, geological mapping and contour sampling with a focus on the southern portion of the West Ridge where linear structures are associated mineralized float in talus fan. The recommended next stage work program is budgeted at $126,355 (see Table 8).

The remote location and lack of local infrastructure represents a significant challenge in developing a sustained exploration program and would add significantly to the costs of any future field work. Alternative access options and fly camps are available and should be considered going forward.

Respectfully submitted,

Andrew Lee Smith, P. Geo.
Iron Mask Explorations Ltd.

Table 8: *Proposed Budget for Junkers Project 2022 Exploration Program*

2022 Recommended Phase I Exploration Program Mapping and Contour Sampling of West Ridge				
Exploration Work type	**Dates**	**Days**	**Rate**	**Totals**
Personnel (# Field Days (list actual days)				
Senior Geologist	Geological mapping	22	$ 750.00	$ 16,500.00
Field Geologist	Geological mapping	22	$ 500.00	$ 11,000.00
GeoTec	Contour sampling	22	$ 250.00	$ 5,500.00
GeoTec	Contour sampling	22	$ 250.00	$ 5,500.00
				$38,500.00
Office Studies	**Personnel**	**No.**	**Rate**	**Subtotal**
Database compilation	GIS Tec	32.0	$ 250.00	$ 8,000.00
General research	Project Manager	11.0	$ 250.00	$ 2,750.00
Report preparation	Senir Geo	3.0	$ 1,000.00	$ 3,000.00
				$13,750.00
Airborne Exploration Surveys		**No.**	**Rate**	**Subtotal**
Other (specify)	Re-processing of airbornel data - Indeenden Geophysical Consulant	1.0	$ 5,000.00	$ 5,000.00
				$5,000.00
Ground Exploration Surveys	**Area in Hectares/List Personnel**	**No.**	**Rate**	**Subtotal**
Geological mapping	Maping of West Ridge, West Valley and East Valley	1500.0	$0.00	$0.00
				$0.00
Geochemical Surveying	**Number of Samples**	**No.**	**Rate**	**Subtotal**
Soil	ALS Global	-	$0.00	$0.00
Rock		500.0	$57.45	$28,725.00
				$28,725.00
Transportation		**No.**	**Rate**	**Subtotal**
truck rental			$0.00	$0.00
Helicopter (hours)	Mob/Demob and 3 weekly supply trips - 3 hour daily minimum	15.0	$2,000.00	$30,000.00
Fuel (litres/hour)	Mob/Demob and 3 weekly supply trips	15.0	$300.00	$4,500.00
				$34,500.00
Accommodation & Food	**Rates per day**	**No.**	**Rate**	**Subtotal**
Hotel	Mb/Demob	12.00	$150.00	$1,800.00
Camp	Fly Camp Cost per day	18.00	$500.00	$9,000.00
Meals	Mob/Demob	12.00	$50.00	$600.00
				$5,879.53
		TOTAL Expenditures		**$126,354.53**

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QUALIFIED PERSONS DECLARATION

I, Andrew Lee Smith, B.Sc., P.Geo, ICD.D, do hereby certify as follows:

- I am a consulting geologist, residing at 1582 Chartwell Drive, West Vancouver;
- This certificate applies to the report entitled *"Junkers Property 43-101 Geological reconnaissance and airborne magnetic survey on the Junkers property north-central British Columbia"*;
- I graduated from the University of Waterloo in 1985 with an Hons. B.Sc., Earth Science;
- I am a Practicing Member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of British Columbia since 2000 - license 25496
- I have been practicing my profession since 1987, exploring, developing, and operating domestic and international base and precious metals mining projects;
- I am a member in good standing of the Institute of Corporate Directors and accredited with the ICD.D designation; an internationally recognized, professional designation for Canadian corporate directors.
- That I am author of the report entitled *"Junkers Property 43-101 Geological reconnaissance and airborne magnetic survey on the Junkers property north-central British Columbia"*;
- I supervised and participated in the field work on the Junkers property from August 16 to 19, 2021;
- As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to ensure this technical report not misleading.

Dated at Vancouver, B.C. This 20th day of February 2022

"Andrew Lee Smith"

Andrew Lee Smith, B.Sc., P.Geo., ICD.D

Exploration Work type	Dates	Days	Rate	Totals
Personnel (N Field Days (list actual days)				
Andrew Lee Smith	August 14 to 22, 2020	8	$ 1,000.00	$ 8,000.00
Tyler Smith, Geo Tech	August 14 to 22, 2020	8	$ 500.00	$ 4,000.00
Logan Smih, Geo Tech	August 14 to 22, 2020	8	$ 500.00	$ 4,000.00
			$ -	$ -
			$ -	$ -
			$ -	$ -
				$16,000.00
Office Studies	**Personnel**			
Literature search			$ -	$ -
Database compilation	Tyler Smith	12.0	$ 250.00	$ 3,000.00
Computer modelling			$ -	$ -
Reprocessing of data			$ -	$ -
General research	Logan Smith	11.0	$ 250.00	$ 2,750.00
Report preparation	Andrew Lee Smithj	3.0	$ 1,000.00	$ 3,000.00
Other (specify)			$ -	$ -
				$8,750.00
Airborne Exploration Surveys		**Line km**		
Aeromagnetics	Precisions GeoSurveys	234.0	$ 106.84	$ 25,000.00
	Mobilization		$ -	$ 15,000.00
Radiometrics			$ -	$ -
Electromagnetics			$ -	$ -
Gravity			$ -	$ -
Digital terrain modelling			$ -	$ -
Other (specify)			$ -	$ -
				$40,000.00
Remote Sensing	**Area in Hectares / Enter total invoiced amount or list personnel**			
Aerial photography			$0.00	$0.00
LANDSAT			$0.00	$0.00
Other (specify)			$0.00	$0.00
				$0.00
Ground Exploration Surveys	**Area in Hectares/List Personnel**			
Geological mapping				
Regional	*note: expenditures here*			
Reconnaissance	*should be captured in Personnel*			
Prospect	*field expenditures above*			
Underground				
Trenches				$0.00
Ground geophysics	**Line Kilometres / Enter total amount invoiced list personnel**			
Radiometrics				
Magnetics				
Gravity				
Digital terrain modelling				
Electromagnetics	*note: expenditures for your crew in the field*			
SP/AP/EP	*should be captured above in Personnel*			
IP	*field expenditures above*			
AMT/CSAMT				
Resistivity				
Complex resistivity				
Seismic reflection				
Seismic refraction				
Well logging	Define by total length			
Geophysical interpretation				
Petrophysics				
Other (specify)				
				$0.00
Geochemical Surveying	**Number of Samples**	**No.**	**Rate**	**Subtotal**
Drill (cuttings, core, etc.)			$0.00	$0.00

Exploration Work type	Dates	Days	Rate	Totals
Stream sediment			$0.00	$0.00
Soil	ALS Global		$0.00	$0.00
Rock	ALS Global - Ultra Trace Aqua Regia - ICP-MS	10.0	$57.45	$570.45
Water			$0.00	$0.00
Biogeochemistry			$0.00	$0.00
Whole rock			$0.00	$0.00
Petrology			$0.00	$0.00
Other (specify)			$0.00	$0.00
				$570.45
Drilling	**No. of Holes, Size of Core and Metres**	**No.**	**Rate**	**Subtotal**
Diamond			$0.00	$0.00
Reverse circulation (RC)			$0.00	$0.00
Rotary air blast (RAB)			$0.00	$0.00
Other (specify)			$0.00	$0.00
				$0.00
Other Operations	**Clarify**	**No.**	**Rate**	**Subtotal**
Trenching			$0.00	$0.00
Bulk sampling			$0.00	$0.00
Underground development			$0.00	$0.00
Other (specify)			$0.00	$0.00
				$0.00
Reclamation	**Clarify**	**No.**	**Rate**	**Subtotal**
After drilling			$0.00	$0.00
Monitoring			$0.00	$0.00
Other (specify)			$0.00	$0.00
Transportation		**No.**	**Rate**	**Subtotal**
Airfare			$0.00	$0.00
Taxi			$0.00	$0.00
truck rental			$0.00	$0.00
kilometers		3,432.0	$0.59	$2,024.88
ATV			$0.00	$0.00
fuel & parking			$0.00	$1,246.40
Helicopter (hours)		5.5	$2,000.00	$11,000.00
Fuel (litres/hour)		5.5	$300.00	$1,650.00
Other				
				$15,921.28
Accommodation & Food	**Rates per day**			
Hotel	Actual Costs		$0.00	$734.52
Camp	RV Rental - Actual Costs		$0.00	$3,658.60
Meals	Actual Costs		$0.00	$ 1,486.41
				$5,879.53
Miscellaneous				
Telephone			$0.00	$0.00
Other (Specify)	Field Expense - Actual Cost - fly camp materials			$991.17
				$991.17
Equipment Rentals				
Field Gear	Comms, XRF Analyzer		$0.00	$3,847.48
Other	(Specify)			
				$3,847.48
Freight, rock samples				
			$0.00	$0.00
			$0.00	$0.00
				$0.00
			TOTAL Expenditures	**$91,959.91**

STATEMENT OF EXPENSE

JUNKERS PROPERTY 2021 STATEMENT OF EXPENSE

DATE	TECHNICAL SERVICES AND EXPENSES	PERSONNEL & COST DETAIL	UNIT	RATE	TOTAL
	Technical Services - Field				
August 14 to 22, 2021	Geological reconnaissance and XRF prospecting	Andrew Lee Smith, P.Geo	8.0	$ 1,000.00	$ 8,000.00
August 14 to 22, 2021	Geological reconnaissance and XRF prospecting	Tyler Smith, Geo Tech	8.0	$ 500.00	$ 4,000.00
August 14 to 22, 2021	Geological reconnaissance and XRF prospecting	Logan Smih, Geo Tech	8.0	$ 500.00	$ 4,000.00
				Total Fees - Field Work	$ 16,000.00
	Techncial Services - Office				$ -
	Database compilation	Tyler Smith, Geo Tech	12.0	$ 250.00	$ 3,000.00
	General research and project management	Logan Smih, Geo Tech	11.0	$ 250.00	$ 2,750.00
	Report preparation	Andrew Lee Smith, P.Geo	3.0	$ 1,000.00	$ 3,000.00
				Total Fees - Technical Services	$ 8,750.00
	Airborne Exploration Surveys				
	Aeromagnetic - Survey	Precisions GeoSurveys	234.0	$ 106.84	$ 25,000.00
	Aeromagnetic - Mobilizaion	Mobilization			$ 15,000.00
				Total Fees - Airborne Exploration Survey	$ 40,000.00
	Geochemical Surveying				
	Assays - Rock	ALS Global - Ultra Aqua Regia - ICP-MS	10.0	$ 57.45	$ 570.45
	Assays - Soil	ALS Global			$ -
				Total Fees - Geochemical Surveying	$ 570.45
	Transportation				
	kilometers	Toyota 4Runner 4X4	3,432.0	$ 0.59	$ 2,024.88
	fuel & parking	Acutual Costs			$ 1,246.40
	Helicopter (hours)	Tundra Helicopters	5.5	$ 2,000.00	$ 11,000.00
	Fuel (litres/hour)	Helicopter Fuel	5.5	$ 300.00	$ 1,650.00
				Total Fees -Transporation	$ 15,921.28
	Accommodation & Food				
	Hotel	Actual Costs			$ 734.52
	Camp	RV Rental - Actual Costs			$ 3,658.60
	Meals	Actual Costs			$ 1,486.41
				Total Fees - Accommdation & Food	$ 5,879.53
	Miscellaneous				
	Other (Specify)	Field Expense - Actual Cost - fly camp materials			$ 991.17
				Total Fees - Miscellaneous	$ 991.17
	Equipment Rentals				
	Field Gear	Comms, XRF Analyzer			$ 3,847.48
				Total Fees - Equipment Renals	$ 3,847.48

Expenses (Net of GST)	$ 67,209.91
GST Paid on Expenses	$ 3,352.99
Total - Expenses	***$ 70,562.90***
Techncial Services	$ 24,750.00
GST on Tehncial Services	$ 437.50
Total - Technial Services	***$ 25,187.50***
Total Charges	**$ 95,750.40**

Andrew Lee Smith, P.Geo - December 6, 2021

JUNKERS ALS GLOBAL ROCK SAMPLE ASSAY RESULTS

ALS ROCK ASSAYS

XRF Sample ID	ALS SAMPLE ID	TARGET METALS						ACCESSORY MINERALS AND ALTERATION								
		ME-MS41	Cu-OG46	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
		Cu		Au	Ag	Zn	Mo	K	Ca	Fe	Co	Ni	As	Hg	Pb	Ba
		ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm
JUK001	3728560	>10000	1.36	0.06	11.65	4	4.28	0.11	0.03	3.47	0.6	0.8	0.8	<0.01	15	120
JUK002	3728561	19.7		<0.02	0.21	17	4.63	0.18	0.22	2.09	2.1	0.5	6.9	0.01	16.3	70
JUK003	3728562	>10000	2.20	0.02	8.46	<2	9.14	0.03	0.01	3.01	0.3	0.6	0.5	0.01	5.3	100
JUK004	3728563	>10000	2.29	0.12	5.12	6	9.08	0.09	5.25	2.44	1.4	0.3	1.2	<0.01	2.7	100
JUK005	3728564	>10000	5.53	0.05	24.00	2	7.36	0.03	0.02	6.26	0.7	0.7	1.1	0.01	13.4	50
JUK006	3728565	5090		0.02	11.00	5	104.50	0.16	0.07	2.59	0.7	0.6	0.6	0.02	9.5	100
JUK007	3728566	85.9		0.25	0.79	66	26.00	0.15	0.17	6.3	7.3	3.9	14.6	0.01	52.5	80
JUK008	3728567	52.3		0.85	1.78	220	74.20	0.05	0.13	1.27	2.4	1.2	2.2	0.07	1990	20
JUK009	3728568	379		0.17	0.42	31	7.12	0.13	0.19	4.77	15.2	4.4	4.5	<0.01	13.3	30
JUF001	3728569	4.6		<0.02	0.02	52	0.71	0.17	0.64	2.29	7.5	5.7	0.9	0.01	5.5	190

ALS TALUS ASSAYS

XRF Sample ID	ALS SAMPLE ID	TARGET METALS						ACCESSORY MINERALS AND ALTERATION								
		ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
		Cu		Au	Ag	Zn	Mo	K	Ca	Fe	Co	Ni	As	Hg	Pb	Ba
		ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm
CTS001	3728551	33	-	<0.02	0.02	85	0.85	0.25	0.45	3.58	11.90	4.70	1.60	0.01	2.50	130
CTS003	3728552	15	-	<0.02	0.04	77	0.62	0.22	1.09	3.63	11.90	3.00	2.50	<0.01	4.10	130
CTS004	3728553	38	-	0.05	0.12	90	3.31	0.22	1.27	3.85	12.80	5.70	3.30	<0.01	8.30	190
CTS005	3728554	43	-	<0.02	0.11	86	2.1	0.22	1.04	3.93	13.80	7.30	3.10	<0.01	9.20	220
CTS006	3728555	43	-	0.02	0.11	97	2.66	0.22	1.05	4.18	15.30	9.20	3.40	0.01	8.00	210
CTS007	3728556	37	-	<0.02	0.08	89	1.76	0.21	1.43	4.19	13.70	7.70	2.80	<0.01	6.20	180
CTS008	3728557	43	-	0.07	0.14	79	2.58	0.20	1.07	3.60	12.60	7.80	3.30	<0.01	6.50	170
CTS009	3728558	32	-	<0.02	0.07	89	1.45	0.20	0.61	3.53	12.90	4.70	3.60	0.01	4.80	130
CTS010	3728559	9	-	<0.02	0.04	71	1.08	0.17	0.70	2.88	11.50	2.30	3.10	<0.01	3.10	90

ALS ROCK ASSAYS

XRF Sample ID	ALS SAMPLE ID	OTHER ELEMENTAL CONCENTRATION READINGS																	
		ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
		Al	B	Be	Bi	Cd	Ce	Cr	Cs	Ga	Ge	Hf	In	La	Li	Mg	Mn	Na	Nb
		%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	%	ppm
JUK001	3728560	0.21	<10	0.09	1.38	0.05	0.79	5	0.24	0.68	0.05	0.15	0.151	0.4	0.5	0.04	45	<0.01	0.27
JUK002	3728561	0.49	<10	0.08	0.26	0.08	10.95	2	0.55	1.88	<0.05	0.94	<0.005	4.5	1.6	0.18	134	0.03	0.62
JUK003	3728562	0.04	<10	<0.05	1.47	0.14	0.47	10	0.05	0.13	0.07	<0.02	0.151	0.2	0.2	<0.01	33	<0.01	<0.05
JUK004	3728563	0.22	<10	0.08	0.97	0.52	8.97	4	0.19	0.56	0.07	0.07	0.124	3.8	0.7	0.06	1050	<0.01	0.09
JUK005	3728564	0.05	<10	<0.05	3.46	0.3	0.42	7	<0.05	0.18	0.11	<0.02	0.322	0.2	0.2	0.01	37	<0.01	<0.05
JUK006	3728565	0.31	<10	0.08	3.19	0.01	1.73	4	0.32	0.98	0.06	0.12	0.117	0.8	0.5	0.06	53	<0.01	0.42
JUK007	3728566	1.58	<10	0.09	0.22	0.19	2.91	9	0.74	6.28	0.07	0.16	0.016	1.2	7.1	1.35	368	0.03	0.23
JUK008	3728567	0.26	<10	<0.05	0.7	6.86	0.84	8	0.12	0.86	<0.05	0.04	0.008	0.3	1.2	0.14	78	0.01	0.1
JUK009	3728568	0.61	<10	0.11	0.28	0.05	4.92	10	0.15	2.07	0.06	0.13	0.005	2.5	2.3	0.23	201	<0.01	0.16
JUF001	3728569	0.89	<10	0.07	0.01	0.06	11.55	8	0.23	4.63	0.06	0.12	0.012	6	8.9	0.74	500	0.05	0.35

ALS TALUS ASSAYS

XRF Sample ID	ALS SAMPLE ID	OTHER ELEMENTAL CONCENTRATION READINGS																	
		ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
		Al	B	Be	Bi	Cd	Ce	Cr	Cs	Ga	Ge	Hf	In	La	Li	Mg	Mn	Na	Nb
		%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	%	ppm
CTS001	3728551	1.78	<10	0.31	0.04	0.10	18.35	6.00	0.41	5.38	<0.05	0.40	0.02	8.00	10.50	1.07	853	0.05	0.12
CTS003	3728552	1.75	<10	0.34	0.08	0.13	16.40	5.00	0.42	5.15	<0.05	0.35	0.01	7.60	10.30	1.11	849	0.05	0.09
CTS004	3728553	1.96	<10	0.44	0.13	0.13	18.00	8.00	0.54	5.53	<0.05	0.23	0.02	8.20	11.20	1.12	963	0.03	0.07
CTS005	3728554	2.07	<10	0.45	0.11	0.12	19.10	10.00	0.60	5.70	<0.05	0.14	0.02	8.60	12.10	1.18	1080	0.03	0.14
CTS006	3728555	2.25	<10	0.49	0.12	0.12	18.50	10.00	0.57	6.22	<0.05	0.19	0.02	8.40	12.80	1.34	1110	0.03	0.17
CTS007	3728556	2.14	<10	0.37	0.08	0.11	17.40	10.00	0.51	5.79	<0.05	0.18	0.02	8.10	11.50	1.32	1070	0.04	0.14
CTS008	3728557	1.86	<10	0.42	0.10	0.11	17.05	11.00	0.53	5.24	<0.05	0.21	0.02	8.00	10.00	1.13	926	0.03	0.15
CTS009	3728558	1.88	<10	0.37	0.07	0.09	16.20	7.00	0.42	5.33	<0.05	0.33	0.02	7.10	10.60	1.14	911	0.03	0.10
CTS010	3728559	1.64	<10	0.33	0.04	0.06	13.10	5.00	0.25	5.19	<0.05	0.45	0.01	5.90	8.70	1.10	687	0.03	0.21

ALS ROCK ASSAYS

XRF Sample ID	ALS SAMPLE ID	OTHER ELEMENTAL CONCENTRATION READINGS																		
		ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
		P	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zr
		ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
JUK001	3728560	140	3.2	<0.001	1.61	0.44	0.5	15.8	<0.2	5.2	<0.01	0.11	0.4	0.04	0.04	0.23	5	0.08	0.46	5.4
JUK002	3728561	410	6.6	<0.001	0.75	0.39	2.7	0.7	0.4	20	<0.01	0.05	4.3	0.158	0.04	1.84	19	0.79	4.41	29.5
JUK003	3728562	30	0.9	<0.001	1.43	0.79	0.1	14.4	<0.2	7.2	<0.01	0.18	<0.2	<0.005	<0.02	0.08	1	<0.05	0.24	0.5
JUK004	3728563	130	2.6	<0.001	1.65	0.24	1.7	9.2	<0.2	36.5	<0.01	0.1	0.3	0.015	0.02	0.52	4	0.05	10.8	1.9
JUK005	3728564	30	0.9	<0.001	2.23	1.47	0.1	33.2	<0.2	6.5	<0.01	0.37	<0.2	<0.005	0.03	0.09	1	<0.05	0.29	0.5
JUK006	3728565	220	5.1	0.001	0.68	0.38	0.9	13.5	<0.2	4.8	<0.01	0.53	0.5	0.052	0.05	0.22	8	0.13	0.99	4
JUK007	3728566	830	4.8	<0.001	1.73	0.3	6.9	0.9	0.2	5.5	<0.01	0.91	0.3	0.246	0.05	0.17	80	0.22	3.08	3.3
JUK008	3728567	130	1.7	0.001	0.48	0.44	1.1	6.2	<0.2	2.2	<0.01	0.58	<0.2	0.045	0.04	<0.05	12	0.07	0.73	0.7
JUK009	3728568	230	5.4	<0.001	4.03	0.47	1.7	1.2	<0.2	17.9	<0.01	0.19	0.3	0.076	0.03	0.16	23	0.13	2.23	2.8
JUF001	3728569	570	7.3	<0.001	<0.01	0.17	3.2	0.3	0.2	30.4	<0.01	<0.01	3.6	0.104	0.04	0.67	60	<0.05	4.16	1.5

ALS TALUS ASSAYS

XRF Sample ID	ALS SAMPLE ID	OTHER ELEMENTAL CONCENTRATION READINGS																		
		ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
		P	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zr
		ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
CTS001	3728551	870	8.80	<0.001	<0.01	0.14	4.40	0.20	0.30	18.00	<0.01	<0.01	2.90	0.10	0.04	0.99	53.00	0.14	9.77	21.20
CTS003	3728552	870	7.10	<0.001	<0.01	0.13	4.40	<0.2	0.30	33.50	<0.01	0.01	1.90	0.10	0.04	0.81	54.00	0.12	9.32	13.10
CTS004	3728553	890	7.20	<0.001	0.01	0.16	4.60	0.20	0.30	32.00	<0.01	0.02	2.00	0.07	0.04	0.78	53.00	0.15	10.95	11.50
CTS005	3728554	880	7.70	<0.001	0.01	0.16	5.00	0.20	0.30	32.10	<0.01	0.01	1.80	0.08	0.05	0.79	56.00	0.13	11.60	6.80
CTS006	3728555	920	7.30	<0.001	0.01	0.19	5.50	<0.2	0.30	37.90	<0.01	0.02	1.80	0.10	0.04	0.75	65.00	0.17	11.35	9.10
CTS007	3728556	970	6.60	<0.001	0.01	0.14	5.20	<0.2	0.30	38.40	<0.01	0.01	1.60	0.11	0.04	0.68	68.00	0.15	11.00	8.50
CTS008	3728557	830	6.40	<0.001	0.01	0.17	4.60	<0.2	0.30	36.60	<0.01	0.01	1.80	0.08	0.03	0.78	54.00	0.17	10.20	10.40
CTS009	3728558	810	6.90	<0.001	<0.01	0.16	4.70	<0.2	0.30	32.80	<0.01	0.03	1.90	0.11	0.04	0.90	55.00	0.19	9.20	13.60
CTS010	3728559	690	6.40	<0.001	<0.01	0.16	4.00	<0.2	0.40	55.60	<0.01	0.02	1.70	0.19	0.03	1.16	54.00	0.33	7.13	15.30

