REVISED REPORT FEBRUARY 3, 2023

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BC Geological Survey Assessment Report 39957

Ministry of Energy and Mines
BC Geological Survey

Assessment Report Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Technical, Geochemistry, Geophysics (Airborne) **TOTAL COST:** **$84,209**

AUTHOR(S): Robert Weicker **SIGNATURE(S):** Robert Weicker

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): NA **YEAR OF WORK:** 2021

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5856165

PROPERTY NAME: COPPERVIEW SOUTH PROPERTY

CLAIM NAME(S) (on which the work was done): KINGVALE, NICOLA 3000, NICOLA 4000

COMMODITIES SOUGHT: GOLD, COPPER, SILVER

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092HNE296 (VALE), 092HNE320 (SPUD), 092HNE282 (WH1)

MINING DIVISION: Similkameen **NTS/BCGS:** NTS / BCGS: 092H15E (NTS) / 092H079, 092H

LATITUDE: 49 ° 44 '55 " **LONGITUDE:** 120 ° 19 '36 " **(at centre of work)**

OWNER(S):

1) D.J. Rippon (FMC 137109)
2) E. A. DODD (FMC 106880)

MAILING ADDRESS:

33-590 17th St., West Vancouver, BC V7V 3S7
561 GLENMARY ROAD, ENDERBY, BC V0E 1V3

OPERATOR(S) [who paid for the work]:

1) GOLDEN LAKE EXPLORATION INC
2)

MAILING ADDRESS:

SUITE 1240 - 789 WEST PENDER ST.
VANCOUVER, BC V6C 1H2

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Granite of the Middle Jurassic Osprey Lake batholith,
Porphyry, Hydrothermal, Epigenetic, L04: Porphyry Cu +/- Mo +/- Au, I05: Polymetallic veins Ag-Pb-Zn+/-Au

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: RPT 3463, 4335, *18408, *19383, 20883
*21920, 4341, 19593, *21198, *22220

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TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne	Mobile MT Airborne Survey - 302 kms	KINGVALE, NICOLA 3000, 4000	**$64,551**
GEOCHEMICAL (number of samples analysed for...)			
Soil	92 soil samples	KINGVALE, NICOLA 3000, 4000	**$19,658**
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	**$84,209**

REPORT ON GEOCHEMISTRY AND GEOPHYSICS ACTIVITIES ON THE COPPERVIEW SOUTH PROPERTY

REVISED FEBRUARY 3rd, 2023

Report Year: 2021

Report Dated March 14, 2022

SOW Event Number 5856165 December 14, 2021

CLAIM NAMES: KINGSVALE, NICOLA 3000, NICOLA 7000, NICOLA 4000, WH 3000, WHITEHEAD 1000, WHITHEAD, WH 2000, WH 5000, SIWASH CREEK, SIWASH WEST 2000

NTS / BCGS: 092H15E (NTS) / 092H079, 092H80 (BCGS)

(Based on SPUD MinFile Location at the approximate center of Property)

LATITUDE: 049° 44’ 55" N LONGITUDE: 120° 19’ 36" W

UTM Zone: NAD83 10 EASTING: 692576 NORTHING: 5514118

Similkameen Mining Division

OPERATOR: Golden Lake Exploration Inc.

Suite 1240 - 789 Pender St W Vancouver BC CANADA V6C 1H2

PREPARED BY: Robert Weicker

Suite 2801 – 1166 Melville St.

Vancouver, British Columbia V6E 4P5

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SUBMITTED AS A SEPARATE FILE

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SUBMITTED AS A SEPARATE FILE

Appendix D – **Filed Separately** - North and South Block MobileMT Project in B.C. for Golden Lake Exploration Inc., - Data Acquisition and Processing Report - Helicopter-borne MobileMT Electromagnetic & Magnetic survey Expert Geophysics' Job #21039 August 2021

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1.0 INTRODUCTION

The Copperview South property is located in southern British Columbia in the Similkameen Mining Division (Figure 1), and within the mineral rich Quesnellia Terrane. The property is in an area of active and extensive mineral exploration by several junior mining companies (Fig 2). This report describes the exploration history, geology, mineralization, exploration activities completed during 2020/2021, and conclusions and recommendation on the Copperview South property (the "Property") near Princeton, British Columbia. This report relates to **Event Number 5856165**, recorded on December 14, 2021, with a total value of work of **$94,127**.

Revisions and corrections to the report were requested on **January 31st 2023** and were completed and resubmitted to the Ministry under the same event number on February 3rd, 2023. Revised sections in this report are indicated by ***bold, italics, font. The revised total value of work is $84,209. A PAC contribution (12% of the work expenditure) of $9,918 was submitted by property owner, D.A, Rippon (FMC 137109) to a total assessment credit of $94,127 (unchanged).***

The Copperview South property is being acquired by Golden Lake Exploration Inc. ("GLM), from vendors, D.J. Rippon, and E. A. Dodds, through option agreements. GLM has offices at Suite 1240, 789 Pender St W., Vancouver B.C., V6C 1H2 and funded the exploration activity described in this report. At the time of the work activities, the Copperview South property comprised eleven (11) claims with almost **16,000 hectares (15,995.14 hectares)**.

The property is being explored with the purpose of assessing potential for copper, gold, and / or silver deposits based on historic mineral showings and past operators work in the area. The 2021 program consisted of a helicopter-borne MobileMT electromagnetic and magnetic survey completed by Expert Geophysics Limited (EGL), and a limited soil geochemistry and prospecting program completed in the fall of 2020 over two target area.

The purpose of the MobileMT survey was to assist the mapping of bedrock structure and lithology, including possible alteration and mineralization zones, observing apparent conductivity corresponding to different frequencies, inverting EM data to obtain the distribution of resistivity with depth, and using VLF EM and magnetic data to study properties of the bedrock units. A total of 9 production flights were flown to complete 1072 line-kilometers of the survey over two blocks;

with Copperview South represented by the "**South Block**" by MobileMT, **comprising 302 line-kilometers of the survey over a 115 sq.km area.**

The Mobile MT survey was flown using a Eurocopter AS 350 B2 helicopter, registration C-GMHP, of the aviation company Mustang Helicopters. The survey production flights started on June 12, 2021, and data acquisition was completed on June 18, 2021. The survey operations were conducted from AP Ranch Guest Ranch in the Thompson-Nicola Regional District of British Columbia. The survey lines for both blocks are oriented N-S (90°N) at 200 m spacing, while tie lines are oriented in a perpendicular direction to the survey lines and spaced at 2000 m.

The complete report by Expert Geophysics Limited (EGL) is included in Appendix D. In this report, geophysical survey results are presented in the form of digital databases, maps, grids, sections, elevation slices and 3D voxels. The report describes the data acquisition, processing and inversion procedures, equipment and digital data specifications, basic data analysis. The Company consulting geophysicist, Martin St. Pierre completed the interpretation of the Mobile MT survey. ***(internal company report 2021, Appendix E***)

Prospecting and soil geochemistry was completed over two grid areas on the Copperview South property by personnel of Exploration Facilitation Unlimited Inc. between September 21 to October 2, 2020. East Grid 1 was near Spukunne Area and comprised 21 soil samples. East Grid 2 was near the "Vale Minfile" showing and 71 soil samples were taken. Data, results, and maps of the soil geochemistry are included in this report. All 92 soil samples were delivered to and assayed by ALS Global - Geochemistry Analytical Lab in North Vancouver, BC, Canada (a division of ALS Canada Ltd.).

This report on the 2020/2021 exploration activities covers only the central-west area of the Copperview South property, with represents only a small portion of the entire property visited and worked on. The author has visited parts of the property in the summer of 2021 but has not visited the two areas where soil geochemistry was completed.

Several geophysical anomalies were identified by the MobileMT survey and are discussed in the Interpretation Section of this report. Results from the soil geochemistry survey were generally disappointing and no follow up to the two target areas sampled is recommended.

Unless otherwise indicated, all coordinates are referenced to the North American Datum (NAD) 1983, Universal Transverse Mercator (UTM) Zone 10 coordinate system. All dollar amounts referred to in this report are in Canadian currency.

2.0 PROPERTY DESCRIPTION AND LOCATION

The Copperview South property ("property") is large sprawling property, located north of the Princeton-Summerland connecting road in the Similkameen Mining District (Fig 1). The northeastern portion of the property is located 35 air kilometers west of the city of Kelowna, a major agricultural, industrial and tourist city, with a population of 222,000 (Metro area, 2021) and is B.C.'s third-largest metropolitan area. The southwest portion of the property is only 14 kilometers north of the town of Princetown with access by logging road from Hwy 5.

The Copperview South property extends for about 44 kilometers in an east-northeast direction from north of Princeton and the widths varies but reached +10 kilometers wide at its maximum. The Stubb Minfile showing is on Siwash Creek and is at the approximate center of the property at Latitude 049° 44' 55" N, Longitude 120° 19' 36". The property lies in 092H/079 and 092H/80 under BCGS system, and 092H15E under the NTS system.

The Copperview South property consists of eleven (11 claims) totalling 15,995 hectares (ha) (Fig 2.) The property is being acquired by Golden Lake Exploration Inc. ("GLM", or the" Company"), from vendors, D.J. Rippon, and E.A. Dodds, through option agreements:

- In a GLM press release dated September 8, 2020, GLM can earn a 100-per-cent interest in the Copperview project (**Copperview South comprises 59% by area of Rippon Claims**) from D.J. Rippon, with payments in cash of $200,000 cash, issue a total of two million shares and spend $1 million in a three-year time frame. A 2.5-per-cent net smelter returns royalty will be granted to the vendor of which 1.5 per cent can be purchased back by the company for $1.5 million.
- In a GLM press release dated October 22, 2020, GLM can earn a 100 a 100-per-cent interest in The Deadman Lake property (contiguous to the company's Copperview West property) and the South Dill property (contiguous t company's Copperview South property). Cumulative terms of the acquisition for both properties, from one arm's-length vendor, to earn a 100-per-cent interest calls for Golden Lake to pay $50,000 cash and issue a total of 400,000 shares over a two-year time frame. A 1.6-per-cent net smelter royalty

will be granted to the vendor of which 1.0 per cent can be purchased back by the company for $1.0 million.

At the time of the work activities, the Copperview South property comprised eleven claims with 7961.6 hectares.

	COPPERVIEW SOUTH (EAST) HOLDINGS					
Title Number	**Claim Name**	**Owner FMC**	**Owner Name**	**Issue Date**	**Good To Date**	**Area (ha)**
1074005	**PORPHYRY**	**106880**	**DODD, EUGENE A.**	2020/FEB/04	**2024/JAN/20**	313.368
1076923	KINGSVALE	137109 (100%)	DJ Rippon	2020/JUN/23	**2022/NOV/15**	2047.1139
1078444	NICOLA 3000	137109 (100%)	DJ Rippon	2020/SEP/05	**2022/NOV/15**	2048.6699
1078448	NICOLA 7000	137109 (100%)	DJ Rippon	2020/SEP/05	**2022/SEP/05**	1109.437
1078445	NICOLA 4000	137109 (100%)	DJ Rippon	2020/SEP/05	**2022/SEP/05**	2089.0508
1078717	WH 3000	137109 (100%)	DJ Rippon	2020/SEP/05	**2022/SEP/16**	2045.21
1076974	WHITEHEAD 1000	137109 (100%)	DJ Rippon	2020/JUN/26	**2022/SEP/26**	1210.0056
1076943	WHITHEAD	137109 (100%)	DJ Rippon	2020/JUN/25	**2022/SEP/25**	375.4626
1078716	WH 2000	137109 (100%)	DJ Rippon	2020/JUN/25	**2022/SEP/16**	1899.17
1078719	WH 5000	137109 (100%)	DJ Rippon	2020/SEP/16	**2022/SEP/16**	2064.3
1076954	SIWASH CREEK	137109 (100%)	DJ Rippon	2020/JUN/25	**2022/SEP/25**	313.2636
1076973	SIWASH WEST 2000	137109 (100%)	DJ Rippon	2020/JUN/26	**2022/SEP/26**	480.0849
						15995.14

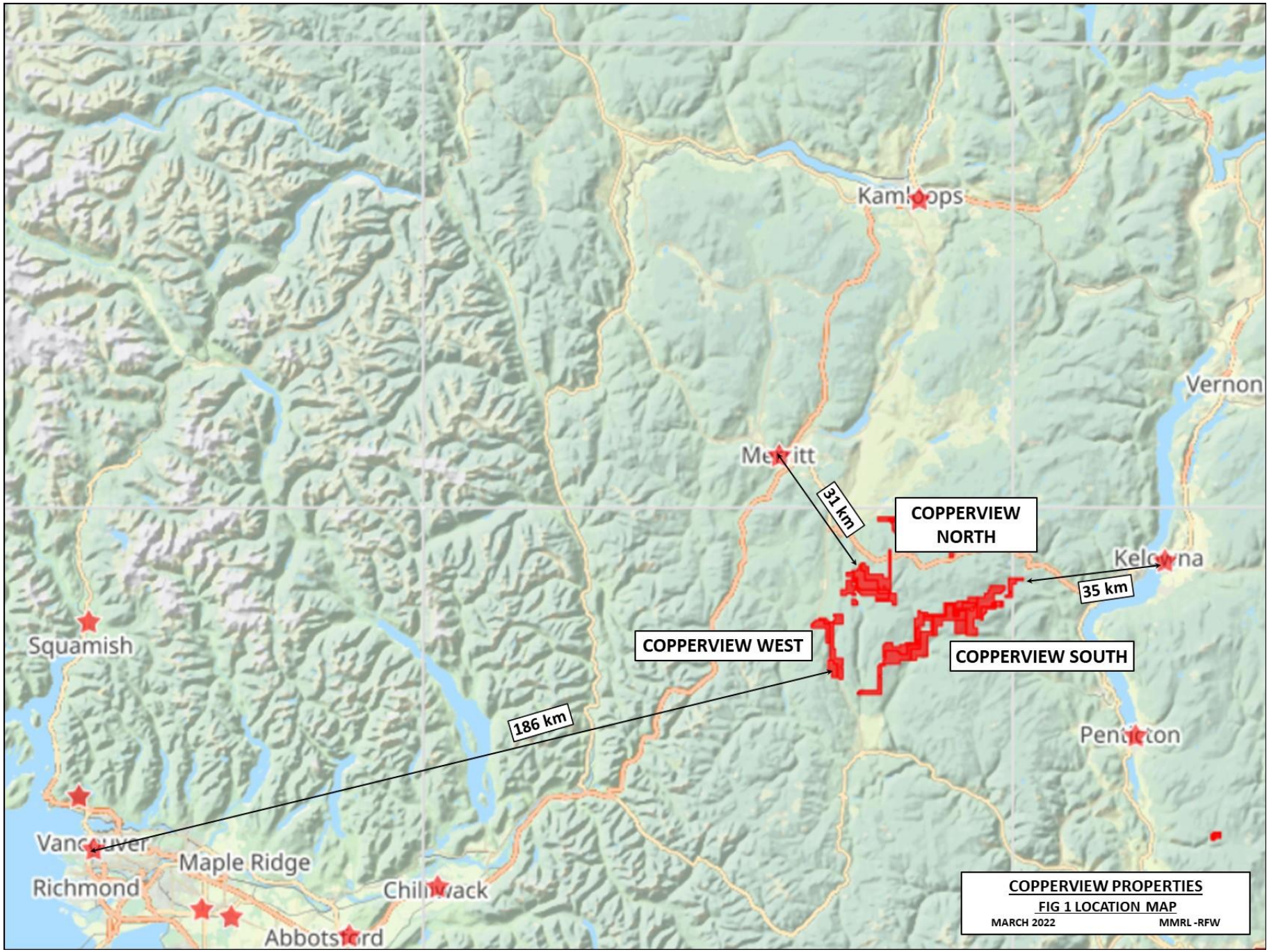
TABLE 1 – TENURE STATUS

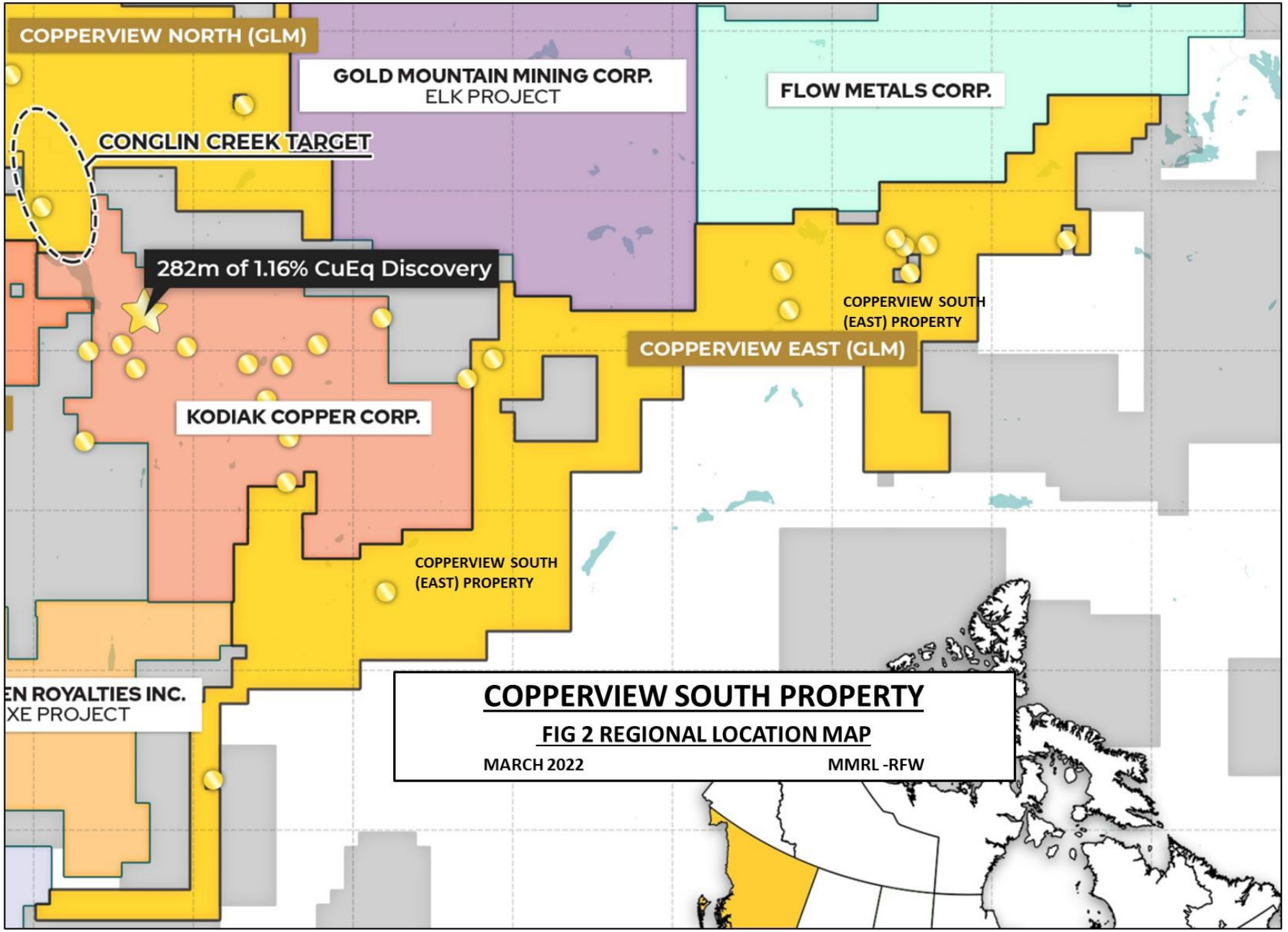
NOTE: The claims comprising the Copperview South Property are in good standing as of the date of this report.

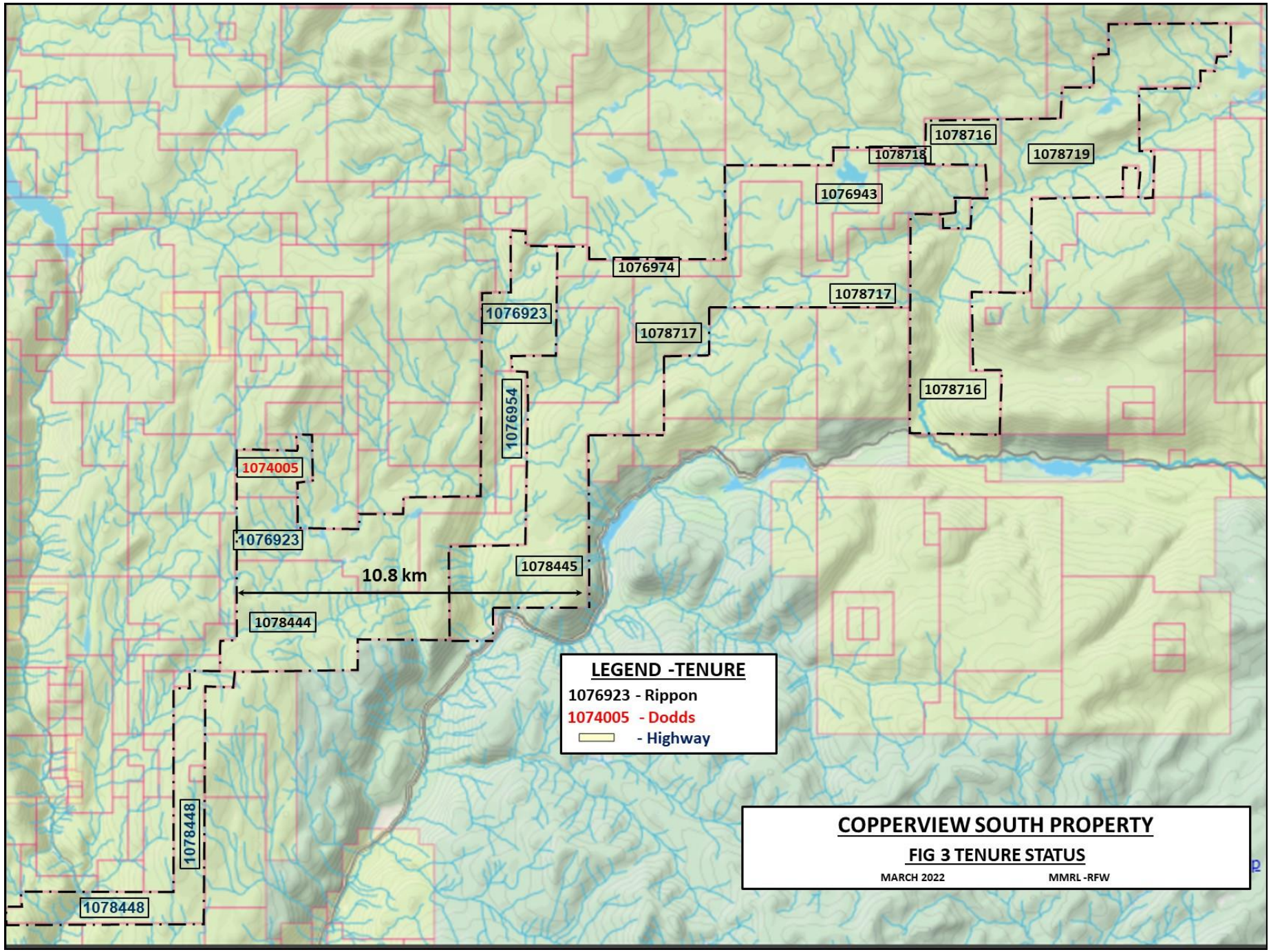
3.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

3.1 Accessibility

The Copperview South property can be accessed by several well-maintained gravel roads and unnamed forestry service roads from Highway 5A west of the property or from Princeton-Summerland Road. The Princeton-Summerland Road is 93.1 km long. It links Princeton, in the Similkameen region of southern British Columbia, and Summerland, on the west side of Okanagan Lake in the interior of British Columbia. About 2/3 is paved, the rest is packed gravel of varying condition.


Kamloops
Vernon
Merritt
31 km
COPPERVIEW NORTH
Kelowna
35 km
Squamish
COPPERVIEW WEST
COPPERVIEW SOUTH
186 km
Penticton
Vancouver
Maple Ridge
Richmond
Chilliwack
Abbotsford
COPPERVIEW PROPERTIES
FIG 1 LOCATION MAP
MARCH 2022
MMRL -RFW


COPPERVIEW NORTH (GLM)
GOLD MOUNTAIN MINING CORP.
ELK PROJECT
FLOW METALS CORP.
CONGLIN CREEK TARGET
282m of 1.16% CuEq Discovery
COPPERVIEW SOUTH
(EAST) PROPERTY
COPPERVIEW EAST (GLM)
KODIAK COPPER CORP.
COPPERVIEW SOUTH
(EAST) PROPERTY
EN ROYALTIES INC.
XE PROJECT
COPPERVIEW SOUTH PROPERTY
FIG 2 REGIONAL LOCATION MAP
MARCH 2022
MMRL -RFW


1078716
1078718
1078719
1076943
1076974
1078717
1076923
1078717
1078716
1076954
1074005
1076923
10.8 km
1078445
1078444
1078448
1078448
LEGEND -TENURE
1076923 - Rippon
1074005 - Dodds
- Highway
COPPERVIEW SOUTH PROPERTY
FIG 3 TENURE STATUS
MARCH 2022
MMRL -RFW

Siwash Creek a well known placer gold mining site is close to the center of the Copperview South property and is readily accessible from the Summerland-Princetown road. Known as the Osprey Lake area including the community of Bankier, it is a popular recreational area that's approximately half way between Princeton and Summerland. According to the Bankier website: “There are about 40 full time residences plus 100 or so seasonal cabins”.

Elevations on the property ranges from about 1000 meters near Bankier and at Siwash Creek to over 1,400 m. on the north western portion of the property, contiguous with Kodiak Copper Corp.

3.2 Climate

The climate of this part of the province is typical of the southern interior of British Columbia. The summer field season from mid to late April to late October is generally warm and dry, with daily high temperatures ranging from +20◦ to +30◦C. Winters are cold with significant snow accumulations. Temperatures can drop to -20◦C for extended periods.

3.3 Local Resources & Infrastructure

The logistics of working in this part of the province are excellent, with Highway access right to the property. Heavy equipment is available locally in Princeton, Kelowna or Merritt, as are supplies, fuel and lodging.

Unskilled labour is available locally. Princeton, Merritt, and Kelowna are industrial centres with a skilled workforce currently employed at several large mines throughout the region. Depending on the type of exploration program to be conducted, the field season generally extends from late April to early November.

Sufficient water for all phases of the exploration program should be available from the many lakes and creeks, which are located within the confines of the property. However summers are hot and dry and water for drilling may be scarce during the summer months and any water required for exploratory purposes may have to be obtained from lakes on or near the Property and transported to the worksite. It is not unusually for forest fire conditions to hamper or delay exploration activities.

3.4 **Physiography**

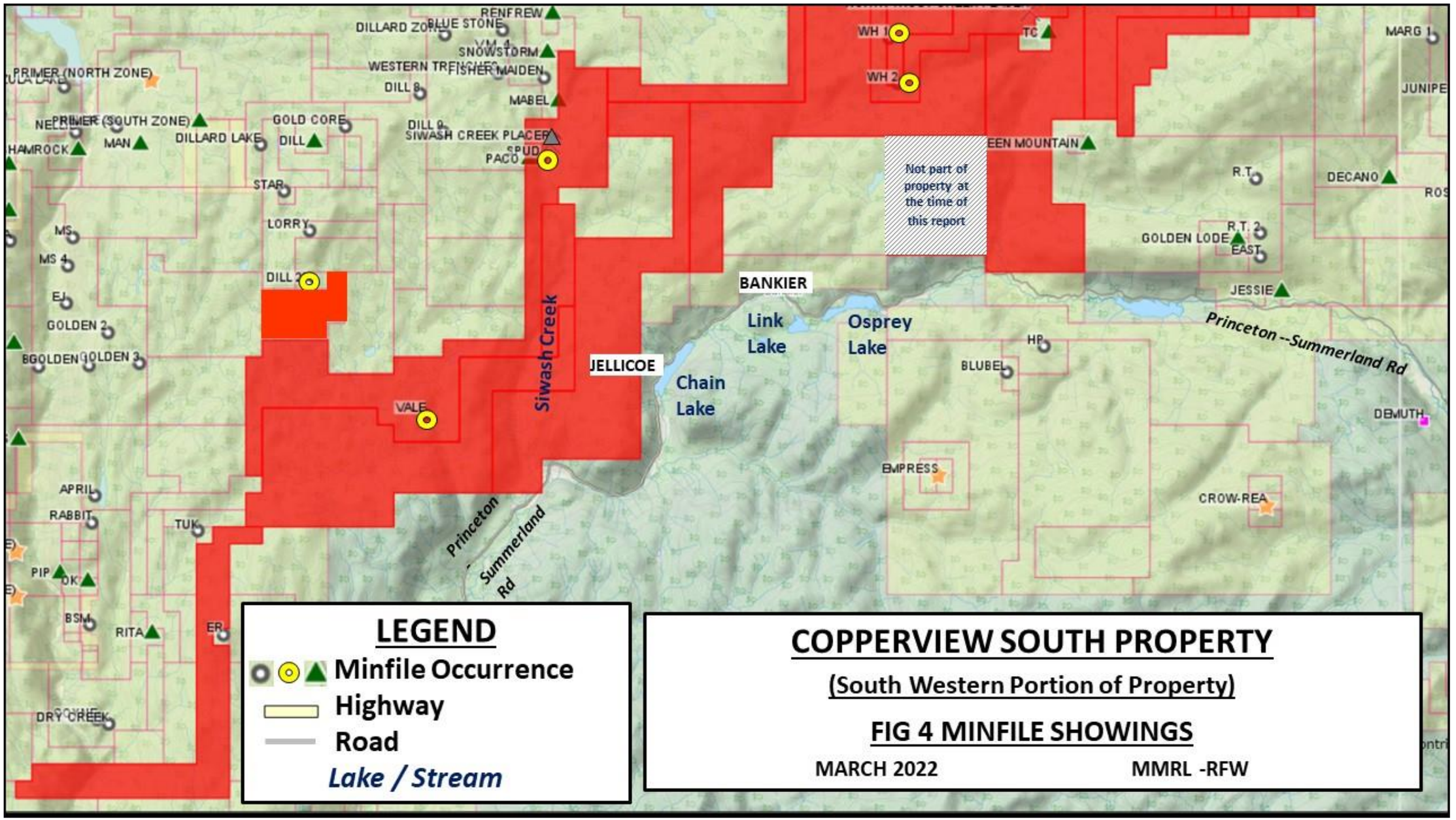
The topography is typical of this part of the Thompson Plateau, reflecting the effects of a predominantly northerly structural trend, accentuated by glaciation; heavily forested, relatively gentle upland slopes are cut by deep, steep-sided, north trending valleys. Bedrock exposure varies and is largely a function of glacial action; generally, outcrop is abundant on ridges and along the upper slopes of steep valleys, but lower slopes and valley bottoms bear a thick mantle of glacial overburden.

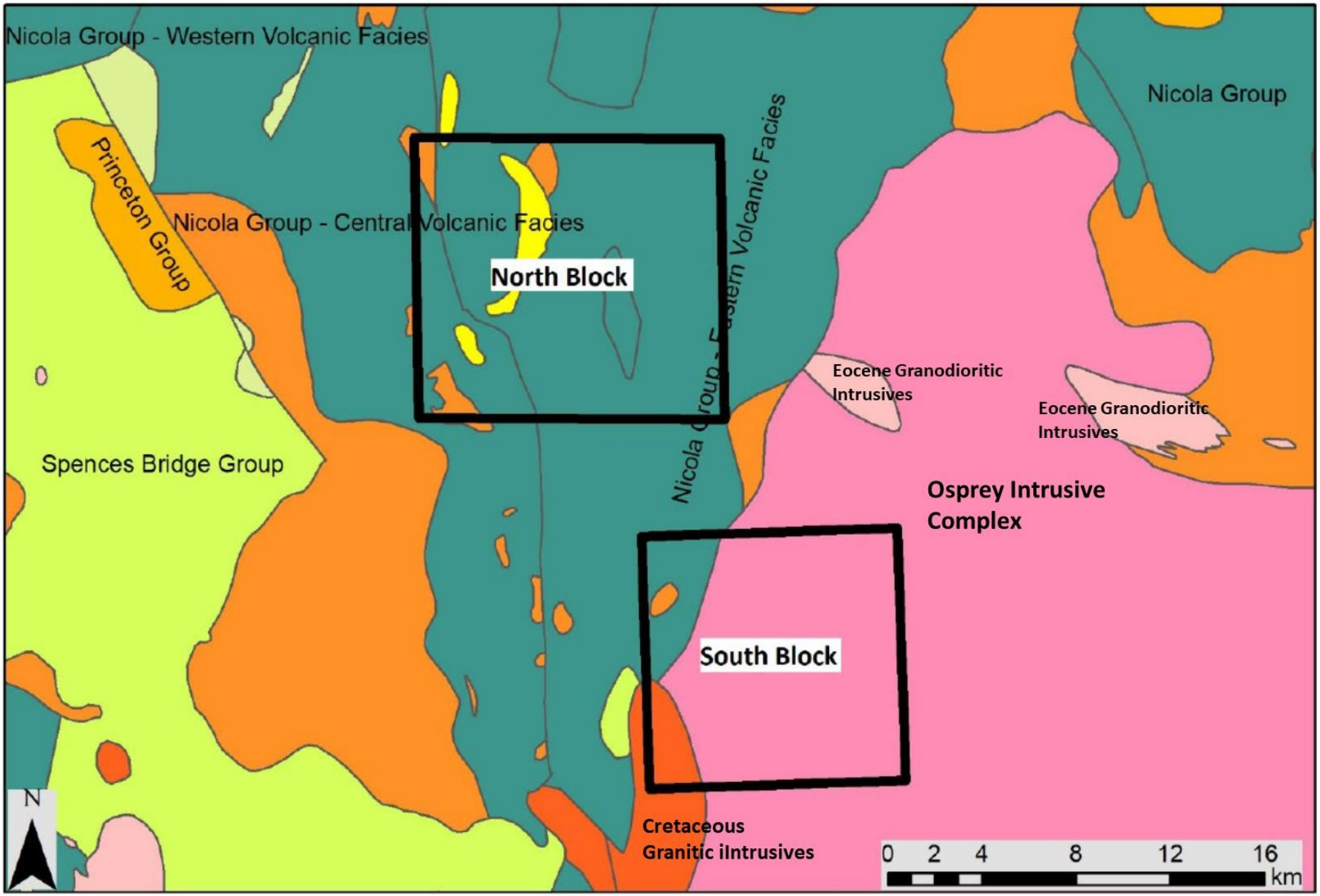
Vegetation ranges from open grassy slopes to thick stands of fir, pine, spruce, and poplar. Willowy deciduous cover is present in small swamp areas. Cattle range over much of the area and heavily treed areas are being actively logged.