JUNKERS XRF ELEMENTAL CONCENTRATION READINGS

XRF READINGS - ROCK

		TARGET METALS						ACCESSORY MINERALS AND ALTERATION								
		GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)
		Cu		Au	Ag	Zn	Mo	K	Ca	Fe	Co	Ni	As	Hg	Pb	Ba
XRF Sample ID	ALS SAMPLE ID	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
JUK001	3728560	4,125	0.41	<LOD	33	<LOD	10	8069	<LOD	140559	<LOD	<LOD	<LOD	<LOD	100	<LOD
JUK002	3728561	23	-	<LOD	<LOD	203	<LOD	12904	26401	87538	<LOD	<LOD	12	<LOD	<LOD	923
JUK003	3728562	72	-	<LOD	<LOD	11	19	1638	4034	3660	<LOD	<LOD	5	<LOD	<LOD	<LOD
JUK004	3728563	4,253	0.43	<LOD	<LOD	17	11	3647	74	129340	<LOD	<LOD	<LOD	<LOD	15	<LOD
JUK005	3728564	4,049	0.40	<LOD	<LOD	23	<LOD	11582	2773	6762	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
JUK006	3728565	63,771	6.38	<LOD	<LOD	230	19	2245	<LOD	94834	<LOD	<LOD	<LOD	<LOD	84	<LOD
JUK007	3728566	2,382	0.24	<LOD	<LOD	<LOD	97	2689	151	73686	<LOD	<LOD	<LOD	<LOD	13	<LOD
JUK008	3728567	88	-	<LOD	<LOD	99	18	380	148199	33950	<LOD	46	<LOD	<LOD	9	<LOD
JUK009	3728568	50	-	<LOD	<LOD	<LOD	<LOD	676	387	369	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
JUF001	3728569	142	-	<LOD	<LOD	56	9	13404	2571	137756	<LOD	21	15	<LOD	93	1299

XRF READINGS - TALUS

		TARGET METALS						ACCESSORY MINERALS AND ALTERATION								
		GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)
		Cu		Au	Ag	Zn	Mo	K	Ca	Fe	Co	Ni	As	Hg	Pb	Ba
XRF Sample ID	ALS SAMPLE ID	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
CTS001	3728551	<LOD	-	<LOD	<LOD	63	10	1376	10250	19236	185	<LOD	<LOD	<LOD	<LOD	<LOD
CTS003	3728552	<LOD	-	<LOD	<LOD	82	<LOD	2002	12502	17540	206	<LOD	<LOD	<LOD	<LOD	<LOD
CTS004	3728553	42	-	-	<LOD	75	<LOD	654	4755	15342	393	<LOD	5	<LOD	5	<LOD
CTS005	3728554	58	-	<LOD	<LOD	73	<LOD	874	5124	15462	321	<LOD	5	<LOD	7	<LOD
CTS006	3728555	40	-	<LOD	<LOD	61	<LOD	368	4285	9670	318	<LOD	<LOD	<LOD	8	<LOD
CTS007	3728556	62	-	<LOD	<LOD	76	<LOD	864	3542	18394	294	<LOD	5	<LOD	10	<LOD
CTS008	3728557	55	-	<LOD	<LOD	67	<LOD	1283	4854	19144	260	<LOD	5	<LOD	7	<LOD
CTS009	3728558	141	-	<LOD	<LOD	94	<LOD	700	6984	18042	299	<LOD	<LOD	<LOD	12	<LOD
CTS010	3728559	30	-	<LOD	<LOD	73	<LOD	227	5157	15443	345	<LOD	7	<LOD	<LOD	<LOD

XRF READINGS - ROCK

XRF Sample ID	ALS SAMPLE ID	OTHER ELEMENTAL CONCENTRATION READINGS																	
		GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)
		Al	B	Be	Bi	Cd	Ce	Cr	Cs	Ga	Ge	Hf	In	La	Li	Mg	Mn	Na	Nb
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
JUK001	3728560	18610	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	<LOD	-	<LOD
JUK002	3728561	182592	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	24138	1787	-	8
JUK003	3728562	12135	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	<LOD	-	4
JUK004	3728563	21864	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	6588	44	-	<LOD
JUK005	3728564	61730	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	146	-	8
JUK006	3728565	10255	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	<LOD	-	10
JUK007	3728566	26668	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	<LOD	-	9
JUK008	3728567	12541	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	10143	1593	-	<LOD
JUK009	3728568	5097	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	<LOD	-	4
JUF001	3728569	63765	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	2213	-	<LOD

XRF READINGS - TALUS

XRF Sample ID	ALS SAMPLE ID	OTHER ELEMENTAL CONCENTRATION READINGS																	
		GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)
		Al	B	Be	Bi	Cd	Ce	Cr	Cs	Ga	Ge	Hf	In	La	Li	Mg	Mn	Na	Nb
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
CTS001	3728551	24026	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	2303	-	15
CTS003	3728552	27170	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	671	-	17
CTS004	3728553	22033	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	447	-	4
CTS005	3728554	16680	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	10109	575	-	4
CTS006	3728555	17101	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	354	-	7
CTS007	3728556	15676	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	686	-	<LOD
CTS008	3728557	13217	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	752	-	<LOD
CTS009	3728558	15516	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	877	-	8
CTS010	3728559	14360	-	-	<LOD	<LOD	-	<LOD	-	-	-	-	-	-	-	<LOD	453	-	5

XRF READINGS - ROCK

XRF Sample ID	ALS SAMPLE ID	OTHER ELEMENTAL CONCENTRATION READINGS																			
		GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)
		P	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zr	LE
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
JUK001	3728560	357	15	-	23797	<LOD	-	20	<LOD	41	-	-	<LOD	311	-	<LOD	<LOD	<LOD	<LOD	13	797,107
JUK002	3728561	2630	26	-	<LOD	<LOD	-	<LOD	47	581	-	-	<LOD	12967	-	<LOD	465	<LOD	45	84	497,571
JUK003	3728562	899	<LOD	-	1785	<LOD	-	<LOD	<LOD	5	-	-	<LOD	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	674,510
JUK004	3728563	<LOD	11	-	11853	54	-	17	<LOD	5	-	-	<LOD	668	-	<LOD	<LOD	<LOD	<LOD	9	803,013
JUK005	3728564	857	31	-	1065	<LOD	-	<LOD	<LOD	7	-	-	20	1099	-	<LOD	<LOD	<LOD	5	15	641,277
JUK006	3728565	<LOD	<LOD	-	77991	<LOD	-	36	<LOD	8	-	-	32	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	688,325
JUK007	3728566	686	24	-	8200	<LOD	-	36	60	<LOD	-	-	21	828	-	<LOD	<LOD	<LOD	<LOD	23	855,098
JUK008	3728567	211	2	-	272	75	-	<LOD	54	69	-	-	<LOD	435	-	<LOD	<LOD	<LOD	6	5	710,625
JUK009	3728568	372	7	-	420	47	-	<LOD	<LOD	4	-	-	14	<LOD	-	<LOD	<LOD	<LOD	<LOD	<LOD	608,179
JUF001	3728569	<LOD	54	-	51358	<LOD	-	<LOD	56	346	-	-	<LOD	1052	-	<LOD	<LOD	<LOD	14	99	584,579

XRF READINGS - TALUS

XRF Sample ID	ALS SAMPLE ID	OTHER ELEMENTAL CONCENTRATION READINGS																			
		GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)	GeoChem (Au)
		P	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zr	LE
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
CTS001	3728551	292	75	-	8056	<LOD	-	<LOD	<LOD	192	-	-	36	1838	-	11	<LOD	<LOD	9	123	927,292
CTS003	3728552	444	32	-	8001	<LOD	-	<LOD	<LOD	288	-	-	52	1232	-	12	<LOD	<LOD	17	95	920,525
CTS004	3728553	251	58	-	3023	<LOD	-	<LOD	<LOD	122	-	-	12	649	-	7	<LOD	<LOD	16	71	945,916
CTS005	3728554	175	61	-	3563	<LOD	-	<LOD	<LOD	157	-	-	<LOD	730	-	6	<LOD	<LOD	19	100	942,202
CTS006	3728555	186	47	-	2644	<LOD	-	<LOD	<LOD	98	-	-	17	692	-	7	<LOD	<LOD	14	58	959,774
CTS007	3728556	138	66	-	1628	<LOD	-	<LOD	<LOD	133	-	-	<LOD	1070	-	<LOD	<LOD	<LOD	21	96	953,317
CTS008	3728557	<LOD	60	-	2505	<LOD	-	<LOD	<LOD	149	-	-	<LOD	1268	-	<LOD	<LOD	<LOD	17	73	954,244
CTS009	3728558	<LOD	41	-	3810	<LOD	-	<LOD	<LOD	311	-	-	20	1224	-	<LOD	<LOD	<LOD	15	96	949,678
CTS010	3728559	<LOD	65	-	3061	<LOD	-	<LOD	<LOD	258	-	-	<LOD	2154	-	<LOD	<LOD	<LOD	18	103	955,469

ALS CHEMEX ASSAY CERTIFICATES:

ALS CHEMEX ASSAY CERTIFICATES

ALS Canada Ltd.

2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: IRON MASK EXPLORATION
1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
This copy reported on
3-NOV-2021
Account: IROMEX

CERTIFICATE VA21240577

This report is for 10 samples of Rock submitted to our lab in Vancouver, BC, Canada on 8-SEP-2021.

The following have access to data associated with this certificate:

ANDREW SMITH TYLER SMITH	TYLER SMITH	ANDREW SMITH

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
DRY-21	High Temperature Drying
CRU-QC	Crushing QC Test
LOG-21	Sample logging - ClientBarCode
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-OG46	Ore Grade Elements - AquaRegia	ICP-AES
Cu-OG46	Ore Grade Cu - Aqua Regia	
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

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North Vancouver BC V7H 0A7
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To: IRON MASK EXPLORATION
1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
Account: IROMEX

CERTIFICATE OF ANALYSIS VA21240577

Sample Description	Method	WEI-21	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Recvd Wt.	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs
	Units	kg	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
	LOD	0.02	0.01	0.01	0.1	0.02	10	10	0.05	0.01	0.01	0.01	0.02	0.1	1	0.05
3728560		2.82	11.85	0.21	0.8	0.06	<10	120	0.09	1.38	0.03	0.05	0.79	0.6	5	0.24
3728561		2.30	0.21	0.49	6.9	<0.02	<10	70	0.08	0.26	0.22	0.06	10.95	2.1	2	0.55
3728562		3.46	8.46	0.04	0.5	0.02	<10	100	<0.05	1.47	0.01	0.14	0.47	0.3	10	0.05
3728563		2.30	5.12	0.22	1.2	0.12	<10	100	0.08	0.97	5.25	0.52	8.97	1.4	4	0.19
3728564		2.14	24.0	0.05	1.1	0.05	<10	50	<0.05	3.46	0.02	0.30	0.42	0.7	7	<0.05
3728565		2.52	11.00	0.31	0.6	0.02	<10	100	0.08	3.19	0.07	0.01	1.73	0.7	4	0.32
3728566		1.34	0.79	1.58	14.6	0.25	<10	80	0.09	0.22	0.17	0.19	2.91	7.3	9	0.74
3728567		2.16	1.78	0.26	2.2	0.85	<10	20	<0.05	0.70	0.13	6.86	0.84	2.4	8	0.12
3728568		3.42	0.42	0.61	4.5	0.17	<10	30	0.11	0.28	0.19	0.05	4.92	15.2	10	0.15
3728569		2.72	0.02	0.89	0.9	<0.02	<10	190	0.07	0.01	0.64	0.06	11.55	7.5	8	0.23

***** See Appendix Page for comments regarding this certificate *****

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North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
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To: IRON MASK EXPLORATION
1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
Account: IROMEX

CERTIFICATE OF ANALYSIS VA21240577

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Cu ppm 0.2	ME-MS41 Fe % 0.01	ME-MS41 Ga ppm 0.05	ME-MS41 Ge ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME-MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05
3728560		>10000	3.47	0.68	0.05	0.15	<0.01	0.151	0.11	0.4	0.5	0.04	45	4.28	<0.01	0.27
3728561		19.7	2.09	1.88	<0.05	0.94	0.01	<0.005	0.18	4.5	1.6	0.18	134	4.63	0.03	0.62
3728562		>10000	3.01	0.13	0.07	<0.02	0.01	0.151	0.03	0.2	0.2	<0.01	33	9.14	<0.01	<0.05
3728563		>10000	2.44	0.56	0.07	0.07	<0.01	0.124	0.09	3.8	0.7	0.06	1050	9.08	<0.01	0.09
3728564		>10000	6.26	0.18	0.11	<0.02	0.01	0.322	0.03	0.2	0.2	0.01	37	7.36	<0.01	<0.05
3728565		5090	2.59	0.98	0.06	0.12	0.02	0.117	0.16	0.8	0.5	0.06	53	104.5	<0.01	0.42
3728566		85.9	6.30	6.28	0.07	0.16	0.01	0.016	0.15	1.2	7.1	1.35	368	26.0	0.03	0.23
3728567		52.3	1.27	0.86	<0.05	0.04	0.07	0.008	0.05	0.3	1.2	0.14	78	74.2	0.01	0.10
3728568		379	4.77	2.07	0.06	0.13	<0.01	0.005	0.13	2.5	2.3	0.23	201	7.12	<0.01	0.16
3728569		4.6	2.29	4.63	0.06	0.12	0.01	0.012	0.17	6.0	8.9	0.74	500	0.71	0.05	0.35

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To: IRON MASK EXPLORATION
1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
Account: IROMEX

CERTIFICATE OF ANALYSIS VA21240577

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
	Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
3728560		0.8	140	15.0	3.2	<0.001	1.61	0.44	0.5	15.8	<0.2	5.2	<0.01	0.11	0.4	0.040
3728561		0.5	410	16.3	6.6	<0.001	0.75	0.39	2.7	0.7	0.4	20.0	<0.01	0.05	4.3	0.158
3728562		0.6	30	5.3	0.9	<0.001	1.43	0.79	0.1	14.4	<0.2	7.2	<0.01	0.18	<0.2	<0.005
3728563		0.3	130	2.7	2.6	<0.001	1.65	0.24	1.7	9.2	<0.2	36.5	<0.01	0.10	0.3	0.015
3728564		0.7	30	13.4	0.9	<0.001	2.23	1.47	0.1	33.2	<0.2	6.5	<0.01	0.37	<0.2	<0.005
3728565		0.6	220	9.5	5.1	0.001	0.68	0.38	0.9	13.5	<0.2	4.8	<0.01	0.53	0.5	0.052
3728566		3.9	830	52.5	4.8	<0.001	1.73	0.30	6.9	0.9	0.2	5.5	<0.01	0.91	0.3	0.246
3728567		1.2	130	1990	1.7	0.001	0.48	0.44	1.1	6.2	<0.2	2.2	<0.01	0.58	<0.2	0.045
3728568		4.4	230	13.3	5.4	<0.001	4.03	0.47	1.7	1.2	<0.2	17.9	<0.01	0.19	0.3	0.076
3728569		5.7	570	5.5	7.3	<0.001	<0.01	0.17	3.2	0.3	0.2	30.4	<0.01	<0.01	3.6	0.104

***** See Appendix Page for comments regarding this certificate *****

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To: IRON MASK EXPLORATION
1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
Account: IROMEX

CERTIFICATE OF ANALYSIS VA21240577

Sample Description	Method Analyte Units LOD	ME-MS41 Tl ppm 0.02	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5	Cu-OG46 Cu % 0.001
3728560		0.04	0.23	5	0.08	0.46	4	5.4	1.380
3728561		0.04	1.84	19	0.79	4.41	17	29.5	
3728562		<0.02	0.08	1	<0.05	0.24	<2	0.5	2.20
3728563		0.02	0.52	4	0.05	10.80	6	1.9	2.29
3728564		0.03	0.09	1	<0.05	0.29	2	0.5	5.53
3728565		0.05	0.22	8	0.13	0.99	5	4.0	
3728566		0.05	0.17	80	0.22	3.08	66	3.3	
3728567		0.04	<0.05	12	0.07	0.73	220	0.7	
3728568		0.03	0.16	23	0.13	2.23	31	2.8	
3728569		0.04	0.67	60	<0.05	4.16	52	1.5	

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To: IRON MASK EXPLORATION
1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
Account: IROMEX

CERTIFICATE OF ANALYSIS VA21240577

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

CRU-31	CRU-QC	Cu-OG46	DRY-21
LOG-21	ME-MS41	ME-OG46	PUL-31
PUL-QC	SPL-21	WEI-21	

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1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
This copy reported on
3-NOV-2021
Account: IROMEX

QC CERTIFICATE VA21240577

This report is for 10 samples of Rock submitted to our lab in Vancouver, BC, Canada on 8-SEP-2021.

The following have access to data associated with this certificate:

ANDREW SMITH TYLER SMITH	TYLER SMITH	ANDREW SMITH

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
DRY-21	High Temperature Drying
CRU-QC	Crushing QC Test
LOG-21	Sample logging - ClientBarCode
PUL-QC	Pulverizing QC Test
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SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-OG46	Ore Grade Elements - AquaRegia	ICP-AES
Cu-OG46	Ore Grade Cu - Aqua Regia	
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

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Finalized Date: 28-OCT-2021
Account: IROMEX

QC CERTIFICATE OF ANALYSIS VA21240577

Sample Description / Method / Analyte / Units / LOD	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05	ME-MS41 Cu ppm 0.2
STANDARDS															
EMOG-17															
Target Range - Lower Bound															
Upper Bound															
EMOG-17	68.3	1.63	586	0.93	<10	40	0.53	5.70	0.99	21.7	46.0	764	46	6.15	8640
Target Range - Lower Bound	60.3	1.45	522	0.77	<10	30	0.32	5.32	0.87	18.35	37.6	680	42	5.57	7780
Upper Bound	73.7	1.79	638	0.99	20	80	0.56	6.52	1.09	22.5	46.0	832	54	6.91	8960
MRGeo08	4.85	2.61	33.6	<0.02	<10	430	0.91	0.68	1.15	2.41	79.7	19.4	89	11.55	620
Target Range - Lower Bound	4.00	2.44	29.6	<0.02	<10	370	0.67	0.58	1.00	2.01	66.2	17.0	81	9.40	587
Upper Bound	4.92	3.00	36.4	0.04	20	530	0.95	0.73	1.24	2.47	81.0	21.0	102	11.60	675
OREAS 905	0.55	0.78	32.5	0.38	<10	230	0.96	5.37	0.40	0.35	81.5	13.9	17	1.23	1515
Target Range - Lower Bound	0.45	0.73	28.4	0.33	<10	200	0.78	4.97	0.29	0.30	69.7	12.4	15	1.05	1450
Upper Bound	0.58	0.91	35.0	0.45	20	300	1.08	6.10	0.38	0.38	85.3	15.4	20	1.39	1670
OREAS 920	0.11	2.38	5.1	<0.02	<10	80	0.75	0.65	0.33	0.07	77.0	16.4	42	2.05	135.0
Target Range - Lower Bound	0.07	2.18	4.2	<0.02	<10	50	0.59	0.60	0.28	0.04	64.8	13.4	37	1.84	102.0
Upper Bound	0.12	2.68	5.3	0.04	20	110	0.87	0.76	0.37	0.08	79.2	16.6	48	2.36	118.0
OREAS-134b															
Target Range - Lower Bound															
Upper Bound															
BLANKS															
BLANK															
Target Range - Lower Bound															
Upper Bound															
BLANK	<0.01	<0.01	<0.1	<0.02	<10	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.1	<1	<0.05	<0.2
BLANK	<0.01	<0.01	<0.1	<0.02	<10	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.1	<1	<0.05	0.2
Target Range - Lower Bound	<0.01	<0.01	<0.1	<0.02	<10	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.1	<1	<0.05	<0.2
Upper Bound	0.02	0.02	0.2	0.04	20	20	0.10	0.02	0.02	0.02	0.04	0.2	2	0.10	0.4

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ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: IRON MASK EXPLORATION
1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
Account: IROMEX

QC CERTIFICATE OF ANALYSIS VA21240577

Sample Description / Method / Analyte / Units / LOD	ME-MS41 Fe % 0.01	ME-MS41 Ga ppm 0.05	ME-MS41 Ge ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME-MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05	ME-MS41 Ni ppm 0.2
STANDARDS															
EMOG-17															
Target Range - Lower Bound															
Upper Bound															
EMOG-17	4.67	5.79	0.18	0.46	0.63	0.921	0.66	22.4	20.7	0.78	642	1080	0.17	1.27	7850
Target Range - Lower Bound	4.18	5.56	0.08	0.39	0.46	0.814	0.60	18.3	17.2	0.69	595	971	0.15	1.24	6930
Upper Bound	5.14	6.90	0.30	0.53	0.64	1.005	0.76	22.9	21.2	0.87	739	1185	0.20	1.80	8470
MRGeo08	3.56	10.00	0.24	0.71	0.06	0.162	1.23	39.2	33.7	1.13	407	14.60	0.34	1.36	697
Target Range - Lower Bound	3.22	8.73	0.07	0.64	0.04	0.137	1.12	33.2	29.6	1.03	378	13.10	0.30	0.75	622
Upper Bound	3.96	10.80	0.29	0.83	0.10	0.179	1.40	41.0	36.4	1.29	473	16.10	0.39	1.13	760
OREAS 905	3.33	6.16	0.13	1.17	0.02	0.608	0.30	40.7	4.3	0.15	329	3.00	0.09	0.34	8.9
Target Range - Lower Bound	3.14	5.45	<0.05	1.02	<0.01	0.517	0.28	34.7	4.0	0.13	310	2.65	0.07	0.18	7.8
Upper Bound	3.86	6.77	0.22	1.29	0.04	0.643	0.36	42.9	5.2	0.19	390	3.35	0.12	0.44	10.0
OREAS 920	3.56	6.94	0.10	0.49	<0.01	0.034	0.43	40.9	21.7	1.07	499	0.37	0.02	0.32	41.7
Target Range - Lower Bound	3.26	6.12	<0.05	0.48	<0.01	0.019	0.37	33.3	19.0	0.93	454	0.26	<0.01	0.21	34.4
Upper Bound	4.00	7.60	0.22	0.63	0.02	0.043	0.47	41.1	23.4	1.15	566	0.50	0.04	0.47	42.4
OREAS-134b															
Target Range - Lower Bound															
Upper Bound															
BLANKS															
BLANK															
Target Range - Lower Bound															
Upper Bound															
BLANK	<0.01	<0.05	<0.05	<0.02	0.01	<0.005	<0.01	<0.2	<0.1	<0.01	<5	<0.05	<0.01	<0.05	<0.2
BLANK	<0.01	<0.05	<0.05	<0.02	<0.01	<0.005	<0.01	<0.2	0.1	<0.01	<5	<0.05	<0.01	<0.05	<0.2
Target Range - Lower Bound	<0.01	<0.05	<0.05	<0.02	<0.01	<0.005	<0.01	<0.2	<0.1	<0.01	<5	<0.05	<0.01	<0.05	<0.2
Upper Bound	0.02	0.10	0.10	0.04	0.02	0.010	0.02	0.4	0.2	0.02	10	0.10	0.02	0.10	0.4

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ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
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To: IRON MASK EXPLORATION
1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
Account: IROMEX

QC CERTIFICATE OF ANALYSIS VA21240577

Sample Description / Method / Analyte / Units / LOD	ME-MS41 P ppm 10	ME-MS41 Pb ppm 0.2	ME-MS41 Rb ppm 0.1	ME-MS41 Re ppm 0.001	ME-MS41 S % 0.01	ME-MS41 Sb ppm 0.05	ME-MS41 Sc ppm 0.1	ME-MS41 Se ppm 0.2	ME-MS41 Sn ppm 0.2	ME-MS41 Sr ppm 0.2	ME-MS41 Ta ppm 0.01	ME-MS41 Te ppm 0.01	ME-MS41 Th ppm 0.2	ME-MS41 Ti % 0.005	ME-MS41 Tl ppm 0.02
STANDARDS															
EMOG-17															
Target Range - Lower Bound															
Upper Bound															
EMOG-17	760	7140	72.2	0.328	3.27	679	4.6	6.7	2.2	54.6	0.01	1.39	10.7	0.214	2.13
Target Range - Lower Bound	680	6510	66.5	0.287	2.90	574	4.3	5.5	1.5	47.5	<0.01	1.16	9.3	0.188	1.71
Upper Bound	850	7950	81.5	0.353	3.56	776	5.5	7.2	2.6	58.5	0.03	1.44	11.8	0.240	2.37
MRGeo08	980	1040	147.5	0.008	0.31	3.26	7.5	1.1	3.6	79.1	0.01	0.03	22.3	0.373	0.85
Target Range - Lower Bound	900	959	132.0	0.006	0.27	2.80	6.7	0.6	2.8	72.1	<0.01	<0.01	19.1	0.338	0.64
Upper Bound	1130	1175	162.0	0.010	0.35	3.90	8.4	1.5	4.0	88.5	0.03	0.04	23.7	0.424	0.92
OREAS 905	230	15.4	18.4	<0.001	0.06	1.10	1.7	2.5	1.4	13.4	<0.01	0.07	7.9	0.020	0.11
Target Range - Lower Bound	200	14.4	16.3	<0.001	0.04	0.83	1.5	1.8	0.8	10.9	<0.01	0.04	7.4	0.008	0.05
Upper Bound	260	18.0	20.1	0.002	0.09	1.23	2.0	2.8	1.7	13.7	0.03	0.09	9.4	0.030	0.15
OREAS 920	690	20.6	26.5	<0.001	0.03	0.55	3.2	<0.2	1.2	18.4	0.01	0.01	16.0	0.139	0.17
Target Range - Lower Bound	610	19.2	22.2	<0.001	<0.01	0.45	2.5	<0.2	0.6	15.0	<0.01	<0.01	13.6	0.106	0.09
Upper Bound	770	23.9	27.4	0.002	0.05	0.77	3.3	0.6	1.6	18.8	0.02	0.04	17.0	0.140	0.20
OREAS-134b															
Target Range - Lower Bound															
Upper Bound															
BLANKS															
BLANK															
Target Range - Lower Bound															
Upper Bound															
BLANK	<10	<0.2	<0.1	<0.001	<0.01	<0.05	<0.1	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.005	<0.02
BLANK	<10	<0.2	<0.1	<0.001	<0.01	<0.05	<0.1	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.005	<0.02
Target Range - Lower Bound	<10	<0.2	<0.1	<0.001	<0.01	<0.05	<0.1	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.005	<0.02
Upper Bound	20	0.4	0.2	0.002	0.02	0.10	0.2	0.4	0.4	0.4	0.02	0.02	0.4	0.010	0.04

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1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
Account: IROMEX

QC CERTIFICATE OF ANALYSIS VA21240577

Sample Description / Method / Analyte / Units / LOD	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5	Cu-OG46 Cu % 0.001
STANDARDS							
EMOG-17							0.845
Target Range - Lower Bound							0.807
Upper Bound							0.867
EMOG-17	3.04	65	2.15	12.05	7540	13.2	
Target Range - Lower Bound	2.57	58	1.65	10.20	6780	10.6	
Upper Bound	3.25	74	2.35	12.60	8290	15.5	
MRGeo08	5.28	99	3.15	20.5	779	22.9	
Target Range - Lower Bound	4.93	90	2.44	17.50	708	18.1	
Upper Bound	6.13	112	3.42	21.5	870	25.7	
OREAS 905	2.13	5	0.62	7.19	65	48.0	
Target Range - Lower Bound	1.92	4	0.41	6.32	56	39.9	
Upper Bound	2.46	8	0.73	7.84	72	55.1	
OREAS 920	2.17	25	0.48	18.35	106	21.5	
Target Range - Lower Bound	1.89	21	0.31	15.80	93	17.6	
Upper Bound	2.42	28	0.61	19.40	119	25.0	
OREAS-134b							0.136
Target Range - Lower Bound							0.131
Upper Bound							0.142
BLANKS							
BLANK							<0.001
Target Range - Lower Bound							<0.001
Upper Bound							0.002
BLANK	<0.05	<1	<0.05	<0.05	<2	<0.5	
BLANK	<0.05	<1	<0.05	<0.05	<2	<0.5	
Target Range - Lower Bound	<0.05	<1	<0.05	<0.05	<2	<0.5	
Upper Bound	0.10	2	0.10	0.10	4	1.0	

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QC CERTIFICATE OF ANALYSIS VA21240577

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05	ME-MS41 Cu ppm 0.2
DUPLICATES																
ORIGINAL		0.48	0.88	69.1	<0.02	20	120	0.96	0.12	0.21	0.20	7.00	5.1	21	3.49	53.3
DUP		0.47	0.91	71.0	<0.02	20	130	0.87	0.14	0.22	0.18	6.82	5.1	19	3.53	54.4
Target Range - Lower Bound		0.44	0.84	66.4	<0.02	<10	110	0.82	0.11	0.19	0.17	6.54	4.7	18	3.28	51.8
Upper Bound		0.51	0.95	73.7	0.04	30	140	1.01	0.15	0.24	0.21	7.28	5.5	22	3.74	55.9
ORIGINAL		0.36	0.13	22.2	0.14	<10	170	0.10	0.02	20.6	1.13	9.87	2.0	19	0.07	7.6
DUP		0.35	0.14	21.5	0.16	<10	180	0.15	0.02	21.2	1.17	10.55	2.0	20	0.08	7.3
Target Range - Lower Bound		0.33	0.12	20.7	0.12	<10	150	0.07	<0.01	19.85	1.08	9.68	1.8	18	<0.05	7.0
Upper Bound		0.38	0.15	23.0	0.18	20	200	0.18	0.03	22.0	1.22	10.75	2.2	21	0.10	7.9

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QC CERTIFICATE OF ANALYSIS VA21240577

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Fe % 0.01	ME-MS41 Ga ppm 0.05	ME-MS41 Ge ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME-MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05	ME-MS41 Ni ppm 0.2
DUPLICATES																
ORIGINAL		1.75	3.73	0.08	0.08	0.38	0.025	0.44	3.0	2.1	0.11	94	2.90	0.01	0.05	25.1
DUP		1.75	3.76	0.06	0.08	0.38	0.024	0.45	3.0	2.0	0.12	92	2.85	0.01	0.05	24.5
Target Range - Lower Bound		1.65	3.51	<0.05	0.06	0.34	0.018	0.41	2.7	1.8	0.10	83	2.68	<0.01	<0.05	23.4
Upper Bound		1.85	3.98	0.10	0.10	0.42	0.031	0.48	3.4	2.3	0.13	103	3.07	0.02	0.10	26.2
ORIGINAL		0.54	0.56	0.07	0.12	1.08	0.006	0.07	8.6	0.6	0.13	83	0.87	0.01	<0.05	30.4
DUP		0.55	0.55	0.09	0.14	1.08	0.009	0.08	9.2	0.7	0.14	85	0.85	0.01	<0.05	29.5
Target Range - Lower Bound		0.51	0.48	<0.05	0.10	0.99	<0.005	0.06	8.3	0.5	0.12	75	0.77	<0.01	<0.05	28.3
Upper Bound		0.58	0.63	0.10	0.16	1.17	0.010	0.09	9.5	0.8	0.15	93	0.95	0.02	0.10	31.6

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QC CERTIFICATE OF ANALYSIS VA21240577

Sample Description	Method / Analyte / Units / LOD	ME-MS41 P ppm 10	ME-MS41 Pb ppm 0.2	ME-MS41 Rb ppm 0.1	ME-MS41 Re ppm 0.001	ME-MS41 S % 0.01	ME-MS41 Sb ppm 0.05	ME-MS41 Sc ppm 0.1	ME-MS41 Se ppm 0.2	ME-MS41 Sn ppm 0.2	ME-MS41 Sr ppm 0.2	ME-MS41 Ta ppm 0.01	ME-MS41 Te ppm 0.01	ME-MS41 Th ppm 0.2	ME-MS41 Ti % 0.005	ME-MS41 Tl ppm 0.02
DUPLICATES																
ORIGINAL		570	8.4	21.2	0.002	1.60	12.70	1.9	1.8	0.5	13.8	<0.01	0.52	2.5	<0.005	1.57
DUP		580	10.4	21.8	0.002	1.61	12.30	1.9	2.0	0.5	14.0	<0.01	0.49	2.6	<0.005	1.67
Target Range - Lower Bound		540	8.7	20.3	<0.001	1.51	11.50	1.7	1.6	0.3	13.0	<0.01	0.47	2.2	<0.005	1.48
Upper Bound		610	10.1	22.7	0.003	1.70	13.50	2.1	2.2	0.7	14.8	0.02	0.54	2.9	0.010	1.76
ORIGINAL		1020	3.3	2.2	<0.001	<0.01	7.53	2.5	1.0	<0.2	740	<0.01	0.05	1.2	<0.005	0.31
DUP		1040	3.5	2.3	0.001	<0.01	7.36	2.5	0.8	<0.2	760	<0.01	0.06	1.2	<0.005	0.32
Target Range - Lower Bound		970	3.0	2.0	<0.001	<0.01	6.84	2.3	0.7	<0.2	712	<0.01	0.04	0.9	<0.005	0.27
Upper Bound		1090	3.8	2.5	0.002	0.02	8.05	2.7	1.1	0.4	788	0.02	0.07	1.5	0.010	0.36

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1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 28-OCT-2021
Account: IROMEX

QC CERTIFICATE OF ANALYSIS VA21240577

Sample Description / Method / Analyte / Units / LOD	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5	Cu-OG46 Cu % 0.001
DUPLICATES							
ORIGINAL	2.72	56	0.91	8.91	87	2.0	
DUP	2.82	58	0.92	9.06	89	2.0	
Target Range - Lower Bound	2.58	53	0.80	8.49	82	1.4	
Upper Bound	2.96	61	1.03	9.48	94	2.7	
ORIGINAL	1.94	14	0.96	17.25	89	4.5	
DUP	2.16	14	1.03	17.35	91	4.5	
Target Range - Lower Bound	1.90	12	0.87	16.40	84	3.7	
Upper Bound	2.20	16	1.12	18.20	97	5.3	

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QC CERTIFICATE OF ANALYSIS VA21240577

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

CRU-31	CRU-QC	Cu-OG46	DRY-21
LOG-21	ME-MS41	ME-OG46	PUL-31
PUL-QC	SPL-21	WEI-21	

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2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: IRON MASK EXPLORATION
1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 1-NOV-2021
This copy reported on 26-JAN-2022
Account: IROMEX

CERTIFICATE VA21240578

This report is for 9 samples of Soil submitted to our lab in Vancouver, BC, Canada on 8-SEP-2021.

The following have access to data associated with this certificate:

ANDREW SMITH TYLER SMITH	TYLER SMITH	ANDREW SMITH

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-QC	Pulverizing QC Test
LOG-21	Sample logging - ClientBarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, General Manager, North Vancouver

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Finalized Date: 1-NOV-2021
Account: IROMEX

CERTIFICATE OF ANALYSIS VA21240578

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05
3728551		0.32	0.02	1.78	1.6	<0.02	<10	130	0.31	0.04	0.45	0.10	18.35	11.9	6	0.41
3728552		0.42	0.04	1.75	2.5	<0.02	<10	130	0.34	0.08	1.09	0.13	16.40	11.9	5	0.42
3728553		0.56	0.12	1.96	3.3	0.05	<10	190	0.44	0.13	1.27	0.13	18.00	12.8	8	0.54
3728554		0.54	0.11	2.07	3.1	<0.02	<10	220	0.45	0.11	1.04	0.12	19.10	13.8	10	0.60
3728555		0.40	0.11	2.25	3.4	0.02	<10	210	0.49	0.12	1.05	0.12	18.50	15.3	10	0.57
3728556		0.46	0.08	2.14	2.8	<0.02	<10	180	0.37	0.08	1.43	0.11	17.40	13.7	10	0.51
3728557		0.54	0.14	1.86	3.3	0.07	<10	170	0.42	0.10	1.07	0.11	17.05	12.6	11	0.53
3728558		0.48	0.07	1.88	3.6	<0.02	<10	130	0.37	0.07	0.61	0.09	16.20	12.9	7	0.42
3728559		0.60	0.04	1.64	3.1	<0.02	<10	90	0.33	0.04	0.70	0.06	13.10	11.5	5	0.25

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CERTIFICATE OF ANALYSIS VA21240578

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Cu ppm 0.2	ME-MS41 Fe % 0.01	ME-MS41 Ga ppm 0.05	ME-MS41 Ge ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME-MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05
3728551		32.9	3.58	5.38	<0.05	0.40	0.01	0.017	0.25	8.0	10.5	1.07	853	0.85	0.05	0.12
3728552		14.9	3.63	5.15	<0.05	0.35	<0.01	0.014	0.22	7.6	10.3	1.11	849	0.62	0.05	0.09
3728553		38.0	3.85	5.53	<0.05	0.23	<0.01	0.015	0.22	8.2	11.2	1.12	963	3.31	0.03	0.07
3728554		42.9	3.93	5.70	<0.05	0.14	<0.01	0.017	0.22	8.6	12.1	1.18	1080	2.10	0.03	0.14
3728555		43.4	4.18	6.22	<0.05	0.19	0.01	0.020	0.22	8.4	12.8	1.34	1110	2.66	0.03	0.17
3728556		36.8	4.19	5.79	<0.05	0.18	<0.01	0.017	0.21	8.1	11.5	1.32	1070	1.76	0.04	0.14
3728557		42.7	3.60	5.24	<0.05	0.21	<0.01	0.015	0.20	8.0	10.0	1.13	926	2.58	0.03	0.15
3728558		32.2	3.53	5.33	<0.05	0.33	0.01	0.015	0.20	7.1	10.6	1.14	911	1.45	0.03	0.10
3728559		8.7	2.88	5.19	<0.05	0.45	<0.01	0.009	0.17	5.9	8.7	1.10	687	1.08	0.03	0.21

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CERTIFICATE OF ANALYSIS VA21240578

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Ni ppm 0.2	ME-MS41 P ppm 10	ME-MS41 Pb ppm 0.2	ME-MS41 Rb ppm 0.1	ME-MS41 Re ppm 0.001	ME-MS41 S % 0.01	ME-MS41 Sb ppm 0.05	ME-MS41 Sc ppm 0.1	ME-MS41 Se ppm 0.2	ME-MS41 Sn ppm 0.2	ME-MS41 Sr ppm 0.2	ME-MS41 Ta ppm 0.01	ME-MS41 Te ppm 0.01	ME-MS41 Th ppm 0.2	ME-MS41 Ti % 0.005
3728551		4.7	870	2.5	8.8	<0.001	<0.01	0.14	4.4	0.2	0.3	18.0	<0.01	<0.01	2.9	0.095
3728552		3.0	870	4.1	7.1	<0.001	<0.01	0.13	4.4	<0.2	0.3	33.5	<0.01	0.01	1.9	0.100
3728553		5.7	890	8.3	7.2	<0.001	0.01	0.16	4.6	0.2	0.3	32.0	<0.01	0.02	2.0	0.071
3728554		7.3	880	9.2	7.7	<0.001	0.01	0.16	5.0	0.2	0.3	32.1	<0.01	0.01	1.8	0.076
3728555		9.2	920	8.0	7.3	<0.001	0.01	0.19	5.5	<0.2	0.3	37.9	<0.01	0.02	1.8	0.099
3728556		7.7	970	6.2	6.6	<0.001	0.01	0.14	5.2	<0.2	0.3	38.4	<0.01	0.01	1.6	0.106
3728557		7.8	830	6.5	6.4	<0.001	0.01	0.17	4.6	<0.2	0.3	36.6	<0.01	0.01	1.8	0.084
3728558		4.7	810	4.8	6.9	<0.001	<0.01	0.16	4.7	<0.2	0.3	32.8	<0.01	0.03	1.9	0.108
3728559		2.3	690	3.1	6.4	<0.001	<0.01	0.16	4.0	<0.2	0.4	55.6	<0.01	0.02	1.7	0.185

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CERTIFICATE OF ANALYSIS VA21240578

Sample Description	Method Analyte Units LOD	ME-MS41 Tl ppm 0.02	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5
3728551		0.04	0.99	53	0.14	9.77	85	21.2
3728552		0.04	0.81	54	0.12	9.32	77	13.1
3728553		0.04	0.78	53	0.15	10.95	90	11.5
3728554		0.05	0.79	56	0.13	11.60	86	6.8
3728555		0.04	0.75	65	0.17	11.35	97	9.1
3728556		0.04	0.68	68	0.15	11.00	89	8.5
3728557		0.03	0.78	54	0.17	10.20	79	10.4
3728558		0.04	0.90	55	0.19	9.20	89	13.6
3728559		0.03	1.16	54	0.33	7.13	71	15.3

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CERTIFICATE OF ANALYSIS VA21240578

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

CRU-31	LOG-21	ME-MS41	PUL-31
PUL-QC	SPL-21	WEI-21	

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Finalized Date: 1-NOV-2021
This copy reported on
12-JAN-2022
Account: IROMEX

QC CERTIFICATE VA21240578

This report is for 9 samples of Soil submitted to our lab in Vancouver, BC, Canada on 8-SEP-2021.

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ANDREW SMITH TYLER SMITH	TYLER SMITH	ANDREW SMITH

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
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PUL-QC	Pulverizing QC Test
LOG-21	Sample logging - ClientBarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
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ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
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QC CERTIFICATE OF ANALYSIS VA21240578

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05	ME-MS41 Cu ppm 0.2
STANDARDS																
EMOG-17		66.9	1.57	585	0.79	<10	30	0.41	5.81	0.97	18.90	38.7	754	46	6.27	8490
Target Range - Lower Bound		60.3	1.45	522	0.77	<10	30	0.32	5.32	0.87	18.35	37.6	680	42	5.57	7780
Upper Bound		73.7	1.79	638	0.99	20	80	0.56	6.52	1.09	22.5	46.0	832	54	6.91	8960
OREAS 920		0.10	2.39	4.8	<0.02	<10	80	0.72	0.60	0.34	0.05	71.5	13.8	42	1.89	111.0
Target Range - Lower Bound		0.07	2.18	4.2	<0.02	<10	50	0.59	0.60	0.28	0.04	64.8	13.4	37	1.84	102.0
Upper Bound		0.12	2.68	5.3	0.04	20	110	0.87	0.76	0.37	0.08	79.2	16.6	48	2.36	118.0
BLANKS																
BLANK		<0.01	<0.01	<0.1	<0.02	<10	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.1	<1	<0.05	<0.2
Target Range - Lower Bound		<0.01	<0.01	<0.1	<0.02	<10	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.1	<1	<0.05	<0.2
Upper Bound		0.02	0.02	0.2	0.04	20	20	0.10	0.02	0.02	0.02	0.04	0.2	2	0.10	0.4
DUPLICATES																
ORIGINAL		0.24	1.46	1.3	0.08	<10	170	0.48	0.53	1.86	0.09	40.7	20.2	273	2.47	34.5
DUP		0.35	1.49	1.3	0.06	<10	170	0.51	0.74	1.89	0.09	41.4	20.9	278	2.51	42.9
Target Range - Lower Bound		0.27	1.39	1.1	0.05	<10	150	0.42	0.59	1.77	0.08	39.0	19.4	261	2.32	37.1
Upper Bound		0.32	1.56	1.5	0.09	20	190	0.57	0.68	1.98	0.10	43.1	21.7	290	2.66	40.3

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QC CERTIFICATE OF ANALYSIS VA21240578

Sample Description / Method / Analyte / Units / LOD	ME-MS41 Fe % 0.01	ME-MS41 Ga ppm 0.05	ME-MS41 Ge ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME-MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05	ME-MS41 Ni ppm 0.2
STANDARDS															
EMOG-17	4.62	5.63	0.11	0.41	0.49	0.863	0.66	19.5	18.3	0.79	624	1025	0.17	0.98	7650
Target Range - Lower Bound	4.18	5.56	0.08	0.39	0.46	0.814	0.60	18.3	17.2	0.69	595	971	0.15	1.24	6930
Upper Bound	5.14	6.90	0.30	0.53	0.64	1.005	0.76	22.9	21.2	0.87	739	1185	0.20	1.80	8470
OREAS 920	3.66	6.44	0.08	0.46	<0.01	0.029	0.42	36.3	23.0	1.12	508	0.30	0.03	0.28	37.9
Target Range - Lower Bound	3.26	6.12	<0.05	0.48	<0.01	0.019	0.37	33.3	19.0	0.93	454	0.26	<0.01	0.21	34.4
Upper Bound	4.00	7.60	0.22	0.63	0.02	0.043	0.47	41.1	23.4	1.15	566	0.50	0.04	0.47	42.4
BLANKS															
BLANK	<0.01	<0.05	<0.05	<0.02	<0.01	<0.005	<0.01	<0.2	<0.1	<0.01	<5	<0.05	<0.01	<0.05	<0.2
Target Range - Lower Bound	<0.01	<0.05	<0.05	<0.02	<0.01	<0.005	<0.01	<0.2	<0.1	<0.01	<5	<0.05	<0.01	<0.05	<0.2
Upper Bound	0.02	0.10	0.10	0.04	0.02	0.010	0.02	0.4	0.2	0.02	10	0.10	0.02	0.10	0.4
DUPLICATES															
ORIGINAL	3.23	6.64	0.10	0.57	<0.01	0.018	1.03	20.3	19.7	1.82	459	3.82	0.02	0.07	106.0
DUP	3.32	6.93	0.09	0.55	<0.01	0.017	1.05	20.2	19.1	1.85	463	4.03	0.03	0.06	109.0
Target Range - Lower Bound	3.10	6.40	<0.05	0.51	<0.01	0.012	0.98	19.0	18.3	1.73	433	3.68	<0.01	<0.05	102.0
Upper Bound	3.45	7.17	0.10	0.61	0.02	0.023	1.10	21.5	20.5	1.94	489	4.17	0.04	0.10	113.0

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QC CERTIFICATE OF ANALYSIS VA21240578

Sample Description	Method / Analyte / Units / LOD	ME-MS41 P ppm 10	ME-MS41 Pb ppm 0.2	ME-MS41 Rb ppm 0.1	ME-MS41 Re ppm 0.001	ME-MS41 S % 0.01	ME-MS41 Sb ppm 0.05	ME-MS41 Sc ppm 0.1	ME-MS41 Se ppm 0.2	ME-MS41 Sn ppm 0.2	ME-MS41 Sr ppm 0.2	ME-MS41 Ta ppm 0.01	ME-MS41 Te ppm 0.01	ME-MS41 Th ppm 0.2	ME-MS41 Ti % 0.005	ME-MS41 Tl ppm 0.02
STANDARDS																
EMOG-17		750	7070	72.1	0.299	3.13	641	4.5	6.2	1.8	50.8	0.01	1.17	9.5	0.210	1.72
Target Range - Lower Bound		680	6510	66.5	0.287	2.90	574	4.3	5.5	1.5	47.5	<0.01	1.16	9.3	0.188	1.71
Upper Bound		850	7950	81.5	0.353	3.56	776	5.5	7.2	2.6	58.5	0.03	1.44	11.8	0.240	2.37
OREAS 920		720	22.6	23.7	<0.001	0.03	0.48	2.7	<0.2	1.0	17.4	0.01	0.01	15.1	0.127	0.14
Target Range - Lower Bound		610	19.2	22.2	<0.001	<0.01	0.45	2.5	<0.2	0.6	15.0	<0.01	<0.01	13.6	0.106	0.09
Upper Bound		770	23.9	27.4	0.002	0.05	0.77	3.3	0.6	1.6	18.8	0.02	0.04	17.0	0.140	0.20
BLANKS																
BLANK		<10	<0.2	<0.1	<0.001	<0.01	<0.05	<0.1	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.005	<0.02
Target Range - Lower Bound		<10	<0.2	<0.1	<0.001	<0.01	<0.05	<0.1	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.005	<0.02
Upper Bound		20	0.4	0.2	0.002	0.02	0.10	0.2	0.4	0.4	0.4	0.02	0.02	0.4	0.010	0.04
DUPLICATES																
ORIGINAL		650	12.4	48.1	0.002	0.84	0.05	6.6	0.3	0.4	179.0	<0.01	0.94	3.8	0.134	0.29
DUP		660	15.6	50.6	0.001	0.87	<0.05	6.7	0.4	0.4	181.0	<0.01	0.99	3.8	0.136	0.30
Target Range - Lower Bound		610	13.1	46.8	<0.001	0.80	<0.05	6.2	<0.2	<0.2	171.0	<0.01	0.91	3.4	0.123	0.25
Upper Bound		700	14.9	51.9	0.002	0.91	0.10	7.1	0.4	0.6	189.0	0.02	1.02	4.2	0.147	0.34

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QC CERTIFICATE OF ANALYSIS VA21240578