4.0 HISTORY

The property covers several historic mineral showings, that are described below. The Copperview South area has two distinct period of exploration:

- 1970s to 1980s exploration directed at porphyry copper deposits based on the discovery and development of deposits like Brenda and Craigmont in the region.
- Early to mid 1990s exploration directed at gold mineralization similar to the Elk Gold mine (that property flanks the eastern boundary of the Copperview South property), which is currently owned by Gold Mountain Mining Corp. Mineralization is classified as hosted in mesothermal quartz-sulphide veins in intrusive and volcanic rocks, along the discontinuity between the Nicola volcanic group and the Osprey Lake Batholith. Successful mined by Fairfield Minerals Ltd, between 1992 -1995, the Elk Gold mine produced approximately 1,460,000 g (51,500 oz) from a bulk sample open pit. Fairfield and other junior companies explored a vast area during this period include portion of the Copperview South property.


RENFREW
DILLARD ZONE
BLUE STONE
SNOWSTORM
WESTERN TRENCHES
FISHER MAIDEN
DILL 8
MABEL
PRIMER (NORTH ZONE)
PRIMER (SOUTH ZONE)
GOLD CORE
DILL 9
SIWASH CREEK PLACER
SPUD
PACO
DILLARD LAKE
DILL
MAN
HAMROCK
STAR
LORRY
MS
MS 4
DILL 2
EJ
GOLDEN 2
GOLDEN 3
VALE
Siwash Creek
JELLICOE
BANKIER
Link Lake
Chain Lake
Osprey Lake
Princeton --Summerland Rd
Princeton Summerland Rd
WH 1
WH 2
TC
EEN MOUNTAIN
Not part of property at the time of this report
MARG 1
JUNIPE
R.T
DECANO
R.T. 2
GOLDEN LODE EAST
JESSIE
HP
BLUBEL
DEMUTH
EMPRESS
CROW-REA
APRIL
RABBIT
TUK
PIP
BSM
RITA
DRY CREEK
LEGEND
Minfile Occurrence
Highway
Road
Lake / Stream
COPPERVIEW SOUTH PROPERTY
(South Western Portion of Property)
FIG 4 MINFILE SHOWINGS
MARCH 2022
MMRL -RFW



COPPERVIEW SOUTH PROPERTY

FIG 5 Regional geology surrounding MobileMT Survey Area

MARCH 2022 MMRL -RFW

4.1 Vale Showing – Minfile # 092HNE296

An excerpt from the Minfile report:

> "*The Vale showing is 300 metres west of Spukunne Creek and 4.5 kilometres north-northwest of the creek's confluence with Hayes Creek. Silicic, potassic and sericite-altered, coarse-grained red granite of the Middle Jurassic Osprey Lake batholith is cut by masses of glassy quartz containing scattered grains of pyrite and chalcopyrite. Limonite and malachite also accompany this mineralization. A sample analysed 0.001 gram per tonne gold, 0.4 gram per tonne silver, 0.093 per cent copper, 0.0288 per cent lead and 0.016 per cent zinc (Assessment Report 21920, page 9, Table 2, sample V91-R3).*"

Assessment report #21920 (191) was the main reference source for this showing and was thoroughly reviewed prior to initiating the modest field program to investigate and confirm gold-in-soil geochemical anomalies. The 1991 program consisted of wide-spaced (400m x 50m) grid soil sampling over approximately 40 percent of the property for a total of 912 samples. Gold-in-soil values are very low in the entire district (including on the surrounding Elk Gold Mine property) and this 1991 reports (and other assessment reports in the area) indicates that values greater than 20 parts per billion ("ppb") represent significant anomalies and warrant follow-up sampling.

4.2 Spud Showing – Minfile # 092HNE320 and Siwash Creek Placer Minfile # 092HNE290

These two occurrences are located very close together, with the Paco Showing (Minfile #092HNE098) just west of Siwash Creek, located just west of the Copperview South claim boundary.

An excerpt from the Spud Showing Minfile report:

> "*The Spud occurrence is located near the west side of Siwash Creek, approximately 1.2 kilometres south of the creek's junction with Teepee Creek. The area is underlain by coarse-grained granite of the Middle Jurassic Osprey batholith. Locally, a granite hosts pyrite-specularite veins and chalcopyrite-malachite bearing quartz veins. In 2006, a sample (06RTP223) of chalcopyrite bearing quartz vein material assayed 1.04 grams per tonne gold, 239 grams per tonne silver, 1.8 per cent copper, 1.43 per cent lead and 0.34 per cent zinc (Besserer, D.J. (2007-05-27): The area has been explored in conjunction with the nearby Snowstorm (MINFILE 092HNE032) and Mabel (MINFILE 092HNE028) occurrences and*

*completed exploration history can be found there. (**NOTE: the Mabel and Snowstorm showings are not believed to be located on the Copperview South property**)."*

The Company has not visited the Spud showing location.

The Siwash Creek Placer Minfile location has active placer claims in good standing, however the Company's Copperview South mineral claims overlap the placer claims and would cover an hard-rock mineral rights. An excerpt from the Spud Showing Minfile report:

"*The gold-bearing placer deposits of Siwash Creek tend to occur in the creek bed and in benches and terraces adjacent to the creek that may represent old-channel remnants. The gravels comprising these deposits appear to be of glacial origin. The coarse gold found in these gravels is rough-edged and erratic in distribution. Production of placer gold has occurred intermittently along the creek since the early 1900s. Most of this production has been confined to benches above the creek bed. One operation worked by L.J. Cole and T.C. McAlpine in 1933, was located about 11 kilometres above the creek's mouth. This hydraulic operation was situated atop a bench 3 metres above the creek, on its west side, and is reported to have recovered 3.5 grams of gold per cubic metre (Minister of Mines Annual Report 1933, page 175). Colours of gold are reported to have been observed in numerous cuts and pits excavated farther north, between Tepee and Galena creeks."*

The Company has not visited the Siwash Creek placer area.

4.3 WH-1 Showing – Minfile # 092HNE282 and WH-2 Showing Minfile # 092HNE283

The WH 1 showing is 1.3 kilometres south-southwest of Whitehead Lake and 4.2 kilometres northwest of Trout Creek. The WH 2 showing is in the headwaters of Spring Creek, 2.4 kilometres south of Whitehead Lake and 3.5 kilometres northwest of Trout Creek. The area south of Whitehead Lake is underlain by a granite stock of the early Tertiary Otter intrusions. An excerpt from the WH-1 Showing Minfile report:

A quartz veinlet, less than 1 centimetre wide, cuts weakly clay altered, coarse-grained granite. The vein strikes 088 degrees and dips 60 degrees north. A chip sample, taken across the quartz vein and altered granite, analysed 4.68 grams per tonne gold and 402 grams per tonne silver over 0.5 metre (Assessment Report 19383, page 18). A similar sample yielded 15.9 grams per tonne gold and 1100 grams per tonne silver over 0.10 metre (Assessment Report 18408, page 8,

sample L160-R4). The showing was discovered by Fairfield Minerals Ltd. in 1988, while prospecting in the Whitehead Lake area. Placer Dome Inc. conducted geological, soil geochemical and geophysical surveys over the showing in 1989."

An excerpt from the WH-2 Showing Minfile report:

"A 14-metre wide dike of biotite-hornblende quartz diorite intrudes quartz feldspar porphyritic monzonite of the Otter intrusions. The quartz diorite exhibits some fracturing, moderate silica and sericite alteration and weak chloritization. The dike is mineralized with minor disseminated pyrite. A chip sample of moderately silicified quartz diorite analysed 0.03 gram per tonne gold, 33.5 grams per tonne silver and 0.023 per cent copper over 1.5 metres (Assessment Report 19383, page 20). A second chip sample of the quartz diorite, 9 metres from the previous sample, analysed 0.25 per cent zinc over 1.5 metres (Assessment Report 19383, page 20)."

The Company has not visited the WH-1 and WH-2 showing areas.

5.0 GEOLOGICAL SETTING AND MINERALIZATION

5.1 Regional Geology

The regional geology in the area of the vale property is illustrated in Fig 5 which is sourced from the BC MapPlace and from the northeast part of G.S.C. map 41-1989, Hope, mapped by J. W. H. Monger, 1989. Most of the Copperview South property is underlain predominantly by granite to granodiorite of the Late Jurassic Osprey Lake batholith in contact with Nicola Group andesitic volcanics of Late Triassic age exposed in the extreme northwest corner of the property. A Late cretaceous granite pluton intrudes the western boundary of the osprey Lake batholith directly south of the property. Near the WH-1 and WH-2 showings, the area is underlain by a granite stock of the early Tertiary (Eocene) Otter intrusions. The stock trends west- northwest for 3.5 kilometres and is up to 2.5 kilometres wide. It is situated between the Middle Jurassic Osprey Lake batholith to the south and west, and the Early Jurassic Pennask batholith to the east and north.

5.2 Property Geology

Due to the recent acquisition and assembly of the property by the Company and the early stage of exploration, the Company has not completed geological mapping of the property. Based on the geology from the BC MapPlace website and a review of assessment files the geology is presented on Figure 5.

6.0 DEPOSIT TYPES

The Copperview South property represents an early-stage exploration project well situated in the southern portion of the prolific Quesnel Trough (or Quesnellia), of the Intermontane Tectonic Belt of South-Central British Columbia. The property is prospective for two significant deposit types, which are presented by historic mineral showings and past operators in the area, and currently by two high-profile exploration companies on the Copperview South property's eastern (Gold Mountain Mining Corp.- Elk Gold Mine Project) and southern (Kodiak Copper Inc. – MPD Project) borders:

- **Copper-gold porphyry deposits** – The Copperview South Nicola Belt geologic units have many similar characteristics to the nearby alkalic porphyry copper-gold systems at the Copper Mountain Mine to the south, New Gold's Afton Mine to the north, and the past producing Brenda Mine to the east. Porphyry gold- copper systems are defined as large volumes of hydrothermally altered rock centered on porphyry copper stocks. Metal content is low- to medium-grade the distribution of primary ore minerals is dominantly structurally controlled and that may also contain skarn, carbonate-replacement, sediment-hosted, and high- and intermediate-sulphidation epithermal base and precious metal mineralization (Sinclair, 2007. Sillitoe, 2010). Located immediately south of the Copperview South property, is Kodiak Copper Inc. MPD property, a leading exploration project comprised of the consolidation of four copper-gold porphyry properties (Man, Prime, Dillard, and Axe). The Conglin Creek target on the Copperview South property is located only 4.7 kilometers north-north-west and on-trend (along the extension of the Summer Creek Fault) with the Gate Zone on Kodiak's MPD property which has returned a best intercept of 535m of 0.49% copper and 0.29 g/t gold (0.76% CuEq**), including 282 m of 0.70% copper and 0.49 g/t gold (1.16% CuEq**), including 45.7 m of 1.41% copper and 1.46 g/t gold (2.75% CuEq**) (*Kodiak website - ** Metal prices used to calculate Cu Equivalent (% CuEq) are: Au $1500/oz, Ag $16/oz and Cu $2.60/lb. All values report in USD and do not consider metal recoveries Copper equivalent grades (%CuEq) are for comparative purposes only.*)

- Intrusive-related, structurally controlled mesothermal quartz vein system – At the Elk Gold Mine property, owned by Gold Mountain Mining Corp. ("Gold Mountain), the vein systems consist of structurally controlled; narrow, pyritic quartz veins hosted in granitic as well as volcanic rocks near the contact between these two primary lithologies. The entire eastern flank of the Copperview South property is contiguous with the Elk Gold Mine property. Targets at the Vinson Lake and Buck (Thumb) Lake area on the Copperview South property may host similar gold mineralization to the multiple mineralized zones on the Elk Gold Mine property. The following excerpt is from the Gold Mountain website (March 2022): "*The proposed multi phase production plan will see a Phase 1 – 19,000 Oz. production profile beginning in Feb 2022, which will help fund our proposed ramp up to 65,000 Oz. by 2025. Concurrently with developing the mine, Management plans to continue drilling the nine known high grade mineralized zones, while continuing to explore other areas showing exciting potential."*

7.0 EXPLORATION

The property is being explored with the purpose of assessing potential for copper, gold, and / or silver deposits based on historic mineral showings and past operators work in the area. The 2021 program consisted of a helicopter-borne MobileMT electromagnetic and magnetic survey completed by Expert Geophysics Limited (EGL).

Prospecting and soil geochemistry was completed over two grid areas on the Copperview South property by personnel of Exploration Facilitation Unlimited Inc. between September 21 to October 2, 2020. East Grid 1 was near Spukunne Area and comprised 21 soil samples. East Grid 2 was near the "Vale Minfile" showing and 71 soil samples were taken. Data, results, and maps of the soil geochemistry are included in this report. All 92 soil samples were delivered to and assayed by ALS Global - Geochemistry Analytical Lab in North Vancouver, BC, Canada (a division of ALS Canada Ltd.).

This report on the 2020/2021 exploration activities covers only the central-west area of the Copperview South property, with represents only a small portion of the entire property visited and worked on. The author has visited parts of the property in the summer of 2021 but has not visited the two areas where soil geochemistry was completed.

7.1 MobileMT Airborne Geophysical Survey

The purpose of the MobileMT survey was to assist the mapping of bedrock structure and lithology, including possible alteration and mineralization zones, observing apparent conductivity corresponding to different frequencies, inverting EM data to obtain the distribution of resistivity with depth, and using VLF EM and magnetic data to study properties of the bedrock units. A total of 9 production flights were flown to complete 1072 line-kilometers of the survey over two blocks; with Copperview South represented by the "**South Block**" by MobileMT, **comprising 302 line-kilometers of the survey over a 115 sq.km area.**

The MobileMT survey was flown using a Eurocopter AS 350 B2 helicopter, registration C-GMHP, of the aviation company Mustang Helicopters. The survey production flights started on June 12, 2021, and data acquisition was completed on June 18, 2021. The survey operations were conducted from AP Ranch Guest Ranch in the Thompson-Nicola Regional District of British Columbia. The survey lines for both blocks are oriented N-S (90°N) at 200 m spacing, while tie lines are oriented in perpendicular direction to the survey lines and spaced at 2000 m.

Background information on the MobileMT survey follows below, courtesy of the Expert Geophysics Limited (EGL) website:

> "*Expert Geophysics Limited specializes in airborne geophysical surveys worldwide with advanced electromagnetic systems: Mobile MagnetoTellurics (MobileMT) is the most advanced generation of airborne AFMAG technology. MobileMT is the only system proven to deliver geoelectrical information from near-surface to greater than 1 km depth with high spatial resolution.*
> *mTEM system advantages:*
> *- Small footprint and high base frequency enable very high spatial resolution;*
> *- Detail subsurface geoelectric characterization;*
> *- Designed to work in areas with industrial electromagnetic noise (powerlines);*
> *- Its light weight allows the mTEM system to deploy utilizing cost-effective light utility aircraft.*

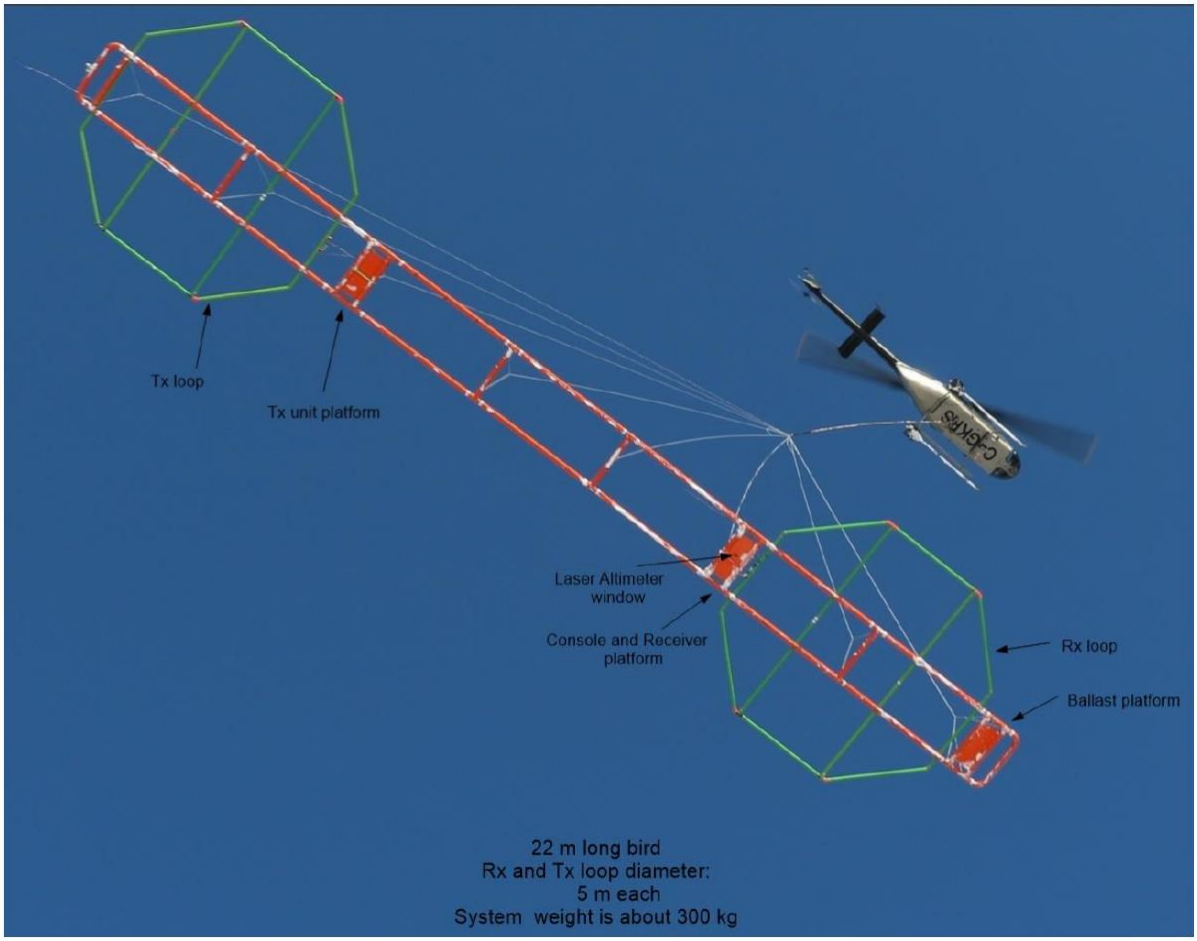


Figure 1- mTEM airborne EM system

The complete report by Expert Geophysics Limited (EGL)is included in Appendix D. In this report, and geophysical survey results are presented in the form of digital databases, maps, grids, sections, elevation slices and 3D voxels. The report describes the data acquisition, processing and inversion procedures, equipment and digital data specifications, basic data analysis.

COPPERVIEW SOUTH PROPERTY

FIG 6 MobileMT Survey Area Location. Block names from north to south: North Block, and South Block

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COPPERVIEW SOUTH PROPERTY

FIG 7 MobileMT Survey North block flight path

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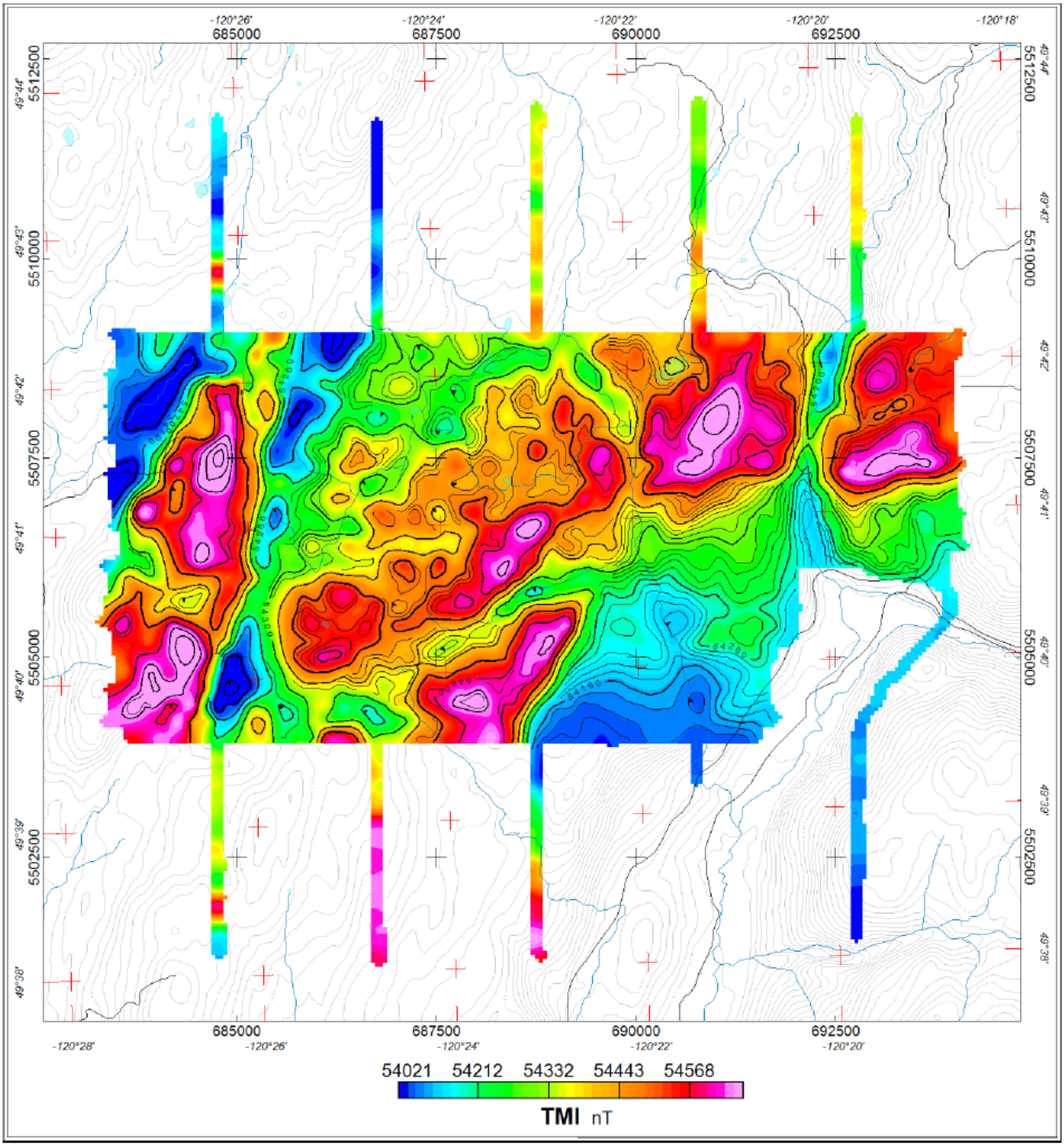
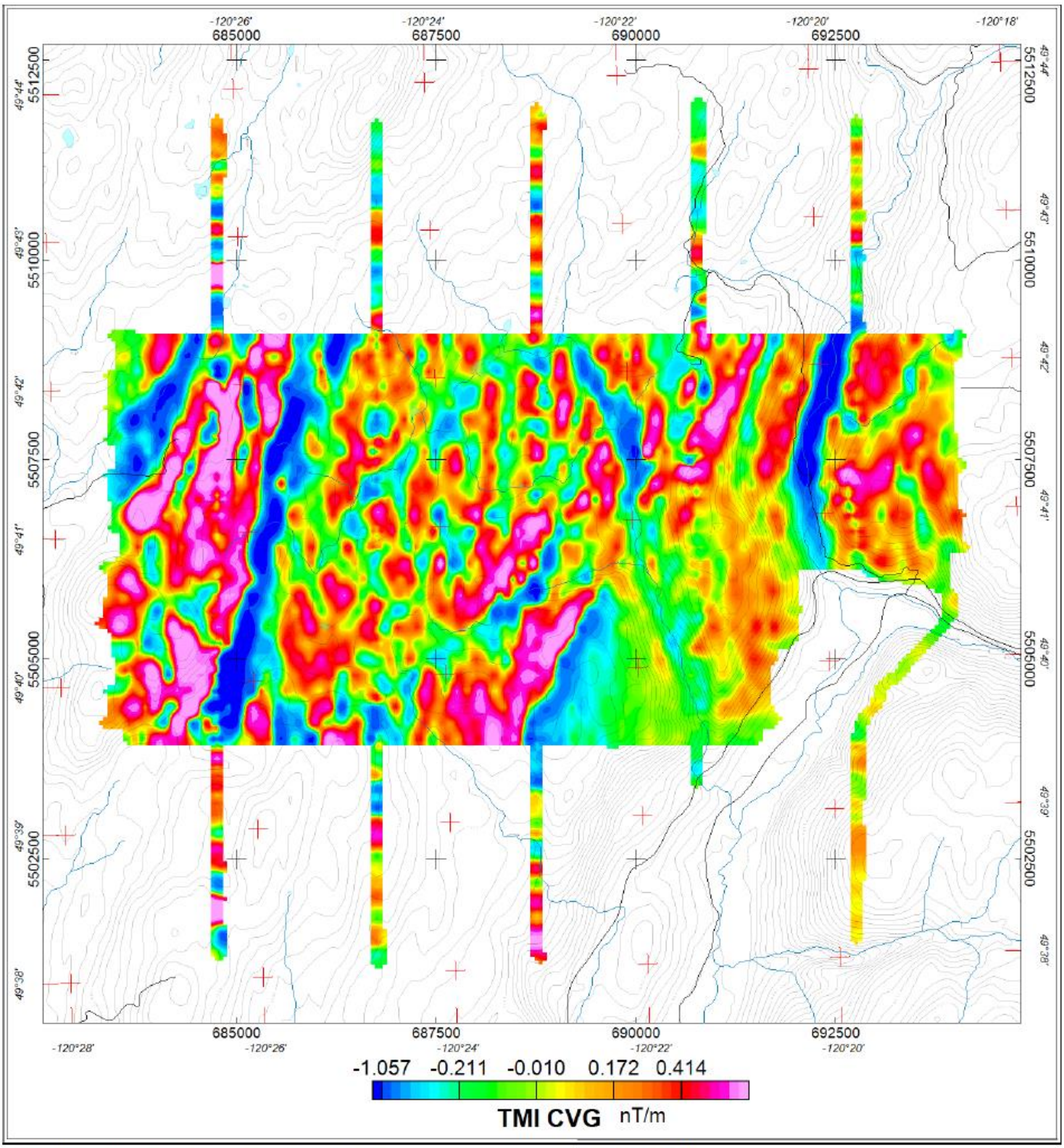


Total magnetic intensity (TMI)

FIG 8 COPPERVIEW SOUTH PROPERTY (WESTERN PORTION)

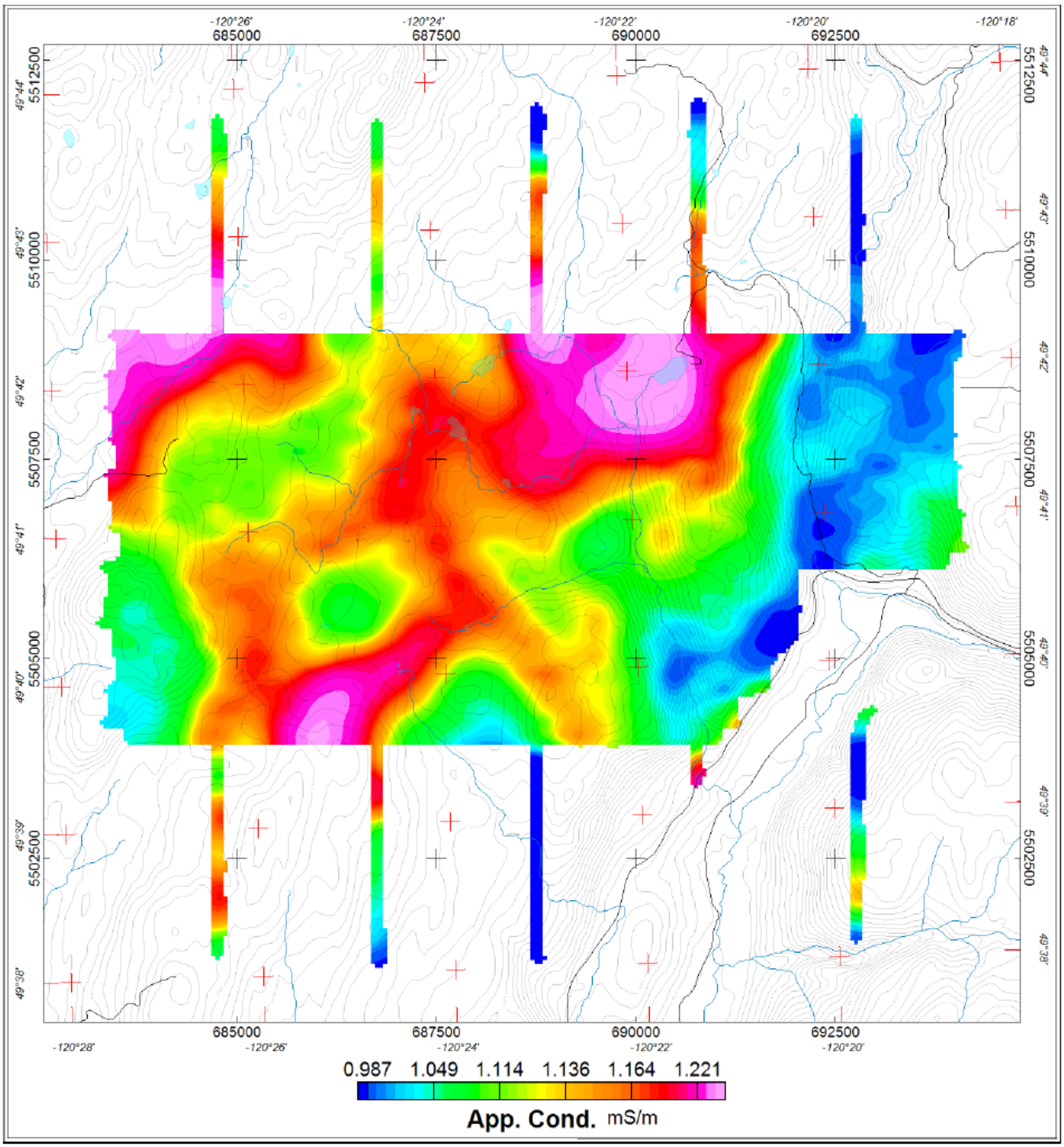
– TOTAL MAGNETIC INTENSITY MAP -MOBILEMT AIRBORNE



Calculated vertical gradient of total magnetic intensity (CVG-TMI)

FIG 9 COPPERVIEW SOUTH PROPERTY (WESTERN PORTION)

– CALCULATED VERTICAL GRADIENT MAGNETIC INTENSITY MAP -MOBILEMT AIRBORNE



Apparent conductivity, 33 Hz

FIG 10 COPPERVIEW SOUTH PROPERTY (WESTERN PORTION)

– APPARENT CONDUCTIVITY, 33HZ -MOBILEMT AIRBORNE

7.1 Soil Geochemistry – Spukunne Lake Area (East Grid 1) & Vale Minfile Area (East Grid 2)

Based on a review of historic assessment work from the 1990's it was decided to complete a limited reconnaissance field program over the Vale Minfile area and the Spukunne Lake area on the south-central portion of the Copperview South property. Prospecting and soil geochemistry were completed over two grid areas on the Copperview South property by personnel of Exploration Facilitation Unlimited Inc. between September 21 to October 2, 2020. East Grid 1 was near Spukunne Area and comprised 21 soil samples. East Grid 2 was near the "Vale Minfile" showing and 71 soil samples were taken. Data, results, and maps of the soil geochemistry are included in this report. All 92 soil samples were delivered to and assayed by ALS Global - Geochemistry Analytical Lab in North Vancouver, BC, Canada (a division of ALS Canada Ltd.).

The primary lithologies encountered during soil sampling were rounded, smooth-weathered, coarse, equigranular, pink granite. With weak to moderate jointing. Narrow zones of shearing accompanied by argillic to phyllic alteration, with narrow quartz veins and stringers were rarely noted. No rock samples were taken. The soil geochemistry results are discussed under the Interpretation and Conclusions section of this report.

8.0 DRILLING

No drilling took place on the Copperview South property in 2021. To the best of the author's knowledge there has been no modern drilling completed on the Copperview South property.

9.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Soil samples were collected at a regional scale at 100-meter intervals along E-W lines that were widely spaced interval of 500-meters apart in the southeastern portion of the Copperview South Property. Soil samples were collected using a soil auger. Samples were laid out on a plastic bag and hand sifted to remove rocks, roots, and other organics before being classified, described, and put into a labelled Kraft sample bag. Location for each sample was recorded in a notebook as well as on a Garmin GPS. Description was recorded in a notebook and a ribbon marked with sample number, date, and sampler initials was tied to mark the location. Samples were stored in a locked

motel room and were retrieved by the author who hand-delivered to ALS Canada Ltd. facility in North Vancouver. The site position was recorded using a handheld GPS receiver in UTM NAD83 Zone 10 format. Once taken, the samples were kept in a secure location while the program was still underway.

Due to the reconnaissance nature of the 2021 exploration program, no standards or blanks were included into the sample stream. However, if a larger, follow-up sampling program is completed, it is recommended that prepackaged standards purchased from OREAS and sample blanks made of dolomite purchased at a hardware store be inserted into the sample sets for QAQC procedures.

The 2021 soil samples from the Copperview South Property were bagged in fiberglass sacks, with a unique security label and hand delivered to ALS Global - Geochemistry Analytical Lab in North Vancouver, BC, Canada (a division of ALS Canada Ltd.) for analysis. ALS Global - Geochemistry Analytical Lab is an International Standards Organization (ISO) 9001 Geochemical and assaying laboratory.

Soil samples were also dried and were sieved to 180 microns. The remaining material had a 25 g aliquot split off and were also analyzed by ALS Lab's **AuME-TL43** process procedure. Au + multi-element packages use a single aqua regia digest on 25g charge weights, with Trace detection options. Gold, in conjunction with a large suite of base metal and pathfinder elements, are determined from the same solution via a combination of ICPMS ("Inductively Coupled Plasma Mass spectrometry") and ICP-AES.