Sample Description / Method / Analyte / Units / LOD	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5
STANDARDS						
EMOG-17	2.70	63	1.67	10.40	7370	12.5
Target Range - Lower Bound	2.57	58	1.65	10.20	6780	10.6
Upper Bound	3.25	74	2.35	12.60	8290	15.5
OREAS 920	1.97	25	0.43	17.05	105	18.1
Target Range - Lower Bound	1.89	21	0.31	15.80	93	17.6
Upper Bound	2.42	28	0.61	19.40	119	25.0
BLANKS						
BLANK	<0.05	<1	<0.05	<0.05	<2	<0.5
Target Range - Lower Bound	<0.05	<1	<0.05	<0.05	<2	<0.5
Upper Bound	0.10	2	0.10	0.10	4	1.0
DUPLICATES						
ORIGINAL	0.86	64	2.94	5.98	67	20.6
DUP	0.87	65	3.51	6.35	68	21.1
Target Range - Lower Bound	0.77	60	2.93	5.81	62	18.8
Upper Bound	0.96	69	3.52	6.52	73	22.9

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: IRON MASK EXPLORATION
1582 CHARTWELL DRIVE
WEST VANCOUVER BC V7S 2S1

Finalized Date: 1-NOV-2021
Account: IROMEX

QC CERTIFICATE OF ANALYSIS VA21240578

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

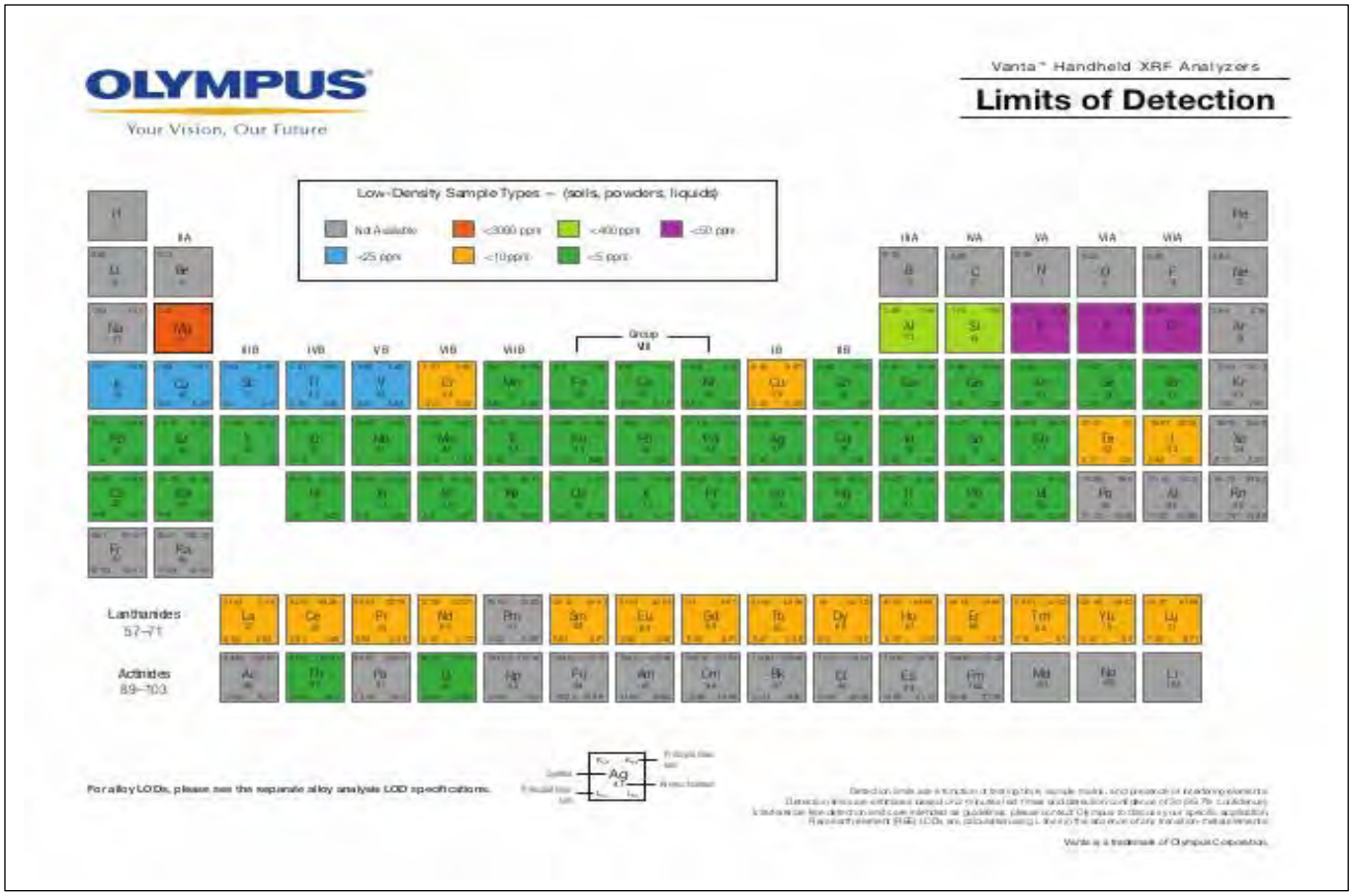
LABORATORY ADDRESSES

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

CRU-31	LOG-21	ME-MS41	PUL-31
PUL-QC	SPL-21	WEI-21	

OLYMPUS VANTA ANALYZER SPECIFICATIONS

Dimensions (W x H x D)	8.3 x 28.9 x 24.2 cm (3.25 x 11.4 x 9.5 in.)
Weight	1.70 kg (3.75 lbs) with battery, 1.48 kg (3.25 lbs) without battery
Excitation Source	4-Watt X-ray tube with application optimized anode material (rhodium (Rh), silver (Ag), or tungsten (W)) M Series (Rh & W) and C Series (Ag): 8-50 kV C Series (Rh & W): 8-40 kV
Detector	M Series: Large area Silicon Drift Detector C Series: Silicon Drift Detector
Power	Removable 14.4 V Li-Ion battery or 18 V power transformer 100-240 VAC, 50-60 Hz, 70 W max
Display	800 x 480 (WVGA) LCD with capacitive touch-screen supporting gesture control
Operating Environment	Temperature: -10 °C to 50 °C (continuous duty cycle with optional fan) Humidity: 10% to 90% relative humidity non-condensing
Drop Test	Military Standard 810-G 4-foot (1.3 M) drop test
IP Rating	IP55*: dust tight and protected against water jets from all directions
Pressure Correction	Built-in barometer for automatic altitude and air density correction
GPS	Embedded GPS/GLONASS receiver
Operating System	Linux
Data Storage	4 GB embedded storage, micro SD slot for expandable storage
USB	(2) USB 2.0 type A host ports for accessories such as Wireless LAN Bluetooth®, and USB flash drives. (1) USB 2.0 type mini-B port for connection to computer
Wireless LAN	Supports 802.11 b/g/n (2.4 GHz) via optional USB adapter
Bluetooth	Supports Bluetooth and Bluetooth Low-Energy via optional USB adapter
Aiming Camera	Full VGA CMOS camera
Panorama Camera	5-megapixel CMOS camera with autofocus lens



Vanta Limits of Detection

AIRBORNE SURVEY REPORT

Precision GeoSurveys

AIRBORNE GEOPHYSICAL SURVEY REPORT

Iron Mask Exploration Ltd.
Junker Survey Block

Dease Lake, British Columbia

Precision GeoSurveys Inc.
www.precisiongeosurveys.com
Hangar 42 Langley Airport
21330 - 56th Ave., Langley, BC
Canada V2Y 0E5
604-484-9402

Jenny Poon, B.Sc., P.Geo.

August 2021
Job# 21138

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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 gradient magnetic survey flown over the Junker survey block for Iron Mask Exploration Ltd. The survey block is located in northern British Columbia (Figure 1) and it was flown on July 12, 2021.

Figure 1: Junker survey area located in northern British Columbia.

1.1 Survey Area

The Junker survey block is centered 207 km southeast of Dease Lake and 285 km southwest of Fort Nelson, British Columbia (Figure 2).

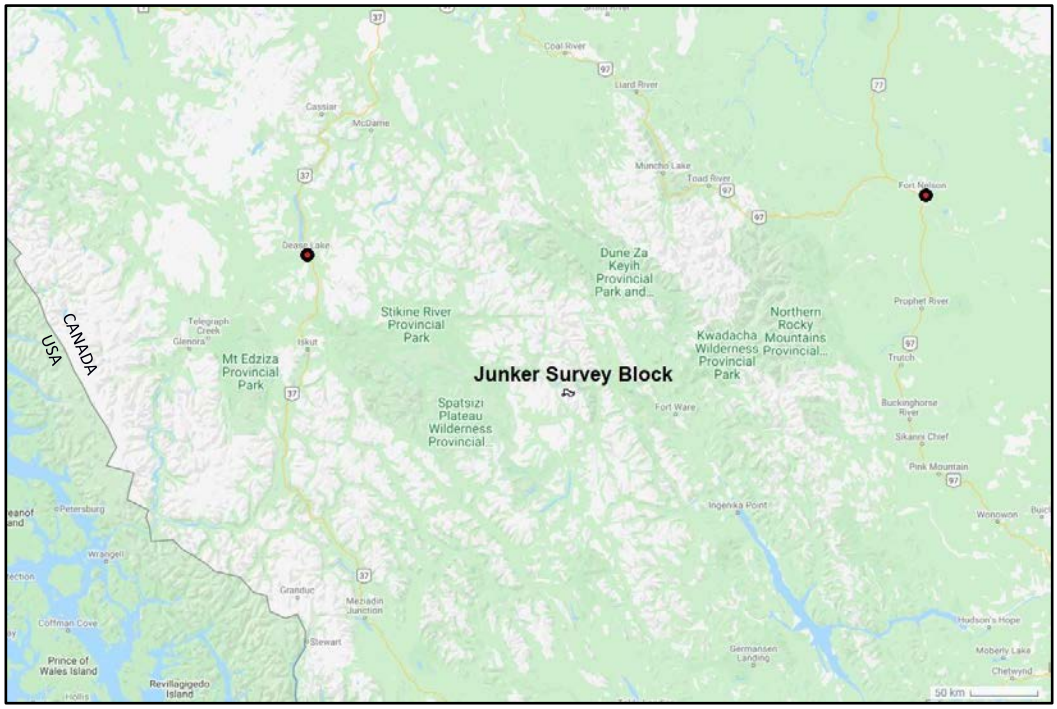


Figure 2: Junker survey block southeast of Dease Lake and southwest of Fort Nelson, British Columbia.

The Junker survey block was flown at 100 m line spacing at a heading of 040°/220°; tie lines were flown at 1000 m spacing at a heading of 130°/310° (Figures 3 and 4).

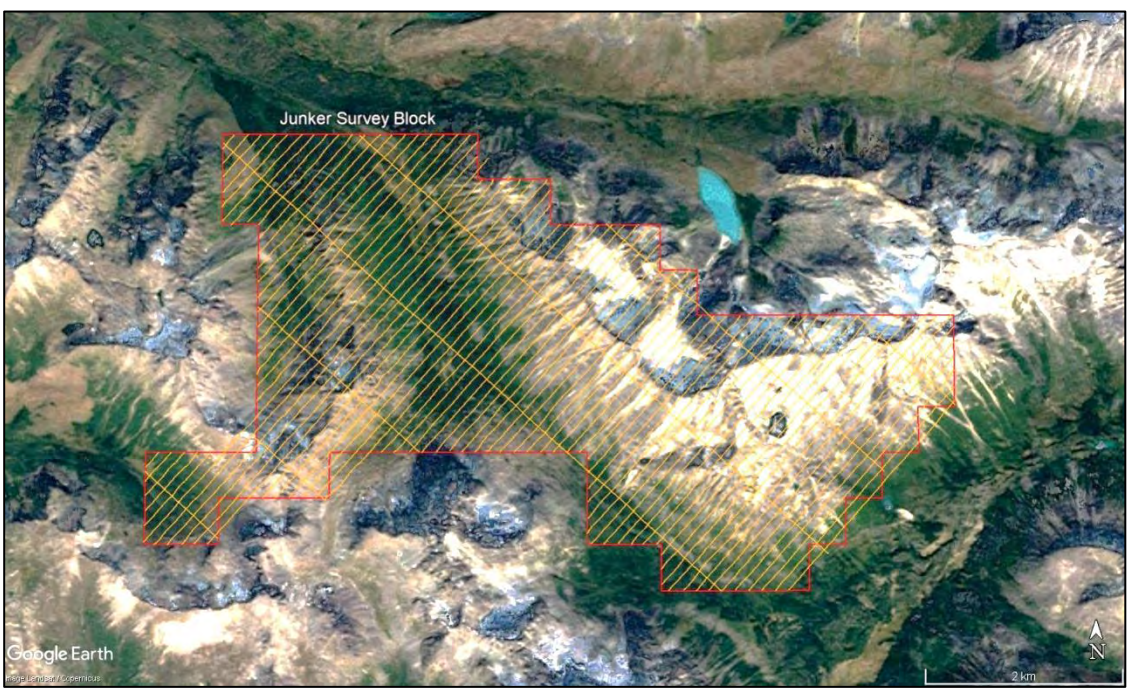


Figure 3: Plan View – Junker survey block with actual flight lines in orange and survey block boundary in red.

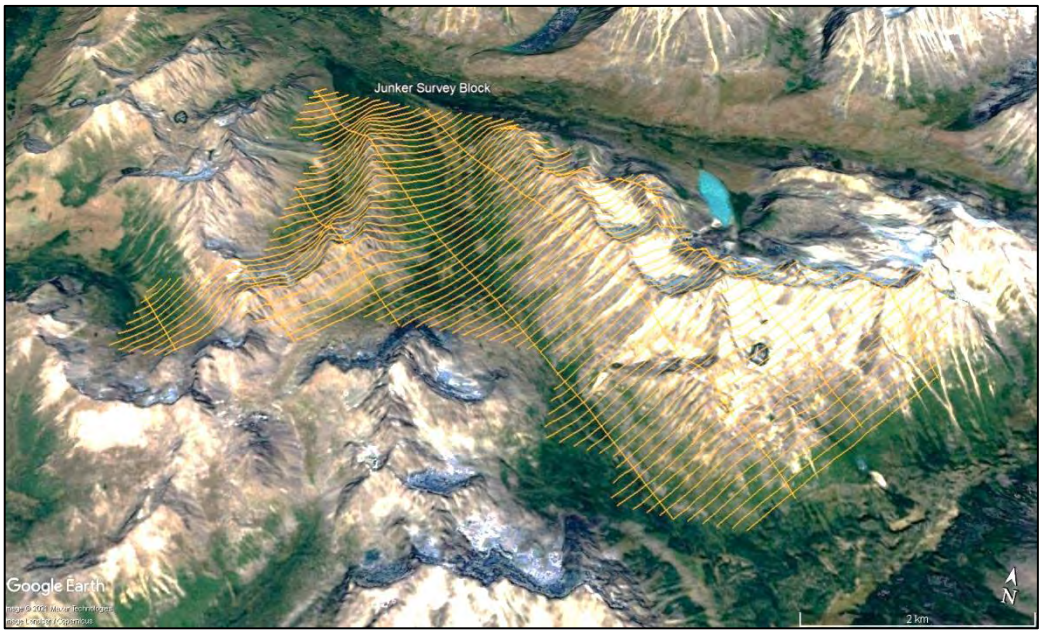


Figure 4: Terrain View – Junker survey block with actual flight lines displayed in orange.

1.2 Survey Specifications

The geodetic system used for the geophysical survey was WGS 84 in UTM Zone 9N. A total of 238 line km was flown (Table 1), including 4 km to retain flight continuity of marginal line segments outside the survey block boundary resulting in an increase of the contracted area of 21.0 km^2 to 21.6 km^2. Polygon coordinates for the Junker 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
Junker	21.0	Survey	75	75	100	040°/220°	210	216
		Tie	7	7	1000	130°/310°	22	22
		Total:	**82**	**82**			**234**	**238**

Table 1: Survey flight line specifications for Junker 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 gradient magnetic 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.

2.1.1 Gradient Magnetic Data

In addition to high resolution total magnetic field data, horizontal magnetic gradient data were collected by using a triple magnetic gradient boom with 3 axis compensation. Direct measurement of the magnetic gradient has the following benefits:

- Enhanced definition of near-surface anomalies.
- Emphasis on short wavelength spatial components of magnetic anomalies from horizontal variations of the gradients.
- Attenuation of long wavelength spatial components associated with regional trends and large scale anomalies.
- Reduction of high frequency temporal variations in the Earth's magnetic field due to micro-pulsations.
- Immunity to temporal magnetic fluctuations.
- Reduction of aircraft/sensor movement errors.

3.0 Aircraft and Equipment

All geophysical and subsidiary equipment were carefully installed on an aircraft by Precision GeoSurveys to collect gradient magnetic 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 5) was equipped with a data acquisition system, GPS navigation system, pilot guidance unit (PGU), laser altimeter, triple magnetic gradient boom system, and a fluxgate magnetometer. A magnetic base station was used to record temporal magnetic variations. Airborne radiometric and VLF-EM data were also collected; however, at client's request, the data were not processed. Technical specifications for the geophysical equipment are provided in Appendix C.

Figure 5: Survey helicopter equipped with three magnetic sensors for gradient magnetic data acquisition.

3.2.1 IMPAC

The Integrated Multi-Parameter Acquisition Console (IMPAC) (Figure 6), 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 6: 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 7).

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.

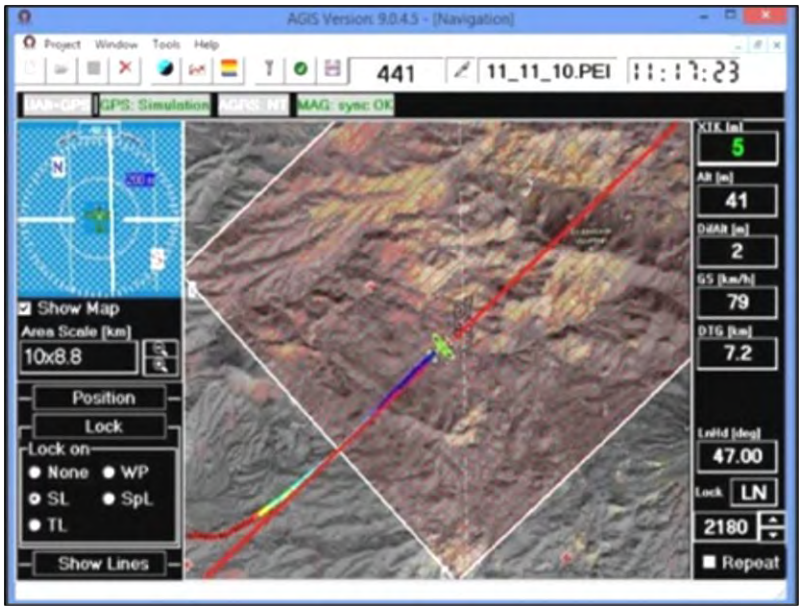


Figure 7: AGIS operator display showing real time flight line recording and navigation parameters. Additional windows display real-time geophysical data to operator.

3.2.2 GPS Navigation System

A Hemisphere R330 GPS receiver (Figure 8) 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 8: 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 9) to assist the pilot in keeping the aircraft on the planned flight path, heading, speed, and at the desired ground clearance.

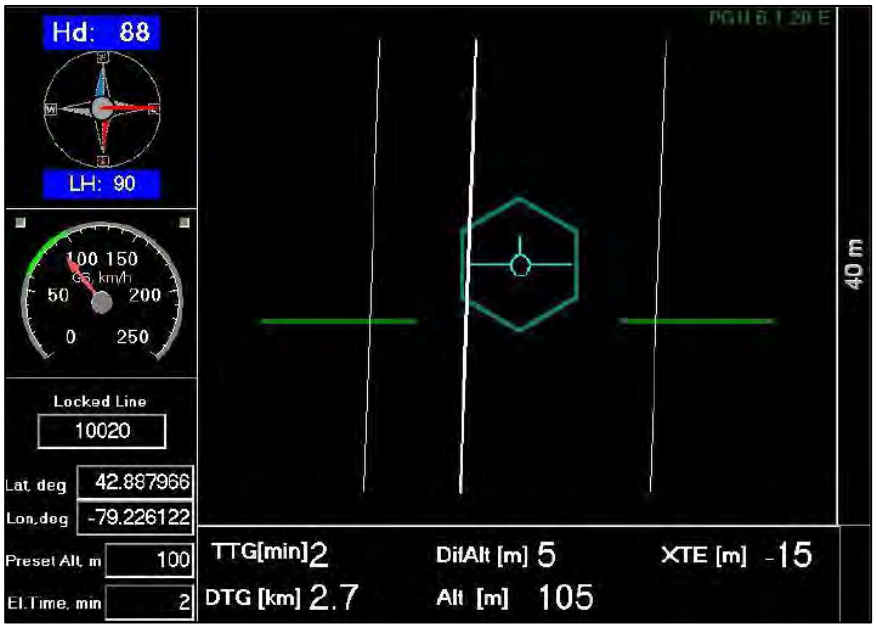


Figure 9: PGU screen displaying navigation information.

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 10) attached to the belly of the forward 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.

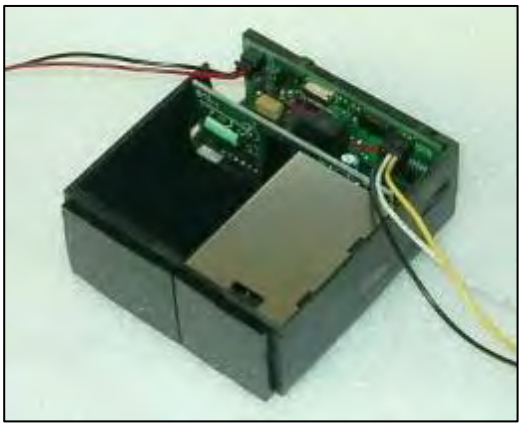


Figure 10: Opti-Logic RS800 Rangefinder laser altimeter.

3.2.5 Magnetic Gradiometer

The primary geophysical technology used on this survey was a magnetic gradiometer system (Figure 11). Three widely-spaced split-beam cesium vapor magnetometers mounted in a non-magnetic and non-conductive triple boom configuration provide total magnetic intensity as well as magnetic gradient in the cross-line (X or lateral or transverse) and in-line (Y or longitudinal) directions (Table 2). The magnetometer sensors were orientated 45 degrees from vertical to couple with local magnetic field at the Junker survey area.

Figure 11: View of triple magnetic boom system.

Magnetometer	Model	Serial No.	Gradient Direction	Separation (m)
Mag 1	Geometrics G-822A	75656	X or Cross-line	11.5
Mag 2	Scintrex CS-3	612211	Total Field and In-line	7.3
Mag 3	Scintrex CS-3	2106649	X or Cross-line	11.5

Table 2: Magnetometer details. Cross-line gradient measured between Mag 1 and Mag 3.

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 12). 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 12: 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 13) 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 13: GEM GSM-19T proton precession magnetometer.

4.0 Survey Operations

The Junker geophysical survey was flown on July 12, 2021. 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 Junker survey was at Dease Lake, British Columbia, southeast of the survey block.

Precision's geophysical crew consisted of three members (Table 3):

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, mapping, and reporting (off-site)

Table 3: 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. A magnetic base station was installed west of the survey block (Table 4; Figures 14 and 15) in an area of low magnetic disturbance away from metallic items such as ferromagnetic objects, vehicles, and power lines that could affect the base stations and ultimately the survey data.

Station Name	Easting/Northing	Latitude/Longitude	Datum/Projection
GEM 5 S/N 1094678	620813 m E 6381467 m N	57°33' 34.2" N 126° 58' 50.4" W	WGS 84, Zone 9N

Table 4: Magnetic base station locations.

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 of length five minutes).

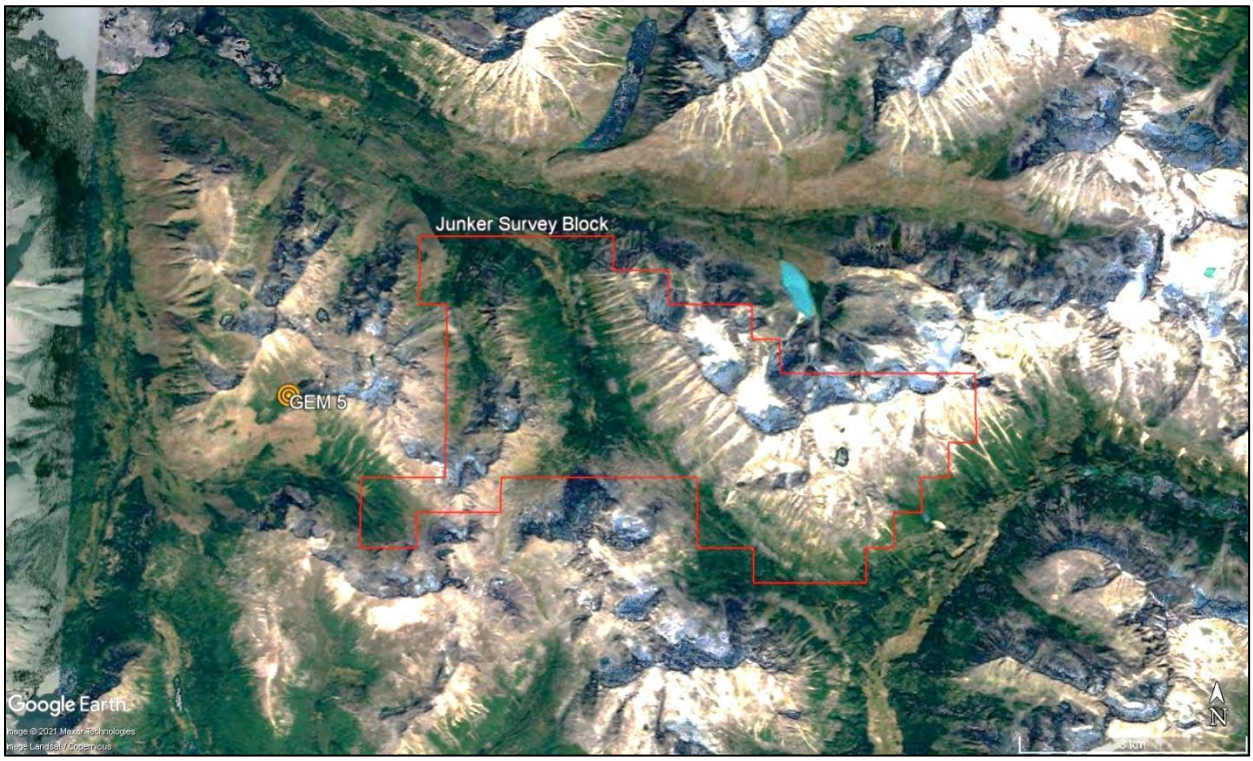


Figure 14: Location of GEM 5 magnetic base stations west of the survey block.

Figure 15: GEM 5 magnetic base station.

4.3 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 9.9.1, the data were inspected to ensure compliance with contract specifications (Table 5; Figures 16 to 18).

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 length 5 minutes.
	Normalized 4th 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.

Table 5: Contract survey specifications.

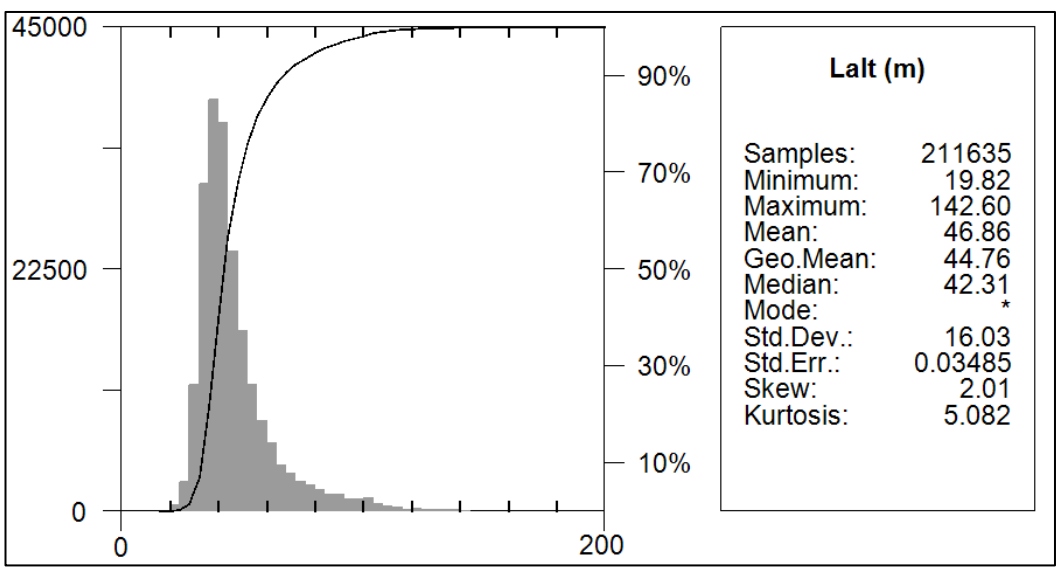


Figure 16: Histogram showing survey elevation vertically above ground.

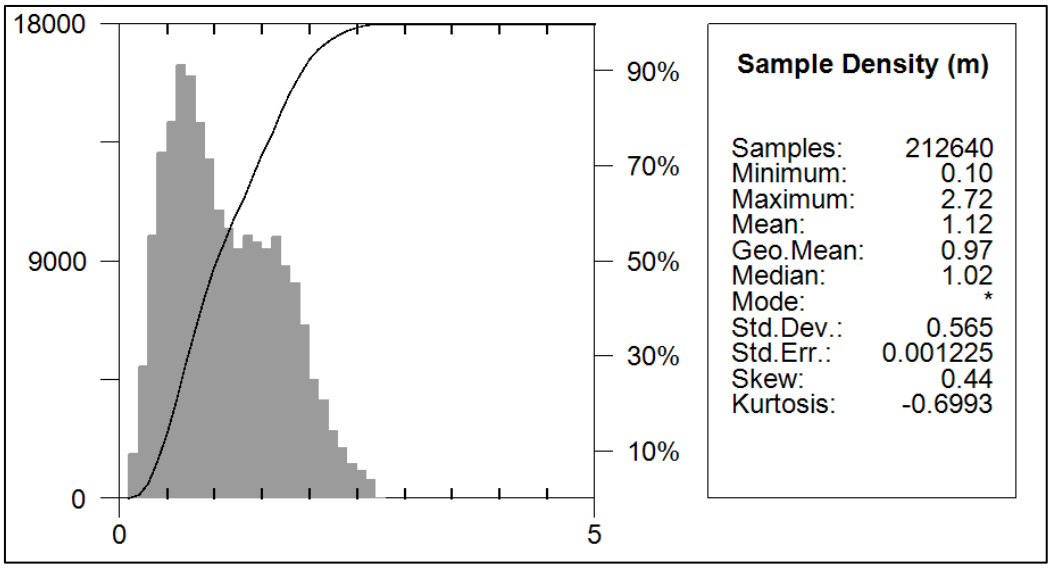


Figure 17: Histogram showing magnetic sample density. Horizontal distance in meters between adjacent measurement locations; magnetic sample frequency 20 Hz.

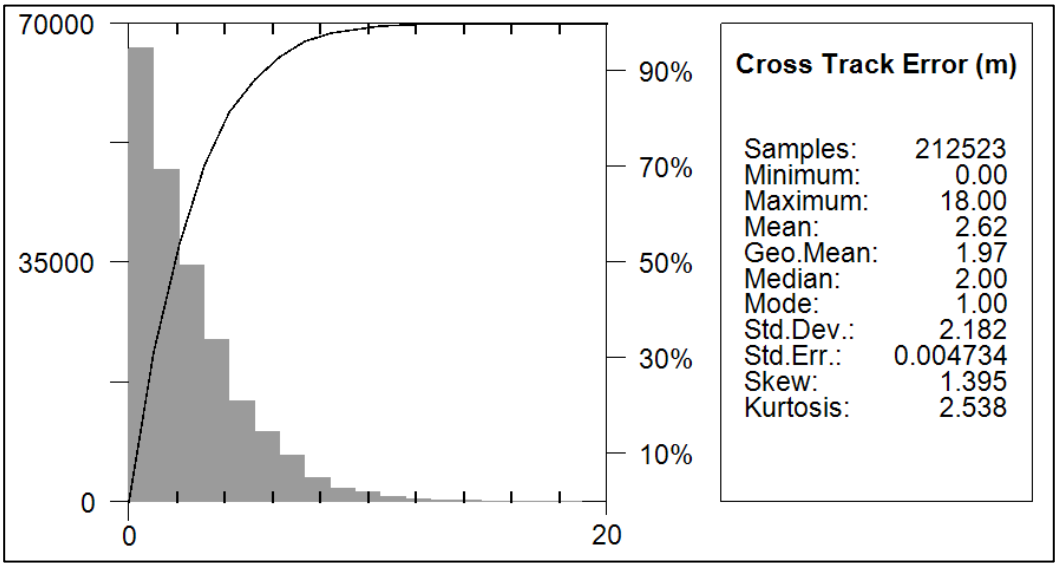


Figure 18: Histogram showing cross track error of survey helicopter.

5.0 Data Acquisition Equipment Checks

Equipment tests and calibrations were conducted for the laser altimeter and magnetometers 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 magnetometers, compensation and heading error test flights were flown.

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 magnetometers 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)
Mag 1	Logging machinery	36	1.80
Mag 2	Logging machinery	42	2.10
Mag 3	Logging machinery	36	1.80
Laser	Sharp gully	18	0.90

Table 6: Survey lag correction values. Magnetic data at 20 Hz; laser altimeter was resampled to 20 Hz.

5.3 Magnetometer Tests

The magnetometers were 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 (040°/130°/220°/310° 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 magnetometers 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 for each of the three magnetometers to remove aircraft noise from survey data. Compensation flight test results are summarized in Appendix B.

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 (040°/130°/220°/310° 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 for each of the magnetometers are summarized in Appendix B.

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 data recorded by the AGIS were converted into Geosoft or ASCII file formats using Nuvia Dynamics software. Further processing (Figure 19) was carried out using Geosoft Oasis Montaj 9.9.1 geophysical processing software along with proprietary processing algorithms.

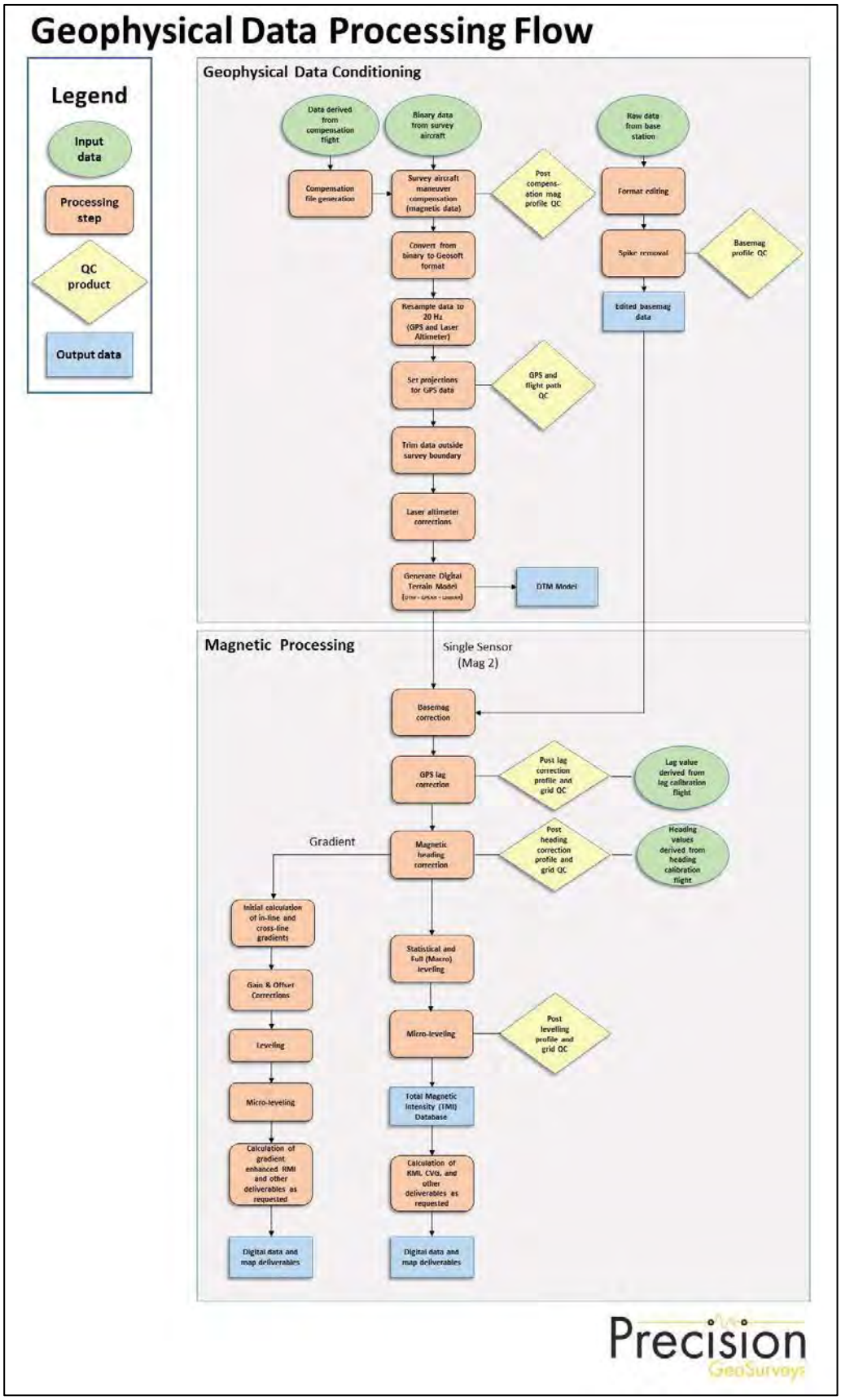


Figure 19: Magnetic data processing flow.

6.1 Position Corrections

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

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 (0.90 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 in 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 from each individual sensor were corrected for temporal variations (including diurnal) and lag. The data were examined for magnetic noise and spikes, which were removed as required. Survey and tie line data of the resulting total magnetic field were leveled and the background magnetic field, International Geomagnetic Reference Field (IGRF) of the Earth was removed to derive the residual magnetic field. Magnetic gradients in the X and Y axes were determined to provide cross-line and in-line gradients, respectively.

6.3.1 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 56621.74 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.

6.3.2 Heading Correction

For each survey heading, changes in the apparent magnetic field due to instrumental heading error are measured and recorded. These values are used to construct a heading table (.TBL) file. For the entire dataset, 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 for each magnetometer.

6.3.3 Leveling and Micro-leveling

Small inconsistencies in flight height and line orientation result in small spatial variabilities in magnetic intensity measured at the intersection points of survey lines and tie lines. Using the initial Total Magnetic Intensity (TMI) data from Mag 2, 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 and full leveling, micro-leveling was applied to the corrected conventional leveled data. This iterative grid-based process removed low amplitude components of flight line

noise that still remained in the data after tie line and survey line leveling and resulted in fully leveled TMI data.

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 leveled Residual Magnetic Intensity (RMI) was calculated by taking the difference between the 13th generation IGRF (IGRF-13, released in December 2019) and the 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.

6.4 Magnetic Gradient

When magnetic values are obtained simultaneously from two or more sensors at a fixed separation, gradient of the magnetic field can be measured. Dividing the difference in magnetic values between the sensors by the distance between the sensors yields the magnetic gradient. The units are commonly reported as nT/m and, by convention, positive magnetic polarity is defined as to the north and east, and negative to the south and west. For vertical gradient, positive is defined as downwards. The sensors and the separations that were used to determine the various gradients are listed in Table 7.

Direction	Sensors	Separation (m)
Lateral (X)	Mag 1 and Mag 3	11.5
Longitudinal (Y)	Sequential TMI values (Mag 2)	1.12*

Table 7: Magnetic sensor relationship used to calculate magnetic gradients. Total magnetic intensity (TMI) was determined from Mag 2, and successive values of the TMI were used to determine the longitudinal (Y axis) gradient.
*average separation between sequential TMI values shown; actual value varied according to aircraft speed.

6.4.1 Horizontal Gradients

Horizontal magnetic gradients were determined in the in-line (Y axis) and cross-line (X axis) directions. Gradients were calculated with respect to the magnetometer array with units provided as nT/m.

In-line gradient (ILG) is determined from successive magnetic values of Mag 2 referenced to the distance between data points in accordance with the following formula:

$$ILG = \frac{a(i+1) - a(i-1)}{d(i+1) + d(i-1)}$$

where: a is the total magnetic intensity of Mag 2
d is the distance between measurements
i is the record number for the location

Cross-line gradient (XLG) was measured directly by dividing the difference between Mag 1 and Mag 3 by the sensor separation in accordance with the following formula:

$$XLG = \frac{\text{Mag 1} - \text{Mag 3}}{d_x}$$

where: d_x is the transverse sensor separation, 11.5 m

Gain corrections were applied to the initial cross-line gradient. If the ratio of the TMI between Mag 1 and Mag 3 does not equal one, a gain correction needs to be applied to account for instrument error and asymmetric magnetic fields. The mean of the ratio between the TMI values for Mag 1 and Mag 3 for each line was calculated and applied to each Mag 3 value along the line. The cross line gradient was then re-calculated from the gain-corrected Mag 3 values.

Offset corrections were then applied to the cross-line gradient to reduce line-to-line errors (striping) in the gradient grid. The resulting data were then micro-leveled to remove any remaining striping.

Total Horizontal Gradient (HG) is the magnitude of the combined in-line and cross-line gradients. It is used to estimate contact locations of magnetic bodies at shallow depths, reveal anomaly textures, and highlight anomaly-pattern discontinuities.

Horizontal Gradient (HG) is calculated as:

$$\text{HG}(x, y) = \sqrt{ILG^2 + XLG^2}$$

where: ILG is the in-line gradient
XLG is the cross-line gradient

6.4.2 Calculation of Vertical Gradient

Calculated Vertical Gradient (CVG) is the first order vertical derivative of the leveled Residual Magnetic Intensity (RMI) data determined from Mag 2. It is the vertical rate of change in the magnetic field per unit distance (m). 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 filter, L, used to produce the nth vertical derivative is described by:

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

where: r is the radial component in the wavenumber domain

6.4.3 Gradient Enhanced Magnetic Intensity

Using the measured gradients (in-line and cross-line directions), the initial enhanced Total Magnetic Intensity (TMIge) was generated. A Butterworth high-pass filter was applied to this initial enhanced TMI to extract the short wavelength signals and a low-pass filter was applied to the measured TMI to extract the long wavelength signals. These wavelengths are then summed together to generate the final enhanced Total Magnetic Intensity. By subtracting the IGRF, the gradient enhanced Residual Magnetic Intensity (RMIge) was generated.

6.4.4 Gradient Enhanced Reduction to Magnetic Pole

Gradient enhanced Reduced to Magnetic Pole (RTPge) data were determined from the gradient enhanced Residual Magnetic Intensity (RMIge) 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.

Inclination and declination were calculated by using the specific date, July 12, 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

7.0 Deliverables

Junker 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 D.

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
- In-Line Gradient (ILG)
- Cross-Line Gradient (XLG)
- Horizontal Gradient (HG) – total magnitude of the horizontal gradients (in-line and cross-line)
- Calculated Vertical Gradient (CVG)
- Gradient enhanced Total Magnetic Intensity (TMIge)
- Gradient enhanced Residual Magnetic Intensity (RMIge) – subtraction of IGRF
- Gradient enhanced Reduced to Magnetic Pole (RTPge) – reduced to magnetic pole of RMIge

Digital magnetic 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

The gradient and gradient enhanced magnetic grids were drawn with a wet-look colour shade and all other magnetic grids were drawn with a histogram-equalized colour shade. All maps were

shaded with the sun illumination inclination at 45° and declination at 045°. DTM grid was drawn with a linear topographic colour scale.

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

Digital maps were created for the Junker survey block. The following map products were prepared:

Overview Maps (colour images with elevation contour lines and topographic features):

- Actual flight lines
- DTM

Magnetic Maps (colour images with elevation contour lines):

- TMI, with actual flight lines and topographic features
- TMI
- RMI
- ILG
- XLG
- HG
- CVG

Gradient Enhanced Magnetic Maps (colour images with elevation contour lines):

- TMIge
- RMIge
- RTPge

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 Junker survey block data.

8.0 Conclusions and Recommendations

The Junker survey resulted in the collection of 238 line km of high resolution gradient magnetic data over one survey block. The data have been processed and plotted on maps as a representation of the magnetic 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 in gridded and derivative-enhanced products or near the survey margins may introduce artifacts and 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 in the Earth. Magnetic patterns correspond to the concentration and distribution of magnetite and other magnetic minerals in the subsurface. 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.

Jenny Poon, P.Geo.
August 2021

Appendix A

Junker Polygon Coordinates

Junker Survey Block – WGS 84 Zone 9N

Latitude (deg N)	Longitude (deg W)	Easting (m)	Northing (m)
57.57900	126.95170	622480	6383689
57.57900	126.90796	625095	6383769
57.57483	126.90795	625110	6383305
57.57483	126.89545	625857	6383328
57.57066	126.89546	625871	6382864
57.57066	126.87670	626993	6382899
57.56650	126.87671	627007	6382435
57.56650	126.87045	627381	6382447
57.56233	126.87045	627396	6381983
57.56233	126.82671	630012	6382066
57.55399	126.82670	630042	6381138
57.55399	126.83295	629668	6381126
57.54983	126.83295	629683	6380663
57.54983	126.83920	629309	6380651
57.54566	126.83920	629324	6380187
57.54566	126.84545	628950	6380175
57.54150	126.84546	628964	6379712
57.54150	126.85171	628590	6379700
57.53733	126.85170	628605	6379236
57.53733	126.87672	627108	6379189
57.54150	126.87671	627094	6379653
57.54150	126.88921	626346	6379630
57.54983	126.88921	626317	6380557
57.54984	126.93296	623699	6380477
57.54567	126.93297	623713	6380013
57.54567	126.95172	622591	6379979
57.54151	126.95172	622605	6379516
57.54150	126.96421	621857	6379493
57.54984	126.96420	621830	6380421
57.54983	126.94547	622951	6380454
57.57067	126.94546	622881	6382773
57.57067	126.95170	622508	6382762

Appendix B

Calibration Results

- Compensation Test Flight
- Heading Correction Test Flight

Compensation Test Flight:

Pre-Compensation (nT)					Post-Compensation (nT)				
Heading	**Roll**	**Pitch**	**Yaw**	**Total**	**Heading**	**Roll**	**Pitch**	**Yaw**	**Total**
040°	0.5976	0.3395	0.2616	1.1987	040°	0.2143	0.2338	0.1970	0.6451
130°	0.6981	0.3316	0.4253	1.4550	130°	0.1658	0.1725	0.2073	0.5456
220°	0.7153	0.3296	0.3764	1.4213	220°	0.2798	0.1893	0.2488	0.7179
310°	1.1820	0.4533	0.3866	2.0219	310°	0.2562	0.3160	0.2943	0.8665
				FOM = 6.0969					**FOM = 2.7751**

Results of compensation flight for Mag 1.

Pre-Compensation (nT)					Post-Compensation (nT)				
Heading	**Roll**	**Pitch**	**Yaw**	**Total**	**Heading**	**Roll**	**Pitch**	**Yaw**	**Total**
040°	0.3701	0.8095	0.2482	1.4278	040°	0.1263	0.1571	0.1333	0.4167
130°	0.2485	0.3621	0.3224	0.9330	130°	0.1527	0.1602	0.1878	0.5007
220°	0.2181	0.2045	0.1793	0.6019	220°	0.1609	0.1140	0.1453	0.4202
310°	0.2301	0.4445	0.2367	0.9113	310°	0.1284	0.1335	0.1117	0.3736
				FOM = 3.8740					**FOM = 1.7112**

Results of compensation flight for Mag 2.

Pre-Compensation (nT)					Post-Compensation (nT)				
Heading	**Roll**	**Pitch**	**Yaw**	**Total**	**Heading**	**Roll**	**Pitch**	**Yaw**	**Total**
040°	1.0061	0.5827	0.2417	1.8305	040°	0.2610	0.2322	0.2055	0.6987
130°	0.5463	0.4365	0.3126	1.2954	130°	0.1692	0.1856	0.2186	0.5734
220°	0.8991	0.3936	0.5421	1.8348	220°	0.3132	0.2122	0.2674	0.7928
310°	1.4428	0.5618	0.4275	2.4321	310°	0.2768	0.3529	0.2987	0.9284
				FOM = 7.3928					**FOM = 2.9933**

Results of compensation flight for Mag 3.