Trace Level Detection Limits

AuME-TL43™ (25g sample) & AuME-TL44™ (50g sample) Analytes & Ranges (ppm)							
Au	0.001-1	Cs	0.05-500	Mo	0.05-10000	Sr	0.2-10000
Ag	0.01-100	Cu	0.2-10000	Na	0.01-10%	Ta	0.01-500
Al	0.01-25%	Fe	0.01-50%	Nb	0.05-500	Te	0.01-500
As	0.1-10000	Ga	0.05-10000	Ni	0.2-10000	Th	0.2-10000
B	10-10000	Ge	0.05-500	P	10-10000	Ti	0.005-10%
Ba	10-10000	Hf	0.02-500	Pb	0.2-10000	Tl	0.02-10000
Be	0.05-1000	Hg	0.01-10000	Rb	0.1-10000	U	0.05-10000
Bi	0.01-10000	In	0.005-500	Re	0.001-50	V	1-10000
Ca	0.01-25%	K	0.01-10%	S	0.01-10%	W	0.05-10000
Cd	0.01-2000	La	0.2-10000	Sb	0.05-10000	Y	0.05-10000
Ce	0.02-10000	Li	0.1-10000	Sc	0.1-10000	Zn	2-10000
Co	0.1-10000	Mg	0.01-25%	Se	0.2-1000	Zr	0.5-500
Cr	1-10000	Mn	5-50000	Sn	0.2-500		

10.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

No environmental studies nor community engagements were completed during 2021 give the modest budget and early stage of exploration activity on the Copperview South property.

11.0 INTERPRETATION AND CONCLUSIONS

The exploration activities on the Copperview South property in 2021 resulted in significant anomalies that warrant further investigation. Highlights include:

- **MobileMT Geophysical Anomaly "G" —** Referring to Figure 12 this MobileMT geophysical anomaly is designated as **"G"** by our consulting geophysicist, Martin St. Pierre (internal company report 2021**, Appendix E**). This excerpt from his report:

  "***Anomaly G*** *is located between anomalies D and F. It is present at the lower altitude slices from 200m to -100m and increases in intensity and size with lower altitude (Figures 9, 11 and 13). At its lowest altitude of -100m it becomes unbounded to the north. It is generally located within low magnetic susceptibilities (Figures 10, 12 and 14). Its close proximity to anomaly D suggests a possible relationship.* ***Anomaly G unlimited depth extent, low susceptibility and possible relationship to anomaly D makes it a high priority target****.*

  The Anomaly "G" Target is approximately 900 by 900 meters and is in an area with active and decommissioned logging roads.

- **MobileMT Geophysical Anomaly "D" —** Referring to Figure 11, below, this MobileMT geophysical anomaly is designated as **"D"** by our consulting geophysicist, Martin St. Pierre (internal company report 2021). This excerpt from his report:

  "*Anomaly D is located at the north-central border of the survey block. It is present in all altitude slices (Figures 1 to 14), and is unbounded by the survey block to the north. At the west side of the anomaly we see a tie line that shows low resistivities extending to the north for approximately 1.9 Km. This is present in altitude slices 600m to -100m (Figures 5, 7, 9, 11 and 13). The magnetic susceptibilities at higher altitudes of 1000m and 800m (Figures 2 and 4) show a complex mixture of moderate to high values. However, with decreasing altitude we see that the anomaly flanks higher susceptibilities locate to its south (Figures 6, 8, 10, 12 and 14).* ***Anomaly D unlimited depth***

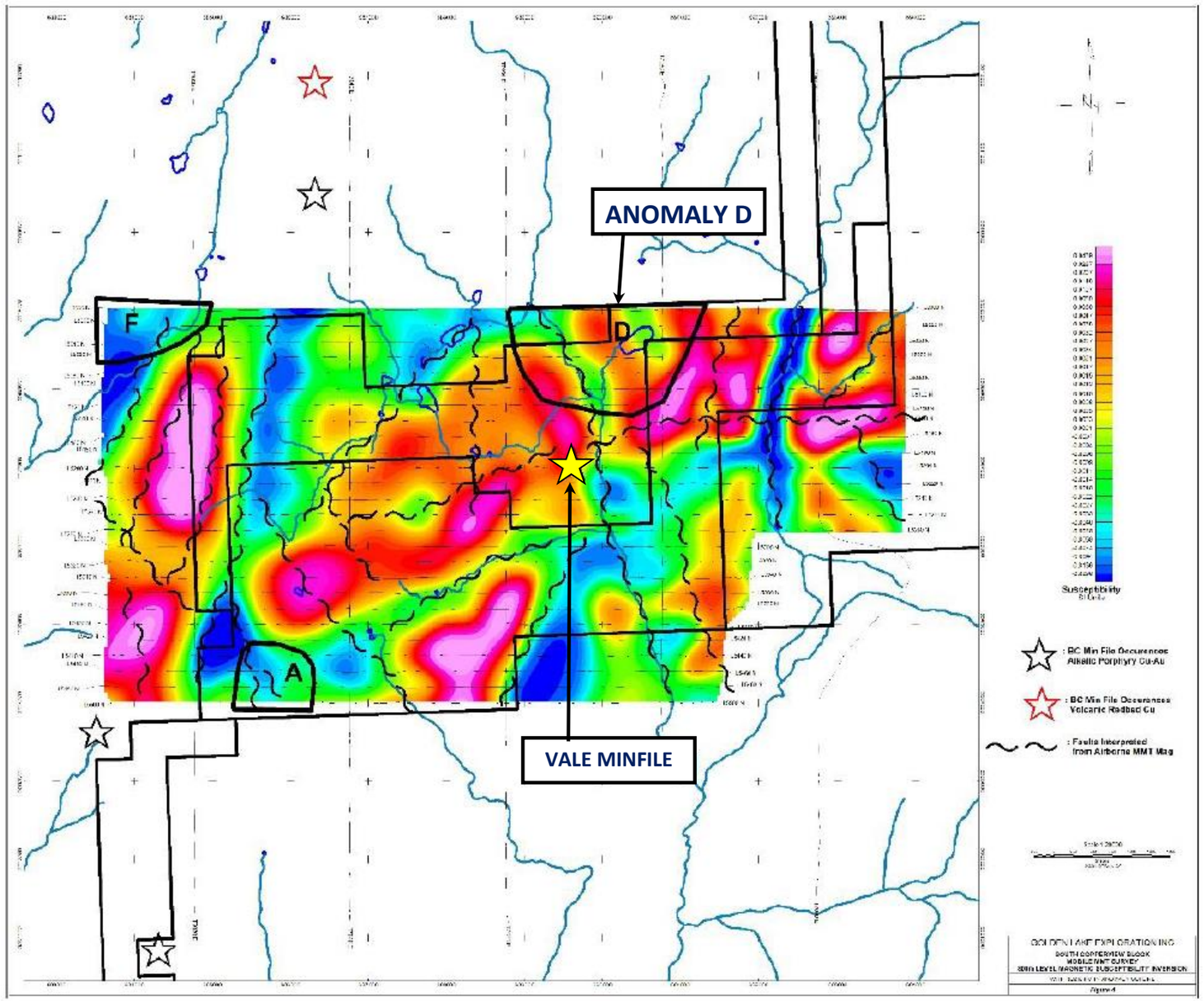
extent, combined with moderate susceptibilities and significant size potential make it a high priority target.*"*

The large anomaly (measuring 1,500 by 1,800 meters) is located north of the Vale Minfile area and close to Spukunne Lake, with access by logging roads and recreational trails.

- **Soil Geochemistry - Vale Minfile Area and Spukunne Lake Area –**- referring to Figure 13, for the location of the East Grid 1 (Spukunne Lake Area) and East Grid 2 (Vale Minfile Area) and Figure 14a, 14b, 15a, and 15 b for the results plotted for gold and copper, and to Appendix C, for detailed information and assay results for the soil samples. Although a small data set of only 92 samples were taken from the two grid areas, the following

	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
80 % Percentile	1.4	0.19	19	10	94	2
90 % Percentile	2.0	0.24	25	11	101	3
95% Percentile	2.8	0.28	30	13	111	3

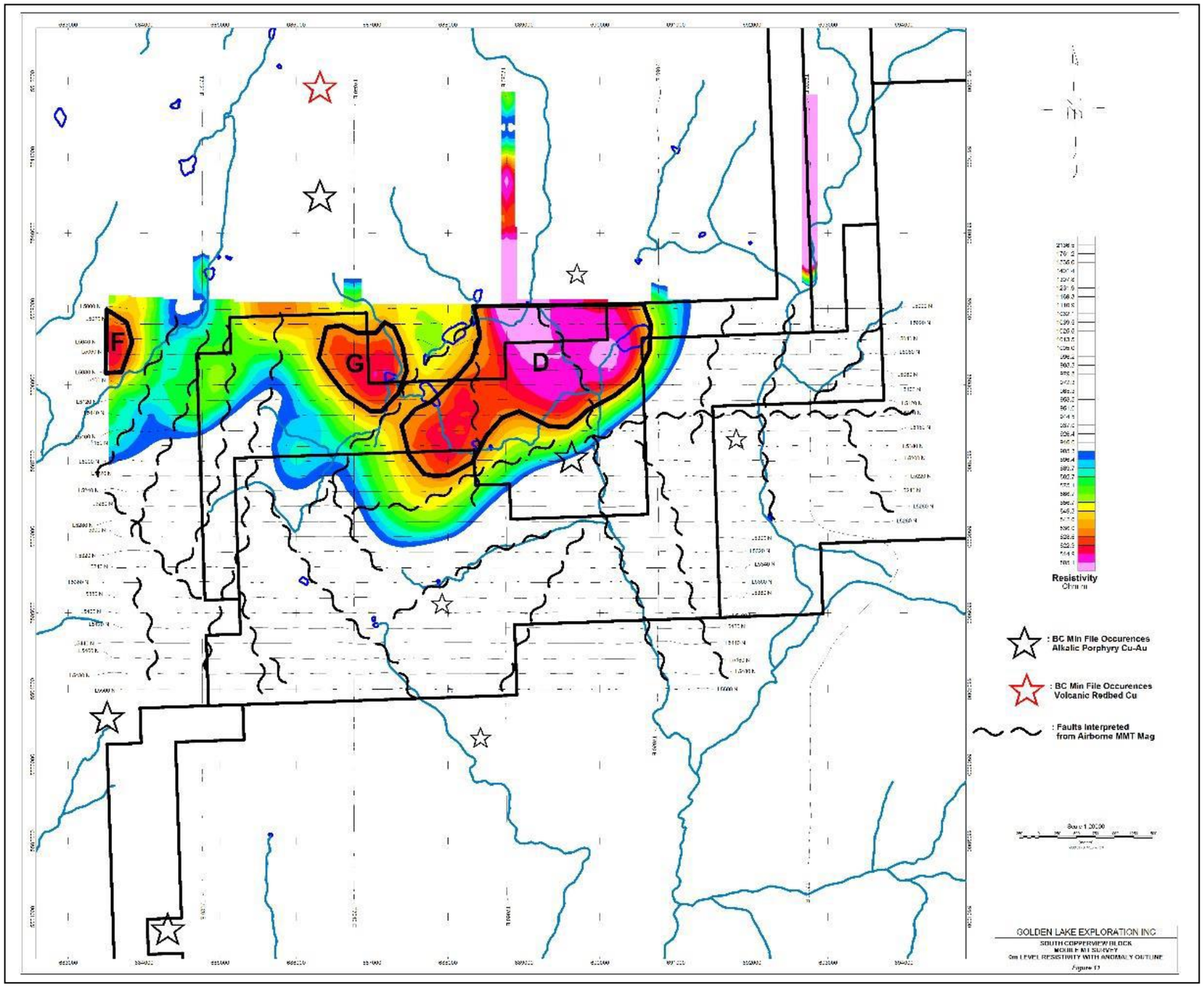
table illustrates the statistics. The peak gold value was 19.4 parts per billion (ppb) and only three samples were greater than 10 ppb Au. The peak silver value was 0.39 parts per million (ppm Ag), and the highest copper value was 79 ppm Cu, with only three samples greater than 50 ppm. Completed multi-element assays for the soil samples are included in Appendix B of this report (files separately). On Kodiak Copper's MPD property located to the north of the Copperview South property defined strongly anomalous copper-in-soil values of 100 to 200 ppm. The copper and gold (and associated lead, zinc and arsenic) assays from the limited 2021 geochemical survey are very low and reflect only background values. **The values for copper and gold at the East Grid 1 (Spukunne Lake Area) and at the East Grid 2 (Vale Minfile Area) are discouraging, with no significant anomalies that warrant additional investigation.**



Anomaly D is located at the north-central border of the survey block. It is present in all altitude slices (Figures 1 to 14), and is unbounded by the survey block to the north. At the west side of the anomaly we see a tie line that shows low resistivities extending to the north for approximately 1.9 Km. This is present in altitude slices 600m to -100m (Figures 5, 7, 9, 11 and 13). The magnetic susceptibilities at higher altitudes of 1000m and 800m (Figures 2 and 4) show a complex mixture of moderate to high values. However, with decreasing altitude we see that the anomaly flanks higher susceptibilities locate to its south (Figures 6, 8, 10, 12 and 14 *internal report*). **Anomaly D unlimited depth extent, combined with moderate susceptibilities and significant size potential make it a high priority target**.

*(Martin St. Pierre, Geophysicist, Internal Company Report, 202, **refer to Appendix E**)*

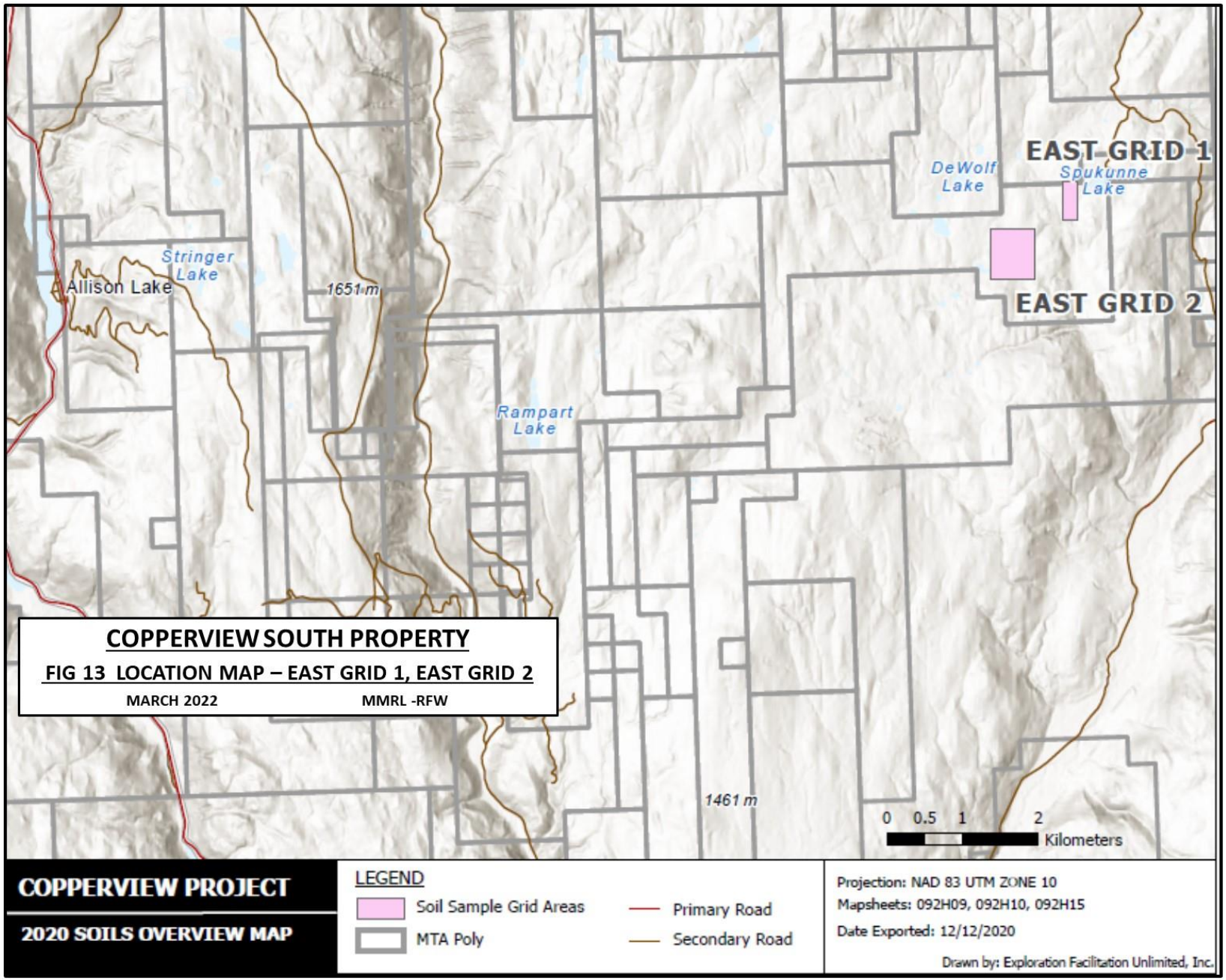
FIG 11 ANOMALY "D" - GEOPHYSICAL TARGET COMPILATION - COPPERVIEW SOUTH PROPERTY

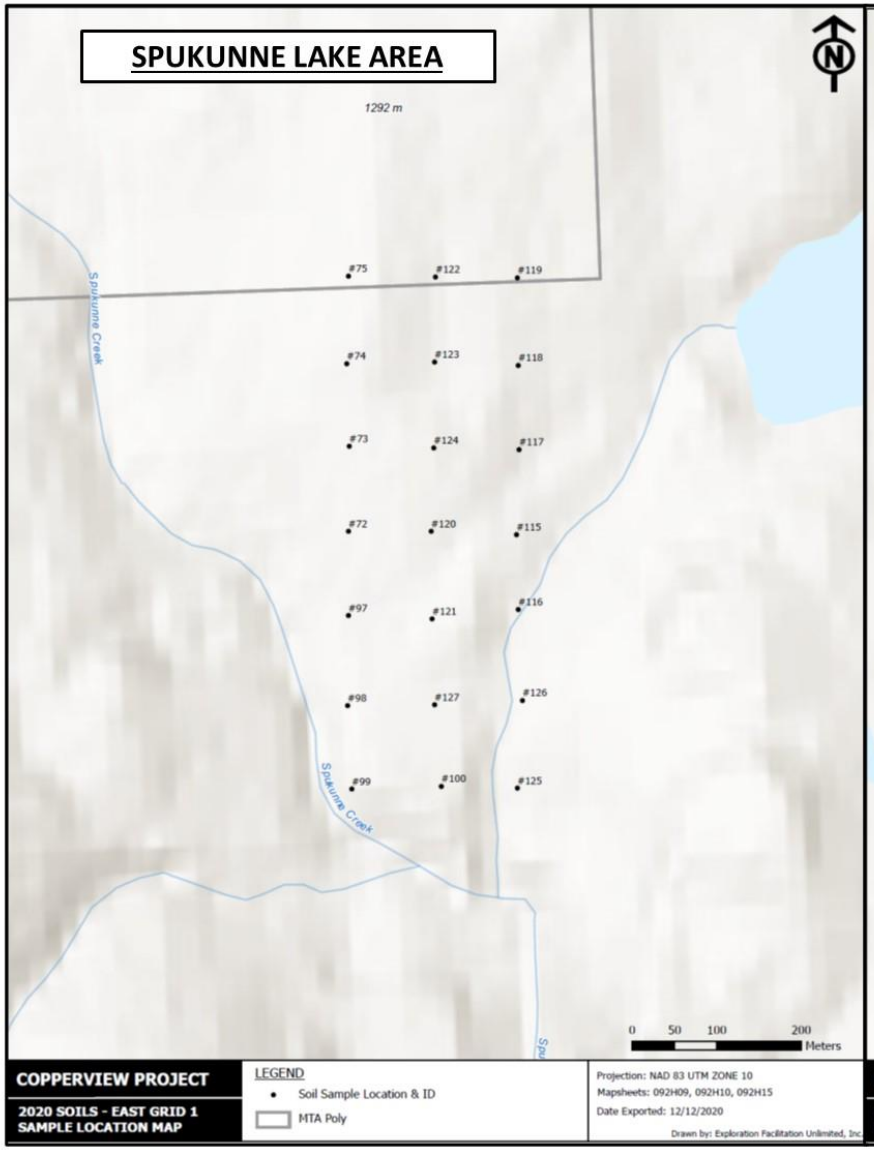


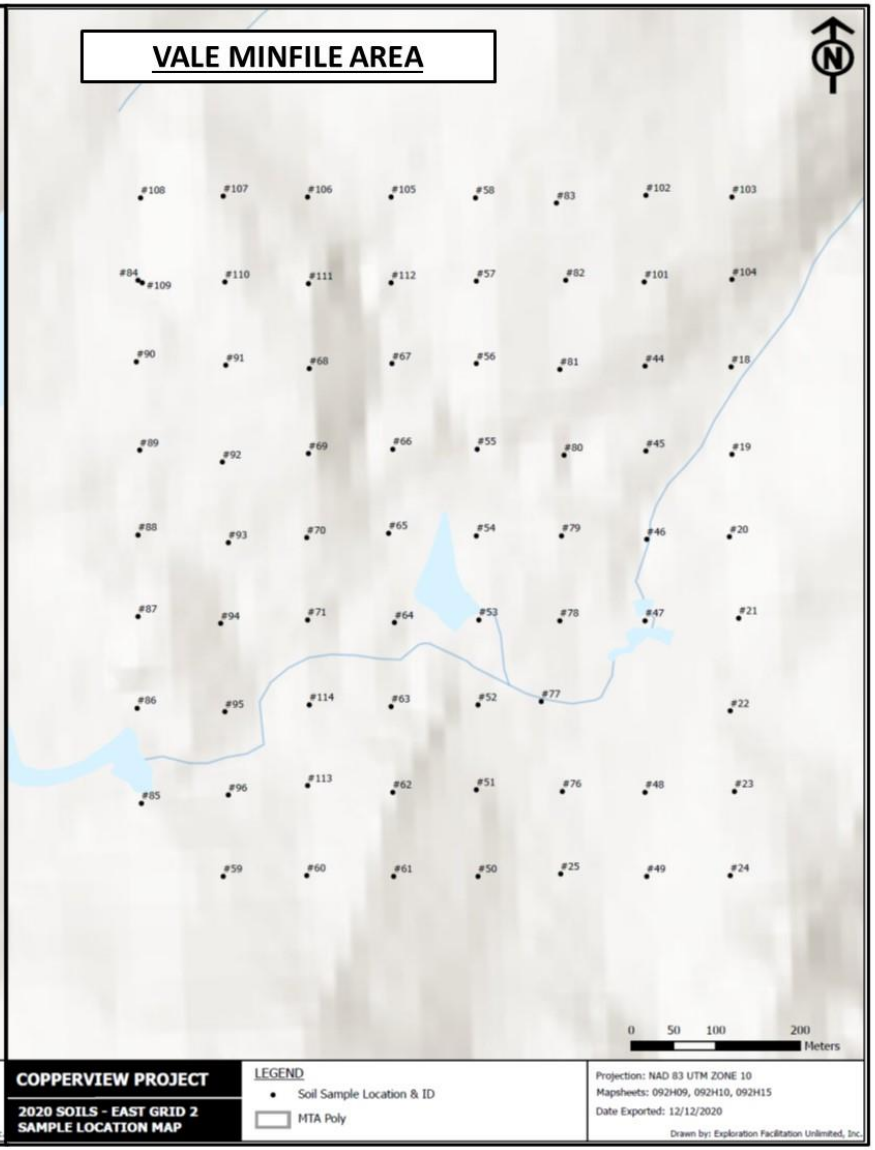
Anomaly G is located between anomalies D and F. It is present at the lower altitude slices from 200m to -100m and increases in intensity and size with lower altitude (Figures 9, 11 and 13, *internal report*). At its lowest altitude of -100m it becomes unbounded to the north. It is generally located within low magnetic susceptibilities (Figures 10, 12 and 14). Its close proximity to anomaly D suggests a possible relationship. Anomaly G unlimited depth extent, low susceptibility and possible relationship to anomaly D **makes it a high priority target**.

*(Martin St. Pierre, Geophysicist, Internal Company Report, 2021, **refer to Appendix E**)*

FIG 12 ANOMALY "G" - GEOPHYSICAL TARGET COMPILATION - COPPERVIEW SOUTH PROPERTY


EAST GRID 1
DeWolf Lake
Spukunne Lake
EAST GRID 2
Stringer Lake
Allison Lake
1651 m
Rampart Lake
1461 m
0 0.5 1 2
Kilometers
COPPERVIEW SOUTH PROPERTY
FIG 13 LOCATION MAP – EAST GRID 1, EAST GRID 2
MARCH 2022 MMRL -RFW
COPPERVIEW PROJECT
2020 SOILS OVERVIEW MAP
LEGEND
Soil Sample Grid Areas
MTA Poly
Primary Road
Secondary Road
Projection: NAD 83 UTM ZONE 10
Mapsheets: 092H09, 092H10, 092H15
Date Exported: 12/12/2020
Drawn by: Exploration Facilitation Unlimited, Inc.





COPPERVIEW SOUTH PROPERTY – EAST GRID 1

FIG 14a SOIL SAMPLE LOCATIONS

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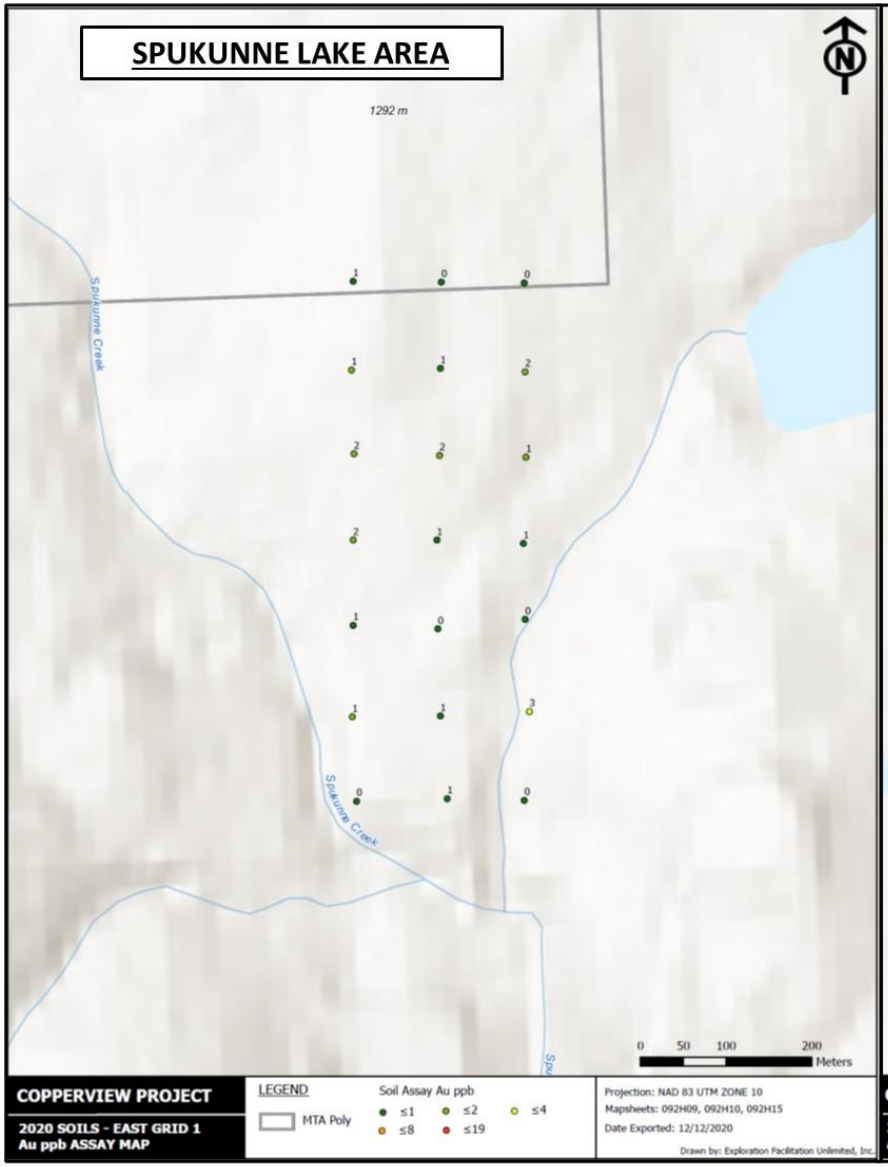
COPPERVIEW SOUTH PROPERTY – EAST GRID 2

FIG 14 SOIL SAMPLE LOCATIONS

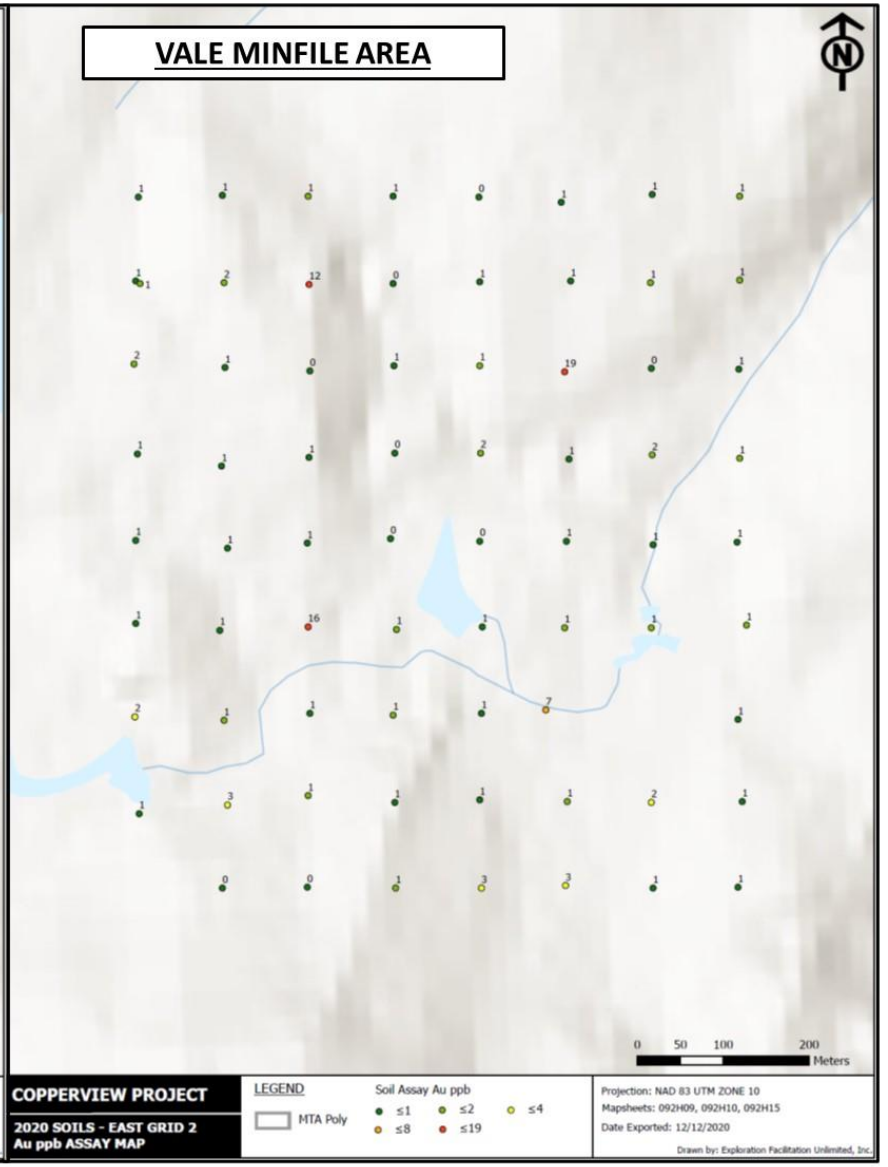
MARCH 2022 **MMRL -RFW**



COPPERVIEW SOUTH PROPERTY – EAST GRID 1

FIG 15a GOLD-IN-SOIL RESULTS

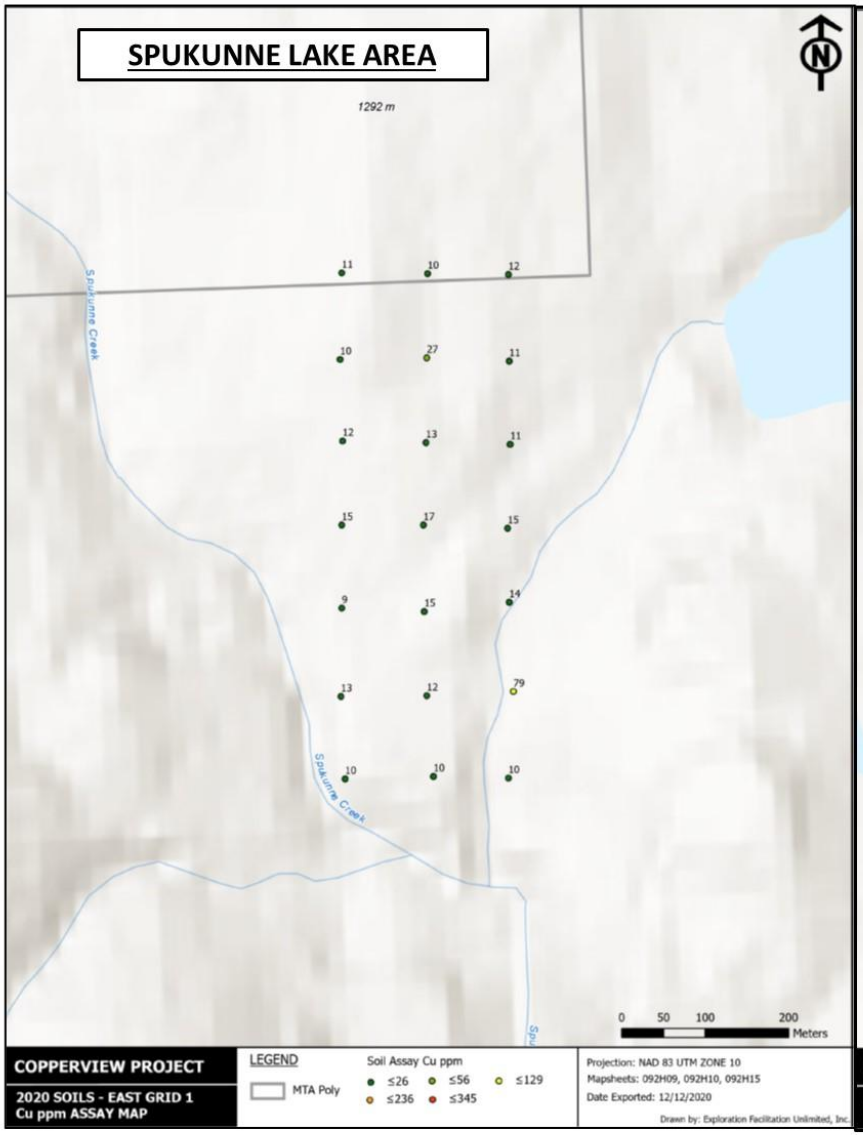
MARCH 2022 MMRL -RFW



COPPERVIEW SOUTH PROPERTY – EAST GRID 2

FIG 15b GOLD-IN-SOIL RESULTS

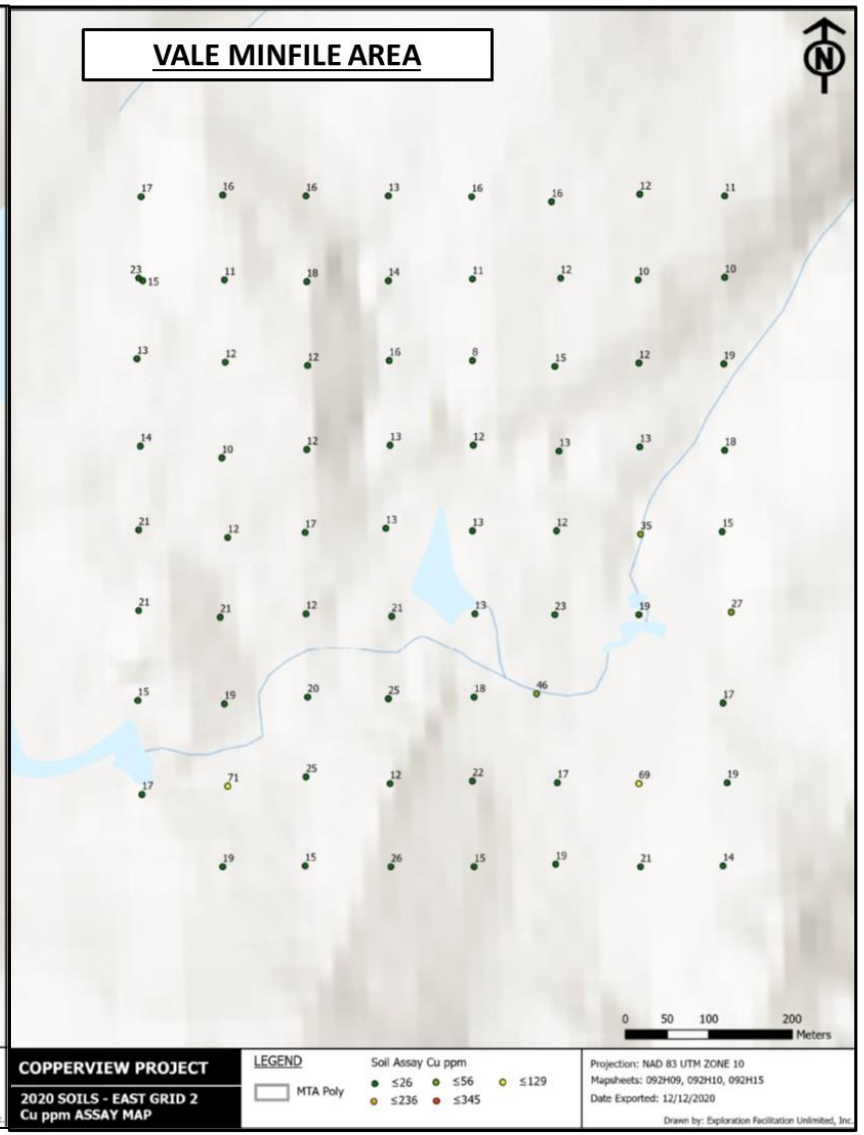
MARCH 2022 MMRL -RFW



COPPERVIEW SOUTH PROPERTY – EAST GRID 1

FIG 16a COPPER-IN-SOIL RESULTS

MARCH 2022 MMRL -RFW



COPPERVIEW SOUTH PROPERTY – EAST GRID 2

FIG 16b COPPER-IN-SOIL RESULTS

MARCH 2022 MMRL -RFW

12.0 RECOMMENDATIONS

It is the author's opinion that, the Copperview South property is a property of merit and warrants additional exploration activities. The 2021 MobileMT airborne geophysical survey resulted in several conductivity and magnetic anomalies that warrant further investigations. Limited soil geochemistry over the Spukunne Area and Vale Minfile area did not return significant anomalies and no further work is recommended on these targets.