Heading Correction Test Flight:

Heading	Mag 1 Heading Correction (nT)	Mag 2 Heading Correction (nT)	Mag 3 Heading Correction (nT)
040°	-10.2675	-3.49	-19.2775
130°	-19.4475	0.05	-16.6875
220°	12.7925	-0.41	14.6225
310°	16.9225	3.85	21.3425
Total:	**0.0000**	**0.0000**	**0.0000**

Appendix C

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
- Geometrics G-822A Survey Magnetometer
- Billingsley TFM100G2 Ultra Miniature Triaxial Fluxgate Magnetometer
- 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

Geometrics G-822A Magnetometer

Operating Principal	Self-oscillating split-beam Cesium Vapor (non-radioactive ^{133}Cs)
Operating Range	20,000 nT to 100,000 nT
Operating Zones	Earth's field vector should be at an angle greater than 6° from the sensor's equator and greater than 6° away from the sensor's long axis.
Hemisphere Switching	Automatic
Sensitivity	<0.0005 nT √Hz rms.
Noise Envelope	Typically 0.002 nT peak to peak at a 0.1 second sample rate (90% of all readings falling within the peak to peak envelope) using a 822A super-counter
Heading Error	<0.15 nT over entire 360° polar and equatorial spin
Absolute Accuracy	Better than 3 nT throughout range
Output	Cycle of Larmor frequency = 3.498572 Hz/nT, RS-232 data at 9600 baud, concatenated data streams from up to 6 sensors
Sensor Head	Diameter: 60.32 mm (2.375") Length: 158.75 mm (6.25") Weight: 680 g (24 oz)
Sensor Electronics	Diameter: 63.5 mm (2.5") Length: 279.4 mm (11") Weight: 680 g (24 oz)
Cable, Sensor to Electronics	Standard: 2.77 m (109") Cable length can be increased by 1.10 m (43") for a total length of 3.87 m (152")
Cable, Sensor Electronics to Counter	Standard: 10 m (33') Cable length can be increased up to 50 m (164')
Operating Temperature	-35°C to +50°C (-30°F to +122°F)
Storage Temperature	-45°C to +70°C (-48°F to +158°F)
Altitude	Up to 9,000 m (30,000 ft)
Water Tight	Sealed for up to 0.9 m (2 ft) water depth
Supply Power	24 to 35 VDC, 0.75 amp at turn-on and 0.5 amp thereafter

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

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 D

Digital File Descriptions

- Magnetic Database
- Geosoft Grids
- Maps

Magnetic 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
Mag1_Head	nT	Mag 1 – Diurnal, lag, and heading corrected
Mag2_Head	nT	Mag 2 – Diurnal, lag, and heading corrected
Mag3_Head	nT	Mag 3 – Diurnal, lag, and heading corrected
TMI	nT	Total Magnetic Intensity (Mag 2)
RMI	nT	Residual Magnetic Intensity (Mag 2)
ILG	nT/m	In-Line Gradient (Mag 2)
XLG	nT/m	Cross-Line Gradient (Mag 1 and Mag 3)
HG	nT/m	Total horizontal gradient (in-line and cross-line)
TMIge	nT	Gradient enhanced Total Magnetic Intensity
RMIge	nT	Gradient enhanced Residual Magnetic Intensity

Grids:

Junker, WGS 84 Zone 9N, cell size at 25 m

FILE NAME	DESCRIPTION
21138_Junker_DTM_25m.grd	Digital Terrain Model gridded at 25 m cell size
21138_Junker_TMI_25m.grd	Total Magnetic Intensity gridded at 25 m cell size
21138_Junker_RMI_25m.grd	Residual Magnetic Intensity gridded at 25 m cell size
21138_Junker_ILG_25m.grd	Measured In-Line Gradient (Mag 1 and Mag 2) gridded at 25 m cell size
21138_Junker_XLG_25m.grd	Measured Cross-Line Gradient (Mag 1 and Mag 2) gridded at 25 m cell size
21138_Junker_HG_25m.grd	Total Horizontal Gradient (in-line and cross-line) gridded at 25 m cell size
21138_Junker_CVG_25m.grd	Calculated Vertical Gradient of RMI gridded at 25 m cell size
21138_Junker_TMIge_25m.grd	Gradient enhanced Total Magnetic Intensity (in-line and cross-line gradients) gridded at 25 m cell size
21138_Junker_RMIge_25m.grd	Gradient enhanced Residual Magnetic Intensity (in-line and cross-line gradients) gridded at 25 m cell size
21138_Junker_RTPge_25m.grd	Gradient enhanced Reduced to Magnetic Pole of RMIge gridded at 25 m cell size

*Grids are exported as Geotiffs (.tiff)

Maps:

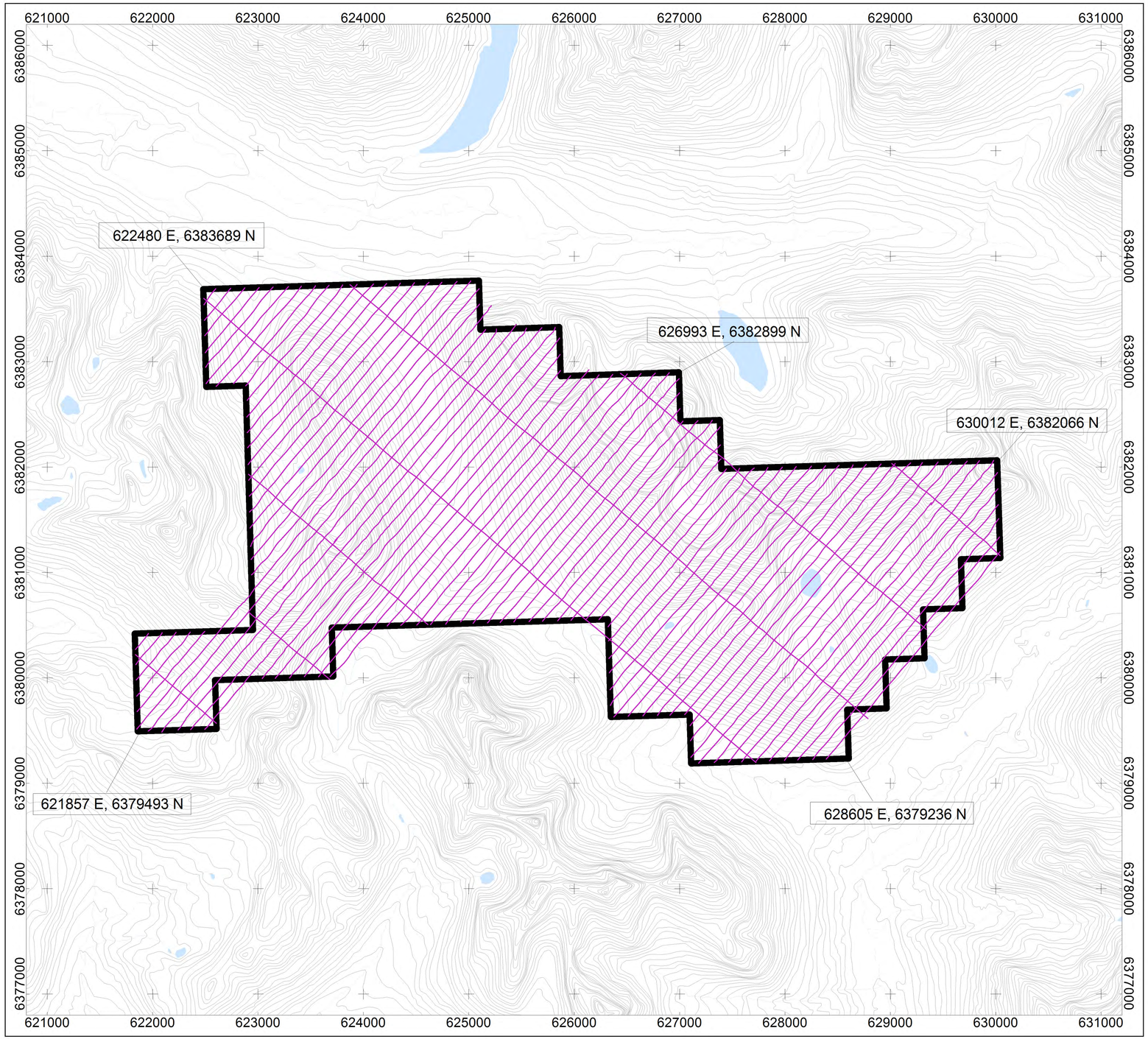
Junker, WGS 84 Zone 9N (jpegs, pdfs, and georeferenced pdf)

Plate Number	Plate Name	FILE NAME	DESCRIPTION
1	FL	21138_Junker_ActualFlightLines	Plotted actual flown flight lines
2	DTM	21138_Junker_DTM_25m	Digital Terrain Model gridded at 25 m cell size
3	TMI_wFL	21138_Junker_TMI_wFL_25m	Total Magnetic Intensity gridded at 25 m cell size with actual flown flight lines
4	TMI	21138_Junker_TMI_25m	Total Magnetic Intensity gridded at 25 m cell size
5	RMI	21138_Junker_RMI_25m	Residual Magnetic Intensity gridded at 25 m cell size
6	ILG	21138_Junker_ILG_25m	Measured In-Line Gradient gridded at 25 m cell size
7	XLG	21138_Junker_XLG_25m	Measured Cross-Line Gradient gridded at 25 m cell size
8	HG	21138_Junker_HG_25m	Total Horizontal Gradient gridded at 25 m cell size
9	CVG	21138_Junker_CVG_25m	Calculated Vertical Gradient of RMI gridded at 25 m cell size
10	TMIge	21138_Junker_TMIge_25m	Gradient enhanced Total Magnetic Intensity gridded at 25 m cell size
11	RMIge	21138_Junker_RMIge_25m	Gradient enhanced Residual Magnetic Intensity gridded at 25 m cell size
12	RTPge	21138_Junker_RTPge_25m	Gradient enhanced Reduced to Magnetic Pole of RMIge gridded at 25 m cell size

Plates

Junker Survey Block

- Plate 1: Junker – Actual Flight Lines (FL)
- Plate 2: Junker – Digital Terrain Model (DTM)
- Plate 3: Junker – Total Magnetic Intensity with Actual Flight Lines (TMI_wFL)
- Plate 4: Junker – Total Magnetic Intensity (TMI)
- Plate 5: Junker – Residual Magnetic Intensity (RMI)
- Plate 6: Junker – In-Line Gradient (ILG)
- Plate 7: Junker – Cross-Line Gradient (XLG)
- Plate 8: Junker – Horizontal Gradient (HG)
- Plate 9: Junker – Calculated Vertical Gradient (CVG) of RMI
- Plate 10: Junker – Gradient Enhanced Total Magnetic Intensity (TMIge)
- Plate 11: Junker – Gradient Enhanced Residual Magnetic Intensity (RMIge)
- Plate 12: Junker – Gradient Enhanced Reduced to Magnetic Pole (RTPge) of RMIge



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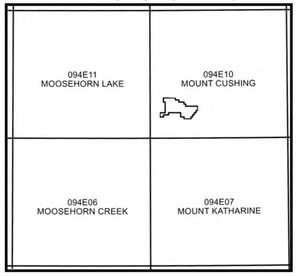
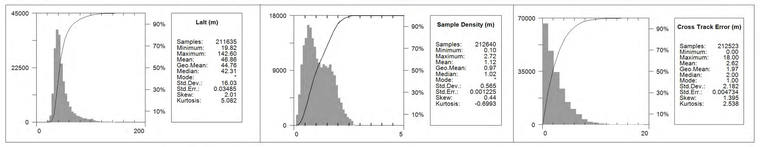
(meters)

WGS 84 / UTM zone 9N

National Topographic System





MAP PROJECTION

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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Water Bodies.....
Elevation Contours, 20 m Intervals.....
Junker 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]

Iron Mask Exploration Ltd.

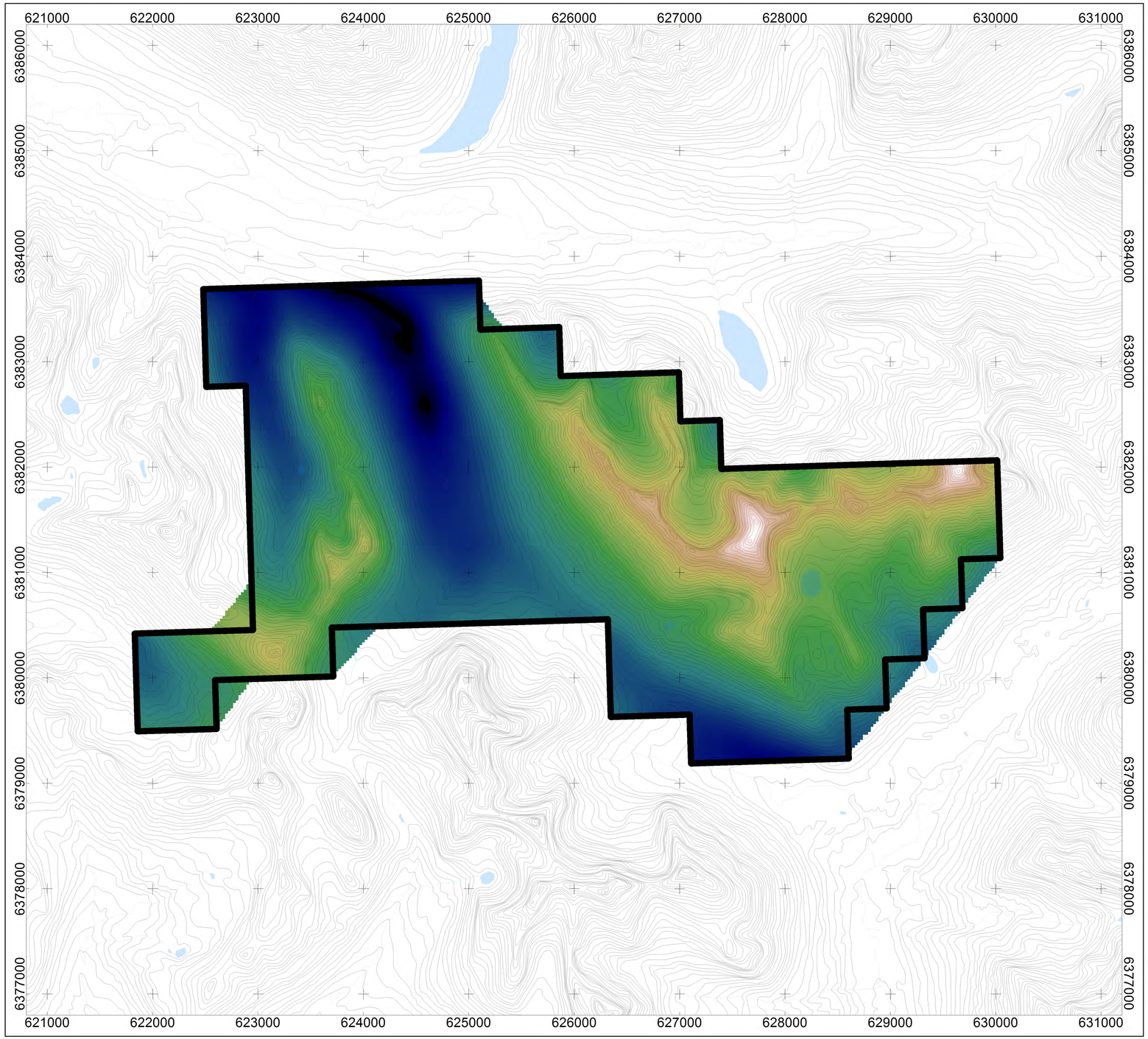
Junker Survey Block

Overview Map
Actual Flight Lines

Precision GeoSurveys

Job #21138
August 12, 2021

Plate 1
FL



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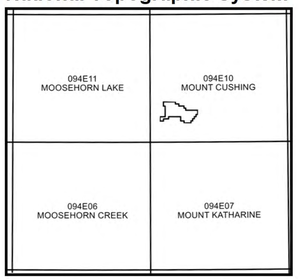
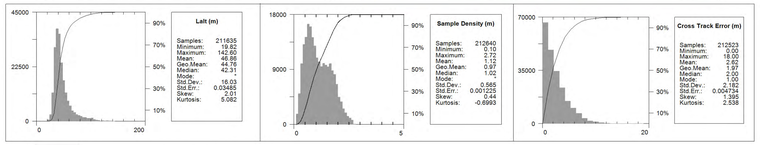
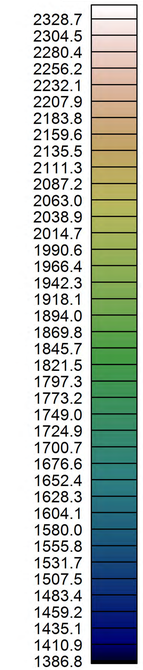
(meters)

WGS 84 / UTM zone 9N

National Topographic System







MAP PROJECTION

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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Water Bodies.....

Elevation Contours, 20 m Intervals.....

Junker 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]

Iron Mask Exploration Ltd.

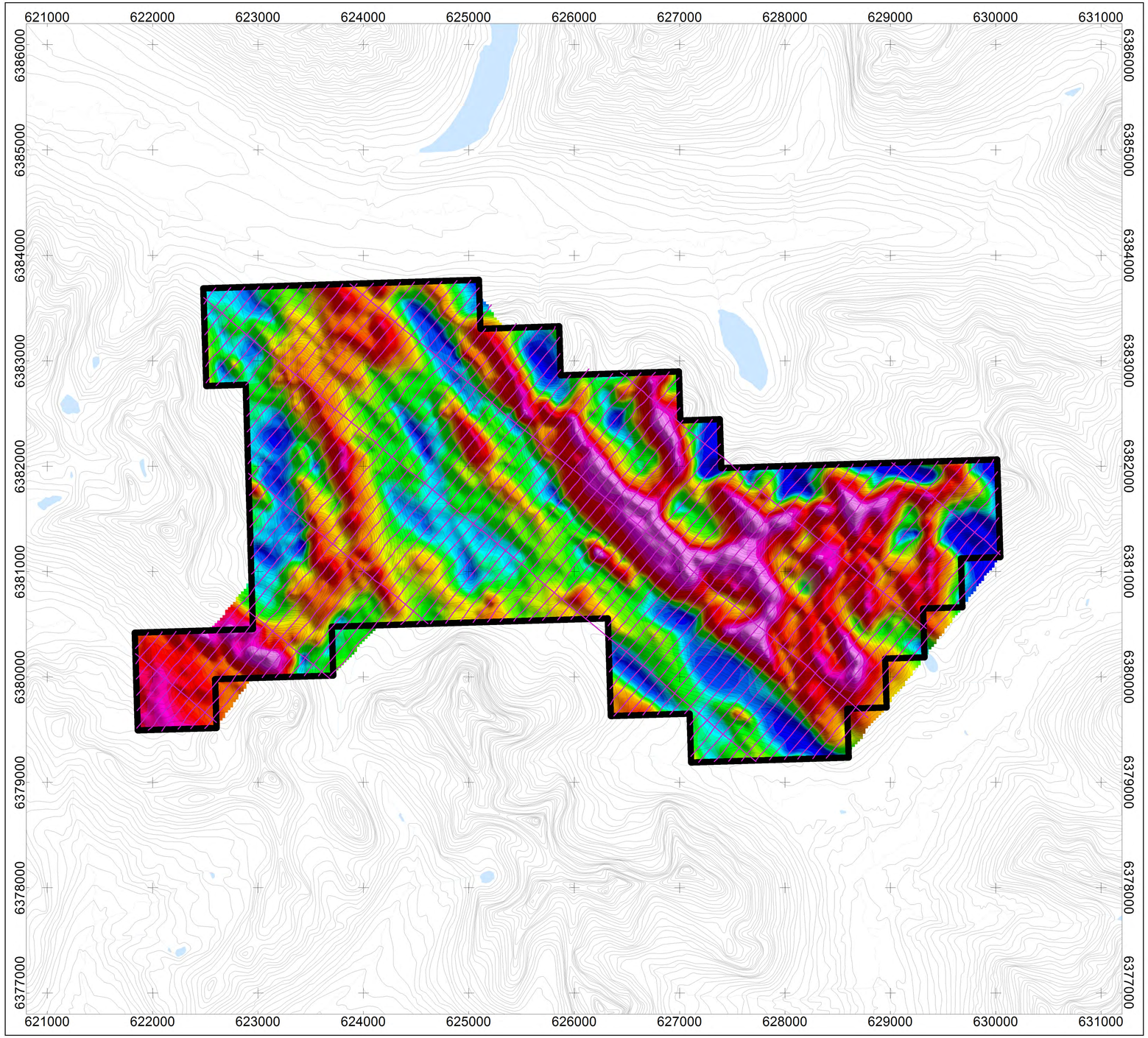
Junker Survey Block

Overview Map
Digital Terrain Model

Precision GeoSurveys

Job #21138
August 12, 2021

Plate 2
DTM



Scale 1:20000

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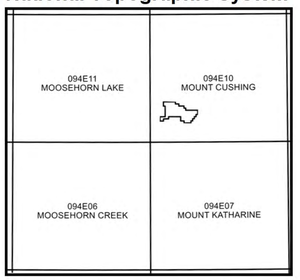
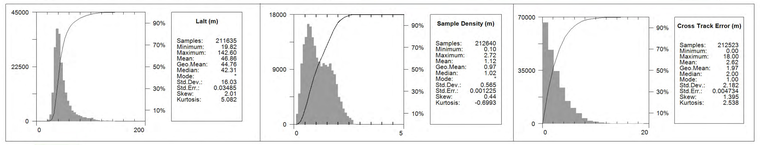
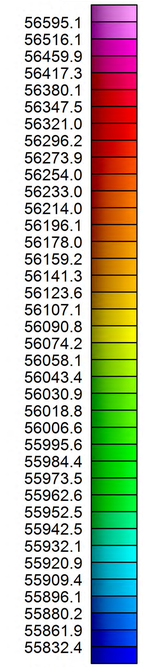
(meters)

WGS 84 / UTM zone 9N

National Topographic System







MAP PROJECTION

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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Water Bodies.....
Elevation Contours, 20 m Intervals.....
Junker Survey Block Boundary.....
Actual Flight Lines.....

DATA REFERENCE

Magnetic data from Mag 2 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]

Iron Mask Exploration Ltd.

Junker Survey Block

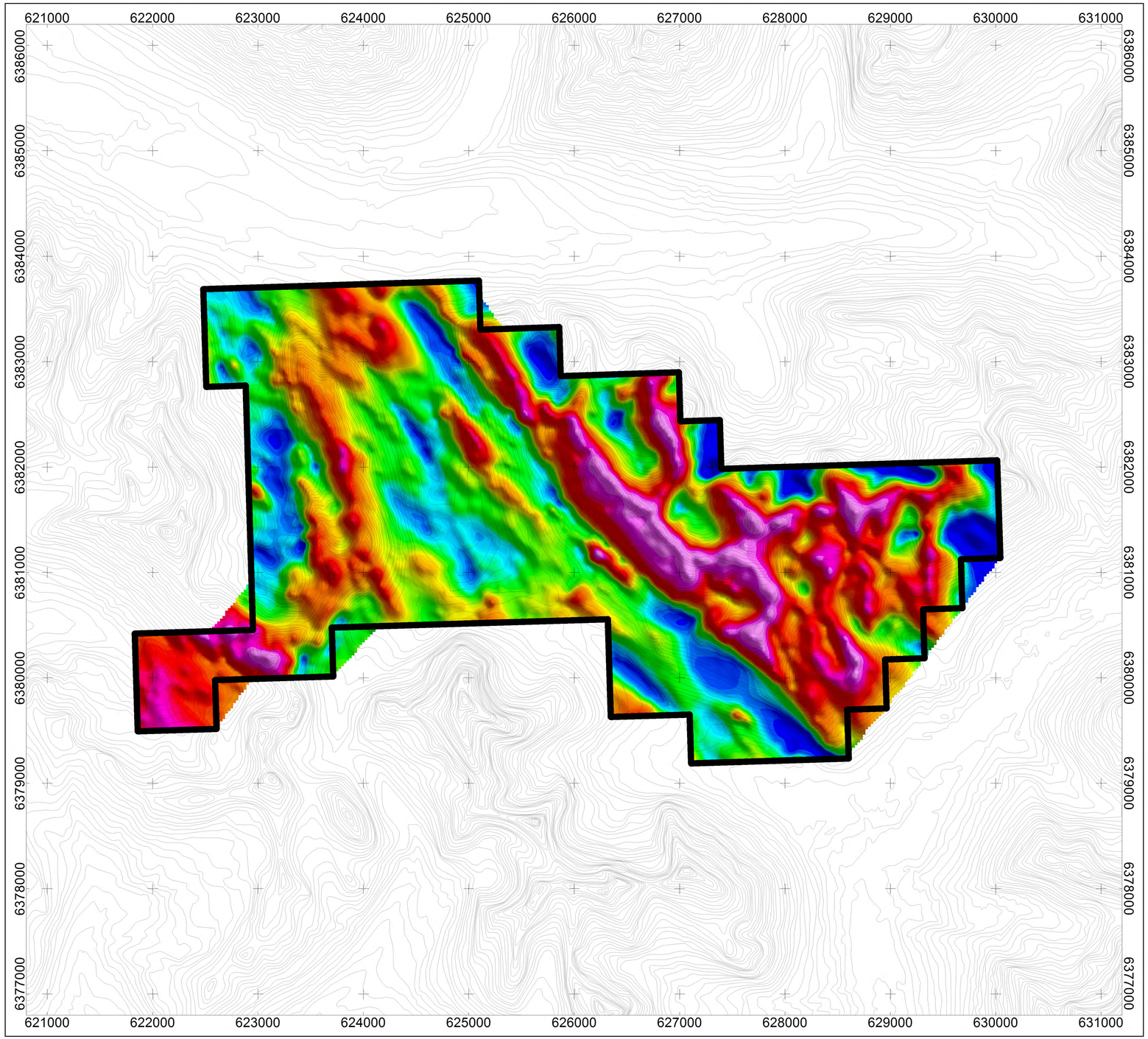
Magnetic Map

Total Magnetic Intensity with Actual Flight Lines

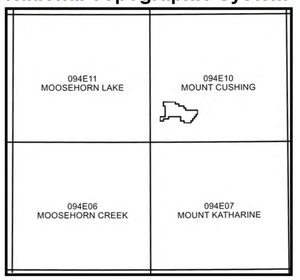
Precision GeoSurveys

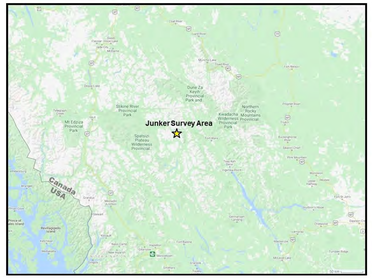
Job #21138
August 12, 2021

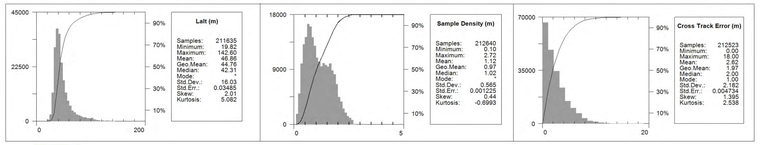
Plate 3
TMI_wFL

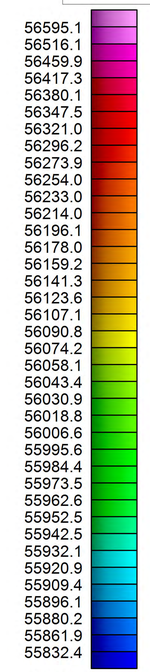


National Topographic System









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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Elevation Contours, 20 m Intervals.....

Junker Survey Block Boundary.....

DATA REFERENCE
Magnetic data from Mag 2 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]

Iron Mask Exploration Ltd.

Junker Survey Block

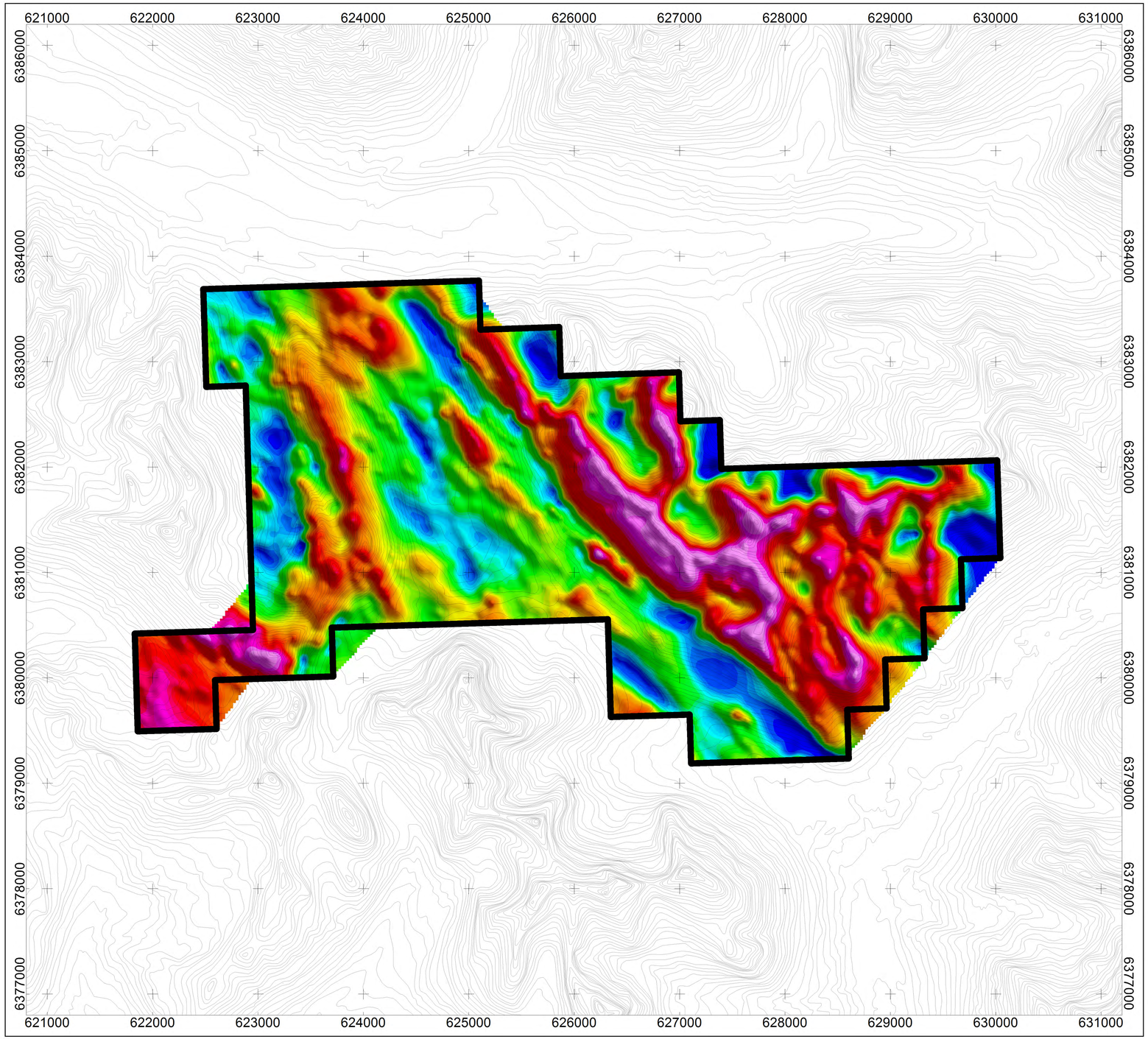
Magnetic Map
Total Magnetic Intensity

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

Precision GeoSurveys

Job #21138
August 12, 2021

Plate 4
TMI



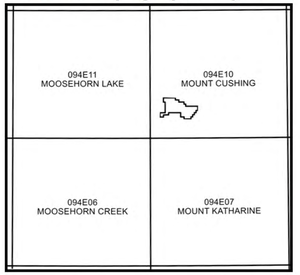
Scale 1:20000

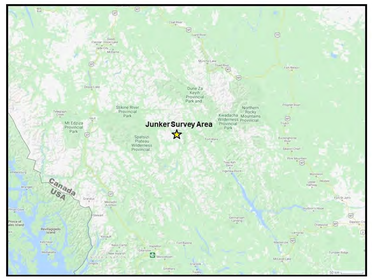
250 0 250 500 750 1000 1250 1500

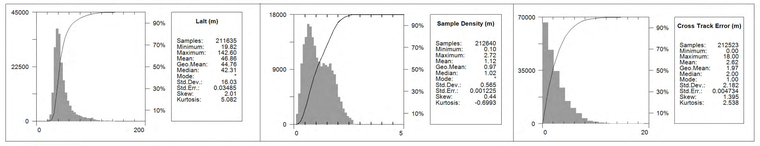
(meters)

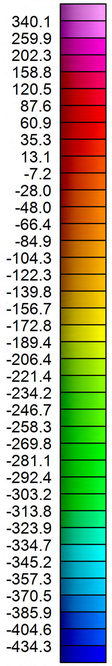
WGS 84 / UTM zone 9N

National Topographic System









MAP PROJECTION

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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium
	1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Elevation Contours, 20 m Intervals.....

Junker Survey Block Boundary.....

DATA REFERENCE

Residual Magnetic Intensity (RMI) is derived 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]

Iron Mask Exploration Ltd.

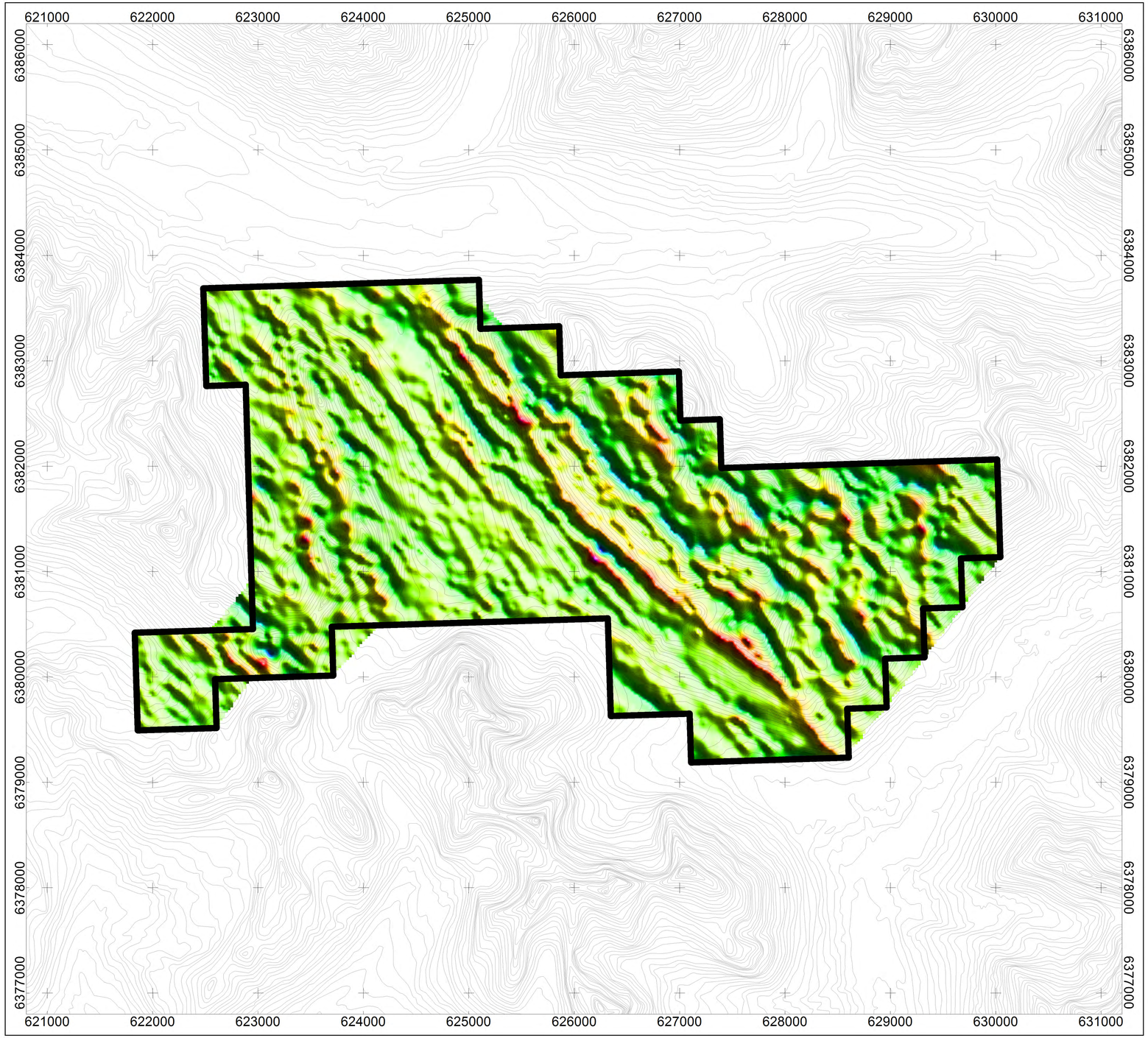
Junker Survey Block

Magnetic Map
Residual Magnetic Intensity

Precision GeoSurveys

Job #21138
August 12, 2021

Plate 5
RMI



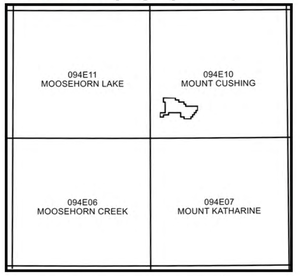
Scale 1:20000

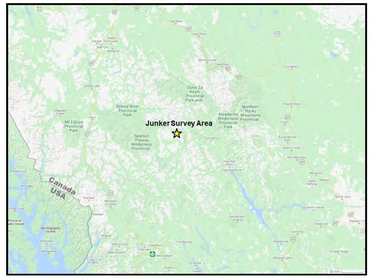
250 0 250 500 750 1000 1250 1500

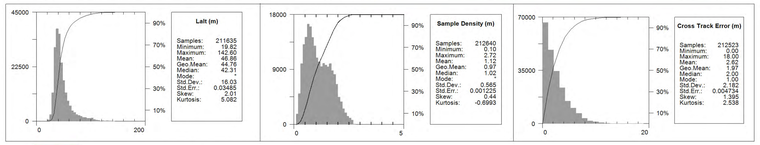
(meters)

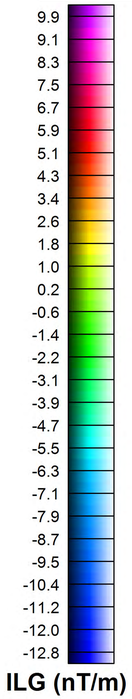
WGS 84 / UTM zone 9N

National Topographic System









MAP PROJECTION

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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Elevation Contours, 20 m Intervals.....

Junker Survey Block Boundary.....

DATA REFERENCE

In-Line Gradient (ILG) is determined from successive measurements of Mag 2 along a flight line. Refer to report for details. ILG is represented as a grid and drawn with a linear 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]

Iron Mask Exploration Ltd.

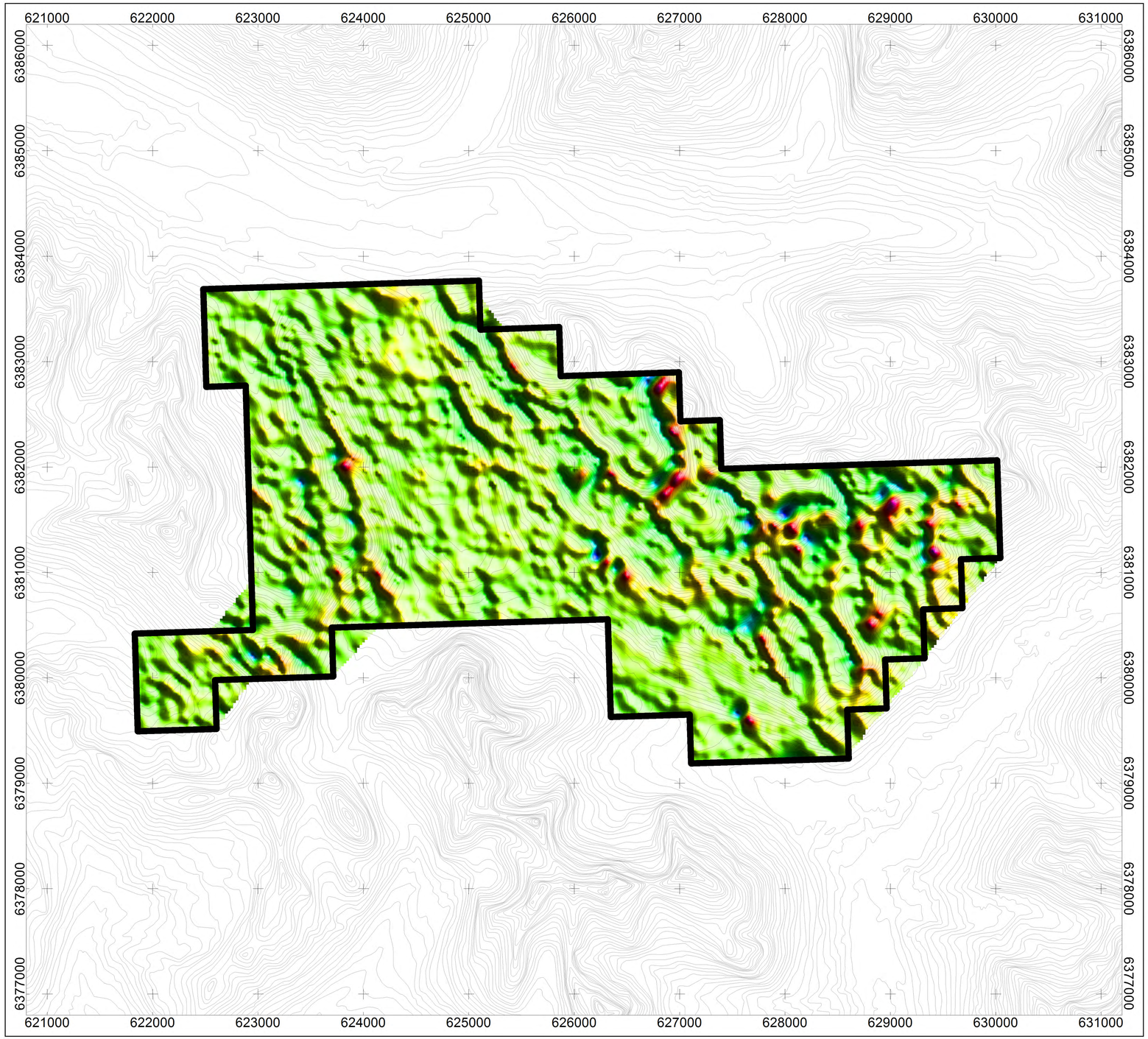
Junker Survey Block

Magnetic Map
In-Line Gradient

Precision GeoSurveys

Job #21138
August 12, 2021

Plate 6
ILG



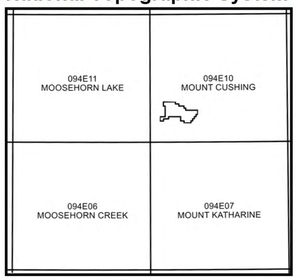
Scale 1:20000

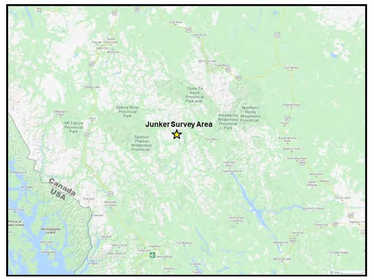
250 0 250 500 750 1000 1250 1500

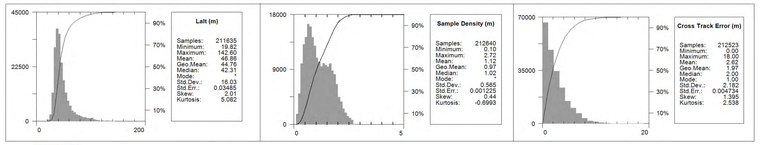
(meters)

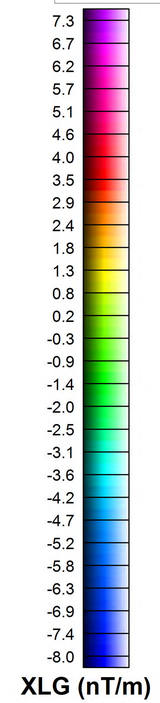
WGS 84 / UTM zone 9N

National Topographic System









MAP PROJECTION

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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Elevation Contours, 20 m Intervals.....

Junker Survey Block Boundary.....

DATA REFERENCE

Cross-Line Gradient (XLG) is the difference between Mag 1 and Mag 3 divided by the sensor separation. Refer to report for details. XLG is represented as a grid and drawn with a linear 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]

Iron Mask Exploration Ltd.

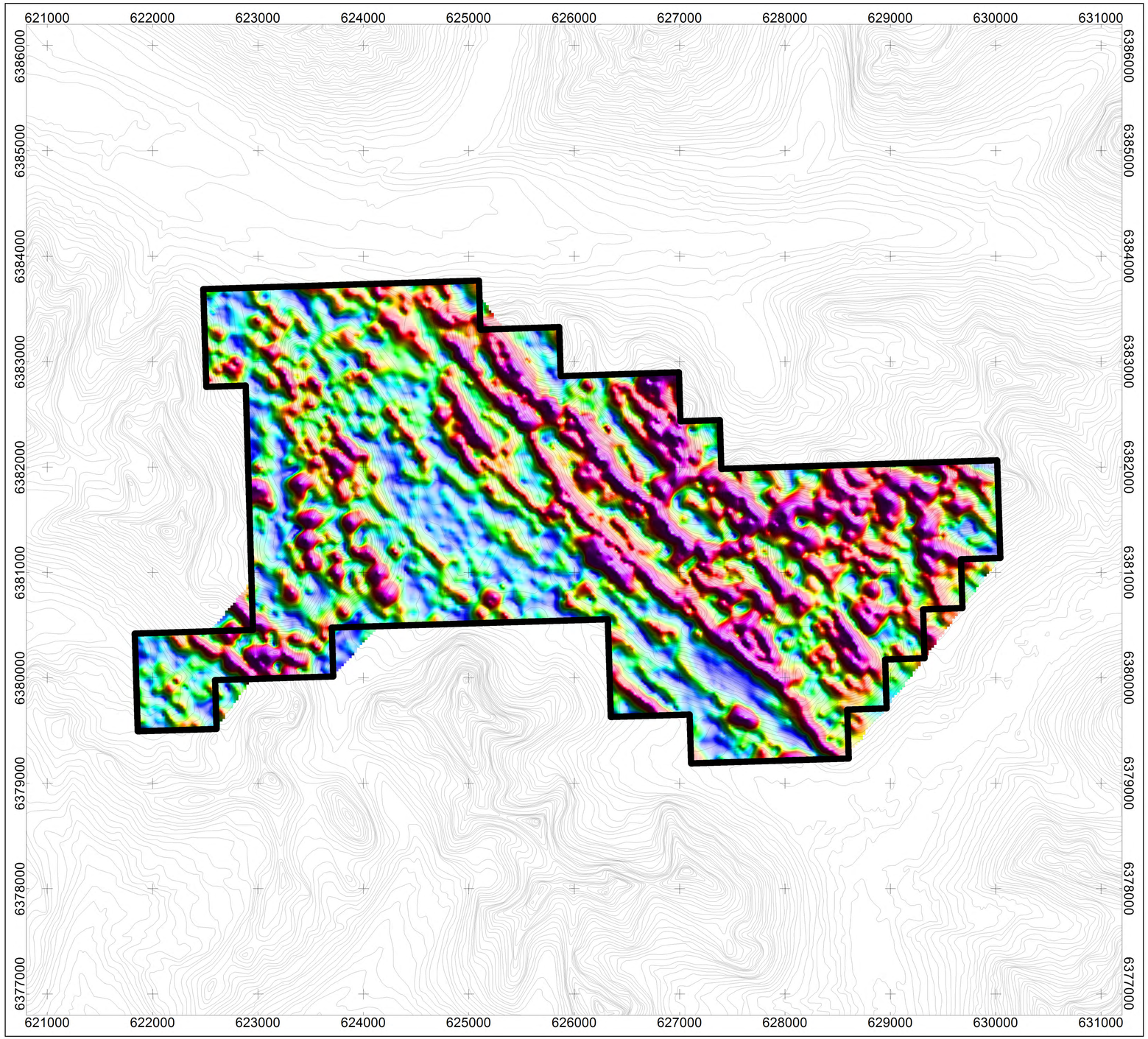
Junker Survey Block

Magnetic Map
Cross-Line Gradient

Precision GeoSurveys

Job #21138
August 12, 2021

Plate 7
XLG



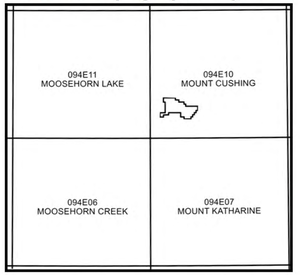
Scale 1:20000

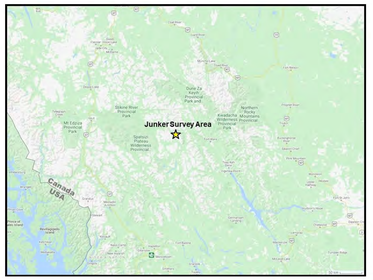
250 0 250 500 750 1000 1250 1500

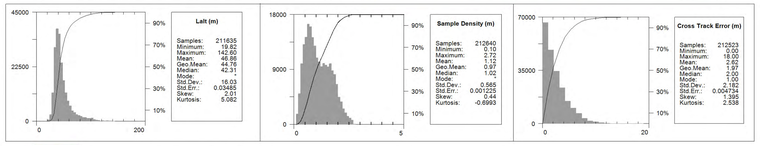
(meters)

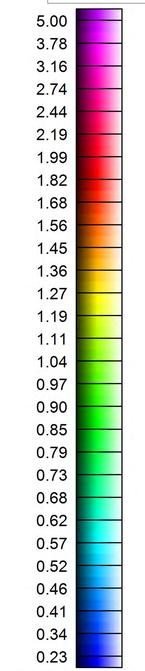
WGS 84 / UTM zone 9N

National Topographic System









MAP PROJECTION

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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Elevation Contours, 20 m Intervals.....