Recommended work at the Copperview South property includes:

- "**Anomaly D Target**" – This MobileMT geophysical target area has not been visited. Prospecting, geological mapping, and rock and soil geochemistry, are recommended, followed by Induced Polarization geophysics if initial results are positive.
- **"Anomaly G" Target"** – this is target area is defined by a shallow depth MobileMT anomaly. The company's consultant geophysicist indicates "..Its close proximity to anomaly D suggests a possible relationship. Anomaly G unlimited depth extent, low susceptibility and possible relationship to anomaly D makes it a high priority target." Detailed soil and stream geochemistry is recommended along with prospecting and geological mapping and rock sampling. Induced Polarization geophysics is recommended, if initial results are positive.
- **Other Targets** - Prospecting with an XRF analyzer may be useful (for copper values) on the soil samples and a pilot program is recommended.

13.0 REFERENCES

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Preto, V.A., 1975. Notes to Accompany Preliminary Maps No. 17. Geology of the Allison Lake – Missezula Lake Area. B.C. MEMPR

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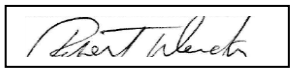
Rowe, J.D., 1991, Geochemical Report on the Vale 1-14 Mineral Claims, for Kingsvale Resources Ltd., B.C. Ministry of Energy, Mines, and Petroleum Resources, Assessment Report #21920.

St. Pierre, M, 2021, Copperview South Property – MobileMT Interpretation, Internal Company Report for Golden Lake Exploration Inc., by consulting geophysicist, M. St. Pierre.

14.0 STATEMENT OF QUALIFICATION

1. I, Robert F. Weicker of Suite 2801, 1166 Melville St., Vancouver, B.C. V6E 4P5, am a self-employed consultant geologist through my consulting company, Multiple Metals Resources Ltd., and I authored and am responsible for this report entitled " REPORT ON GEOCHEMISTRY AND GEOPHYSICS ACTIVTIES 2021 ON THE COPPERVIEW SOUTH PROPERTY", dated March 12, 2022.
2. I am a graduate of the University of Waterloo, Waterloo, Ontario with an Honours Bachelor's Degree in Earth Science (1977). I have more than 35 years mineral exploration, development, and production experience, working with major and junior mining companies both domestically and internationally.
3. I have been a registered member of the Association of Professional Engineers and Geologist of British Columbia (APEGBC) in the past, but I am currently retired from APEGBC, and not a member, since 2011.
4. I have not visited the subject mineral property of this report.
5. This report is based upon work completed from June to December 2021, and the author's personal knowledge of the region and a review of additional pertinent data.
6. As stated in this report, in my professional opinion the property is of potential merit and further exploration work is justified.
7. To the best of my knowledge this report contains all scientific and technical information required to be disclosed so as not to be misleading.
8. I hold one claims on behalf of Golden Lake Exploration Inc., but I have no interest in the property and all interests in the property are owned by Golden Lake Exploration Inc. My professional relationship is as a non-arm's length consultant, and I have no expectation that this relationship will change.
9. I consent to the use of this report by Bullet Exploration Inc., for such assessment and/or regulatory and financing purposes deemed necessary, but if any part shall be taken as an excerpt, it shall be done only with my approval.

Signed, "Robert Weicker", dated at Vancouver, March 12th, 2022. 

Revised "Robert Weicker:, dated at Vancouver, February 3rd, 2023

APPENDIX A - COPPERVIEW SOUTH PROPERTY

Expenditures - REVISED

COPPERVIEW SOUTH PROPERTY, PRINCETON- MERRITT, BC -REVISED FEB 3, 2023					
Exploration Work type	**Comment**	**Days**			**Totals**
Personnel (Name)* / Position	**Field Days (list actual days)**	**Days**	**Rate**	**Subtotal***	
Justin Rensby -Senior Geo	Sept 21- Oct 1/2020	3.00	$787.50	$2,362.50	
Gary Forsythe -Geotech	Sept 21- Oct 1/2020	2.75	$472.50	$1,299.38	
Curtis Rensby - Geotech	Sept 21- Oct 1/2020	3.00	$472.50	$1,417.50	
Robert Weicker -Project Manager	October 2020, July 2021	6.00	$735.00	$4,410.00	
				$9,489.38	**$9,489.38**
Office Studies	**List Personnel (note - Office only, do not include field days**				
Literature search			$0.00	$0.00	
General research			$0.00	$0.00	
Report preparation	*RF Weicker -December 5-12, 2021*	*6.0*	$735.00	$4,410.00	
Other (specify) Geophyisics	Martin -St. Pierre October 2021 - South Copperview Block	6.0	$1,229.98	$7,379.85	
				$11,789.85	**$11,789.85**
Airborne Exploration Surveys	**Line Kilometres / Enter total invoiced amount**				
Aeromagnetics			$0.00	$0.00	
Other (specify)	Mobile MT Airborne Survey -Expert Geophysics- 302 line kms	302.0	$182.01	$54,965.76	
				$54,965.76	**$54,965.76**
Remote Sensing	**Area in Hectares / Enter total invoiced amount or list personnel**				
				$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*			
				$0.00	$0.00
Ground geophysics	**Line Kilometres / Enter total amount invoiced list personnel**			NA	
Magnetics					
				$0.00	**$0.00**
Geochemical Surveying	**Number of Samples**	**No.**	**Rate**	**Subtotal**	
Drill (cuttings, core, etc.)			$0.00	$0.00	
Stream sediment			$0.00	$0.00	
Soil	ALS Laboratories -Soil	92.0	$47.19	$4,341.36	
Rock			$0.00	$0.00	
				$4,341.36	**$4,341.36**
Drilling	**No. of Holes, Size of Core and Metres**	**No.**	**Rate**	**Subtotal**	
Diamond			$0.00	$0.00	
Reverse circulation (RC)			$0.00	$0.00	
				$0.00	**$0.00**
Other Operations	**Clarify**	**No.**	**Rate**	**Subtotal**	
				$0.00	**$0.00**
Reclamation	**Clarify**	**No.**	**Rate**	**Subtotal**	
Other (specify)			$0.00	$0.00	
Transportation		**No.**	**Rate**	**Subtotal**	
truck rental			$0.00	$0.00	
ATV			$0.00	$0.00	
fuel	Fuel -Merritt- July 8-14		$0.00	$359.75	
				$359.75	**$359.75**

Accommodation & Food	**Rates per day**				
Motel, Food, Fuel-EFU	Sept 21- Oct 1/2020		$0.00	$2,039.76	
Motel, Food, Fuel-RF Weicker	October 22-25, 2020		$0.00	**$915.32**	
Meals	day rate or actual costs-specify		$0.00	$0.00	
				$2,955.07	**$2,955.07**
Miscellaneous					
Telephone	sat phone rental	3.00	$17.50	$52.50	
Other (Specify)					
				$52.50	**$52.50**
Equipment Rentals					
Other (Specify)	radios	3.00	$17.50	$ 52.50	
Field Gear (Specify)			$0.00	$0.00	
Other (Specify)	chainsaw	3.00	$17.50	$52.50	
				$105.00	**$105.00**
Freight, rock samples					
Handling Charges EFU				$149.92	
				$149.92	**$149.92**
South Copperview TOTAL Expenditures- *REVISED*					**$84,208.59**
APPLICATION FROM PAC ACCOUNT - DONALD RIPPON (FMC 137109)		12%			**$9,918.41**
COMBINED ASSESSMENT EXPENDITURE SUBMITTAL					**$94,127.00**

APPENDIX B

COPPERVIEW NORTH PROPERTY

ASSAY CERTIFICATES – SOIL SAMPLES

NOTE: *These results are in the public domain.*

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: GOLDEN LAKE EXPLORATIONS LTD.
SUITE 2801
1166 MELVILLE ST.
VANCOUVER BC V6E 4P5

INVOICE NUMBER 5329751

BILLING INFORMATION

Certificate:	VA20235361
Sample Type:	Soil
Account:	GOLARO
Date:	1-DEC-2020
Project:	Copperview Project
P.O. No.:	
Quote:	
Terms:	Due on Receipt C1
Comments:	

ANALYSED FOR QUANTITY	CODE	DESCRIPTION	UNIT PRICE	TOTAL
1	BAT-01	Administration Fee	38.75	38.75
135	PREP-41	Dry, Sieve (180 um) Soil	1.95	263.25
46.68	PREP-41	Weight Charge (kg) - Dry, Sieve (180 um) Soil	3.05	142.37
135	ME-MS41L	Super Trace Lowest DL AR by ICP-MS	41.65	5,622.75

SUBTOTAL (CAD)	$	6,067.12
R100938885 GST	$	303.36
TOTAL PAYABLE (CAD)	**$**	**6,370.48**

To: GOLDEN LAKE EXPLORATIONS LTD.
ATTN: ROBERT WEICKER
SUITE 2801
1166 MELVILLE ST.
VANCOUVER BC V6E 4P5

Payment may be made by: Cheque or Bank Transfer

Beneficiary Name:	ALS Canada Ltd.
Bank:	Royal Bank of Canada
SWIFT:	ROYCCAT2
Address:	Vancouver, BC, CAN
Account:	003-00010-1001098

Please send payment info to accounting.canusa@alsglobal.com

Please Remit Payments To :
ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7

Note 92 samples, and $4,341.36 of this invoice attributed to Copperview South Property.

ALS Canada Ltd.

2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
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To: **GOLDEN LAKE EXPLORATIONS LTD.**
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VANCOUVER BC V6E 4P5

Page: 1
Total # Pages: 5 (A - D)
Plus Appendix Pages
Finalized Date: 1-DEC-2020
Account: GOLARO

CERTIFICATE VA20235361

Project: Copperview Project

This report is for 135 Soil samples submitted to our lab in Vancouver, BC, Canada on 15-OCT-2020.

The following have access to data associated with this certificate:

JUSTIN RENSBY	ROBERT WEICKER	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
SCR-41	Screen to -180um and save both

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME-MS41L	Super Trace Lowest DL AR by 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

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
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To: **GOLDEN LAKE EXPLORATIONS LTD.**
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VANCOUVER BC V6E 4P5

Page: 2 - A
Total # Pages: 5 (A - D)
Plus Appendix Pages
Finalized Date: 1-DEC-2020
Account: GOLARO

Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	WEI-21	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Recvd Wt.	Au	Ag	Al	As	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	0.0002	0.001	0.01	0.01	10	0.5	0.01	0.0005	0.01	0.001	0.003	0.001	0.01	0.005
1		0.32	0.0005	0.085	2.06	8.17	<10	128.5	0.43	0.0690	0.33	0.101	6.79	5.46	12.00	3.03
2		0.28	0.0005	0.054	1.88	12.35	<10	155.0	0.36	0.0712	0.37	0.068	6.31	4.80	9.13	3.43
3		0.24	0.0005	0.033	1.67	9.21	10	156.5	0.35	0.0614	0.56	0.255	10.90	4.67	8.96	4.83
4		0.28	0.0007	0.017	1.46	8.73	10	123.5	0.39	0.0604	0.44	0.071	11.70	6.46	9.97	2.27
5		0.22	0.0006	0.032	2.26	4.50	10	162.0	0.54	0.0591	0.54	0.118	13.45	8.54	12.00	3.82
6		0.18	0.0004	0.013	1.57	2.49	10	162.0	0.34	0.0641	0.43	0.236	10.25	4.67	4.67	5.39
7		0.30	0.0036	0.017	1.94	3.04	10	380	0.62	0.0853	0.72	0.254	27.0	6.97	8.32	1.700
8		0.16	0.0009	0.033	0.08	1.12	20	116.5	0.06	0.0049	>25.0	0.372	0.560	0.328	0.94	0.620
9		0.34	0.0006	0.012	2.58	2.30	20	142.5	0.61	0.0562	0.66	0.106	19.65	11.25	9.86	9.36
10		0.30	0.0024	0.082	2.50	8.71	10	156.0	0.60	0.0700	1.32	0.260	17.80	11.60	20.2	3.28
11		0.30	0.0017	0.031	2.49	5.15	20	125.5	0.74	0.0865	1.30	0.354	25.0	11.95	13.05	5.17
12		0.24	0.0009	0.014	1.80	3.69	10	176.5	0.55	0.0678	0.76	0.145	20.8	10.40	13.35	8.21
13		0.30	0.0005	0.016	2.21	2.43	10	191.5	0.56	0.0674	0.64	0.170	27.1	10.95	9.16	10.60
14		0.36	0.0015	0.025	2.18	16.90	10	147.0	0.58	0.0718	0.84	0.221	17.40	11.30	14.95	3.98
15		0.28	0.0016	0.054	2.82	6.43	10	266	0.75	0.0817	0.93	0.128	26.5	11.75	13.70	3.55
16		0.28	0.0012	0.016	1.47	3.40	10	98.5	0.52	0.0379	0.62	0.108	21.8	9.42	4.53	1.265
17		0.30	0.0022	0.053	1.58	7.67	<10	123.5	0.45	0.0712	0.50	0.201	16.15	8.03	12.40	3.27
18		0.32	0.0008	0.181	1.36	1.51	<10	120.5	0.29	0.0931	0.47	0.060	17.55	4.89	16.55	0.892
19		0.42	0.0010	0.212	1.59	2.36	<10	107.0	0.35	0.0944	0.24	0.090	16.75	5.78	16.40	1.055
20		0.26	0.0005	0.094	1.20	1.56	<10	94.1	0.24	0.0789	0.33	0.046	16.40	5.27	17.20	1.170
21		0.32	0.0013	0.072	1.36	1.19	<10	155.0	0.28	0.0670	0.44	0.013	18.45	5.24	14.50	0.823
22		0.36	0.0005	0.052	1.57	0.92	<10	155.5	0.21	0.0742	0.35	0.013	7.74	4.28	11.50	0.987
23		0.32	0.0006	0.140	1.53	2.42	<10	98.2	0.33	0.0865	0.23	0.080	14.25	5.87	15.65	1.300
24		0.40	0.0005	0.128	1.59	1.54	<10	98.2	0.33	0.0856	0.20	0.054	13.65	4.96	13.90	1.360
25		0.44	0.0025	0.062	0.78	4.46	<10	63.3	0.19	0.0941	0.67	0.033	17.20	5.87	25.0	0.937
26		0.38	0.0006	0.069	2.07	7.94	<10	116.5	0.42	0.0723	0.52	0.169	10.40	6.75	10.35	2.42
27		0.36	0.0005	0.053	1.63	8.62	<10	121.5	0.34	0.0658	0.42	0.210	7.98	5.96	8.64	1.945
28		0.30	0.0005	0.101	1.66	13.35	<10	140.0	0.35	0.0540	0.35	0.190	8.82	5.24	9.12	1.865
29		0.22	0.0005	0.041	2.34	9.93	<10	98.1	0.48	0.0859	0.52	0.111	8.19	8.45	11.35	2.91
30		0.34	0.0021	0.044	3.03	10.95	20	178.0	0.78	0.0737	1.46	0.273	22.7	17.30	5.80	4.08
31		0.28	0.0008	0.036	3.22	5.24	10	109.5	0.86	0.0716	1.22	0.388	25.3	14.50	12.90	5.80
32		0.40	0.0023	0.107	3.68	8.91	20	80.9	1.03	0.0640	1.48	0.240	28.2	22.0	12.10	6.23
33		0.36	0.0117	0.018	2.27	2.29	10	148.0	0.54	0.0947	0.94	0.317	19.65	8.02	12.85	3.54
34		0.40	0.0004	0.011	2.06	3.19	60	98.7	0.49	0.0607	0.68	0.182	12.85	6.90	14.20	5.97
35		0.34	0.0012	0.009	1.89	2.17	10	149.5	0.59	0.0855	0.51	0.145	23.9	8.44	8.45	2.42
36		0.24	0.0008	0.015	1.98	5.88	10	227	0.42	0.0953	0.59	0.627	17.60	6.40	14.60	4.72
37		0.40	0.0011	0.037	2.74	3.77	10	165.0	0.61	0.0850	0.71	0.111	25.0	9.06	10.10	15.75
38		0.32	0.0007	0.023	2.55	4.21	20	113.0	0.64	0.0568	1.15	0.163	23.6	14.20	10.30	4.61
39		0.34	0.0005	0.023	1.86	3.99	10	256	0.41	0.0736	0.38	0.107	10.25	6.35	5.86	1.835
40		0.40	0.0015	0.057	2.99	6.02	10	125.5	0.73	0.0614	1.08	0.121	24.0	17.10	6.44	3.71

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

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Page: 2 - B
Total # Pages: 5 (A - D)
Plus Appendix Pages
Finalized Date: 1-DEC-2020
Account: GOLARO

Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method Analyte Units LOD	ME-MS41L Cu ppm 0.01	ME-MS41L Fe % 0.001	ME-MS41L Ga ppm 0.004	ME-MS41L Ge ppm 0.005	ME-MS41L Hf ppm 0.002	ME-MS41L Hg ppm 0.004	ME-MS41L In ppm 0.005	ME-MS41L K % 0.01	ME-MS41L La ppm 0.002	ME-MS41L Li ppm 0.1	ME-MS41L Mg % 0.01	ME-MS41L Mn ppm 0.1	ME-MS41L Mo ppm 0.01	ME-MS41L Na % 0.001	ME-MS41L Nb ppm 0.002
1		28.2	2.35	6.51	0.032	0.193	0.016	0.017	0.06	2.87	13.2	0.31	344	0.35	0.020	0.833
2		25.1	2.15	6.50	0.042	0.340	0.028	0.017	0.08	2.60	12.1	0.22	429	0.27	0.026	0.720
3		22.6	2.20	6.02	0.057	0.184	0.024	0.018	0.18	3.48	11.5	0.24	1190	0.36	0.021	0.691
4		36.4	2.65	5.31	0.051	0.239	0.035	0.018	0.15	4.17	11.7	0.29	448	0.65	0.022	0.675
5		38.4	3.05	8.91	0.061	0.114	0.015	0.021	0.14	4.37	20.1	0.41	1260	0.37	0.025	1.050
6		97.1	1.570	4.60	0.037	0.064	0.013	0.015	0.09	3.94	20.1	0.21	520	0.62	0.030	0.635
7		24.3	3.03	6.80	0.065	0.232	0.041	0.033	0.28	9.22	12.7	0.27	1005	0.71	0.019	0.825
8		76.4	0.090	0.251	0.014	0.017	0.058	<0.005	0.01	0.295	1.3	0.24	60.4	0.22	0.017	0.041
9		28.9	3.69	9.08	0.066	0.376	0.015	0.029	0.28	8.16	20.0	0.58	738	0.86	0.024	0.617
10		106.0	4.01	9.73	0.107	0.283	0.067	0.033	0.37	7.74	19.4	0.70	748	0.63	0.023	0.643
11		236	4.09	9.85	0.096	0.268	0.146	0.044	0.34	10.75	22.7	0.78	1195	0.53	0.021	0.691
12		68.6	3.96	8.05	0.108	0.103	0.029	0.033	0.20	11.05	15.8	0.62	945	0.34	0.022	0.680
13		42.8	3.18	9.84	0.100	0.136	0.023	0.030	0.20	10.85	24.9	1.05	1615	0.32	0.020	0.664
14		87.3	3.67	9.33	0.111	0.405	0.059	0.029	0.17	7.62	18.3	0.58	768	0.58	0.022	0.709
15		171.0	3.63	10.65	0.118	0.606	0.024	0.027	0.20	11.40	26.7	0.54	1065	0.34	0.024	0.976
16		63.0	3.29	7.35	0.081	0.202	0.022	0.020	0.15	8.32	20.2	0.73	971	0.23	0.014	0.439
17		50.6	2.94	6.21	0.079	0.309	0.034	0.024	0.16	6.88	11.2	0.35	810	0.49	0.018	0.614
18		18.70	1.710	4.31	0.036	0.045	0.018	0.017	0.06	7.84	14.5	0.26	334	0.37	0.025	0.950
19		18.35	2.13	4.51	0.034	0.070	0.032	0.026	0.04	6.70	6.7	0.20	811	0.64	0.019	1.060
20		14.75	2.06	4.35	0.046	0.050	0.023	0.014	0.08	7.90	8.7	0.23	338	0.58	0.020	1.340
21		27.0	1.260	5.21	0.033	0.092	0.015	0.015	0.02	10.05	23.6	0.38	146.0	0.23	0.028	1.525
22		17.25	1.100	5.10	0.018	0.032	0.006	0.014	0.04	4.03	13.9	0.33	92.4	0.43	0.033	1.170
23		18.55	2.10	4.65	0.034	0.117	0.020	0.019	0.04	6.18	8.7	0.24	531	0.78	0.024	1.205
24		13.95	1.920	5.12	0.037	0.156	0.023	0.014	0.04	6.10	11.1	0.19	231	0.87	0.023	1.560
25		18.75	2.95	2.86	0.085	0.050	0.020	0.022	0.06	9.30	5.7	0.35	301	4.61	0.020	0.682
26		27.7	2.61	7.08	0.047	0.207	0.021	0.021	0.07	4.35	13.0	0.33	499	0.35	0.022	0.923
27		22.9	2.27	6.03	0.047	0.179	0.020	0.020	0.10	3.00	10.4	0.25	669	0.45	0.024	0.860
28		27.3	2.05	5.94	0.042	0.173	0.027	0.019	0.09	3.42	11.2	0.25	524	0.38	0.026	0.533
29		46.5	2.97	8.16	0.036	0.248	0.023	0.026	0.05	3.67	19.8	0.49	401	0.54	0.019	1.195
30		209	5.29	15.45	0.303	0.290	0.029	0.050	0.16	10.20	52.3	1.33	1535	0.58	0.015	0.607
31		188.5	4.80	13.50	0.120	0.470	0.027	0.035	0.33	10.40	31.5	0.73	1065	1.02	0.022	1.005
32		345	6.17	16.95	0.158	0.372	0.050	0.051	0.27	13.20	54.7	1.80	1375	0.91	0.026	0.612
33		40.6	2.53	7.37	0.056	0.421	0.029	0.025	0.24	6.65	15.9	0.30	859	0.42	0.027	1.285
34		45.6	3.24	8.21	0.154	0.323	0.013	0.027	0.32	4.89	20.4	0.50	661	0.59	0.033	0.650
35		55.6	2.92	8.43	0.076	0.170	0.029	0.028	0.13	8.55	19.7	0.58	1140	0.31	0.024	0.818
36		21.7	2.36	7.51	0.050	0.121	0.038	0.024	0.15	6.33	13.3	0.26	1205	1.32	0.023	1.030
37		77.0	3.39	9.56	0.070	0.353	0.071	0.031	0.24	12.20	22.5	0.50	686	0.32	0.032	0.868
38		128.5	4.65	10.95	0.115	0.517	0.023	0.028	0.39	8.96	26.2	0.66	1160	0.27	0.017	1.095
39		38.9	2.32	6.60	0.029	0.201	0.022	0.016	0.13	3.31	15.2	0.25	542	0.25	0.029	0.792
40		139.5	5.43	14.90	0.192	0.411	0.038	0.044	0.21	9.98	43.7	1.04	1515	0.33	0.017	0.965

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

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Finalized Date: 1-DEC-2020
Account: GOLARO

Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Ni	P	Pb	Pd	Pt	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.04	0.001	0.005	0.001	0.002	0.005	0.0002	0.01	0.005	0.005	0.003	0.01	0.01	0.005	0.003
1		7.49	0.054	3.73	0.002	<0.002	6.16	<0.0002	<0.01	0.198	3.19	0.062	0.48	20.2	<0.005	0.010
2		5.28	0.023	3.73	0.001	0.002	8.94	<0.0002	<0.01	0.196	3.21	0.034	0.47	26.0	<0.005	0.005
3		5.47	0.034	4.23	0.003	<0.002	17.25	<0.0002	<0.01	0.168	3.90	0.040	0.42	30.3	<0.005	0.004
4		5,32	0,027	4,41	0,001	0,002	9,53	<0,0002	<0,01	1,090	5,23	0,050	0,34	25,5	<0,005	0,008
5		7,53	0,103	3,97	0,001	<0,002	11,75	<0,0002	0,01	0,110	6,15	0,029	0,52	45,2	<0,005	0,003
6		4.89	0.053	4.30	0.002	<0.002	3.12	<0.0002	0.01	0.077	2.71	0.023	0.35	23.2	<0.005	0.003
7		4.83	0.030	5.96	<0.001	<0.002	11.90	<0.0002	0.01	0.381	7.24	0.033	0.59	29.3	<0.005	<0.003
8		1,29	0,082	0,622	<0,001	<0,002	0,419	0,0003	0,08	0,117	0,543	0,743	0,06	354	<0,005	<0,003
9		9,43	0,029	4,77	<0,001	<0,002	11,95	<0,0002	<0,01	0,115	9,89	0,041	0,44	41,3	<0,005	0,004
10		13,10	0,082	5,23	0,002	<0,002	9,91	0,0002	0,01	0,355	10,05	0,138	0,47	43,8	<0,005	0,015
11		8.95	0.041	7.67	0.005	<0.002	11.45	0.0002	0.01	0.305	12.70	0.083	0.54	30.7	<0.005	0.010
12		6.81	0.040	4.96	0.005	<0.002	9.28	<0.0002	0.01	0.273	10.80	0.052	0.50	38.9	<0.005	0.008
13		5,82	0,042	5,23	0,002	<0,002	12,45	<0,0002	0,01	0,189	8,49	0,042	0,46	32,3	<0,005	0,006
14		9,49	0,068	5,95	<0,001	<0,002	8,42	0,0002	0,01	0,518	8,35	0,078	0,48	46,8	<0,005	0,015
15		7,95	0,041	5,82	0,006	<0,002	8,26	<0,0002	0,01	0,237	9,47	0,074	0,63	75,3	<0,005	0,008
16		3.34	0.025	4.59	<0.001	<0.002	7.54	<0.0002	<0.01	0.501	6.27	0.025	0.42	19.40	<0.005	0.006
17		6,76	0,022	5,25	0,001	<0,002	11,20	<0,0002	<0,01	0,333	5,99	0,076	0,45	27,1	<0,005	0,012
18		7,57	0,036	11,50	0,005	<0,002	11,65	0,0002	<0,01	0,092	2,72	0,101	0,30	30,6	<0,005	0,006
19		7,75	0,156	15,55	<0,001	<0,002	8,21	<0,0002	<0,01	0,129	2,72	0,096	0,35	15,60	0,015	0,015
20		7,77	0,149	8,37	<0,001	<0,002	11,65	<0,0002	<0,01	0,111	2,36	0,047	0,35	18,95	0,005	0,007
21		9,62	0,032	8,77	0,002	<0,002	2,50	<0,0002	<0,01	0,175	2,78	0,072	0,31	30,0	<0,005	0,005
22		7,67	0,022	9,25	0,001	<0,002	5,19	<0,0002	<0,01	0,093	1,900	0,027	0,38	21,9	<0,005	0,007
23		8,34	0,143	11,10	0,001	<0,002	8,79	<0,0002	<0,01	0,129	2,56	0,056	0,38	16,05	0,013	0,014
24		8,07	0,124	8,55	<0,001	<0,002	9,49	<0,0002	<0,01	0,092	2,28	0,039	0,43	16,05	0,012	0,008
25		6,01	0,123	10,90	0,005	<0,002	8,96	0,0002	<0,01	0,242	3,13	0,118	0,21	32,1	<0,005	0,019
26		5,93	0,030	4,39	<0,001	<0,002	8,54	<0,0002	0,01	0,173	4,80	0,047	0,49	27,9	<0,005	0,009
27		4,91	0,041	4,33	<0,001	<0,002	8,74	<0,0002	<0,01	0,202	3,57	0,046	0,44	21,4	<0,005	0,007
28		6,26	0,066	3,39	0,001	<0,002	6,76	<0,0002	<0,01	0,273	3,55	0,056	0,40	21,8	<0,005	0,007
29		8,59	0,041	6,05	0,001	<0,002	3,26	<0,0002	0,01	0,179	5,03	0,065	0,67	36,8	<0,005	0,015
30		4,74	0,075	8,02	<0,001	<0,002	9,41	0,0002	0,01	0,163	15,95	0,088	0,84	104,5	<0,005	0,033
31		10,55	0,041	11,55	<0,001	0,002	18,55	0,0002	0,01	0,128	10,55	0,088	0,64	40,0	<0,005	0,003
32		11,05	0,103	8,31	0,005	0,003	10,05	0,0002	0,01	0,141	16,65	0,128	0,73	73,6	<0,005	0,004
33		7,97	0,023	7,66	0,003	<0,002	14,65	<0,0002	0,01	0,089	5,59	0,048	0,53	38,2	<0,005	0,005
34		8,78	0,027	5,30	<0,001	<0,002	11,15	<0,0002	0,01	0,120	6,38	0,043	0,51	25,7	<0,005	0,003
35		4,55	0,029	7,98	0,002	<0,002	9,29	0,0002	0,01	0,160	6,45	0,030	0,54	29,5	<0,005	0,008
36		10,10	0,028	14,55	<0,001	<0,002	8,91	0,0002	0,01	0,158	4,87	0,063	0,50	24,3	<0,005	0,007
37		6,00	0,034	8,79	0,005	<0,002	10,65	<0,0002	0,01	0,110	8,00	0,075	0,47	31,4	<0,005	0,008
38		7,58	0,039	7,72	0,005	<0,002	11,35	<0,0002	0,01	0,101	7,02	0,026	0,52	95,9	<0,005	0,003
39		4,17	0,047	5,14	<0,001	<0,002	6,97	<0,0002	0,01	0,134	4,11	0,032	0,44	25,0	<0,005	<0,003
40		4,94	0,060	4,43	0,003	<0,002	13,05	0,0004	0,01	0,211	13,20	0,083	0,83	124,0	<0,005	0,014