Junker Survey Block Boundary.....

DATA REFERENCE

Horizontal Gradient (HG) is the magnitude of the measured in-line and cross-line gradients. Refer to report for details. HG 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]

Iron Mask Exploration Ltd.

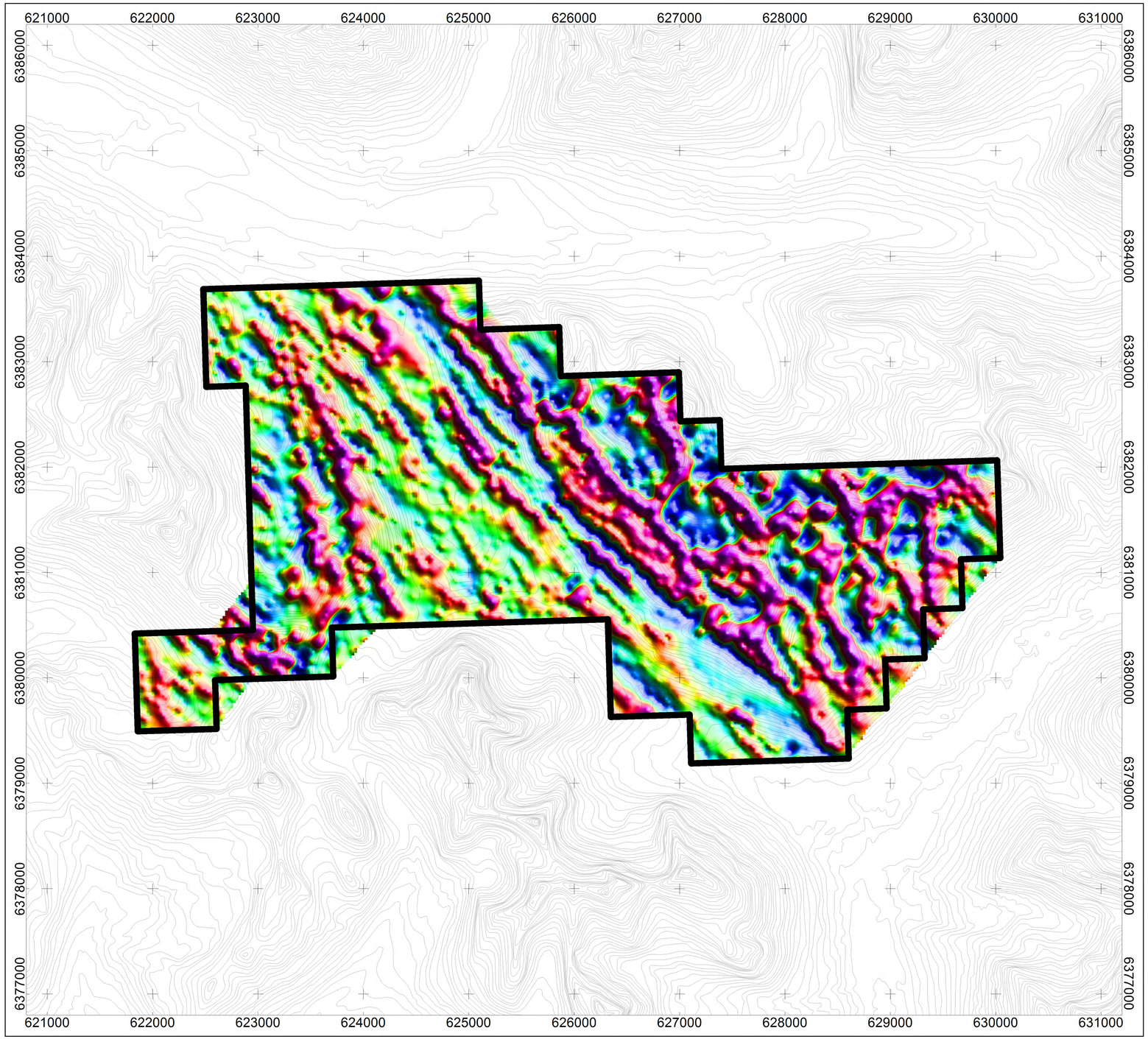
Junker Survey Block

Magnetic Map
Horizontal Gradient

Precision GeoSurveys

Job #21138
August 12, 2021

Plate 8
HG



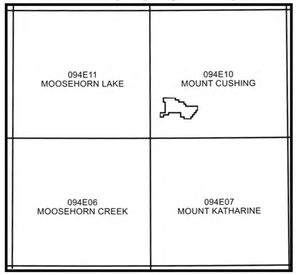
Scale 1:20000

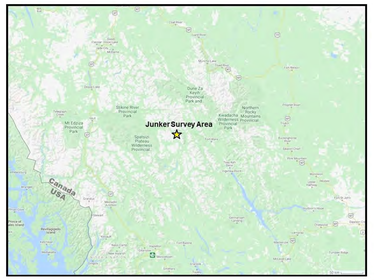
250 0 250 500 750 1000 1250 1500

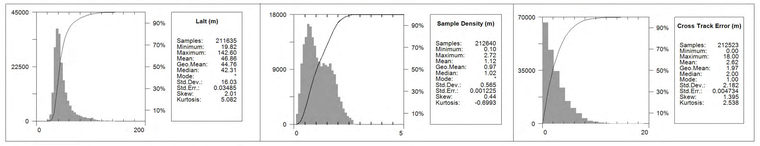
(meters)

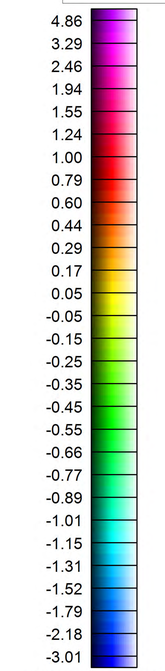
WGS 84 / UTM zone 9N

National Topographic System









MAP PROJECTION

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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium
	1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Elevation Contours, 20 m Intervals.....

Junker 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 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]

Iron Mask Exploration Ltd.

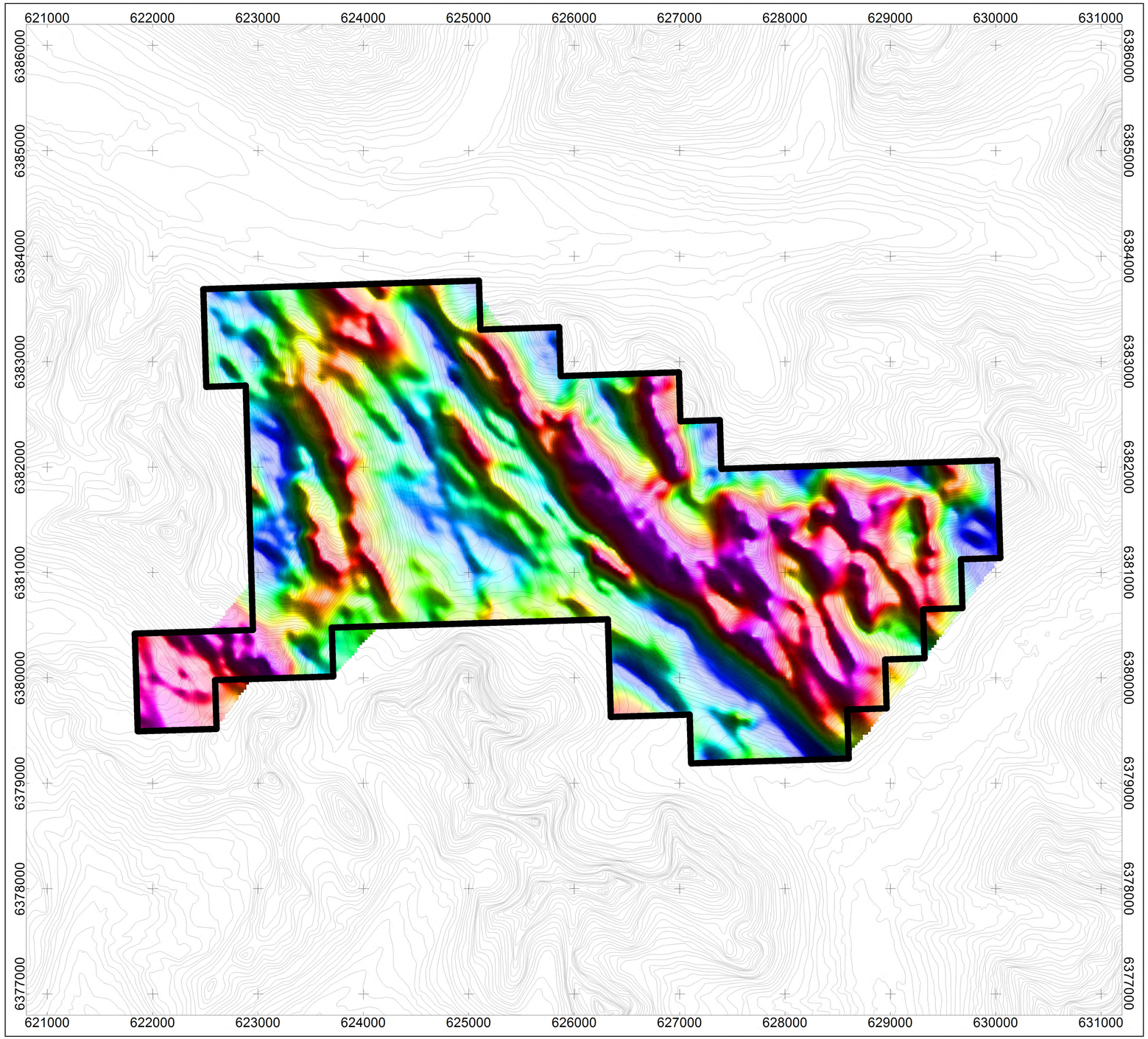
Junker Survey Block

Magnetic Map
Calculatd Vertical Gradient

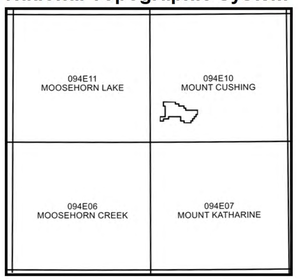
Precision GeoSurveys

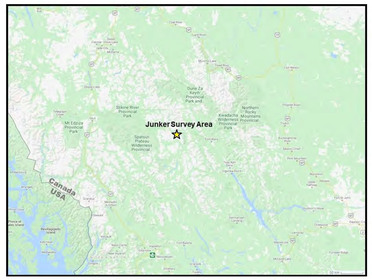
Job #21138
August 12, 2021

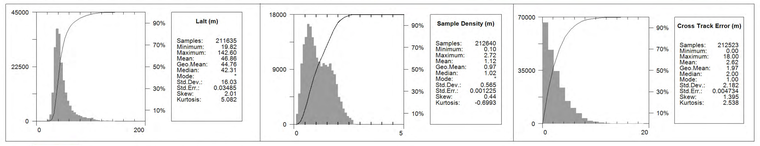
Plate 9
CVG

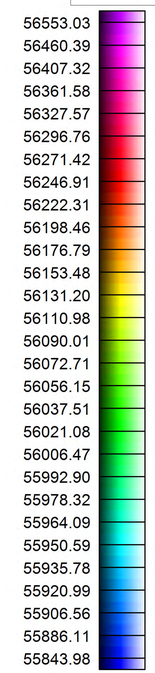


National Topographic System









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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium
	1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Elevation Contours, 20 m Intervals.....

Junker Survey Block Boundary.....

DATA REFERENCE
Gradient enhanced Total Magnetic Intensity (TMIge) is derived by adding the IGRF to the gradient enhanced Residual Magnetic Intensity (RMIge). Refer to report for details. TMIge 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]

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

Iron Mask Exploration Ltd.

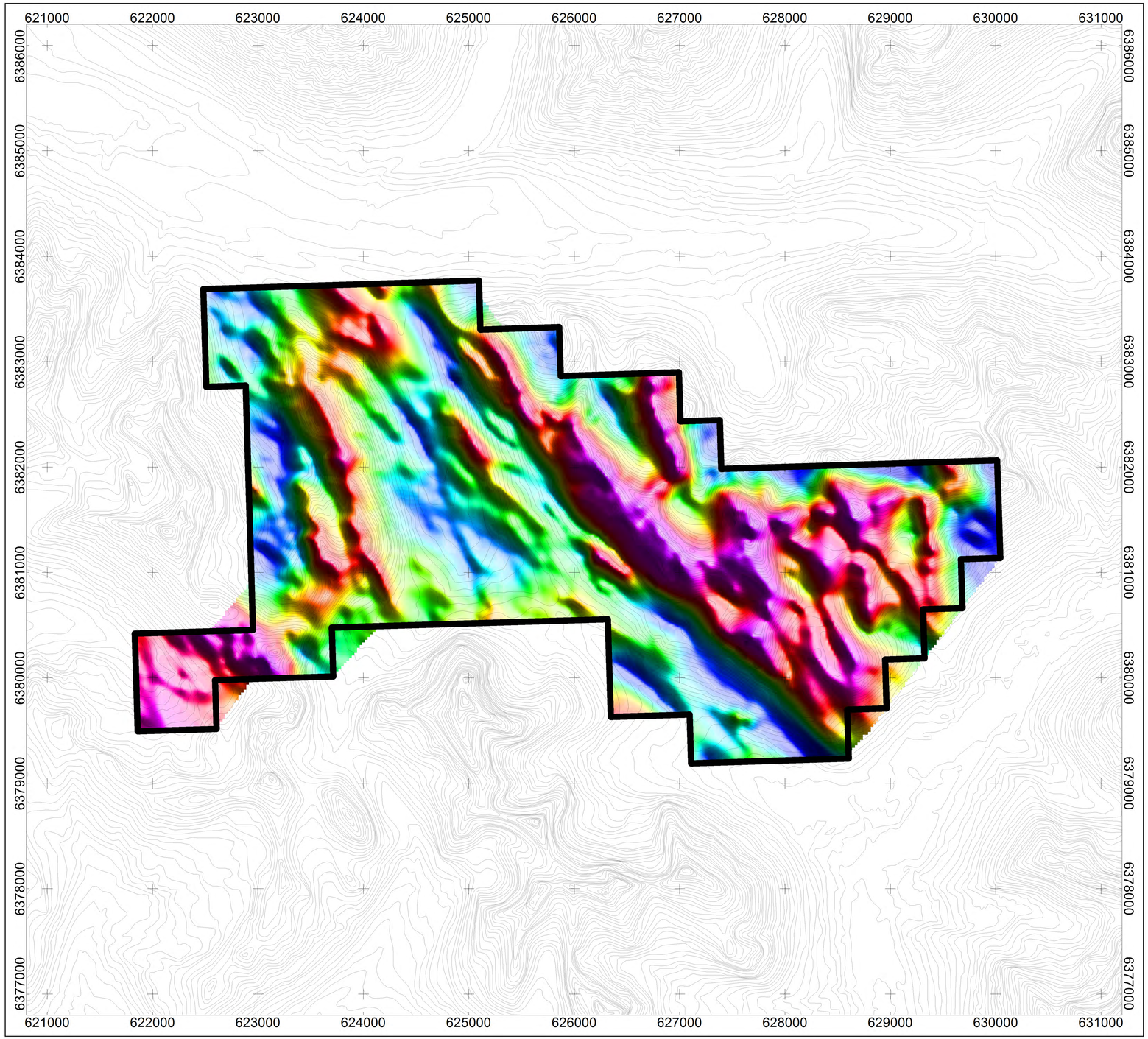
Junker Survey Block

Magnetic Map
Gradient Enhanced Total Magnetic Intensity

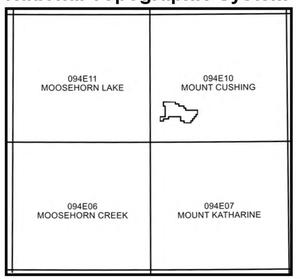
Precision GeoSurveys

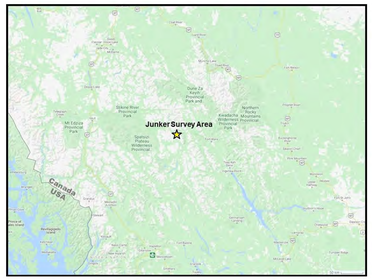
Job #21138
August 12, 2021

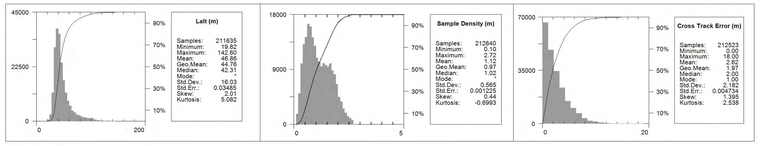
Plate 10
TMIge

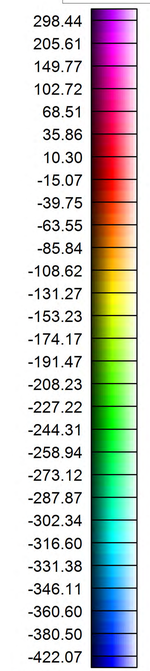


National Topographic System









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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Elevation Contours, 20 m Intervals.....

Junker Survey Block Boundary.....

DATA REFERENCE
Gradient enhanced Residual Magnetic Intensity (RMIge) is calculated from the measured in-line and cross-line gradients. Refer to report for details. RMIge 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]

Iron Mask Exploration Ltd.

Junker Survey Block

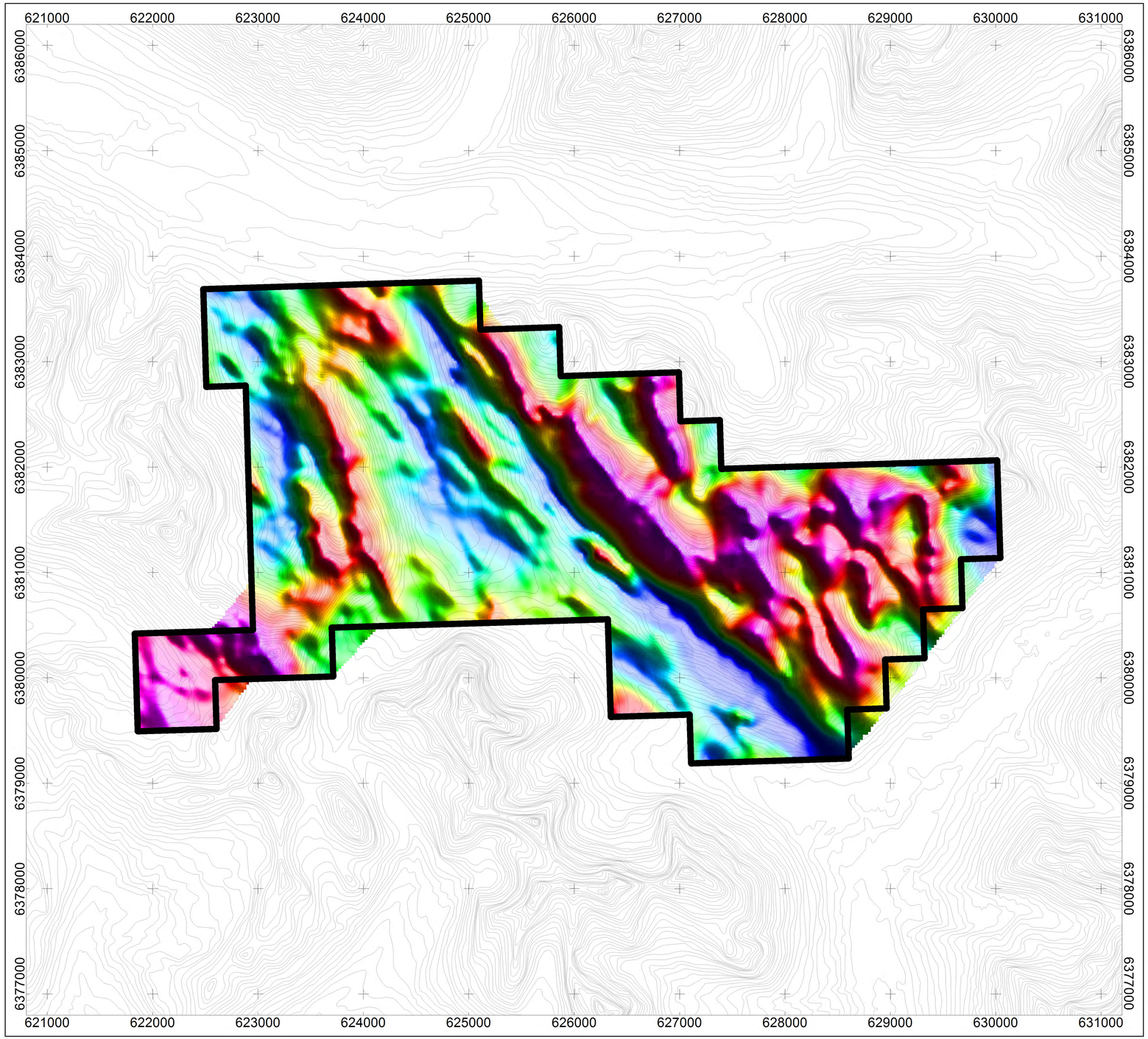
Magnetic Map
Gradient Enhanced Residual Magnetic Intensity

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

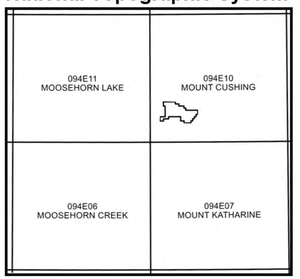
Precision GeoSurveys

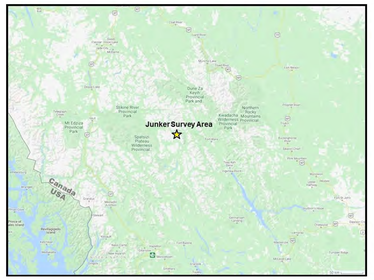
Job #21138
August 12, 2021

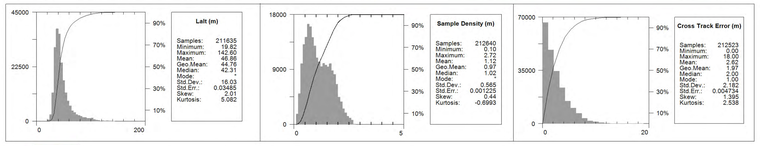
Plate 11
RMIge

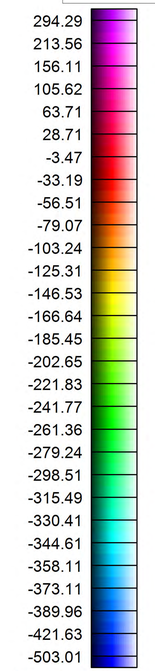


National Topographic System









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

JUNKER SURVEY SPECIFICATIONS

Survey Date:	July 12, 2021
Survey Base:	Dease Lake, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic survey
Total Line km:	238 km
Mean Survey Height:	46.9 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	040°/220°
Tie Line Spacing:	1000 meters
Tie Line Direction:	130°/310°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms

Legend

Elevation Contours, 20 m Intervals.....

Junker Survey Block Boundary.....

DATA REFERENCE
Gradient enhanced Reduced to Magnetic Pole (RTPge) is derived from the gradient enhanced Residual Magnetic Intensity (RMIge). Refer to report for details. RTPge 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_mcan/vector/ntdb_bndt/>[2007]

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

Iron Mask Exploration Ltd.

Junker Survey Block

Magnetic Map
Gradient Enhanced Reduced to Magnetic Pole

Precision GeoSurveys

Job #21138
August 12, 2021

Plate 12
RTPge