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

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Account: GOLARO

Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Th	Tl	Tl	U	V	W	Y	Zn	Zr
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.002	0.001	0.001	0.005	0.1	0.001	0.003	0.1	0.01
1		0.810	0.115	0.075	0.322	65.0	0.054	1.835	58.7	8.51
2		0.829	0.124	0.117	0.293	60.4	0.041	2.02	73.9	13.45
3		0.749	0.106	0.128	0.243	59.6	0.037	3.13	117.0	7.74
4		1.035	0.102	0.072	0.330	75.3	0.047	3.39	45.6	9.74
5		0.871	0.143	0.064	0.413	92.7	0.053	3.24	84.3	4.69
6		0.620	0.066	0.046	0.131	40.4	0.045	2.95	91.4	2.86
7		1.360	0.076	0.079	0.247	57.0	0.078	6.60	88.7	10.35
8		0.022	0.004	0.127	0.169	3.7	0.029	1.145	4.6	1.17
9		1.680	0.090	0.056	0.142	92.1	0.036	7.77	69.2	14.55
10		1.300	0.124	0.113	0.330	115.0	0.102	11.60	78.9	13.25
11		1.370	0.097	0.108	0.229	100.0	0.061	14.00	84.7	12.30
12		0.978	0.095	0.047	0.358	123.5	0.072	14.65	92.6	5.13
13		0.981	0.116	0.051	0.335	102.5	0.048	10.80	101.0	6.66
14		1.280	0.151	0.120	0.552	126.0	0.059	9.30	76.3	16.90
15		1.965	0.185	0.258	0.797	117.5	0.067	11.90	68.9	28.4
16		1.070	0.095	0.044	0.294	90.3	0.051	11.25	69.8	8.20
17		1.150	0.151	0.098	0.522	103.5	0.049	7.01	60.7	14.10
18		2.73	0.081	0.058	1.875	44.5	0.168	5.32	60.0	1.98
19		1.340	0.079	0.065	0.593	55.6	0.211	3.71	101.5	3.93
20		2.73	0.091	0.056	0.856	55.0	0.151	3.45	73.4	2.91
21		3.39	0.114	0.068	2.93	38.1	0.070	5.09	29.7	4.19
22		1.140	0.097	0.082	0.802	28.9	0.061	2.08	31.1	1.41
23		1.785	0.089	0.060	0.823	53.9	0.191	3.34	112.5	7.24
24		2.70	0.095	0.057	0.881	45.1	0.178	3.11	97.2	8.84
25		2.13	0.080	0.050	12.60	96.5	2.02	6.44	29.5	2.61
26		0.818	0.142	0.109	0.430	82.2	0.048	3.51	67.8	9.44
27		2.37	0.119	0.112	0.617	67.7	0.042	2.42	72.8	7.61
28		0.729	0.095	0.081	0.298	57.6	0.037	3.17	91.7	8.11
29		0.805	0.150	0.089	0.399	96.0	0.047	2.94	59.3	10.25
30		1.555	0.213	0.149	0.590	191.5	0.035	18.65	99.0	12.15
31		1.690	0.194	0.134	0.845	137.0	0.072	10.35	83.4	20.2
32		2.24	0.193	0.108	0.900	212	0.097	13.20	96.8	15.30
33		1.290	0.113	0.098	0.324	54.4	0.061	5.23	72.7	16.20
34		0.770	0.121	0.143	0.371	70.8	0.032	5.01	102.5	11.90
35		1.035	0.127	0.046	0.365	98.9	0.037	6.97	74.3	7.49
36		0.773	0.095	0.164	0.275	60.8	0.049	5.03	164.0	5.02
37		1.290	0.087	0.077	0.325	83.8	0.042	14.10	82.6	16.30
38		1.640	0.264	0.148	1.105	180.5	0.038	7.48	105.5	16.75
39		0.829	0.083	0.055	0.249	61.3	0.035	2.21	146.0	6.77
40		1.495	0.243	0.060	0.692	192.5	0.028	15.50	94.1	15.80

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CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	WEI-21	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Recvd Wt.	Au	Ag	Al	As	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	0.0002	0.001	0.01	0.01	10	0.5	0.01	0.0005	0.01	0.001	0.003	0.001	0.01	0.005
41		0.28	0.0005	0.045	1.93	8.50	<10	151.5	0.33	0.0724	0.31	0.157	4.36	5.68	8.60	2.04
42		0.24	0.0023	0.079	2.33	14.30	10	143.0	0.47	0.0832	0.76	0.451	8.58	7.78	7.67	6.23
43		0.32	0.0004	0.025	1.32	5.53	<10	102.5	0.25	0.0553	0.34	0.107	6.19	4.12	11.50	1.500
44		0.22	0.0003	0.149	1.03	0.85	<10	104.5	0.17	0.0786	0.45	0.068	8.37	4.42	15.60	0.931
45		0.40	0.0018	0.060	1.14	1.12	<10	86.9	0.22	0.0906	0.30	0.034	8.73	4.88	19.70	1.175
46		0.34	0.0009	0.319	1.78	3.06	<10	171.5	0.32	0.0972	0.63	0.111	20.5	8.71	25.3	1.460
47		0.38	0.0010	0.063	0.75	0.90	<10	67.4	0.12	0.0274	0.67	0.058	14.30	3.65	12.00	1.275
48		0.34	0.0020	0.282	1.96	3.13	<10	106.0	0.49	0.118	0.42	0.079	16.60	5.77	23.1	1.310
49		0.36	0.0006	0.169	1.57	1.84	<10	130.5	0.33	0.0962	0.44	0.114	12.15	4.80	15.15	1.275
50		0.42	0.0028	0.119	1.07	2.00	<10	90.8	0.22	0.0790	0.27	0.079	11.70	5.57	16.90	1.150
51		0.38	0.0005	0.183	1.61	2.07	<10	112.0	0.34	0.0912	0.25	0.053	11.95	6.39	19.90	1.225
52		0.30	0.0008	0.220	1.85	2.36	<10	111.0	0.34	0.110	0.24	0.062	10.55	5.71	16.10	1.500
53		0.38	0.0007	0.056	1.19	1.80	<10	147.0	0.25	0.0772	0.40	0.035	14.35	6.05	20.8	1.200
54		0.36	0.0004	0.081	1.44	1.93	<10	82.8	0.27	0.0776	0.23	0.039	10.90	5.78	19.55	1.340
55		0.32	0.0016	0.116	1.62	1.98	<10	99.8	0.31	0.0980	0.23	0.053	13.65	4.95	15.30	1.340
56		0.36	0.0013	0.151	1.03	0.62	<10	72.6	0.18	0.0683	0.22	0.034	5.59	3.53	13.90	0.914
57		0.38	0.0006	0.199	1.43	1.14	<10	101.0	0.29	0.0789	0.23	0.082	13.35	5.13	15.30	1.395
58		0.38	0.0004	0.110	1.64	1.41	<10	95.5	0.31	0.0786	0.23	0.071	12.90	5.93	16.95	1.355
59		0.32	0.0004	0.270	2.16	2.13	<10	110.0	0.47	0.117	0.19	0.190	11.70	5.80	16.05	2.54
60		0.42	0.0004	0.186	1.83	2.36	<10	93.3	0.34	0.103	0.17	0.054	11.90	5.17	13.40	1.325
61		0.40	0.0014	0.118	1.18	2.40	<10	89.7	0.25	0.0777	0.33	0.055	15.95	5.70	19.15	1.065
62		0.26	0.0007	0.135	1.92	2.21	<10	78.5	0.36	0.107	0.16	0.053	9.54	4.79	11.85	1.380
63		0.38	0.0010	0.124	1.38	2.72	<10	81.3	0.30	0.0890	0.29	0.085	11.35	6.54	18.00	1.150
64		0.34	0.0010	0.137	1.55	2.33	<10	113.5	0.30	0.106	0.25	0.060	8.25	8.32	19.50	1.520
65		0.22	0.0004	0.144	1.34	1.20	<10	81.9	0.23	0.0713	0.18	0.037	9.16	4.28	13.05	1.245
66		0.34	0.0004	0.071	1.41	1.45	<10	109.5	0.25	0.0771	0.29	0.055	10.75	5.78	20.5	1.435
67		0.38	0.0005	0.160	1.70	1.94	<10	105.5	0.33	0.0903	0.24	0.085	12.95	6.01	17.95	2.22
68		0.38	0.0002	0.066	2.04	2.08	<10	101.0	0.40	0.0975	0.31	0.089	14.15	7.88	18.10	3.50
69		0.32	0.0005	0.079	1.59	2.31	<10	80.3	0.30	0.0955	0.20	0.061	10.35	4.95	13.70	1.500
70		0.34	0.0005	0.245	1.68	1.47	<10	150.5	0.33	0.101	0.35	0.056	17.55	5.20	17.00	1.345
71		0.40	0.0158	0.114	1.38	1.63	<10	74.3	0.28	0.0869	0.22	0.052	12.20	5.23	18.30	1.180
72		0.40	0.0015	0.262	1.30	1.04	<10	112.0	0.22	0.118	0.41	0.069	12.05	4.24	16.00	1.265
73		0.40	0.0018	0.182	1.41	1.18	<10	76.5	0.29	0.0730	0.19	0.049	14.05	4.50	12.55	1.100
74		0.30	0.0011	0.107	1.41	1.24	<10	86.0	0.28	0.0823	0.17	0.058	12.00	4.64	12.65	1.150
75		0.38	0.0008	0.117	1.47	1.09	<10	78.5	0.29	0.0682	0.17	0.058	13.50	4.78	11.60	1.230
76		0.44	0.0011	0.101	1.22	0.92	<10	81.1	0.24	0.0807	0.34	0.037	10.60	3.61	14.40	0.860
77		0.24	0.0071	0.048	1.29	3.33	<10	105.0	0.29	0.0845	0.54	0.106	18.55	11.45	44.9	1.960
78		0.32	0.0011	0.151	1.64	2.83	<10	88.6	0.35	0.0888	0.21	0.092	13.65	7.07	17.40	1.260
79		0.28	0.0007	0.087	1.25	1.15	<10	77.3	0.25	0.0671	0.22	0.039	12.25	4.92	16.90	1.190
80		0.32	0.0007	0.188	1.49	1.25	<10	112.0	0.29	0.0834	0.22	0.058	12.95	5.25	14.30	1.090

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

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Account: GOLARO

Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
	LOD	0.01	0.001	0.004	0.005	0.002	0.004	0.005	0.01	0.002	0.1	0.01	0.1	0.01	0.001	0.002
41		25.6	1.970	7.01	0.025	0.128	0.022	0.016	0.05	1.780	14.2	0.23	554	0.37	0.030	0.996
42		336	2.86	8.90	0.045	0.206	0.040	0.029	0.10	2.93	21.2	0.37	880	0.52	0.023	0.930
43		15.60	1.840	5.31	0.033	0.158	0.014	0.014	0.11	2.36	8.5	0.21	462	0.34	0.023	0.739
44		12.00	1.580	3.99	0.025	0.012	0.034	0.011	0.05	5.03	11.7	0.22	664	0.66	0.021	0.761
45		13.15	2.24	4.25	0.024	0.044	0.007	0.014	0.05	4.40	13.7	0.21	228	0.43	0.021	0.779
46		34.6	2.65	6.06	0.044	0.040	0.043	0.024	0.07	9.01	19.2	0.44	557	0.70	0.026	1.330
47		18.70	0.900	2.80	0.041	0.045	0.030	0.009	0.03	8.42	6.5	0.35	183.0	0.64	0.021	0.982
48		69.2	2.37	6.24	0.059	0.057	0.017	0.027	0.04	18.25	27.7	0.33	227	1.37	0.029	1.225
49		20.8	1.800	5.35	0.029	0.031	0.040	0.017	0.05	5.95	13.9	0.24	184.5	0.79	0.026	1.025
50		14.75	1.790	4.04	0.026	0.028	0.021	0.016	0.04	4.75	7.0	0.19	664	0.82	0.020	0.818
51		21.8	2.28	5.43	0.029	0.046	0.021	0.019	0.07	5.40	13.8	0.25	381	1.06	0.021	0.977
52		18.25	1.930	6.30	0.028	0.082	0.059	0.019	0.07	4.76	16.8	0.22	245	1.65	0.024	1.400
53		13.45	2.03	4.57	0.033	0.069	0.016	0.016	0.08	6.85	10.0	0.30	159.0	0.60	0.020	1.335
54		12.85	2.21	5.53	0.034	0.081	0.032	0.016	0.04	4.68	9.6	0.21	247	0.60	0.021	1.345
55		11.80	1.850	5.62	0.033	0.069	0.037	0.018	0.05	5.79	11.8	0.19	133.0	2.12	0.024	1.465
56		8.38	1.600	3.83	0.018	0.026	0.024	0.012	0.04	2.94	11.6	0.16	111.5	0.41	0.024	0.865
57		11.45	1.930	5.12	0.028	0.056	0.023	0.014	0.05	5.58	9.8	0.21	383	0.71	0.023	1.220
58		15.55	1.870	5.61	0.029	0.086	0.029	0.014	0.05	5.04	9.9	0.26	513	0.94	0.024	1.215
59		19.20	2.03	7.38	0.034	0.144	0.034	0.018	0.05	6.48	19.6	0.24	286	1.35	0.025	1.665
60		15.40	1.730	6.07	0.032	0.129	0.036	0.018	0.06	5.97	15.2	0.19	238	2.10	0.024	1.400
61		25.9	2.10	4.05	0.030	0.061	0.015	0.019	0.07	6.30	11.0	0.25	209	0.82	0.021	0.810
62		11.75	1.800	6.55	0.026	0.091	0.046	0.017	0.04	4.32	13.2	0.17	288	1.46	0.023	1.640
63		24.9	2.20	4.46	0.031	0.037	0.022	0.019	0.05	4.78	7.4	0.29	366	1.73	0.018	0.839
64		20.6	2.33	6.33	0.029	0.031	0.036	0.021	0.05	3.85	11.1	0.37	427	3.54	0.024	1.120
65		12.55	1.700	5.04	0.034	0.064	0.029	0.016	0.03	4.39	12.8	0.15	87.9	1.41	0.025	1.140
66		13.40	2.10	5.18	0.033	0.064	0.018	0.014	0.06	5.43	9.7	0.28	207	0.55	0.020	1.235
67		15.90	2.04	5.74	0.036	0.128	0.028	0.019	0.05	5.26	11.0	0.26	342	1.83	0.024	1.360
68		12.35	2.60	7.94	0.038	0.047	0.046	0.017	0.08	7.64	21.2	0.41	1165	1.09	0.024	2.14
69		11.80	1.890	5.54	0.027	0.070	0.032	0.015	0.05	4.76	9.7	0.21	476	1.53	0.024	1.455
70		16.75	1.910	5.77	0.037	0.038	0.035	0.018	0.06	8.48	21.3	0.20	227	2.44	0.026	1.255
71		12.05	2.23	4.97	0.033	0.117	0.028	0.016	0.04	5.40	8.4	0.19	342	1.35	0.021	1.290
72		14.70	1.270	4.13	0.033	0.032	0.029	0.015	0.07	6.37	17.0	0.25	227	0.42	0.021	1.040
73		11.60	1.650	4.45	0.045	0.090	0.031	0.011	0.04	6.33	8.3	0.16	353	0.60	0.018	1.210
74		9.91	1.750	4.48	0.033	0.108	0.030	0.014	0.04	5.69	8.6	0.15	420	0.81	0.019	1.255
75		11.15	1.720	4.69	0.041	0.108	0.027	0.011	0.05	5.97	9.4	0.16	503	0.70	0.020	1.325
76		17.05	1.500	3.60	0.036	0.073	0.018	0.013	0.03	7.06	17.2	0.23	146.0	0.62	0.021	0.782
77		45.5	4.25	4.66	0.077	0.075	0.020	0.024	0.11	9.88	10.5	0.58	382	0.73	0.024	0.902
78		23.0	2.10	4.75	0.043	0.078	0.037	0.019	0.04	5.72	7.4	0.25	541	0.99	0.018	1.045
79		11.70	1.990	4.26	0.045	0.063	0.023	0.015	0.04	6.45	8.7	0.18	426	0.53	0.013	1.255
80		13.10	1.770	4.62	0.037	0.085	0.036	0.016	0.05	6.00	8.6	0.17	164.0	0.57	0.016	1.165

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CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Ni	P	Pb	Pd	Pt	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.04	0.001	0.005	0.001	0.002	0.005	0.0002	0.01	0.005	0.005	0.003	0.01	0.01	0.005	0.003
41		6.71	0.035	4.69	<0.001	<0.002	5.84	<0.0002	0.01	0.099	2.42	0.042	0.50	20.3	<0.005	0.009
42		5.58	0.039	7.26	0.001	<0.002	10.35	<0.0002	0.01	0.212	4.01	0.062	0.62	26.0	<0.005	0.019
43		5.77	0.040	2.93	0.002	<0.002	7.59	<0.0002	<0.01	0.111	2.64	0.024	0.37	20.4	<0.005	0.005
44		7.41	0.034	6.30	0.002	<0.002	7.24	<0.0002	0.01	0.097	1.715	0.032	0.30	31.7	<0.005	0.004
45		7.54	0.033	9.18	0.001	<0.002	9.98	<0.0002	<0.01	0.117	1.940	0.021	0.31	21.3	<0.005	0.006
46		11.25	0.066	12.65	0.003	<0.002	10.85	<0.0002	0.02	0.162	3.77	0.257	0.37	40.0	<0.005	0.013
47		6.07	0.102	3.54	0.003	<0.002	4.44	0.0004	0.05	0.113	2.35	0.150	0.17	27.0	<0.005	0.005
48		15.10	0.030	13.35	<0.001	<0.002	7.38	<0.0002	0.01	0.156	3.59	0.073	0.47	30.5	<0.005	0.010
49		8.03	0.134	11.25	<0.001	<0.002	9.22	<0.0002	0.01	0.116	2.15	0.067	0.38	29.6	<0.005	0.010
50		8.51	0.119	8.13	<0.001	<0.002	8.55	<0.0002	0.01	0.130	1.990	0.045	0.31	19.50	<0.005	0.009
51		10.25	0.142	10.25	0.001	<0.002	8.10	<0.0002	0.01	0.129	2.42	0.041	0.37	19.35	<0.005	0.011
52		9.58	0.163	10.25	<0.001	<0.002	7.04	<0.0002	0.01	0.114	2.28	0.108	0.46	18.65	<0.005	0.010
53		9.55	0.107	8.58	<0.001	<0.002	15.25	<0.0002	<0.01	0.093	2.31	0.037	0.31	25.5	<0.005	0.008
54		10.60	0.125	6.24	<0.001	<0.002	6.99	<0.0002	<0.01	0.093	2.00	0.036	0.37	16.00	0.007	0.006
55		7.75	0.149	10.05	<0.001	<0.002	7.78	<0.0002	0.01	0.115	2.09	0.095	0.42	18.20	0.006	0.007
56		6.06	0.043	5.26	<0.001	<0.002	6.06	<0.0002	0.01	0.077	1.570	0.030	0.28	17.80	<0.005	0.003
57		9.48	0.129	6.79	<0.001	<0.002	8.47	<0.0002	0.01	0.080	1.855	0.045	0.38	18.10	0.006	0.006
58		11.60	0.124	5.77	0.002	<0.002	7.67	<0.0002	0.01	0.093	2.42	0.040	0.43	19.75	0.007	0.006
59		10.25	0.165	9.03	0.002	<0.002	12.05	<0.0002	0.01	0.094	2.44	0.053	0.51	14.40	0.005	0.012
60		8.51	0.179	7.95	<0.001	<0.002	7.38	<0.0002	0.01	0.082	2.31	0.082	0.44	14.25	0.005	0.007
61		9.22	0.074	9.67	<0.001	<0.002	7.96	<0.0002	<0.01	0.132	2.58	0.042	0.28	21.4	<0.005	0.010
62		8.16	0.182	7.21	<0.001	<0.002	7.16	<0.0002	0.01	0.099	1.850	0.075	0.49	12.40	0.010	0.008
63		9.32	0.133	10.30	0.001	<0.002	6.62	<0.0002	0.01	0.151	2.30	0.067	0.30	18.70	<0.005	0.012
64		10.25	0.155	10.50	0.002	<0.002	7.99	<0.0002	0.01	0.118	2.28	0.064	0.39	18.55	<0.005	0.010
65		6.43	0.120	5.54	0.002	<0.002	6.02	<0.0002	<0.01	0.070	1.655	0.066	0.36	14.55	<0.005	0.005
66		11.40	0.112	5.90	<0.001	<0.002	9.90	<0.0002	<0.01	0.125	2.04	0.039	0.37	20.0	<0.005	0.008
67		10.25	0.140	7.46	<0.001	<0.002	12.85	<0.0002	<0.01	0.109	2.45	0.064	0.43	19.15	0.006	0.008
68		11.15	0.153	7.37	0.002	<0.002	17.55	<0.0002	0.01	0.098	2.11	0.077	0.46	17.90	0.008	0.008
69		8.46	0.133	8.69	<0.001	<0.002	7.42	<0.0002	0.01	0.100	1.875	0.039	0.42	15.20	0.010	0.009
70		8.58	0.075	8.00	<0.001	<0.002	7.41	<0.0002	0.01	0.087	2.39	0.057	0.44	26.3	<0.005	0.005
71		7.75	0.135	7.57	<0.001	<0.002	6.87	<0.0002	<0.01	0.105	1.990	0.059	0.38	14.40	0.008	0.008
72		7.27	0.034	11.70	<0.001	<0.002	14.00	<0.0002	0.02	0.098	2.47	0.120	0.27	27.5	<0.005	0.007
73		8.15	0.134	7.07	<0.001	<0.002	7.21	<0.0002	0.02	0.087	2.07	0.055	0.32	14.50	0.012	0.009
74		9.09	0.110	7.55	<0.001	<0.002	6.35	<0.0002	0.02	0.079	1.740	0.029	0.36	12.55	0.012	0.007
75		8.56	0.140	5.05	<0.001	0.002	7.28	<0.0002	0.01	0.074	2.03	0.037	0.35	12.65	0.013	0.007
76		6.66	0.021	9.65	0.001	<0.002	7.78	<0.0002	0.01	0.103	2.19	0.057	0.29	24.8	<0.005	0.009
77		15.60	0.118	14.10	0.002	0.002	12.90	<0.0002	0.02	0.216	3.52	0.073	0.24	25.0	<0.005	0.024
78		9.21	0.138	14.20	0.001	0.002	7.47	<0.0002	0.02	0.158	2.64	0.068	0.30	15.75	0.011	0.017
79		8.10	0.130	6.88	<0.001	<0.002	7.49	<0.0002	0.01	0.085	1.695	0.031	0.32	14.85	0.009	0.008
80		7.91	0.227	6.25	<0.001	<0.002	6.54	<0.0002	0.01	0.084	2.07	0.058	0.32	16.55	0.008	0.008

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Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Th	Ti	Tl	U	V	W	Y	Zn	Zr
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.002	0.001	0.001	0.005	0.1	0.001	0.003	0.1	0.01
41		0.513	0.096	0.077	0.176	51.1	0.047	1.455	74.5	4.40
42		0.617	0.112	0.266	0.286	89.5	0.033	3.13	85.4	5.99
43		0.580	0.101	0.069	0.268	53.7	0.043	1.925	64.9	6.38
44		0.423	0.082	0.044	0.577	42.7	0.110	2.95	54.2	0.45
45		1.440	0.088	0.052	0.500	63.1	0.699	2.46	56.4	1.51
46		1.815	0.099	0.106	3.03	71.3	0.135	6.40	80.1	1.81
47		1.355	0.068	0.094	1.710	32.8	0.071	4.50	34.5	1.87
48		2.00	0.114	0.080	17.10	69.2	0.190	11.35	82.4	2.50
49		0.960	0.078	0.051	3.79	43.2	0.136	3.60	116.0	1.68
50		1.145	0.076	0.049	0.396	51.2	0.168	2.27	83.9	1.15
51		2.22	0.084	0.047	1.240	57.4	0.135	2.86	91.0	2.27
52		1.445	0.098	0.047	0.783	44.4	0.167	2.88	98.9	4.00
53		1.945	0.094	0.048	0.523	52.6	0.185	2.74	58.6	2.79
54		3.40	0.106	0.042	0.675	60.4	0.140	2.10	67.9	3.88
55		2.22	0.092	0.049	1.275	44.9	0.286	2.62	76.8	3.51
56		0.863	0.081	0.032	0.446	39.6	0.081	1.455	47.2	1.10
57		1.280	0.096	0.050	0.517	48.4	0.135	2.39	88.7	2.63
58		2.20	0.105	0.053	0.567	47.9	0.110	2.67	84.2	4.49
59		1.955	0.109	0.047	2.22	48.2	0.269	3.54	190.0	7.12
60		1.535	0.094	0.043	2.26	38.9	0.311	3.49	80.4	6.33
61		1.620	0.081	0.047	1.305	59.2	0.177	3.89	58.9	2.77
62		1.690	0.105	0.051	1.550	39.4	0.175	2.15	79.9	4.97
63		0.924	0.079	0.047	0.445	59.4	0.165	2.55	84.8	1.43
64		0.902	0.109	0.047	0.420	60.5	0.171	2.14	95.7	1.28
65		1.145	0.089	0.035	1.905	39.3	0.115	2.31	67.7	3.34
66		1.635	0.106	0.044	0.401	56.0	0.208	2.14	77.2	2.64
67		1.555	0.106	0.056	0.823	51.5	0.168	2.86	102.0	6.43
68		2.61	0.158	0.109	1.905	63.8	0.186	2.21	113.0	2.32
69		1.385	0.097	0.050	0.463	45.7	0.261	1.965	81.5	3.54
70		1.430	0.094	0.048	3.33	45.0	0.173	4.49	72.9	1.51
71		1.690	0.091	0.043	0.533	58.5	0.279	2.34	72.3	5.32
72		1.310	0.075	0.087	0.876	30.0	0.112	3.59	52.7	1.27
73		1.775	0.079	0.049	0.535	38.3	0.164	2.57	64.3	4.82
74		1.965	0.081	0.046	0.518	40.5	0.180	2.08	75.2	5.16
75		1.775	0.091	0.052	0.555	40.2	0.184	2.52	80.3	5.88
76		1.610	0.079	0.056	4.19	37.4	0.096	3.55	43.8	3.25
77		2.49	0.110	0.089	0.819	121.0	0.231	4.98	92.6	3.13
78		1.490	0.081	0.067	0.522	54.8	0.292	3.12	93.9	4.07
79		11.55	0.080	0.047	2.16	50.1	0.171	2.26	68.5	3.17
80		1.635	0.078	0.042	0.762	40.1	0.154	2.83	77.7	4.24

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

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Page: 4 - A
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Plus Appendix Pages
Finalized Date: 1-DEC-2020
Account: GOLARO

Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS41L Au ppm 0.0002	ME-MS41L Ag ppm 0.001	ME-MS41L Al % 0.01	ME-MS41L As ppm 0.01	ME-MS41L B ppm 10	ME-MS41L Ba ppm 0.5	ME-MS41L Be ppm 0.01	ME-MS41L Bi ppm 0.0005	ME-MS41L Ca % 0.01	ME-MS41L Cd ppm 0.001	ME-MS41L Ce ppm 0.003	ME-MS41L Co ppm 0.001	ME-MS41L Cr ppm 0.01	ME-MS41L Cs ppm 0.005
81		0.30	0.0194	0.147	1.45	1.41	<10	102.5	0.27	0.0760	0.21	0.044	10.65	5.87	17.30	1.100
82		0.28	0.0006	0.069	1.16	1.23	<10	69.4	0.24	0.0752	0.21	0.041	10.20	5.02	18.70	1.095
83		0.32	0.0007	0.216	1.64	1.47	<10	140.5	0.32	0.0835	0.39	0.119	11.25	5.82	18.65	1.150
84		0.28	0.0007	0.143	1.76	1.18	<10	130.0	0.34	0.107	0.31	0.042	12.40	5.85	17.35	1.495
85		0.50	0.0009	0.083	1.08	1.54	<10	92.5	0.18	0.0841	0.28	0.026	12.45	6.27	20.3	1.030
86		0.48	0.0021	0.146	1.19	1.30	<10	103.5	0.23	0.0993	0.27	0.037	11.55	5.64	17.30	0.997
87		0.44	0.0009	0.159	1.74	1.26	<10	114.0	0.33	0.0834	0.28	0.064	11.15	7.59	19.85	1.280
88		0.38	0.0008	0.176	1.47	1.29	<10	88.9	0.28	0.0806	0.25	0.053	12.15	7.20	19.70	1.415
89		0.30	0.0007	0.109	1.47	1.54	<10	70.8	0.27	0.0939	0.18	0.056	10.65	5.58	15.05	1.375
90		0.34	0.0017	0.114	1.46	1.42	<10	80.1	0.28	0.0847	0.17	0.041	12.70	4.96	14.35	2.06
91		0.32	0.0009	0.083	1.40	1.28	<10	78.4	0.27	0.0727	0.17	0.039	11.05	4.94	12.40	1.780
92		0.28	0.0008	0.114	1.42	1.28	<10	93.0	0.28	0.0835	0.19	0.055	8.24	5.22	15.15	1.745
93		0.22	0.0007	0.105	1.69	0.71	<10	112.5	0.28	0.106	0.41	0.060	15.00	5.15	18.35	2.55
94		0.48	0.0009	0.265	1.80	2.16	<10	91.8	0.35	0.0879	0.20	0.070	13.40	6.83	15.85	1.290
95		0.40	0.0010	0.166	1.56	1.52	<10	89.6	0.30	0.113	0.22	0.063	11.95	6.68	19.55	1.110
96		0.80	0.0027	0.359	1.99	2.56	<10	201	0.59	0.122	0.53	0.079	20.4	8.18	27.4	1.460
97		0.32	0.0005	0.137	1.12	1.10	<10	92.1	0.22	0.0847	0.21	0.045	9.58	5.31	14.40	1.385
98		0.32	0.0010	0.074	1.17	1.32	<10	67.8	0.20	0.0668	0.22	0.031	6.30	5.41	19.95	1.040
99		0.36	0.0002	0.069	1.06	1.23	<10	84.1	0.21	0.0876	0.24	0.055	11.10	4.52	16.75	0.971
100		0.32	0.0006	0.160	0.97	1.02	<10	98.1	0.19	0.0779	0.21	0.057	13.30	4.14	13.20	0.955
101		0.24	0.0012	0.112	1.22	1.20	<10	86.5	0.23	0.0775	0.23	0.060	7.45	4.59	15.15	0.917
102		0.34	0.0006	0.186	1.55	1.42	<10	75.8	0.28	0.0809	0.18	0.043	8.92	5.37	15.60	1.110
103		0.32	0.0011	0.132	1.45	1.28	<10	102.0	0.26	0.0878	0.18	0.036	9.64	4.15	12.80	1.040
104		0.30	0.0010	0.128	1.43	1.00	<10	115.5	0.20	0.0818	0.29	0.022	11.20	3.37	13.05	1.090
105		0.28	0.0008	0.114	1.43	1.36	<10	85.3	0.27	0.0807	0.23	0.062	10.50	5.64	15.75	1.385
106		0.34	0.0010	0.122	1.80	1.33	<10	114.5	0.34	0.0823	0.19	0.068	13.50	5.76	15.35	2.15
107		0.38	0.0006	0.183	1.65	1.39	<10	101.0	0.31	0.0920	0.20	0.070	13.25	5.69	14.30	2.74
108		0.48	0.0007	0.184	1.92	2.22	<10	70.9	0.35	0.115	0.16	0.068	10.50	5.96	13.20	1.250
109		0.40	0.0011	0.109	1.30	1.71	<10	66.8	0.24	0.0870	0.17	0.047	12.60	4.83	15.80	1.005
110		0.34	0.0018	0.074	1.28	1.55	<10	100.0	0.25	0.0897	0.24	0.045	11.60	4.95	14.50	1.560
111		0.36	0.0119	0.038	2.02	2.18	<10	157.0	0.39	0.0973	0.30	0.069	15.10	6.64	17.60	2.67
112		0.28	0.0003	0.068	1.58	2.37	<10	86.8	0.29	0.0934	0.20	0.052	10.55	5.90	16.45	2.01
113		0.42	0.0010	0.050	1.01	2.70	<10	86.2	0.25	0.0772	0.41	0.039	20.5	6.41	23.6	1.360
114		0.38	0.0005	0.184	1.60	3.02	<10	85.2	0.32	0.105	0.19	0.055	11.45	6.99	16.90	1.300
115		0.36	0.0008	0.179	1.56	1.87	<10	115.5	0.30	0.119	0.17	0.072	16.20	5.27	14.40	1.180
116		0.34	0.0003	0.268	1.30	1.65	<10	109.0	0.27	0.0917	0.23	0.046	14.30	4.63	15.15	1.020
117		0.36	0.0011	0.222	1.60	1.55	<10	96.4	0.31	0.101	0.18	0.076	13.65	4.72	13.05	1.090
118		0.40	0.0017	0.124	1.40	1.33	<10	87.6	0.27	0.0848	0.18	0.046	14.90	4.74	15.35	1.220
119		0.40	0.0003	0.284	1.49	1.30	<10	108.5	0.28	0.0895	0.21	0.078	14.10	4.95	14.95	1.145
120		0.34	0.0005	0.137	1.70	1.78	<10	131.0	0.33	0.0909	0.21	0.081	16.45	5.34	18.10	1.185

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Total # Pages: 5 (A - D)
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Finalized Date: 1-DEC-2020
Account: GOLARO

Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
	LOD	0.01	0.001	0.004	0.005	0.002	0.004	0.005	0.01	0.002	0.1	0.01	0.1	0.01	0.001	0.002
81		15.20	1.740	4.61	0.036	0.067	0.024	0.012	0.05	4.34	7.5	0.22	346	0.51	0.017	0.890
82		11.90	2.02	4.08	0.037	0.063	0.043	0.013	0.04	5.37	7.4	0.19	252	0.72	0.014	1.165
83		15.75	1.940	5.10	0.045	0.105	0.024	0.013	0.11	5.35	7.9	0.24	844	0.63	0.036	1.050
84		22.6	1.940	5.27	0.043	0.034	0.028	0.015	0.09	7.93	13.2	0.31	458	0.86	0.025	0.839
85		16.75	1.850	3.94	0.035	0.037	0.021	0.016	0.04	6.56	9.0	0.28	115.5	3.25	0.017	0.988
86		14.55	1.890	4.31	0.043	0.040	0.016	0.016	0.06	6.15	8.2	0.23	148.5	0.43	0.015	0.977
87		20.8	1.910	5.60	0.043	0.078	0.023	0.011	0.08	4.82	9.3	0.35	472	0.56	0.019	1.080
88		21.3	1.940	5.17	0.041	0.066	0.030	0.015	0.04	5.46	9.0	0.33	254	0.80	0.018	0.954
89		13.85	1.840	4.94	0.037	0.148	0.033	0.014	0.03	4.64	7.3	0.20	434	0.93	0.017	1.190
90		13.10	1.850	4.52	0.040	0.139	0.025	0.016	0.04	5.61	7.3	0.18	360	0.74	0.018	1.130
91		11.60	1.700	4.79	0.037	0.133	0.023	0.014	0.04	4.95	8.9	0.17	407	0.70	0.017	1.190
92		9.95	1.920	5.20	0.032	0.039	0.026	0.013	0.04	4.49	11.0	0.20	138.0	4.70	0.012	1.185
93		12.45	2.05	5.24	0.043	0.114	0.014	0.017	0.05	6.25	25.2	0.25	342	1.42	0.024	1.025
94		21.2	2.00	5.22	0.038	0.087	0.041	0.023	0.04	5.51	8.7	0.24	385	1.07	0.020	1.145
95		19.00	1.960	5.07	0.037	0.122	0.021	0.018	0.04	5.15	8.1	0.26	366	0.83	0.015	0.985
96		71.2	2.76	6.22	0.091	0.063	0.053	0.024	0.07	28.5	27.4	0.40	258	0.61	0.025	0.897
97		9.32	1.990	4.82	0.038	0.040	0.032	0.014	0.05	5.24	8.6	0.19	291	0.52	0.017	1.010
98		12.50	1.890	4.30	0.029	0.041	0.017	0.012	0.04	3.21	6.5	0.23	198.0	0.42	0.015	0.761
99		9.88	1.950	3.97	0.039	0.027	0.024	0.013	0.05	5.86	6.8	0.17	361	0.53	0.014	0.858
100		9.75	1.710	3.63	0.035	0.022	0.025	0.015	0.04	6.60	6.8	0.15	530	0.54	0.016	0.829
101		10.00	1.640	4.10	0.036	0.039	0.057	0.011	0.03	3.67	6.4	0.17	463	0.73	0.014	0.947
102		12.40	1.840	5.03	0.034	0.109	0.029	0.013	0.04	4.10	8.4	0.19	338	0.52	0.016	1.225
103		11.10	1.660	5.24	0.034	0.073	0.030	0.014	0.05	4.48	9.6	0.14	160.5	0.59	0.016	1.055
104		10.25	1.350	4.23	0.030	0.142	0.018	0.013	0.05	5.00	17.4	0.17	248	0.33	0.027	1.090
105		13.00	1.810	4.67	0.035	0.058	0.043	0.015	0.05	4.74	8.3	0.20	358	1.01	0.018	1.080
106		16.20	1.850	5.98	0.042	0.126	0.032	0.017	0.04	5.81	11.0	0.23	473	4.68	0.018	1.100
107		15.70	1.680	5.81	0.043	0.163	0.032	0.015	0.05	5.65	9.8	0.21	502	0.88	0.020	1.365
108		17.25	1.790	6.29	0.039	0.269	0.045	0.025	0.06	4.18	8.1	0.20	174.5	2.62	0.023	1.430
109		15.15	1.800	4.46	0.039	0.124	0.013	0.017	0.04	5.99	7.6	0.17	126.0	2.31	0.026	1.020
110		11.00	1.840	5.04	0.047	0.058	0.024	0.017	0.06	6.18	9.8	0.20	420	0.73	0.018	1.275
111		17.75	2.13	7.00	0.049	0.092	0.020	0.019	0.07	7.35	12.5	0.30	614	0.92	0.020	1.540
112		14.20	1.800	5.58	0.041	0.088	0.024	0.015	0.04	4.94	9.7	0.24	404	0.98	0.021	1.205
113		25.0	2.27	3.75	0.056	0.050	0.011	0.024	0.07	11.20	7.7	0.36	242	0.60	0.016	0.638
114		19.55	2.07	5.61	0.038	0.086	0.038	0.022	0.04	5.67	10.4	0.23	380	1.15	0.021	1.140
115		14.60	1.740	4.60	0.036	0.071	0.029	0.021	0.04	6.78	10.3	0.19	468	0.77	0.020	1.200
116		14.40	1.850	4.30	0.041	0.049	0.037	0.017	0.05	7.16	9.2	0.16	157.0	0.65	0.018	1.010
117		11.30	1.770	5.45	0.043	0.070	0.029	0.018	0.04	5.81	8.7	0.16	315	0.68	0.021	1.165
118		11.35	1.820	4.85	0.043	0.080	0.016	0.016	0.03	7.25	7.8	0.16	277	0.61	0.019	1.195
119		11.80	1.590	5.18	0.044	0.082	0.021	0.016	0.05	6.03	8.2	0.18	445	0.71	0.021	1.120
120		17.10	1.700	5.49	0.049	0.150	0.018	0.017	0.06	6.42	8.4	0.21	374	0.56	0.019	1.020

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CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Ni	P	Pb	Pd	Pt	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.04	0.001	0.005	0.001	0.002	0.005	0.0002	0.01	0.005	0.005	0.003	0.01	0.01	0.005	0.003
81		11.70	0.121	5.04	<0.001	<0.002	6.81	<0.0002	0.02	0.124	2.26	0.043	0.32	16.70	0.006	0.007
82		8.30	0.110	6.80	<0.001	<0.002	6.26	<0.0002	0.02	0.123	1.705	0.048	0.29	15.40	0.006	0.008
83		10.85	0.156	6.98	<0.001	0.002	8.34	<0.0002	0.03	0.108	2.27	0.039	0.37	26.5	0.006	0.008
84		11.45	0.050	8.61	0.001	<0.002	15.80	<0.0002	0.02	0.092	2.69	0.033	0.34	26.4	<0.005	0.005
85		8.56	0.096	8.69	<0.001	<0.002	9.95	<0.0002	0.01	0.085	1.965	0.044	0.26	22.7	<0.005	0.008
86		8.75	0.117	7.35	0.001	<0.002	8.42	<0.0002	0.02	0.129	2.22	0.041	0.28	19.05	<0.005	0.006
87		13.60	0.114	4.88	<0.001	<0.002	10.75	<0.0002	0.02	0.128	2.90	0.044	0.36	23.3	<0.005	0.008
88		10.65	0.127	5.70	0.001	<0.002	9.55	<0.0002	0.01	0.128	2.81	0.062	0.32	20.7	<0.005	0.010
89		8.30	0.097	8.15	<0.001	0.002	7.22	<0.0002	0.01	0.106	2.18	0.038	0.36	13.65	0.013	0.012
90		7.86	0.094	8.05	<0.001	<0.002	8.55	<0.0002	0.01	0.094	2.14	0.047	0.32	12.90	0.015	0.010
91		7.86	0.118	5.92	<0.001	<0.002	8.07	<0.0002	0.01	0.078	1.915	0.045	0.33	12.45	0.011	0.008
92		7.48	0.194	5.11	<0.001	0.002	8.03	<0.0002	0.02	0.095	1.715	0.057	0.32	17.65	0.005	0.009
93		7.89	0.019	6.65	0.001	<0.002	19.15	<0.0002	0.02	0.118	2.90	0.033	0.37	30.3	<0.005	0.005
94		8.52	0.173	11.05	0.003	<0.002	8.21	<0.0002	0.02	0.098	2.58	0.104	0.34	14.90	0.015	0.014
95		11.20	0.137	9.14	<0.001	<0.002	7.03	<0.0002	0.02	0.150	2.83	0.046	0.35	16.75	0.005	0.012
96		15.60	0.064	15.30	0.002	<0.002	17.50	0.0002	0.01	0.172	5.83	0.164	0.35	41.3	<0.005	0.018
97		7.28	0.163	8.10	<0.001	<0.002	8.47	<0.0002	0.02	0.084	1.700	0.038	0.33	15.00	<0.005	0.007
98		10.15	0.087	5.93	<0.001	<0.002	5.54	<0.0002	0.02	0.099	1.865	0.033	0.26	15.85	<0.005	0.006
99		7.93	0.102	9.03	<0.001	<0.002	7.13	<0.0002	0.02	0.105	1.495	0.032	0.29	15.65	<0.005	0.008
100		6.35	0.137	8.34	<0.001	<0.002	6.89	<0.0002	0.02	0.106	1.390	0.061	0.26	13.30	<0.005	0.007
101		8.33	0.092	6.03	<0.001	<0.002	5.84	<0.0002	0.01	0.101	1.635	0.042	0.31	16.30	0.005	0.009
102		9.88	0.108	5.83	<0.001	<0.002	6.75	<0.0002	0.01	0.097	2.10	0.032	0.38	14.85	0.014	0.008
103		7.04	0.174	6.42	<0.001	<0.002	6.05	<0.0002	0.01	0.076	1.870	0.049	0.37	13.25	<0.005	0.008
104		5.46	0.014	6.97	0.001	<0.002	10.60	<0.0002	0.01	0.082	2.26	0.055	0.31	21.5	<0.005	0.004
105		8.86	0.143	6.77	<0.001	<0.002	8.92	<0.0002	0.02	0.107	2.04	0.054	0.32	17.60	0.007	0.009
106		10.25	0.160	6.47	0.002	<0.002	7.74	<0.0002	0.01	0.078	2.87	0.041	0.37	14.80	0.009	0.010
107		11.00	0.109	7.49	<0.001	<0.002	8.78	<0.0002	0.01	0.099	2.59	0.041	0.43	15.75	0.014	0.008
108		7.70	0.141	10.90	<0.001	<0.002	7.81	<0.0002	0.01	0.106	3.19	0.073	0.51	13.20	0.016	0.017
109		6.95	0.108	7.57	<0.001	<0.002	6.10	<0.0002	0.01	0.104	2.53	0.059	0.35	14.00	0.009	0.010
110		7.93	0.130	7.14	0.001	<0.002	10.65	<0.0002	0.01	0.101	2.23	0.041	0.35	17.65	0.005	0.009
111		10.80	0.146	8.96	<0.001	<0.002	13.85	<0.0002	0.01	0.115	2.99	0.040	0.47	26.3	0.012	0.010
112		10.25	0.137	5.25	<0.001	<0.002	11.25	<0.0002	0.01	0.121	2.63	0.042	0.41	16.15	0.008	0.009
113		9.75	0.094	8.91	<0.001	<0.002	12.10	<0.0002	<0.01	0.194	3.41	0.045	0.27	25.4	<0.005	0.014
114		8.71	0.146	11.00	<0.001	<0.002	7.01	<0.0002	0.01	0.136	2.67	0.076	0.40	15.40	0.007	0.013
115		8.21	0.146	11.05	<0.001	<0.002	7.97	<0.0002	0.01	0.092	2.09	0.055	0.40	13.50	0.005	0.009
116		6.74	0.145	8.29	<0.001	<0.002	6.33	<0.0002	0.01	0.097	2.08	0.065	0.32	19.40	<0.005	0.007
117		6.97	0.167	8.62	<0.001	<0.002	5.88	<0.0002	0.01	0.079	2.55	0.068	0.38	13.90	0.013	0.008
118		8.17	0.139	7.02	<0.001	<0.002	5.84	<0.0002	0.01	0.113	2.23	0.031	0.35	14.10	0.010	0.006
119		9.30	0.136	6.39	<0.001	<0.002	5.81	<0.0002	0.01	0.092	2.54	0.058	0.40	17.50	0.008	0.007
120		12.10	0.124	6.16	<0.001	<0.002	6.69	<0.0002	0.01	0.090	3.22	0.048	0.43	18.40	0.007	0.008

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

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Account: GOLARO

Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Th	Ti	Tl	U	V	W	Y	Zn	Zr
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.002	0.001	0.001	0.005	0.1	0.001	0.003	0.1	0.01
81		1.010	0.088	0.042	0.348	45.5	0.223	2.42	66.1	3.34
82		2.54	0.078	0.035	0.584	52.8	0.190	1.905	42.9	2.69
83		1.615	0.096	0.050	0.461	49.2	0.132	2.63	110.0	5.34
84		1.705	0.094	0.093	0.843	47.1	0.122	4.02	73.4	1.57
85		1.540	0.085	0.042	0.489	50.9	0.190	2.65	34.9	1.55
86		1.480	0.080	0.041	0.403	47.5	0.198	2.35	37.5	1.84
87		1.055	0.107	0.045	0.390	48.3	0.131	2.65	73.0	3.51
88		1.445	0.095	0.039	0.569	51.9	0.160	2.68	75.9	2.96
89		2.12	0.090	0.049	0.423	47.1	0.167	2.32	78.8	7.38
90		6.05	0.082	0.049	0.888	45.6	0.175	2.61	67.7	7.44
91		1.645	0.087	0.042	0.531	40.5	0.194	2.09	69.4	6.74
92		1.885	0.084	0.033	0.691	43.5	0.170	1.555	59.4	1.88
93		2.36	0.103	0.060	2.98	47.2	0.105	3.87	84.0	3.87
94		1.725	0.088	0.054	0.764	49.4	0.193	3.08	101.5	4.65
95		1.520	0.088	0.044	0.450	50.8	0.700	2.68	94.4	5.75
96		6.21	0.097	0.078	34.3	70.9	0.178	20.7	84.0	3.22
97		2.47	0.081	0.050	0.515	48.4	0.144	1.655	68.2	1.82
98		0.826	0.078	0.029	0.227	51.5	0.101	1.675	48.0	1.72
99		1.095	0.068	0.037	0.347	50.0	0.132	1.915	62.2	1.14
100		1.365	0.062	0.045	0.544	41.3	0.125	2.23	74.6	1.03
101		0.965	0.077	0.029	0.283	43.0	0.139	1.575	60.1	1.64
102		2.19	0.099	0.038	0.435	47.2	0.145	1.995	65.9	5.40
103		1.370	0.076	0.034	0.631	34.1	0.135	1.950	52.0	3.48
104		2.00	0.083	0.066	2.31	27.6	0.090	2.65	25.8	4.82
105		1.105	0.086	0.044	0.565	44.9	0.178	2.39	76.0	3.23
106		1.605	0.095	0.051	0.988	42.9	0.151	3.26	96.4	7.08
107		2.02	0.096	0.054	0.580	40.7	0.195	2.67	103.5	8.17
108		1.715	0.098	0.052	0.586	45.2	0.212	2.73	95.9	14.40
109		1.795	0.082	0.039	0.589	47.2	0.655	2.81	53.1	5.84
110		2.23	0.086	0.048	0.593	46.7	0.257	2.10	54.7	2.71
111		3.02	0.111	0.074	0.940	54.3	0.204	2.57	99.9	4.75
112		1.510	0.100	0.048	0.487	47.0	0.213	2.18	70.8	4.22
113		5.78	0.086	0.064	1.900	69.3	0.297	4.50	52.3	2.41
114		1.550	0.082	0.047	0.666	55.0	0.234	3.26	95.4	4.09
115		1.830	0.079	0.052	0.643	40.5	0.172	2.93	111.5	3.73
116		2.67	0.068	0.041	0.880	44.1	0.137	3.15	83.2	2.53
117		2.27	0.079	0.045	0.749	40.0	0.179	2.76	94.0	3.80
118		2.25	0.077	0.042	0.522	44.2	0.176	2.48	60.2	4.03
119		1.580	0.086	0.049	0.556	39.4	0.640	2.90	91.2	4.39
120		1.735	0.086	0.055	0.482	40.8	0.139	3.52	96.1	8.60

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Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
	LOD	0.01	0.001	0.004	0.005	0.002	0.004	0.005	0.01	0.002	0.1	0.01	0.1	0.01	0.001	0.002
121		15.15	1.460	5.68	0.039	0.112	0.024	0.016	0.04	4.57	8.5	0.17	475	0.60	0.023	1.130
122		9.73	1.560	4.57	0.031	0.015	0.018	0.014	0.05	5.27	19.6	0.16	123.5	0.90	0.021	0.851
123		27.1	1.590	6.20	0.044	0.094	0.018	0.019	0.06	9.81	27.0	0.18	97.5	0.24	0.030	1.235
124		12.55	1.900	5.24	0.047	0.081	0.017	0.014	0.05	6.17	8.6	0.18	397	0.43	0.018	1.255
125		10.05	1.740	4.19	0.036	0.079	0.025	0.017	0.03	5.28	6.5	0.12	528	0.95	0.018	1.135
126		79.0	1.930	4.54	0.072	0.041	0.082	0.024	0.05	22.0	20.7	0.23	3110	4.28	0.032	0.964
127		12.35	1.710	4.70	0.039	0.061	0.024	0.012	0.04	5.09	7.5	0.17	466	0.63	0.019	1.060
128		223	6.31	7.84	0.088	0.189	0.017	0.049	0.20	5.67	8.2	1.69	698	1.88	0.014	0.148
129		124.5	4.29	7.70	0.075	0.261	0.018	0.028	0.25	4.24	9.0	1.43	671	0.55	0.017	0.404
130		138.0	5.28	9.02	0.082	0.177	0.025	0.036	0.23	4.21	9.1	1.75	932	0.41	0.016	0.253
131		68.3	6.94	7.40	0.120	0.109	0.029	0.047	0.22	17.25	4.5	0.47	613	4.99	0.018	0.269
132		28.3	3.79	7.64	0.106	0.105	0.016	0.038	0.21	18.85	5.2	0.63	1075	2.47	0.013	0.231
133		43.5	4.79	7.87	0.111	0.114	0.024	0.046	0.27	17.95	5.9	0.57	981	2.99	0.015	0.300
134		64.7	5.34	7.59	0.124	0.080	0.023	0.050	0.24	19.45	5.0	0.65	867	3.04	0.014	0.193
135		34.8	4.54	7.97	0.109	0.104	0.012	0.045	0.17	19.65	5.3	0.77	776	3.80	0.013	0.130

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Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	WEI-21	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Recvd Wt.	Au	Ag	Al	As	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	0.0002	0.001	0.01	0.01	10	0.5	0.01	0.0005	0.01	0.001	0.003	0.001	0.01	0.005
121		0.34	0.0003	0.158	1.83	1.50	<10	105.5	0.33	0.0911	0.15	0.067	12.50	4.73	15.15	1.300
122		0.28	<0.0002	0.158	1.26	0.66	<10	107.0	0.21	0.0768	0.24	0.027	9.40	3.95	12.65	1.030
123		0.32	0.0005	0.202	1.99	1.07	<10	165.5	0.39	0.102	0.34	0.041	12.85	4.21	16.00	1.310
124		0.38	0.0016	0.111	1.42	1.27	<10	79.1	0.28	0.0767	0.17	0.054	12.55	5.13	17.25	1.185
125		0.38	<0.0002	0.088	1.32	1.47	<10	67.9	0.25	0.0935	0.15	0.048	11.70	4.21	13.00	0.951
126		0.30	0.0028	0.387	1.63	2.98	<10	338	0.41	0.119	0.69	0.480	28.1	9.99	18.50	0.868
127		0.36	0.0007	0.121	1.43	1.58	<10	93.4	0.26	0.0789	0.20	0.063	11.65	4.93	15.60	1.050
128		0.42	0.0083	0.170	3.30	5.11	<10	109.5	0.29	0.0996	0.78	0.234	11.90	32.3	57.9	0.592
129		0.22	0.0017	0.046	3.07	2.73	10	161.0	0.27	0.0623	0.75	0.148	10.30	20.9	55.8	0.438
130		0.20	0.0033	0.068	3.41	3.04	10	190.5	0.27	0.0655	0.82	0.226	9.75	25.9	47.5	0.364
131		0.36	0.0061	0.196	2.03	3.61	<10	228	0.42	0.374	0.42	0.476	37.6	13.15	5.22	0.413
132		0.52	0.0008	0.053	2.17	1.82	<10	216	0.51	0.146	0.44	0.100	45.8	12.35	3.16	0.450
133		0.54	0.0011	0.081	2.23	2.62	<10	278	0.55	0.237	0.44	0.153	40.9	12.65	6.86	0.458
134		0.66	0.0028	0.103	2.21	3.03	<10	210	0.51	0.278	0.50	0.323	46.5	14.50	3.57	0.370
135		0.56	0.0008	0.049	2.34	2.46	<10	205	0.58	0.166	0.41	0.098	45.6	12.80	5.00	0.469

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CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Ni	P	Pb	Pd	Pt	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.04	0.001	0.005	0.001	0.002	0.005	0.0002	0.01	0.005	0.005	0.003	0.01	0.01	0.005	0.003
121		11.25	0.123	5.43	<0.001	<0.002	6.08	<0.0002	0.01	0.078	3.18	0.047	0.46	14.50	0.014	0.007
122		5.97	0.037	4.91	<0.001	<0.002	8.95	<0.0002	0.01	0.076	1.795	0.047	0.33	21.9	<0.005	0.003
123		11.30	0.045	6.70	<0.001	<0.002	6.20	<0.0002	0.01	0.089	2.90	0.051	0.46	27.3	<0.005	0.004
124		9.42	0.130	5.97	<0.001	<0.002	7.43	<0.0002	0.01	0.101	2.31	0.036	0.38	12.55	0.007	0.007
125		5.70	0.152	7.76	<0.001	<0.002	5.45	<0.0002	0.01	0.099	1.825	0.056	0.38	11.05	0.014	0.008
126		19.00	0.058	10.65	<0.001	<0.002	7.29	0.0003	0.02	0.187	3.48	0.306	0.34	52.7	<0.005	0.011
127		7.93	0.144	5.97	<0.001	<0.002	6.47	<0.0002	0.01	0.098	2.35	0.067	0.35	16.15	0.008	0.008
128		18.10	0.041	3.79	<0.001	<0.002	4.21	0.0002	0.02	0.366	23.4	0.333	0.34	40.1	<0.005	0.359
129		17.00	0.038	3.62	<0.001	<0.002	5.70	<0.0002	0.01	0.269	18.65	0.092	0.40	56.2	<0.005	0.113
130		16.15	0.038	4.70	<0.001	<0.002	4.38	0.0002	0.01	0.322	24.6	0.115	0.37	73.4	<0.005	0.179
131		3.15	0.103	66.7	0.002	<0.002	6.08	0.0002	0.18	0.152	8.87	0.846	0.31	28.3	<0.005	0.766
132		2.44	0.051	4.05	<0.001	<0.002	6.31	0.0002	0.04	0.080	9.70	0.216	0.29	21.6	<0.005	0.156
133		4.54	0.081	10.30	<0.001	<0.002	6.98	0.0002	0.06	0.122	10.80	0.299	0.35	23.2	<0.005	0.314
134		2.51	0.114	17.10	<0.001	<0.002	5.11	0.0002	0.09	0.108	11.20	0.399	0.26	25.6	<0.005	0.410
135		3.60	0.070	3.80	0.001	<0.002	4.96	0.0002	0.06	0.103	10.45	0.286	0.31	21.2	<0.005	0.219

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Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

Sample Description	Method	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L	ME-MS41L
	Analyte	Th	Ti	Tl	U	V	W	Y	Zn	Zr
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.002	0.001	0.001	0.005	0.1	0.001	0.003	0.1	0.01
121		1.195	0.091	0.065	0.447	35.1	0.120	3.06	87.6	6.75
122		0.885	0.076	0.034	2.38	34.8	0.099	2.18	36.1	0.56
123		3.38	0.090	0.055	4.28	30.2	0.090	5.95	50.9	4.32
124		3.15	0.084	0.046	0.573	47.2	0.189	2.20	61.5	4.14
125		1.825	0.072	0.043	0.509	42.5	0.154	2.14	76.2	4.02
126		2.29	0.073	0.152	4.63	51.9	0.194	21.8	71.5	2.04
127		1.130	0.080	0.043	0.415	41.7	0.152	2.50	65.2	3.18
128		1.315	0.044	0.023	0.331	122.0	0.146	16.10	66.1	6.20
129		0.980	0.078	0.033	0.257	100.0	0.089	10.75	65.7	10.60
130		0.791	0.065	0.025	0.257	154.0	0.061	16.20	71.3	6.98
131		1.885	0.015	0.037	0.286	39.7	0.068	10.60	47.3	5.59
132		1.965	0.014	0.032	0.263	34.6	0.047	12.60	34.8	5.09
133		1.670	0.022	0.039	0.293	41.5	0.040	12.85	43.4	5.61
134		1.770	0.010	0.029	0.245	36.7	0.035	13.65	44.1	3.69
135		1.840	0.009	0.025	0.241	34.3	0.041	13.80	33.6	5.12

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

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Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 1-DEC-2020
Account: GOLARO

Project: Copperview Project

CERTIFICATE OF ANALYSIS VA20235361

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-MS41L

LABORATORY ADDRESSES

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

LOG-22	ME-MS41L	SCR-41	WEI-21

APPENDIX C - COPPERVIEW SOUTH PROPERTY

SOIL SAMPLE RESULTS FOR EAST GRID 1 & 2

SPUKUNNE LAKE -GRID 1 - SOIL RESULTS															
Sample ID	**Easting**	**Northing**	**Date**	**Sampler**	**Depth From (m)**	**Depth To(m)**	**Colour**	**Soil Class**	**Notes**	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
72	689799	5508301	09-26-20	GF	0.15	0.30	dark brown	clayey sand		1.5	0.26	14.7	12	53	1
73	689800	5508401	09-26-20	GF	0.00	0.17	sandy silt			1.8	0.18	11.6	7	64	1
74	689797	5508498	09-26-20	GF	0.00	0.22	brown	silty sand		1.1	0.11	9.9	8	75	1
75	689799	5508601	09-26-20	GF	0.02	0.23	brown	sandy silt		0.8	0.12	11.2	5	80	1
97	689799	5508202	09-26-20	CR	0.09	0.25	light brown	sandy silt		0.5	0.14	9.3	8	68	1
98	689798	5508096	09-26-20	CR	0.04	0.16	light brown	sandy silt		1.0	0.07	12.5	6	48	1
99	689803	5507998	09-26-20	CR	0.02	0.06	brown	sandy silt		0.2	0.07	9.9	9	62	1
100	689909	5508001	09-26-20	CR	0.04	0.16	brown	sandy silt		0.6	0.16	9.8	8	75	1
115	689998	5508297	09-26-20	JR	0.03	0.17	tan	sandy silt		0.8	0.18	14.6	11	112	2
116	690000	5508209	09-26-20	JR	0.02	0.14	brown	sandy silt	from temporary	0.3	0.27	14.4	8	63	2
117	690001	5508397	09-26-20	JR	0.02	0.10	brown	sandy silt		1.1	0.22	11.3	9	94	2
118	690000	5508496	09-26-20	JR	0.04	0.13	tan	sandy silt		1.7	0.12	11.4	7	60	1
119	689999	5508599	09-26-20	JR	0.00	0.09	brown	loam	no A layer	0.3	0.28	11.8	6	91	1
120	689897	5508301	09-26-20	GF	0.05	0.24	light brown	sandy silt		0.5	0.14	17.1	6	96	2
121	689898	5508198	09-26-20	JR	0.00	0.10	light brown	silt	no A layer	0.3	0.16	15.2	5	88	2
122	689902	5508600	09-26-20	GF	0.09	0.18	tan	sandy silt		0.0	0.16	9.7	5	36	1
123	689901	5508500	09-26-20	GF	0.07	0.22	light brown	silty sand		0.5	0.20	27.1	7	51	1
124	689900	5508399	09-26-20	GF	0.02	0.12	light brown	silty sand		1.6	0.11	12.6	6	62	1
125	689999	5507999	09-26-20	CR	0.06	0.28	grey	sandy silt		0.0	0.09	10.1	8	76	1
126	690005	5508102	09-26-20	CR	0.04	0.30	brown	sandy silt		2.8	0.39	**79.0**	11	72	3
127	689901	5508097	09-26-20	CR	0.02	0.28	grey	sandy silt		0.7	0.12	12.4	6	65	2

VALE MINFILE AREA -GRID 2 -SOIL RESULTS					Depth From (m)	Depth To(m)	Colour	Soil Class	Notes	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
18	689301	5507599	09-25-20	CR	0.12	0.34	brown	silty sand		0.8	0.18	18.7	11.5	60.0	1.5
19	689302	5507496	09-25-20	CR	0.08	0.26	golden brown	sandy silt		1.0	0.21	18.4	15.6	101.5	2.4
20	689299	5507399	09-25-20	CR	0.12	0.30	brown	silty sand		0.5	0.09	14.8	8.4	73.4	1.6
21	689310	5507303	09-25-20	CR	0.40	0.52	grey	clayey sand	edge of swamp	1.3	0.07	27.0	8.8	29.7	1.2
22	689300	5507194	09-25-20	CR	0.28	0.38	grey	clayey sand	edge of swamp	0.5	0.05	17.3	9.3	31.1	0.9
23	689305	5507099	09-25-20	CR	0.22	0.35	golden brown	sandy silt		0.6	0.14	18.6	11.1	112.5	2.4
24	689300	5507000	09-25-20	CR	0.00	0.30	brown	silty sand		0.5	0.13	14.0	8.6	97.2	1.5
25	689099	5507002	09-25-20	CR	0.40	0.56	orangeish brown	sandy silt		2.5	0.06	18.8	10.9	29.5	4.5
44	689199	5507600	09-25-20	GF	0.00	0.10	brown	silty sand		0.3	0.15	12.0	6.3	54.2	0.9
45	689200	5507500	09-25-20	GF	0.07	0.25	light brown	silty sand		1.8	0.06	13.2	9.2	56.4	1.1
46	689201	5507396	09-25-20	GF	0.08	0.30	dark brown	sand	edge of swamp	0.9	0.32	34.6	12.7	80.1	3.1
47	689199	5507300	09-25-20	GF	0.10	0.31	dark brown	sand	edge of pond	1.0	0.06	18.7	3.5	34.5	0.9
48	689199	5507098	09-25-20	GF	0.04	0.22	brown	sand		2.0	0.28	69.2	13.4	82.4	3.1
49	689201	5506999	09-25-20	GF	0.11	0.22	light brown	sandy silt		0.6	0.17	20.8	11.3	116.0	1.8
50	689001	5506999	09-25-20	GF	0.12	0.22	light brown	silty sand		2.8	0.12	14.8	8.1	83.9	2.0
51	688999	5507101	09-25-20	GF	0.05	0.19	light brown	silty sand		0.5	0.18	21.8	10.3	91.0	2.1
52	689001	5507201	09-25-20	GF	0.13	0.29	brown	sandy silt		0.8	0.22	18.3	10.3	98.9	2.4
53	689002	5507301	09-25-20	GF	0.09	0.23	light brown	sandy silt		0.7	0.06	13.5	8.6	58.6	1.8
54	688999	5507400	09-25-20	GF	0.14	0.25	light brown	sandy silt		0.4	0.08	12.9	6.2	67.9	1.9
55	689000	5507502	09-25-20	GF	0.06	0.15	light brown	silty sand	by road	1.6	0.12	11.8	10.1	76.8	2.0
56	688999	5507603	09-25-20	GF	0.00	0.17	brown	sand		1.3	0.15	8.4	5.3	47.2	0.6
57	688999	5507700	09-25-20	GF	0.00	0.08	brown	silty sand		0.6	0.20	11.5	6.8	88.7	1.1
58	688998	5507798	09-25-20	GF	0.00	0.19	brown	silty sand		0.4	0.11	15.6	5.8	84.2	1.4
59	688699	5506999	09-26-20	GF	0.00	0.24	light brown	sandy silt	edge of road	0.4	0.27	19.2	9.0	190.0	2.1
60	688798	5507000	09-26-20	GF	0.00	0.22	light brown	sandy silt		0.4	0.19	15.4	8.0	80.4	2.4
61	688901	5506999	09-26-20	GF	0.06	0.18	brown	sandy silt		1.4	0.12	25.9	9.7	58.9	2.4
62	688900	5507098	09-26-20	GF	0.00	0.15	brown	sandy silt	edge of road	0.7	0.14	11.8	7.2	79.9	2.2
63	688898	5507199	09-26-20	GF	0.00	0.22	dark brown	silty sand		1.0	0.12	24.9	10.3	84.8	2.7
64	688902	5507298	09-26-20	GF	0.00	0.10	dark brown	silty sand	edge of swamp	1.0	0.14	20.6	10.5	95.7	2.3
65	688895	5507403	09-26-20	GF	0.22	0.31	light brown	sandy silt	edge of road	0.4	0.14	12.6	5.5	67.7	1.2
66	688900	5507502	09-26-20	GF	0.05	0.19	light brown	silty sand		0.4	0.07	13.4	5.9	77.2	1.5
67	688899	5507603	09-26-20	GF	0.03	0.23	light brown	sandy silt		0.5	0.16	15.9	7.5	102.0	1.9
68	688801	5507597	09-26-20	GF	0.11	0.23	brown	silty sand	edge of outcrop	0.2	0.07	12.4	7.4	113.0	2.1
69	688800	5507497	09-26-20	GF	0.07	0.21	brown	sandy silt		0.5	0.08	11.8	8.7	81.5	2.3

VALE MINFILE AREA -GRID 2 -SOIL RESULTS										Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
70	688798	5507398	09-26-20	GF	0.05	0.19	dark brown	silty sand		0.5	0.25	16.8	8.0	72.9	1.5
71	688799	5507301	09-26-20	GF	0.00	0.12	light brown	silty sand		15.8	0.11	12.1	7.6	72.3	1.6
76	689101	5507099	09-25-20	CR	0.28	0.42	brown	silty sand		1.1	0.10	17.1	9.7	43.8	0.9
77	689076	5507205	09-25-20	CR	0.04	0.12	grey	silty sand	swamp	7.1	0.05	45.5	14.1	92.6	3.3
78	689098	5507300	09-25-20	CR	0.12	0.23	brown	silty sand		1.1	0.15	23.0	14.2	93.9	2.8
79	689100	5507400	09-25-20	CR	0.06	0.21	brown	silty sand		0.7	0.09	11.7	6.9	68.5	1.2
80	689103	5507495	09-25-20	CR	0.11	0.24	golden brown	sandy silt		0.7	0.19	13.1	6.3	77.7	1.3
81	689098	5507596	09-25-20	CR	0.00	0.15	brown	silty sand		19.4	0.15	15.2	5.0	66.1	1.4
82	689105	5507701	09-25-20	CR	0.02	0.18	brown	silty sand		0.6	0.07	11.9	6.8	42.9	1.2
83	689094	5507792	09-25-20	GF	0.00	0.20	dark brown	sand	edge of road	0.7	0.22	15.8	7.0	110.0	1.5
84	688598	5507701	09-26-20	CR	0.12	0.33	light brown	sandy silt		0.7	0.14	22.6	8.6	73.4	1.2
85	688602	5507085	09-26-20	CR	0.33	0.48	light brown	sandy silt	edge of swamp	0.9	0.08	16.8	8.7	34.9	1.5
86	688597	5507197	09-26-20	CR	0.28	0.43	light brown	sandy silt		2.1	0.15	14.6	7.4	37.5	1.3
87	688598	5507305	09-26-20	CR	0.24	0.39	grey	sandy silt		0.9	0.16	20.8	4.9	73.0	1.3
88	688598	5507401	09-26-20	CR	0.25	0.42	grey	sandy silt		0.8	0.18	21.3	5.7	75.9	1.3
89	688600	5507501	09-26-20	CR	0.09	0.18	light brown	sandy silt		0.7	0.11	13.9	8.2	78.8	1.5
90	688596	5507605	09-26-20	CR	0.10	0.22	light brown	sandy silt		1.7	0.11	13.1	8.1	67.7	1.4
91	688702	5507601	09-26-20	CR	0.16	0.30	light brown	sandy silt		0.9	0.08	11.6	5.9	69.4	1.3
92	688698	5507487	09-26-20	CR	0.09	0.20	light brown	sandy silt		0.8	0.11	10.0	5.1	59.4	1.3
93	688705	5507392	09-26-20	CR	0.08	0.21	brown	sandy silt	off of road	0.7	0.11	12.5	6.7	84.0	0.7
94	688696	5507297	09-26-20	CR	0.18	0.32	light brown	sandy silt		0.9	0.27	21.2	11.1	101.5	2.2
95	688701	5507193	09-26-20	CR	0.06	0.18	light brown	sandy silt		1.0	0.17	19.0	9.1	94.4	1.5
96	688705	5507095	09-26-20	CR	0.22	0.46	light brown	sandy silt	edge of swamp	2.7	0.36	71.2	15.3	84.0	2.6
101	698198	5507699	09-25-20	JR	0.00	0.12	light brown	sandy silt	no A layer	1.2	0.11	10.0	6.0	60.1	1.2
102	689200	5507801	09-25-20	JR	0.02	0.10	light brown	silty sand		0.6	0.19	12.4	5.8	65.9	1.4
103	689302	5507799	09-25-20	JR	0.02	0.12	brown	sandy silt		1.1	0.13	11.1	6.4	52.0	1.3
104	689302	5507702	09-25-20	JR	0.05	0.13	light brown	clayey silt		1.0	0.13	10.3	7.0	25.8	1.0
105	688898	5507799	09-26-20	JR	0.02	0.11	tan	silty sand		0.8	0.11	13.0	6.8	76.0	1.4
106	688799	5507799	09-26-20	JR	0.03	0.10	tan	sandy silt		1.0	0.12	16.2	6.5	96.4	1.3
107	688699	5507800	09-26-20	JR	0.03	0.17	tan	silt		0.6	0.18	15.7	7.5	103.5	1.4
108	688601	5507798	09-26-20	JR	0.05	0.14	light brown	silty sand		0.7	0.18	17.3	10.9	95.9	2.2
109	6886032	5507698	09-26-20	JR	0.01	0.10	light brown	silty sand		1.1	0.11	15.2	7.6	53.1	1.7
110	688701	5507699	09-26-20	JR	0.00	0.08	light brown	sandy silt	no A layer	1.8	0.07	11.0	7.1	54.7	1.6
111	688800	5507697	09-26-20	JR	0.02	0.17	light brown	sandy silt		11.9	0.04	17.8	9.0	99.9	2.2
112	688898	5507698	09-26-20	JR	0.01	0.11	light brown	sandy silt		0.3	0.07	14.2	5.3	70.8	2.4
113	688799	5507106	09-26-20	JR	0.00	0.10	light brown	sandy silt	moved off of road. No A layer	1.0	0.05	25.0	8.9	52.3	2.7
114	688801	5507201	09-26-20	JR	0.07	0.18	light brown	silty sand		0.5	0.18	19.6	11.0	95.4	3.0
										Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
									80 % Percentile	1.4	0.19	19.5	10	94	2
									90 % Percentile	2.0	0.24	24.7	11	101	3
									95% Percentile	2.8	0.28	30.5	13	111	3

APPENDIX D

North and South Block MobileMT Project in British Columbia for Golden Lake Exploration Inc., - Data Acquisition and Processing Report - Helicopter-borne MobileMT Electromagnetic & Magnetic survey

Expert Geophysics' Job #21039 August, 2021

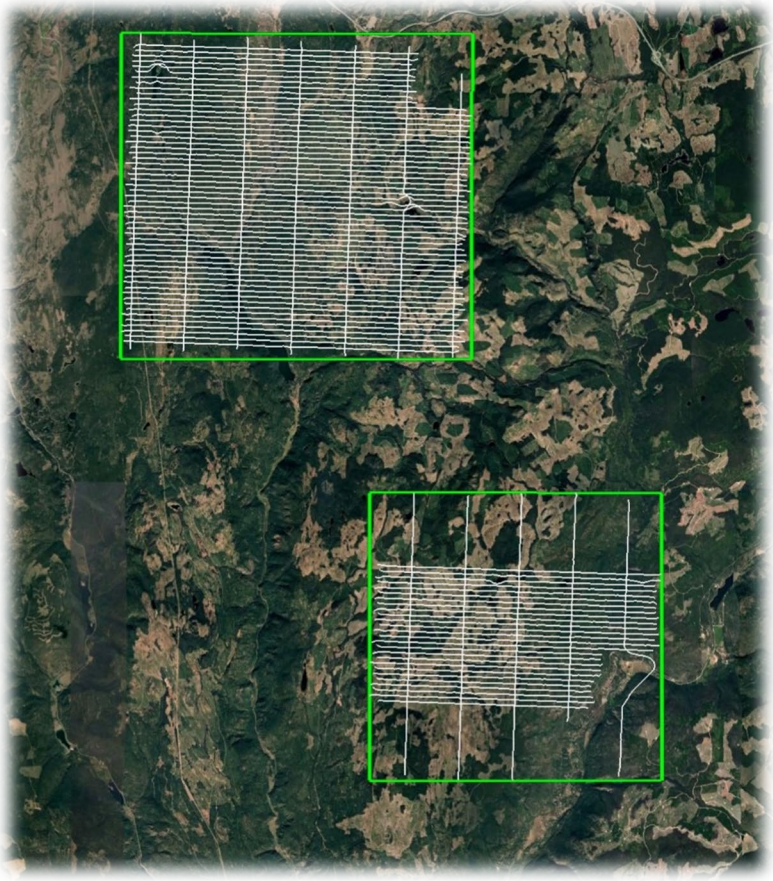
FILED SEPARATELY

NOTE: *These results are in the public domain.*

Data Acquisition and Processing Report

Helicopter-borne **MobileMT**

Electromagnetic & Magnetic survey



North and South Block MobileMT Project

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'Expert Geophysics' Job #21039

August, 2021

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1 Executive Summary

Expert Geophysics Limited (EGL) conducted a helicopter-borne **MobileMT** electromagnetic and magnetic survey in the Thompson-Nicola Regional District of British Columbia over two blocks for **Golden Lake Exploration Inc**. Electromagnetic and magnetic geophysical data were acquired using EGL's airborne **MobileMT** system. Please refer to Appendix I for the Company Profile and Appendix II for a description of the **MobileMT** technology.

The purpose of the survey was mapping bedrock structure and lithology, including possible alteration and mineralization zones, observing apparent conductivity corresponding to different frequencies, inverting EM data to obtain the distribution of resistivity with depth, and using VLF EM and magnetic data to study properties of the bedrock units. A total of 9 production flights were flown to complete 1072 line-kilometers of the survey over two blocks; North Block with 770 line-kilometers of the survey over a 155 sq.km area; South Block with 302 line-kilometers of the survey over a 115 sq.km area.

The survey was flown using a Eurocopter AS 350 B2 helicopter, registration C-GMHP, of the aviation company Mustang Helicopters. The survey production flights started on June 12, 2021 and data acquisition was completed on June 18, 2021. The survey operations were conducted from AP Ranch Guest Ranch in the Thompson-Nicola Regional District of British Columbia.

The survey lines for both blocks are oriented N-S (90°N) at 200 m spacing, while tie lines are oriented in perpendicular direction to the survey lines and spaced at 2000 m.

The geophysical survey results are presented in the form of digital databases, maps, grids, sections, elevation slices and 3D voxels. The report describes the data acquisition, processing and inversion procedures, equipment and digital data specifications, basic data analysis.

2 Introduction

The report describes the **MobileMT** airborne electromagnetic and magnetic survey that **Expert Geophysics Limited** (**EGL**, Appendix I) performed for **Golden Lake Exploration Inc.** during the period from June 12, 2021 – June 18, 2021, over two blocks located approximately 30 km north of Princeton, British Columbia. Electromagnetic passive fields and magnetic field data were gathered using **MobileMT** helicopter-borne system (Appendix II).

The Survey Area section of the report contains a description of the survey area and flight paths. The Field Operations section includes information about the operation flow, the airport and base station locations and flights dates. The Survey Equipment section describes the main and ancillary equipment used for data acquisition. The Data Processing and Deliverables Specifications section consists of main data processing and inversion procedures and final products description. The Survey results discussion section includes basic data analysis and recommendations for further data analysis.

The following table includes a brief reference of the survey specifications (Table 1).

Table 1 – Summary Project Information

Client:	**Golden Lake Exploration Inc.**
Consultant's contact:	Martin St-Pierre, P. Geoph ST PIERRE GEOCONSULTANT Inc. Tel: 604-464-7003 Cel: 604-512-4712
EGL Job Number	#21039
Survey area location:	Thompson-Nicola Regional District of British Columbia
Crew and aircraft location:	AP Guest Ranch, 4220 Princeton-Kamloops Hwy #1148, Thompson-Nicola N, BC V1K 1B8
Mag Base station location:	Lat 49.75582 N / Long 120.65148 W
EM Ref station location:	Lat 49.79625 N / Long 120.37714 W
Block:	North
Total line kms:	770 line-km
Total Survey Area:	155 sq.km
Traverse line direction/spacing:	90°; 200 m
Tie lines direction/spacing:	0°; 2000 m
Dates flown:	06/12/2021 – 06/18/2021
Block:	South
Total line kms:	302 line-km
Total Survey Area:	115 sq.km
Traverse line direction/spacing:	90°; 200 m
Tie lines direction/spacing:	0°; 2000 m
Dates flown:	06/12/2021 – 06/18/2021
Helicopter:	Eurocopter AS 350 B2, C-GMHP, Mustang Helicopters
Average survey speed:	14.0 m/sec
Average Helicopter terr.clearance:	167 m
Average magnetometer clearance:	87 m
Average EM sensor clearance:	67 m
Coordinates Datum:	WGS84
Coordinates Projection:	UTM, Zone 10N, Central Meridian 123° W
MobileMT extracted frequencies Hz:	26, 33, 42, 84, 101, 141, 163, 209, 268, 341, 419, 533, 842, 4274, 17099 (North Block) 33, 84, 101, 141, 163, 209, 268, 341, 419, 533, 677, 13571, 17099 (South Block)

3 Survey Areas and Flight Specifications

The **MobileMT** North and South Block survey areas are located approximately 30 km north of Princeton, British Columbia.

Figure 1 – Survey Area Location. Block names from north to south: North Block, and South Block.

The survey flown with a Eurocopter AS350 B2 helicopter, registration C-GMHP, operated by the aviation company Mustang Aviation.

- Average terrain clearance of the helicopter during the survey was 167 m, at average speed 14 m/sec.
- Average terrain clearance of the magnetometer bird during the survey was 87 m,
- Average electromagnetic sensor terrain clearance 67 m.

3.1 North Block

The **MobileMT** North Block is located about 40 km north of Princeton, British Columbia and 40 km southeast of Merritt, British Columbia. Flight path over the survey block is presented in Figure 2.

Figure 2 – North block flight path

The "WGS84 / UTM zone 10N" coordinate system information is displayed in Table 2. The survey flight lines specifications are in Table 3.

Table 2 – Coordinates of the survey North block (WGS84, UTM zone 10N)

North Block Boundary Coordinates			
X	Y	X	Y
683974.6	5516668	676139.5	5528428
682974.6	5516671	677139.5	5528429
681974.6	5516673	678139.4	5528426
680974.6	5516675	679139.2	5528403
679974.6	5516678	680138.9	5528381
678974.6	5516680	681138.7	5528358
677974.6	5516682	682138.4	5528336
676974.6	5516685	683138.2	5528314
675974.6	5516687	684125.8	5528242
674974.6	5516693	685021.5	5527797
673992.2	5516740	685917.2	5527353
673623.4	5517619	686241.7	5526428
673614.4	5518619	686441.8	5525455
673605.5	5519619	686478.4	5524456
673596.5	5520619	686497.1	5523456
673587.6	5521619	686500.1	5522456
673581.4	5522619	686503.2	5521456
673576.9	5523619	686506.2	5520456

673583.7	5524619	686509.2	5519456
673625.3	5525618	686512.2	5518456
673667.7	5526617	686451.2	5517459
673714.7	5527616	685818.3	5516780
674139.5	5528426	684820.1	5516719
675139.5	5528427		

Table 3 – Flight lines specifications for North Block

Line spacing, m	Lines direction	Line numbers	# of lines	Line kms
200 m (traverse)	90°	1000-2100	56	689
2000 (tie)	0°	4120-4240	7	81
Total			**63**	**770**

3.1 South Block

The **MobileMT** South Block is located about 25 km northwest of Princeton, British Columbia. Flight path over the survey block is presented in Figure 3.

Figure 3 – South block flight path

The "WGS84 / UTM zone 10N" coordinate system information is displayed in Table 4. The survey flight lines specifications are in Table 5.

Table 4 – Coordinates of the survey South block (WGS84, UTM zone 10N)

South Block Boundary Coordinates			
X	Y	X	Y
688793.5	5501195	688637	5511879
687793.5	5501186	689636.5	5511913
686793.6	5501178	690635.9	5511947
685794.8	5501227	691632.3	5511873
684796.1	5501277	692628.3	5511784
684341.9	5502159	693118.7	5510961
683897.1	5503054	693556.4	5510062
683452.3	5503950	693994.1	5509163
683327.3	5504923	694059	5508177
683335	5505923	694065.6	5507177
683364.7	5506922	694029.3	5506180
683394.3	5507922	693809.8	5505206
683461.3	5508919	693530.2	5504246
683853.3	5509833	693250.6	5503286
684279.9	5510738	692971	5502326
684706.4	5511642	692591	5501489
685638.7	5511778	691594	5501412
686638.2	5511812	690597	5501334
687637.6	5511846	689600	5501257

Table 5 – Flight lines specifications for South Block

Line spacing, m	Lines direction	Line numbers	# of lines	Line kms
200 m (traverse)	90°	5000-5500	26	250
2000 (tie)	0°	7000-7080	5	52
Total			**31**	**302**

4 Field Operations

4.1 Operations schedule

The survey operations were conducted from AP Ranch Guest House in the Thompson-Nicola Regional District of British Columbia. The survey was executed in 9 production flights started on June 12, 2021 and data acquisition was completed on June 18, 2021.

Table 6 – Operations schedule

Date	estim. flown, km	Operation
12-Jun-21	118.0	Base station was installed and tested in the field. One production flight completed (f01).
13-Jun-21	12.0	F02 aborted after first line due to incoming rain over survey area.
14-Jun-21	0.0	No production due to poor weather conditions.
15-Jun-21	252.0	Two production flights (f03, f04).
16-Jun-21	288.0	Two production flights (f05, f06).
17-Jun-21	260.0	Two production flights (f07, f08).
18-Jun-21	120.0	One production flight to complete planned lines (f09).

Activity type stats during the survey is shown in Figure 4.

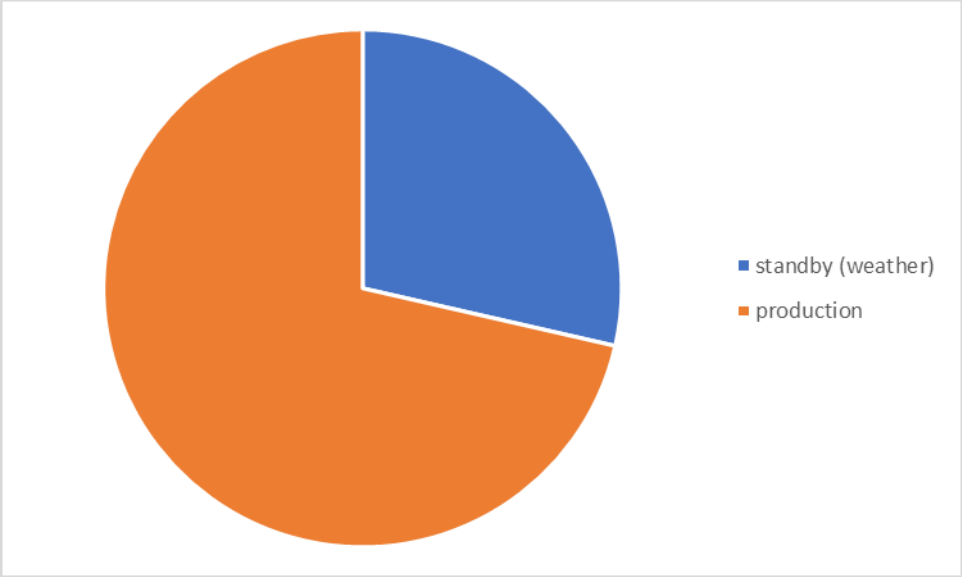

Figure 4 – Activity during the survey

4.2 Aircraft parking and base station locations

Locations of the aircraft parking, magnetic base station and MobileMT reference base station are specified in Table 7.

Table 7 – Aircraft parking and base station locations

	Position
Aircraft parking	AP Ranch Guest House, Thompson-Nicola Regional District, British Columbia
Mag base station	Lat 49.75582 N / Long 120.65148 W
EM Ref station	Lat 49.79625 N / Long 120.37714 W

4.3 Re-flights

Identified, during the survey quality control (QC), and re-flown flight-lines for the North and South Block are specified in Table 8. Only accepted by QC lines data are included into the final databases.

Table 8 – List of re-flown lines for North and South Block

Line Number	Length, km	Reason
1000	10	Inclement meteorological conditions

4.4 Office and Field Personnel

The following personnel participated in the project support and field operations:

Project Managers: Andrei Bagrianski (EGL);

EGL Operators: Oleg Babisin, Carlos Rengifo;

EGL Technician: Igor Filonenko

DataQC, Processor: Andrei Bagrianski (EGL);

Tech.support: Igor Filonenko;

Final data processing, finals producing, report: Alexander Prikhodko (EGL), Julian Boada (EGL), Aamna Sirohey (EGL).

5 Survey Equipment and Specifications

5.1 Equipment composition

The main instrumentation installed on the **MobileMT** tow-bird:

- Three orthogonal induction coils (1.4 m diameter each) to measure naturally occurring magnetic fields in the frequency range 25 Hz – 20,000 Hz
- Geometrics G822A Cesium Magnetometer, installed in a separate towed-bird, 20 m above the **MobileMT** bird, sensitivity of 0.001 nT/10 Hz sampling
- GPS antenna, installed on the towed-bird with the magnetometer.

The main instrumentation installed on the helicopter:

- EGL PC-104 based Data Acquisition System
- EGL Navigation system with Pilot Steering Indicator
- Smartmicro model UMRR-0A Radio Altimeter, 0 – 500 m range
- GPS antenna, installed on the helicopter tail

Base Stations and Ground Support instrumentation comprises:

- **MobileMT** Ground Base Station, 4-channel (2 channels for signal and 2 channels for reference signal), to measure variations of the electric field in two directions with 4 pairs of electrodes. Electrical line length – 100 m each line, direction X – 86 degrees, Y – 176 degrees.
- GEM Systems GSM-19 Base Station Magnetometer, 0.1 nT sensitivity, with data logger;
- A Field Data Processing Workstation and a full suite of software for the quality control and preliminary processing of the airborne geophysical data.

MobileMT VLF specifications:

- VLF-EM System: EGL proprietary digital system
- Model: Matrix Plus
- Manufacturer: EGL
- Antenna: used in the MobileMT three orthogonal coils (x,y,z)
- Primary Sources: up to 4 discrete frequencies (stations)
- Output Parameters: Amplitude (secondary field), vertical and planar ellipicities, azimuth, tilt angle
- Sample Rate: 0.1 second
- Gain: Constant gain setting

- Filtering: No filtering

MobileMT EM specifications:

- Airborne receiver: Three orthogonal induction coils (1.4 m diameter each)
- Airborne shell: Aerodynamic shaped capsule
- Digitizing rate: 73,728 Hz
- Tow cable length: 97 m
- Ground sensors 4 pairs of electrodes
- Electrode separation 100 m
- Lines EM base station directions 86°, 176°
- Frequency range: 25 Hz – 20,000 Hz
- Output computed parameters: Apparent conductivity for selected frequencies
- Output frequencies: Selectable from 25 Hz – 20,000 Hz depending on signal strength.

Selected frequencies and corresponded frequency gates are in Table 9

Table 9 – Frequency gates extracted from the data (Hz) for the North Block.

Start	End	Center
22.8	30.4	26.3
28.7	38.4	33
36.1	48.3	42
72.3	96.6	84
91	121.8	101.1
114.7	153.4	141
144.5	193.3	162.5
182.1	243.5	209.4
229.4	306.8	267.6
289	386.6	341.1
364.1	487.1	419
458.8	613.7	532.5
728.3	974.1	841.7
3670.3	4909.3	4274.1
14681.2	19637.1	17099

Table 10 – Frequency gates extracted from the data (Hz) for the South Block.

Start	End	Center
28.7	38.4	33
72.3	96.6	84
91	121.8	101.1

114.7	153.4	141
144.5	193.3	162.5
182.1	243.5	209.4
229.4	306.8	267.6
289	386.6	341.1
364.1	487.1	419
458.8	613.7	532.5
578	773.2	677.1
7340.6	9818.5	8549.6
11652.5	15585.9	13571.1
14681.2	19637.1	17099

5.2 The Airborne Magnetometer System

The airborne magnetometer is a state-of-the-art system developed by EGL. It utilizes a Geometrics G822A cesium magnetometer sensor, installed in the towed-bird and the high accuracy Larmor frequency counter developed.

5.3 The Airborne GPS Navigation System

EGL uses a proprietary GPS navigation system utilizing the GPS Receiver with Linx RXM-GNSS-TM GPS Engines. The key features of the GPS Receiver are:

- L1 1575.42MHz, C/A code
- 33-channel satellite tracking
- Position accuracy: 2.5m
- 10 Hz update rate
- Constellation System Support:
  - GPS
  - GLONASS
  - GALILEO
  - QZSS
- DGPS support:
  - (SBAS) Satellite-Based Augmentation System
  - (RTCM) Radio Technical Commission for Maritime Services
  - (WAAS) Wide-Area Augmentation System
  - (EGNOS) European Geo-Stationary Navigation System

- (MSAS) MTSAT Satellite-Based Augmentation System
- (GAGAN) GPS-Aided Geo-Augmented Navigation

An EGL Computer/Pilot Steering Indicator is used to compute the flight path grids in real-time onboard the helicopter (Figure 5, Figure 6).

Figure 5 – EGL Navigation Computer, Moving-map Display

Figure 6 – Pilot Steering Indicator and Radio Altimeter Indicator

5.4 Data Acquisition System

The data acquisition system features an EGL PC-104-based data acquisition system. The EGL data acquisition system is an instrument developed by EGL for airborne geophysical data acquisition tasks. It features EGL proprietary technology and software. The EGL data acquisition system simultaneously records data on internal flash disk and displays it on a color LCD display, at a repetition rate of 0.33 sec, for post-flight computer processing. The five main functions fulfilled by the data acquisition system are: 1) system control and monitoring, 2) data acquisition, 3) real-time data processing, 4) navigation, and 5) data playback and analysis.

5.5 Radar-Altimeter

A Smartmicro model UMRR-0A radar altimeter system records the ground clearance to an accuracy of 3% over a range of 0 ft to 1,640 ft (0 to 500 m). The altimeter is interfaced to the navigation system and the data acquisition system with an output repetition rate of 10 Hz and digitally recorded.

5.6 MobileMT ground base station

The MMT Ground Base Station comprises:

- 4 pairs of electrodes, 100 m separation each;
- Lines directions 86°, 176°
- EGL PC-104 based Data Acquisition System with a GPS system to record the GPS time together with the electric data;
- A power supply unit.

5.7 MobileMT Magnetometer base station

The Magnetometer Base Station was a GSM-19 Overhauser magnetometer. The base-station magnetometer, with digital recording, operated continuously throughout the airborne data acquisition, with a sampling interval of 1 seconds, and sensitivity of 0.1 nT. The ground and airborne system clocks synchronized using GPS time, to an accuracy of far better than 1 second. At the end of the day's work, the digital data transferred from the base station's data-logger to the FWS.

This base station located in a place with low magnetic gradient (less than 2nT/m). The base station sited away from moving steel objects, vehicles or hydro transmission lines to ensure minimum interference and noise levels.

5.8 Field Computer Workstation

The Field Data Processing Workstation (FWS) is a dedicated computer system for use at the technical base in the field. The workstation to be used on this project is designed for use with Geosoft OASIS Data Processing Software. It is also capable of processing and imaging all the geophysical and navigation data acquired during the survey, producing semi-final, preliminary-levelled maps.

The main features of the FWS are:

- Portability;
- Digital Data Verification - flight data quality and completeness were assured by both statistical and graphical means;
- Flight Path Plots - flight path plots quickly generated from the GPS satellite data to verify the completeness and accuracy of a day's flying;
- Versatility - the FWS used in both the field and the office. Data pre-processed in the field up-loaded to the computers at the Data Processing Centre to speed up data turnaround;

- Preliminary Maps - the FWS software permitted creation preliminary maps of the electromagnetic and magnetic data during the survey;
- Quality Control – acquired data quickly and efficiently checked for quality in the field on daily basis.

6 Data Processing and Deliverables Specifications

6.1 EM Data Processing

The data recorded by the towed bird sensors (three mutually orthogonal dB/dt components of the EM field) is first merged with the recorded two mutually orthogonal electrical components of electric field on the stationary base station into one file. The program which is proprietary of EGL applied the FFT to the records of the merged file and calculates the matrices of the relation between the magnetic and electrical field signals on the different time bases and in the different frequency bands. The module of the determinant of each matrix is a rotation invariant parameter and it is used as an output parameter.

The frequencies for the data processing selected based on the signal strength for each surveyed block and the local noise interference. The selected frequencies for the survey presented in the Table 9.

6.2 EM data inversions

MobileMT data was inverted with nonlinear least-squares iterative inversion developed by N. Golubev for MobileMT. The inversion algorithm is based on the conjugate gradient method with the adaptive regularization (*Zhdanov M.S, Geophysical Inverse Theory and Regularization Problems. Methods in Geochemistry and Geophysics, 36. Elsevier, 2002. 609 p.*). The inversion procedure is executed for each station independently without stations sampling along a line. The algorithm uses weighting of the inverted parameters. Consequently, sensitivity of the data to resistivity of each layer is approximately equal and independent of the layer's depth. This way provides high resolution of deep parts of a model, as upper part. Each measured data station along lines is inverted.

The data inversion procedures include:

- Data preparation and its conversion for the software input;
- Creation an inversion parameter file and a starting model. The model consisted of 100 "layers", 30 m thickness with uniform resistivity. The starting resistivity is calculated as an average value for each station apparent resistivity curve;
- Inversions;
- Results control and analysis (RMS, data and model comparison);

- The inverted data import into Geosoft for database, sections, depth slices and a 3D voxel compilation.

Misfit of inversions (RMS) is calculated as:

$$RMS(\quad \rho)=\sqrt{\frac{\sum_{n=1}^{N}(\quad \rho_n^{pr}-\quad \rho_n^{obs})^2}{N}}$$

Where obs – observed, pr – predicted resistivity. The misfit values are in the inversion database followed the report.

All electromagnetic data (apparent conductivity for different frequencies) where inverted into resistivity-depth distribution. The resulted products of the inversions include 3D voxels, resistivity-elevation slices, resistivity sections for each surveyed line.

6.3 Magnetic Data Processing

Raw total magnetic field data are recorded at 0.1-second sampling intervals.

The Earth's magnetic field is known to vary as a function of time. Time varying magnetic events such as magnetic storm transients and more regular diurnal variations which occur during the acquisition of magnetic data may affect the accuracy of the survey data and distort magnetic anomalies. Separation of the time-dependent variations in the magnetic field from a real geomagnetic anomaly requires an independent estimate of the transient magnetic field events. Base station magnetometer data provides this independent estimate. The diurnal base station data was analyzed for spikes and spurious sections which were manually removed from the dataset. A 15-point low pass filter was then applied to the diurnal data.

The magnetic data was corrected for diurnal variations, leveled and filtered. Raw magnetic data has initial preprocessing only (spike removal, short gaps interpolated). At the next stage, all the magnetic data is processed by an adjustment procedure that statistically treats the line data. It is designed to recognize and remove systematic bias and small random errors in the data which can cause survey line mis-ties. Bias errors in the magnetic data arise from changes in the level of the total magnetic field.

To remove bias errors, each profile of a given data set in the survey was shifted up or down systematically by an amount such that the sum of the square of the mis-tie errors for that data set over the entire survey network is minimized. The systematic corrections are further constrained such that

the sum of the systematic corrections is zero, effectively eliminating DC shifts to the network as a whole. After this systematic adjustment, the remaining intersection mis-ties were studied and removed. The final statistical choice of the data values at each intersection is a function of the reliability weights of each line for each data set. The random error correction for each data set prorated between intersections. After editing the adjusted line data for line pulls and data quality, they were input to a minimum curvature gridding algorithm and a grid produced.

As an additional product, the calculated vertical derivative (cvg) was produced.

6.4 VLF Data Processing

VLF-EM data were captured using the MobileMT three components receiver. The instrument is capable of simultaneously monitoring up to four VLF frequencies, recording amplitude (secondary field), transmitter station azimuth (relative to aircraft orientation), vertical and planar ellipticities and tilt angle.

For this project, the following VLF transmitters were monitored:

- Station NAA: Cutler, Maine – 24.0 kHz
- Station NML: La Moure, North Dakota – 25.2 kHz
- Station NLK: Jim Creek, Washington – 24.8 kHz

But the 24 kHz signal was accepted and presented in the final database.

Processing of the raw amplitude data consisted of the following:

- Mask out any embedded “off-line” data
- Noise reduction filtering using non-linear Naudy filtering (5 pt filter width)
- Initial levelling (mean subtraction)
- Fine levelling (micro-levelling)

The finalized data for accepted frequency(s) were presented as a series of amplitude colour images. High amplitude values correspond to conductive zones.

6.5 Ancillary data processing

Positions and altitudes of the magnetic sensor and EM receiver are derived from data of two GPS antennas (A – on the helicopter, B- on the magnetic sensor bird) and radar-altimeter positioned on the helicopter. A digital terrain model (DTM) channel has been calculated by subtracting the filtered radar-altimeter data from the GPS-A elevation.

6.6 Data Deliverables

EM Database: North Block EM presented in a Geosoft GDB format

- The database channels description is in the Table 11.

Table 11 – Geosoft 21039_North_Block_EM.gdb Data Format

Channel Name	Units	Description
xe:	metres	EM bird UTM Easting WGS84 Zone 10 North
ye:	metres	EM bird UTM Northing WGS84 Zone 10 North
ze:	meters	EM bird elevation above geoid
gtime:	Sec of the day	GPS time
RdAlt:	metres	helicopter terrain clearance from radar altimeter
alt_e:	Metres	EM bird terrain clearance
DTM:	metres	Digital Elevation Model
PLM:	Units	Powerline monitor
ac_26:	mS/m	Apparent Conductivity for freq 26.3 Hz
ac_33:	mS/m	Apparent Conductivity for freq 33.0 Hz
ac_42:	mS/m	Apparent Conductivity for freq 42.0 Hz
ac_84:	mS/m	Apparent Conductivity for freq 84.0 Hz
ac_101:	mS/m	Apparent Conductivity for freq 101.1 Hz
ac_141:	mS/m	Apparent Conductivity for freq 141.0 Hz
ac_163:	mS/m	Apparent Conductivity for freq 162.5 Hz
ac_209:	mS/m	Apparent Conductivity for freq 209.4 Hz
ac_268:	mS/m	Apparent Conductivity for freq 267.6 Hz
ac_341:	mS/m	Apparent Conductivity for freq 341.1 Hz
ac_419:	mS/m	Apparent Conductivity for freq 419.0 Hz
ac_533:	mS/m	Apparent Conductivity for freq 532.5 Hz
ac_842:	mS/m	Apparent Conductivity for freq 841.7 Hz
ac_4274:	mS/m	Apparent Conductivity for freq 4274.1 Hz
ac_17099:	mS/m	Apparent Conductivity for freq 17099.0 Hz

Table 12 – Geosoft 21039_South_Block_EM.gdb Data Format

Channel Name	Units	Description
xe:	metres	EM bird UTM Easting WGS84 Zone 10 North
ye:	metres	EM bird UTM Northing WGS84 Zone 10 North
ze:	meters	EM bird elevation above geoid
gtime:	Sec of the day	GPS time
RdAlt:	metres	helicopter terrain clearance from radar altimeter
alt_e:	Metres	EM bird terrain clearance
DTM:	metres	Digital Elevation Model
PLM:	Units	Powerline monitor
ac_33:	mS/m	Apparent Conductivity for freq 33.0 Hz
ac_84:	mS/m	Apparent Conductivity for freq 84.0 Hz
ac_101:	mS/m	Apparent Conductivity for freq 101.1 Hz
ac_141:	mS/m	Apparent Conductivity for freq 141.0 Hz
ac_163:	mS/m	Apparent Conductivity for freq 162.5 Hz
ac_209:	mS/m	Apparent Conductivity for freq 209.4 Hz
ac_268:	mS/m	Apparent Conductivity for freq 267.6 Hz

ac_341:	mS/m	Apparent Conductivity for freq 341.1 Hz
ac_419:	mS/m	Apparent Conductivity for freq 419.0 Hz
ac_533:	mS/m	Apparent Conductivity for freq 532.5 Hz
ac_677:	mS/m	Apparent Conductivity for freq 677.1 Hz
ac_8550:	mS/m	Apparent Conductivity for freq 8549.6 Hz
ac_13571:	mS/m	Apparent Conductivity for freq 13571.1 Hz
ac_17099:	mS/m	Apparent Conductivity for freq 17099.0 Hz

The EM and MAG databases can be synchronized based on *gtime* channel.

Mag Database: North and South Block Mag presented in a Geosoft GDB format

- The database channels description is in the Table 13.

Table 13 – Geosoft 21039_North_Block_Mag.gdb and 21039_South_Block_Mag.gdb Database Format

Channel Name	Units	Description
xm:	metres	mag bird UTM Easting WGS84 Zone 10 North
ym:	metres	mag bird UTM Northing WGS84 Zone 10 North
zm:	meters	mag bird elevation above geoid
xh:	metres	heli UTM Easting WGS84 Zone 10 North
yh:	metres	heli UTM Northing WGS84 Zone 10 North
zh:	meters	heli elevation above geoid
gtime:	Sec of the day	GPS time
RdAlt:	metres	helicopter terrain clearance from radar altimeter
alt_m:	Metres	mag bird terrain clearance
DTM:	metres	Digital Elevation Model
GPS_B_LAT:	Decimal degrees	Mag bird latitude, WGS84
GPS_B-LON:	Decimal degrees	Mag bird longitude, WGS84
basemag:	nT	Magnetic base station data
Magair:	nT	Measured magnetic field
Magcorr:	nT	Corrected for diurnal magnetic field
TMI:	nT	Total magnetic intensity, levelled and microlevelled
TMI_CVG:	nT/m	Calculated vertical derivative of the magnetic field

The EM and MAG databases can be synchronized based on *gtime* channel.

VLF Database: North and South Block VLF presented in a Geosoft GDB format

- The database channels description is in Table 14.

Table 14 – Geosoft 21039_North_Block_VLF.gdb and 21039_South_Block_VLF.gdb Database Format

Channel Name	Units	Description
xe:	metres	EM bird UTM Easting WGS84 Zone 10 North
ye:	metres	EM bird UTM Northing WGS84 Zone 10 North
ze:	meters	EM bird elevation above geoid
gtime:	Sec of the day	GPS time
RdAlt:	metres	helicopter terrain clearance from radar altimeter
alt_e:	Metres	EM bird terrain clearance
DTM:	metres	Digital Elevation Model

Amplitude:		VLF secondary field amplitude for freq 24.0 kHz
Azimuth:	degrees	transmitter station azimuth (relative to aircraft orientation)
TiltAngle:		In-Phase [VLF Tilt]
El_Vert:		Quadrature [VLF Vertical Ellipticity]
El_Plan:		VLF Planar Ellipticity

Grids and Maps:

- Refer to Table 15 for summary of grids and maps (Appendix III) which accompany this report.

Table 15 – Lists of North Block grids (in Geosoft format) and maps (in Geosoft and PDF formats).

Grids	Maps	Description
DTM	21039_North_Block_DTM	Digital Terrain Model
TMI CVG	21039_North_Block_TMI_CVG	Calculated vertical derivative of the magnetic field
TMI	21039_North_Block_TMI	Total magnetic intensity
PLM	21039_North_Block_plm	Powerline monitor
ac_26:	21039_North_Block_ac_26	Apparent Conductivity for freq 26.3 Hz
ac_33:	21039_North_Block_ac_33	Apparent Conductivity for freq 33.0 Hz
ac_42:	21039_North_Block_ac_42	Apparent Conductivity for freq 42.0 Hz
ac_84:	21039_North_Block_ac_84	Apparent Conductivity for freq 84.0 Hz
ac_101:	21039_North_Block_ac_101	Apparent Conductivity for freq 101.1 Hz
ac_141:	21039_North_Block_ac_141	Apparent Conductivity for freq 141.0 Hz
ac_163:	21039_North_Block_ac_163	Apparent Conductivity for freq 162.5 Hz
ac_209:	21039_North_Block_ac_209	Apparent Conductivity for freq 209.4 Hz
ac_268:	21039_North_Block_ac_268	Apparent Conductivity for freq 267.6 Hz
ac_341:	21039_North_Block_ac_341	Apparent Conductivity for freq 341.1 Hz
ac_419:	21039_North_Block_ac_419	Apparent Conductivity for freq 419.0 Hz
ac_533:	21039_North_Block_ac_533	Apparent Conductivity for freq 532.5 Hz
ac_842:	21039_North_Block_ac_842	Apparent Conductivity for freq 841.7 Hz
ac_4274:	21039_North_Block_ac_4274	Apparent Conductivity for freq 4274.1 Hz
ac_17099:	21039_North_Block_ac_17099	Apparent Conductivity for freq 17099.0 Hz
DepthSliceASL	21039_North_Block_ResElev_XXXX	Resistivity Depth Slice from 0-1000 with 200m interval
ResSec	ResSec_LXXXX	Resistivity Line Sections with full depth range

Table 16 – Lists of South Block grids (in Geosoft format) and maps (in Geosoft and PDF formats).

Grids	Maps	Description
DTM	21039_South_Block_DTM	Digital Terrain Model
TMI CVG	21039_South_Block_TMI_CVG	Calculated vertical derivative of the magnetic field
TMI	21039_South_Block_TMI	Total magnetic intensity
PLM	21039_South_Block_plm	Powerline monitor
ac_33:	21039_South_Block_ac_26	Apparent Conductivity for freq 33.0 Hz
ac_84:	21039_South_Block_ac_33	Apparent Conductivity for freq 84.0 Hz
ac_101:	21039_South_Block_ac_42	Apparent Conductivity for freq 101.1 Hz
ac_141:	21039_South_Block_ac_84	Apparent Conductivity for freq 141.0 Hz
ac_163:	21039_South_Block_ac_101	Apparent Conductivity for freq 162.5 Hz
ac_209:	21039_South_Block_ac_141	Apparent Conductivity for freq 209.4 Hz
ac_268:	21039_South_Block_ac_163	Apparent Conductivity for freq 267.6 Hz
ac_341:	21039_South_Block_ac_209	Apparent Conductivity for freq 341.1 Hz
ac_419:	21039_South_Block_ac_268	Apparent Conductivity for freq 419.0 Hz
ac_533:	21039_South_Block_ac_341	Apparent Conductivity for freq 532.5 Hz
ac_677:	21039_South_Block_ac_419	Apparent Conductivity for freq 677.1 Hz
ac_8550:	21039_South_Block_ac_533	Apparent Conductivity for freq 8549.6 Hz
ac_13571:	21039_South_Block_ac_842	Apparent Conductivity for freq 13571.1 Hz
ac_17099:	21039_South_Block_ac_4274	Apparent Conductivity for freq 17099.0 Hz
DepthSliceASL	21039_South_Block_ResElev_XXXX	Resistivity Depth Slice from -100-1200 m with nominal 200 m interval
ResSec	ResSec_LXXXX	Resistivity Line Sections with full depth range

Voxels:

- ResInv_ResN-topo_win.geosoft_voxel
- ResInv_ResS-topo_win.geosoft_voxel

7 Survey results general analysis and recommendations

A MobileMT airborne survey, including broadband natural electromagnetic fields, the earth's magnetic field, and EM VLF data measurements with precise positioning, has been successfully completed across the North and South Blocks. For the North Block, electromagnetic and magnetic data were collected along: 56 E-W survey lines nominally spaced at 200 m, and 7 N-S tie lines nominally spaced at 2000 m. For the South Block, electromagnetic and magnetic data were collected along: 26 E-W survey lines nominally spaced at 200 m, and 5 tie lines nominally spaced at 2000 m. Electromagnetic readings were taken using an EGL AFMAG&VLF MobileMT system consisting of an airborne three-component magnetic sensor, as well as a base station with two horizontal electric components. A caesium magnetometer in a separate towed-bird has been used for collecting measurements of the intensity of the earth's magnetic field.

The purpose of the survey was mapping bedrock structures and lithology, including possible alteration and mineralization zones reflected in electric and magnetic properties of rocks. The airborne geophysical survey results are presented in apparent conductivity corresponding to different frequencies, resistivity-depth profiles determined from inverting EM data, available VLF EM data, as well as magnetic field data and its derivatives. The report is followed by digital databases, separate for each method, processed and calculated data grids, maps, and resistivity-depth products – elevation slices, sections and a 3D voxel representation. The standard EM data inversion was based on a 1D model.

The electrical properties of the rock assemblages in the survey areas are reflected in the distribution of apparent conductivity related to different frequencies and in the inverted resistivity-depth distributions. The apparent conductivity parameter describes an inhomogeneous geoelectrical environment in terms of a homogeneous earth that would produce the same measurement and refers to the depth relative to total conductance below the measurement station and a specific frequency. In general, depth of investigation increases with decreasing frequency and total conductance. The non-linear and complex relation is solved by inversions of the 'apparent conductivity - frequency' data into 'resistivity – depth' distribution.

Regional Geologic Context

This geophysical survey served to acquire data over properties of the Copperview Project, which is located in the Quesnel Trough in South-Central British Columbia (Figure 7). The Quesnel Trough is underlain by a thick sequence, mainly comprised of Upper Triassic and Lower Jurassic volcanoclastic and sedimentary rocks, that lie between the highly deformed rocks in the Omineca Geanticline to the east and the Upper Paleozoic Cache Creek Group in the Pinchi Geanticline to the west (Campbell and Tipper, 1970). The oldest rocks of the Quesnel Trough are the Upper Triassic black phyllite unit and the Nicola Group (Figure 8). The Upper Triassic unit consists of dark grey to black phyllite with local thin limestone beds; with differing grades of metamorphism. The Nicola Group consists dominantly of volcanoclastic rocks of basic to intermediate composition. Faults and fractures are the dominant structural features in the Quesnel Trough. The presence of copper, molybdenum, lead, zinc, silver, and gold is indicated.

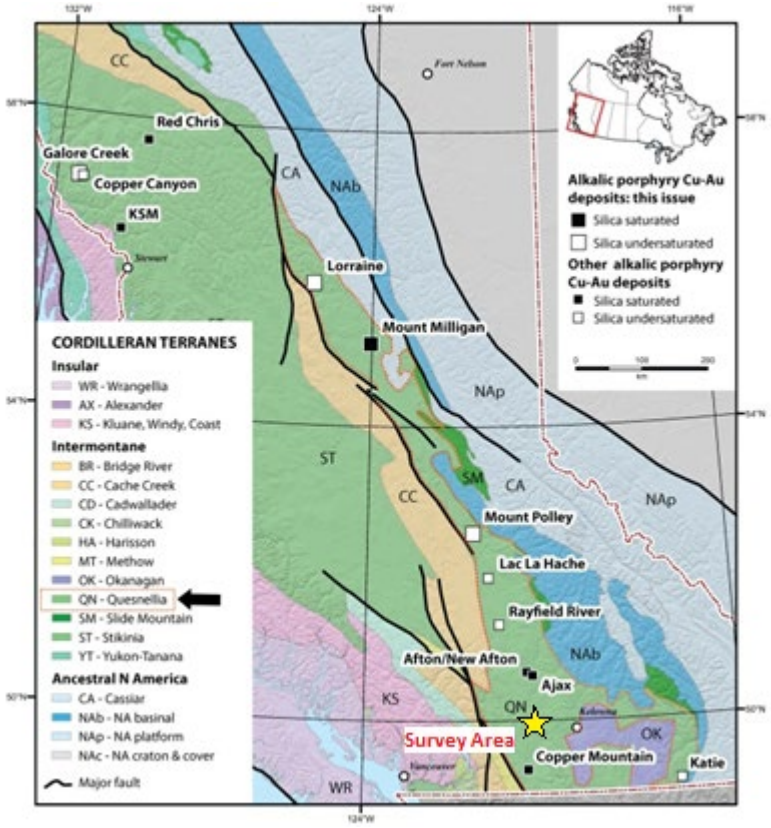

Figure 7 – Terranes of the Canadian-Alaskan Cordillera. Sources: Wheeler et al. (1991); Silberling et al. (1992); Colpron (2006). Adapted from Colpron (2007). The approximate location of the survey blocks is indicated by a yellow star.

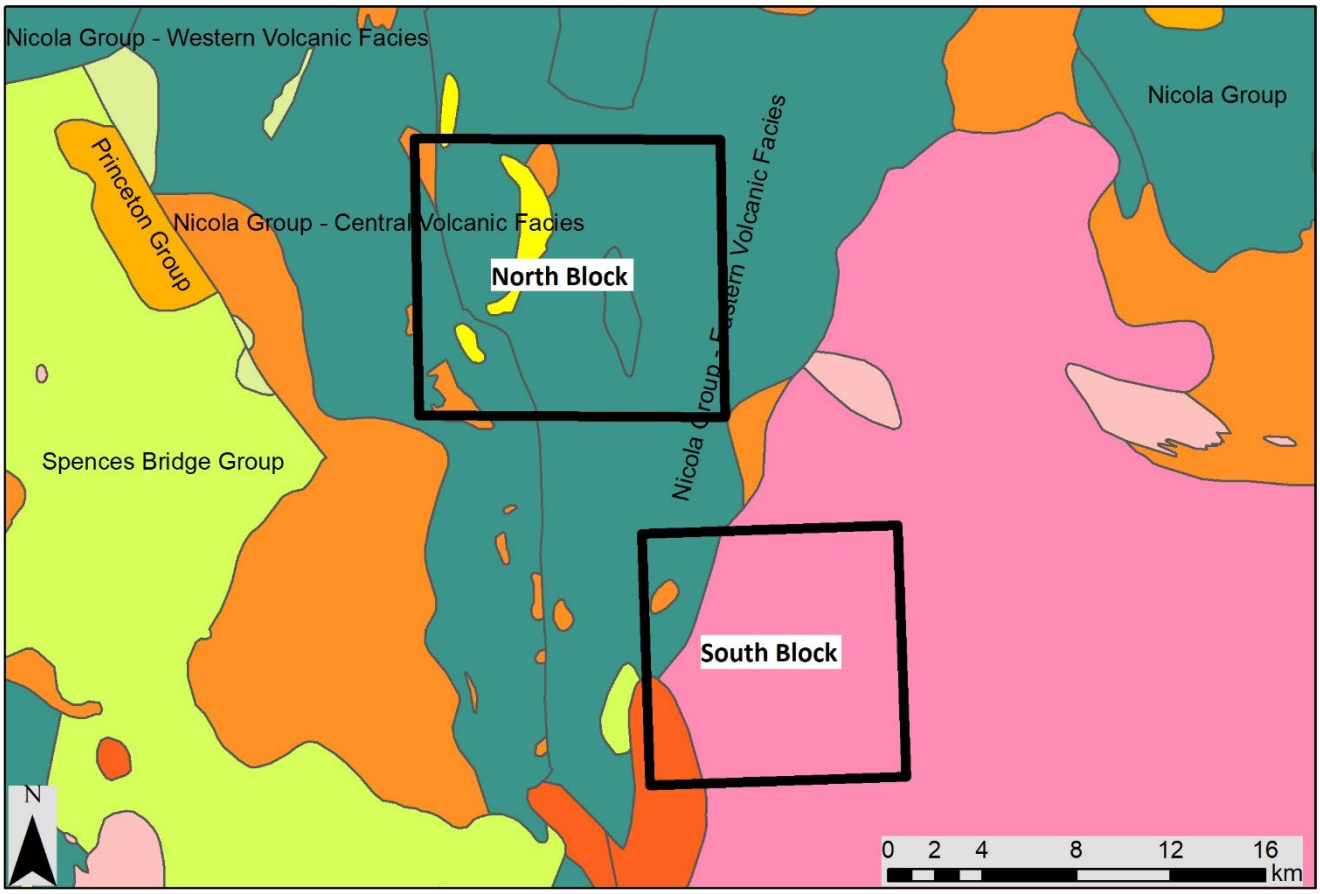

Figure 8 – Regional geology surrounding survey area.

The Quesnel Trough is known to host several alkalic Cu-Au porphyry deposits that have been host to numerous producing, past-producing and advanced development stage Cu-Au porphyry deposits. Historical exploration was largely focused on exposed surface mineral showings and several large untested copper-in-soil and gold-in-soil anomalies. Most of the economic metal endowment is concentrated within a mineralizing epoch of around 6 million years, centered around 205 Ma (Heberlein, 2012). Distinct trends of Cu-Au and Ag-Mo mineralization coincide in space and time with the effects of slab subducation (Logan and Mihalynuk, 2014). The Copperview project aims to develop potential major Cu-Au porphyry systems and polymetallic mineralization. With the detection of targets in the Quesnel Trough becoming increasingly difficult due to thick glacial overburden, it is becoming increasingly important to combine different datasets, including geophysical, structural and geochemical, as well as knowledge of known mineral deposits to discover and target buried deposits.

North Block

The general resistivity distribution for the North Block is presented in Figure 9. The geological environment of the surveyed block is in the range of inverted resistivities 550-1,500 Ohm-m (for 1d model). Possible local and discrete anomalies could relate to targets with lower absolute resistivity values than estimated since the inversion is not constrained by limited in their dimensions sources of anomalies. A few representative images elucidating the salient features of the data collected during this survey are presented in Figure 10, Figure 11, and in Appendix III.

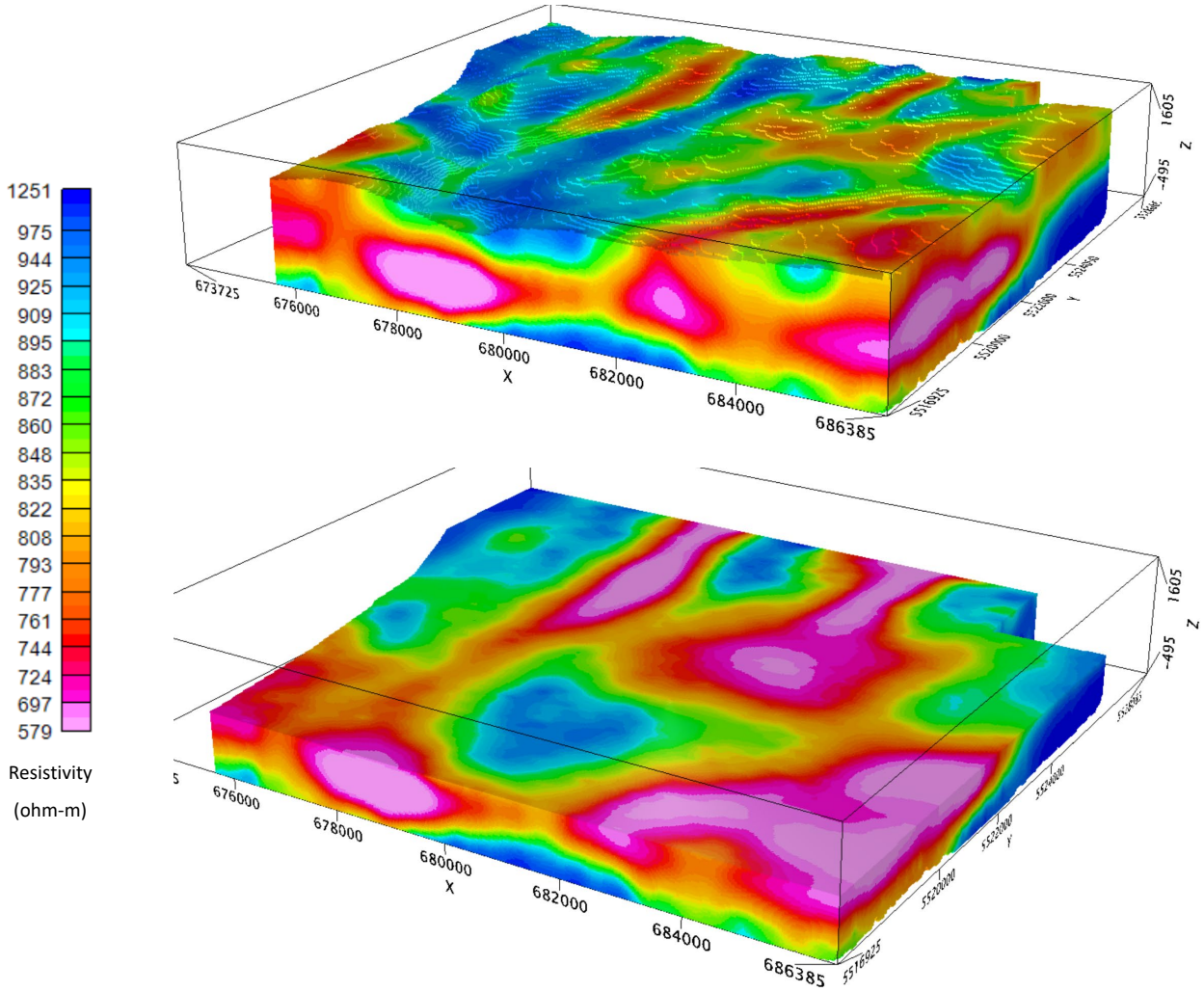

Figure 9 – 3D view of resistivity distribution for North Block. Top from surface, bottom from 500 m ASL.

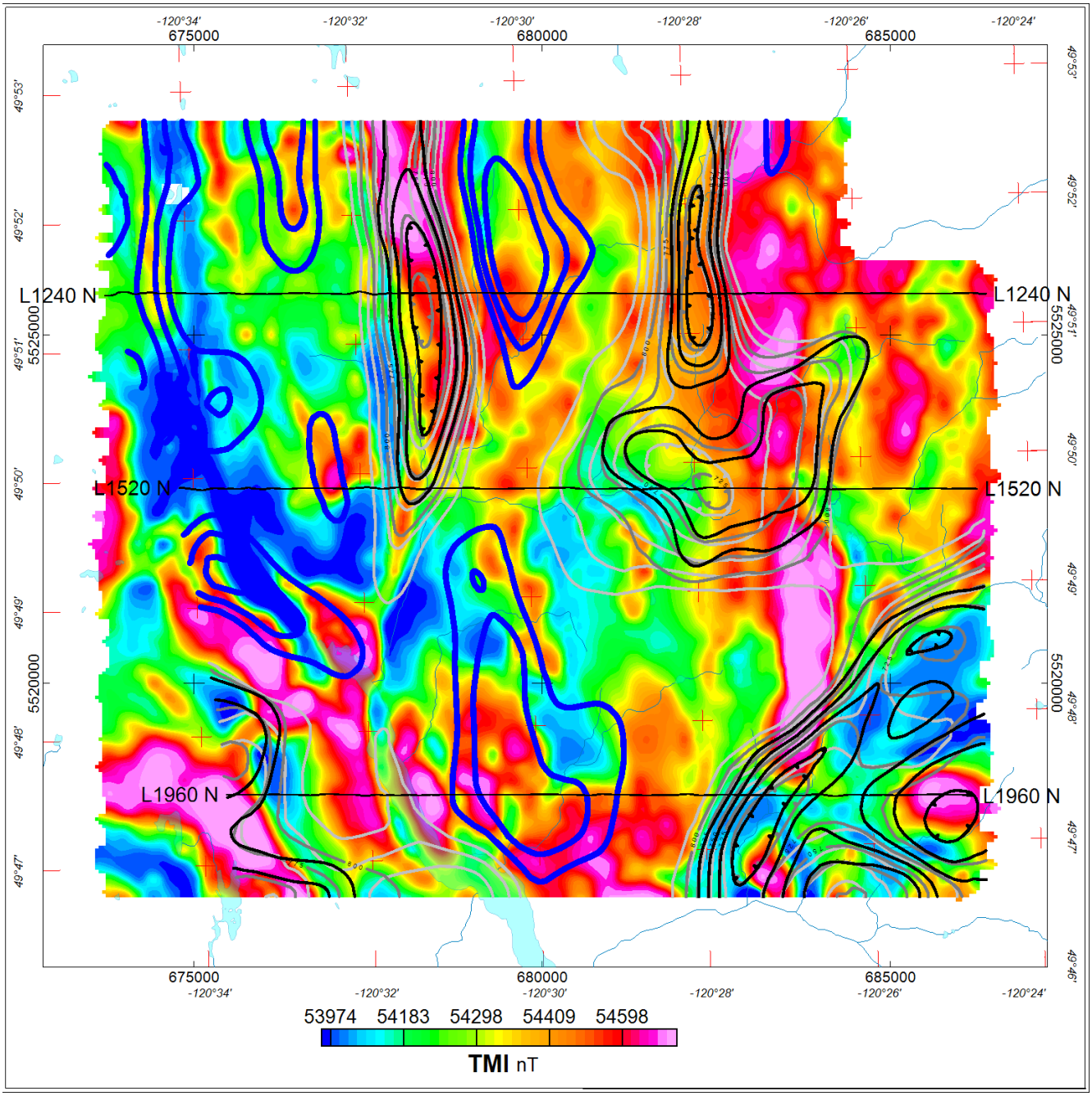

Figure 10 – North Block. Contours of conductive zones (grey on 600, 800 m ASL levels, black 1000 m ASL) and resistive zones (blue 800m ASL level) over color grid of magnetic field.

The map in Figure 10 represents spatial relationship conductive and resistive zones with the magnetic field. The three survey lines, overlapped the map, cross main comparatively deep conductive and resistive zones observed on the survey area. Resistivity sections along the lines shown in Figure 11.

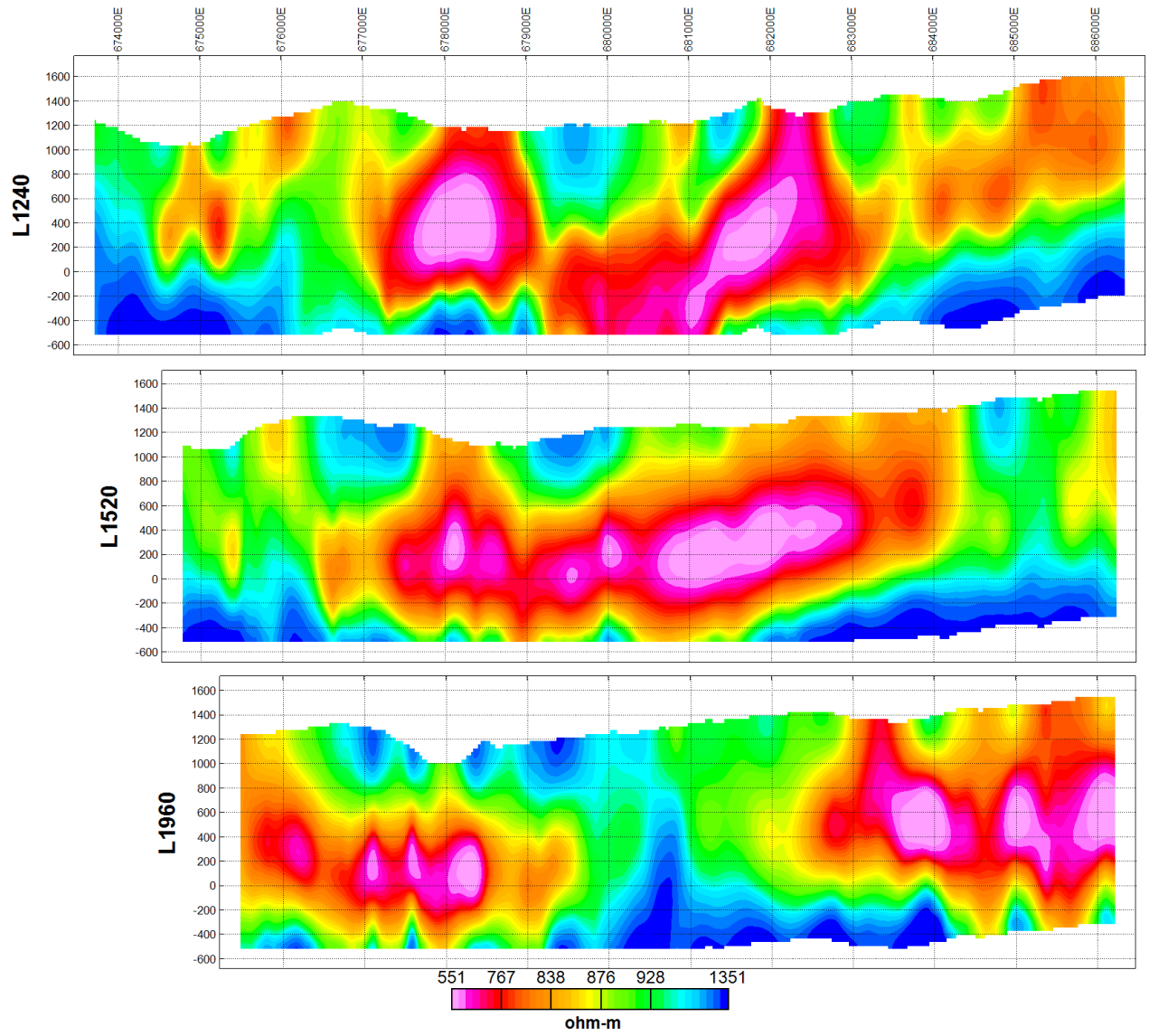

Figure 11 – Resistivity sections alone survey lines from north, central and south parts of the North Block.

South Block

The general resistivity distribution for the South Block is presented in Figure 12. The geological environment of the surveyed block is in the range of inverted resistivities 300-4,250 Ohm-m (for 1d model). Possible local and discrete anomalies could relate to targets with lower absolute resistivity values than estimated since the inversion is not constrained by limited in their dimensions sources of anomalies. A few representative images elucidating the salient features of the data collected during this survey are presented in , and in Appendix III.

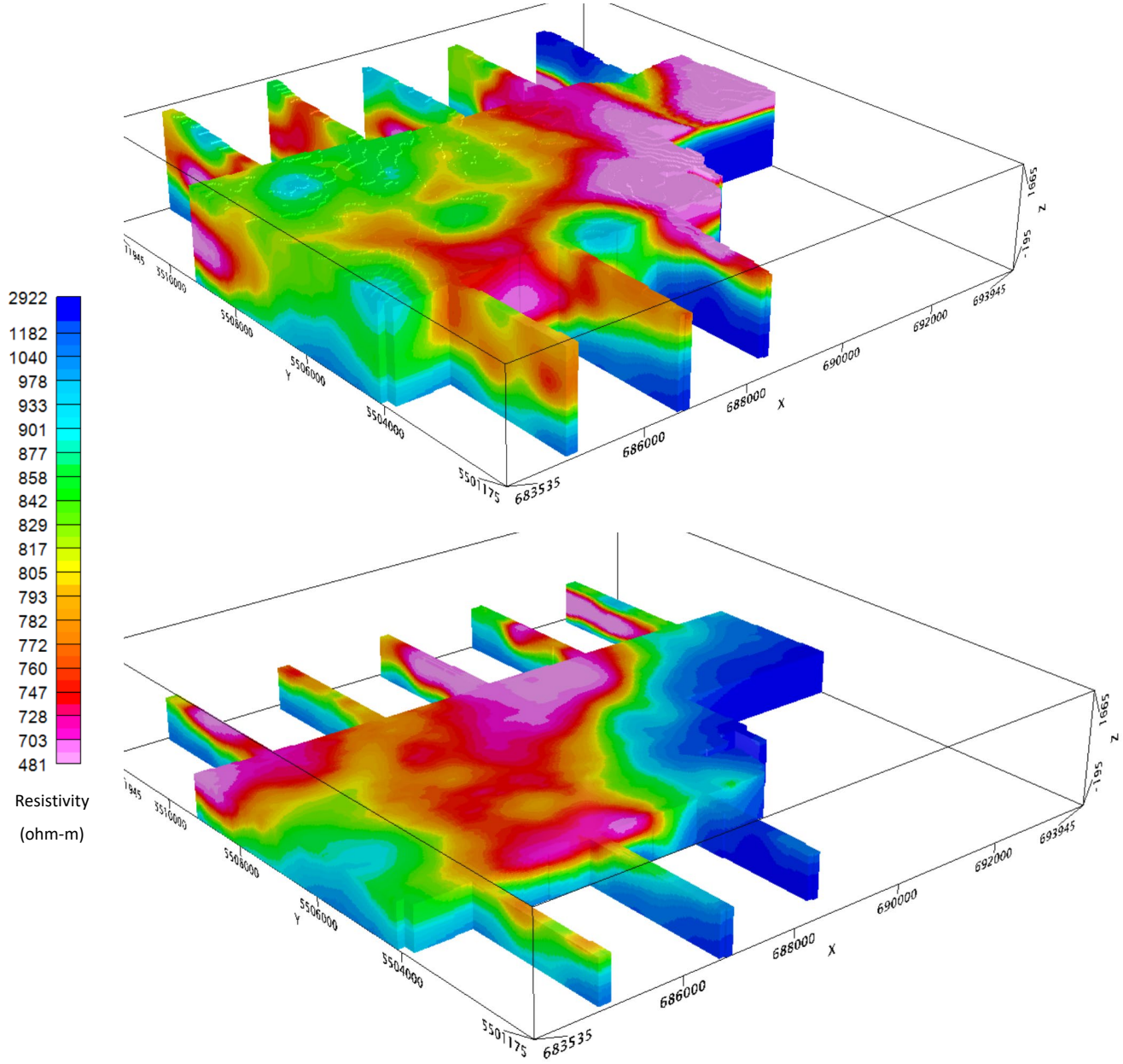

Figure 12 – 3D view of resistivity distribution for South Block. Top from surface, bottom from 500 m ASL.

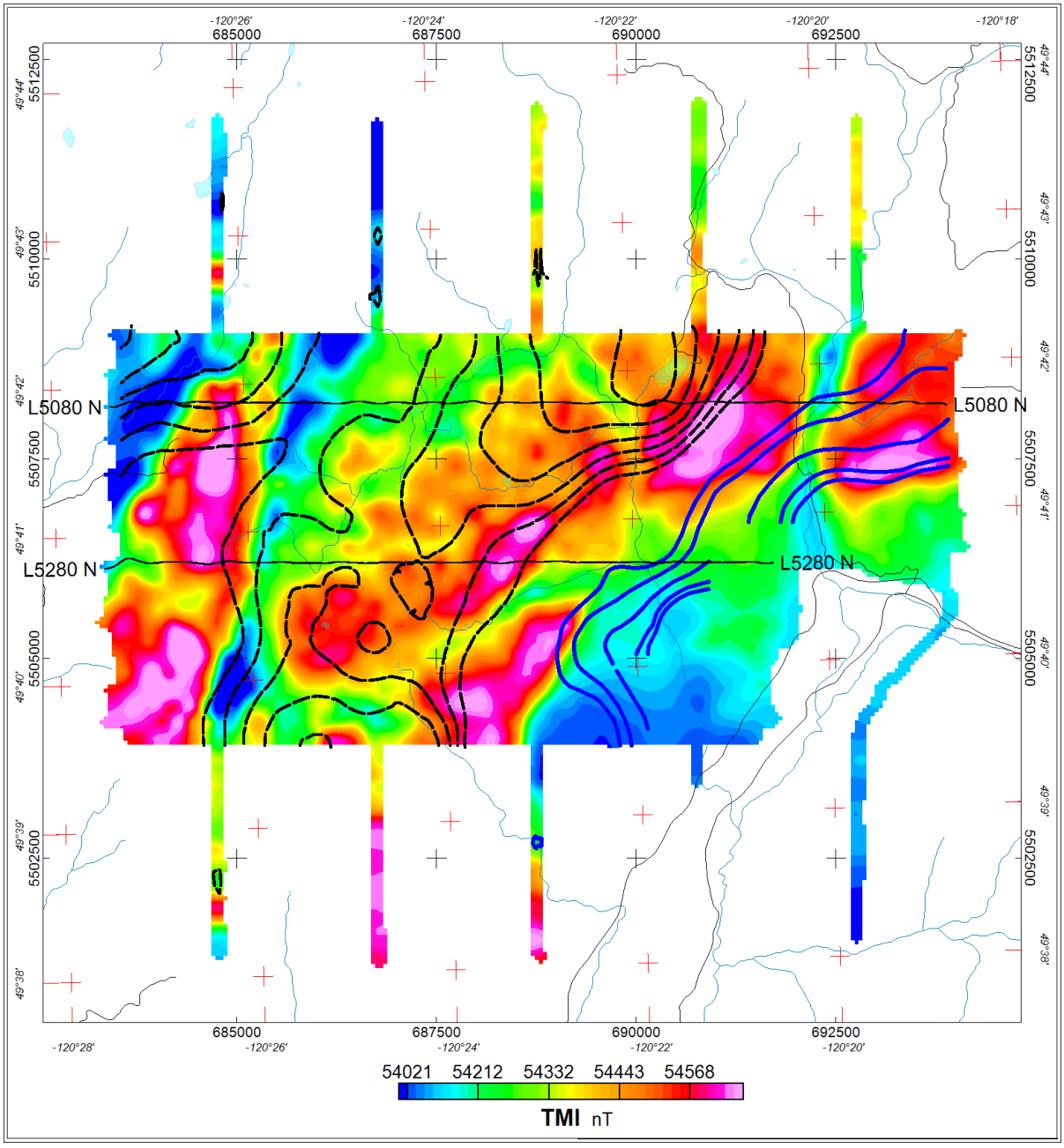

Figure 13 - South Block. Contours of conductive zones (dash black on 600 m ASL level) and resistive zones (blue 600m ASL level) over color grid of magnetic field.

The map in Figure 13 represents spatial relationship conductive and resistive zones with the magnetic field. The two survey lines overlapped the map, cross main comparatively deep conductive and resistive parts of the survey area. Resistivity sections along the lines shown in .

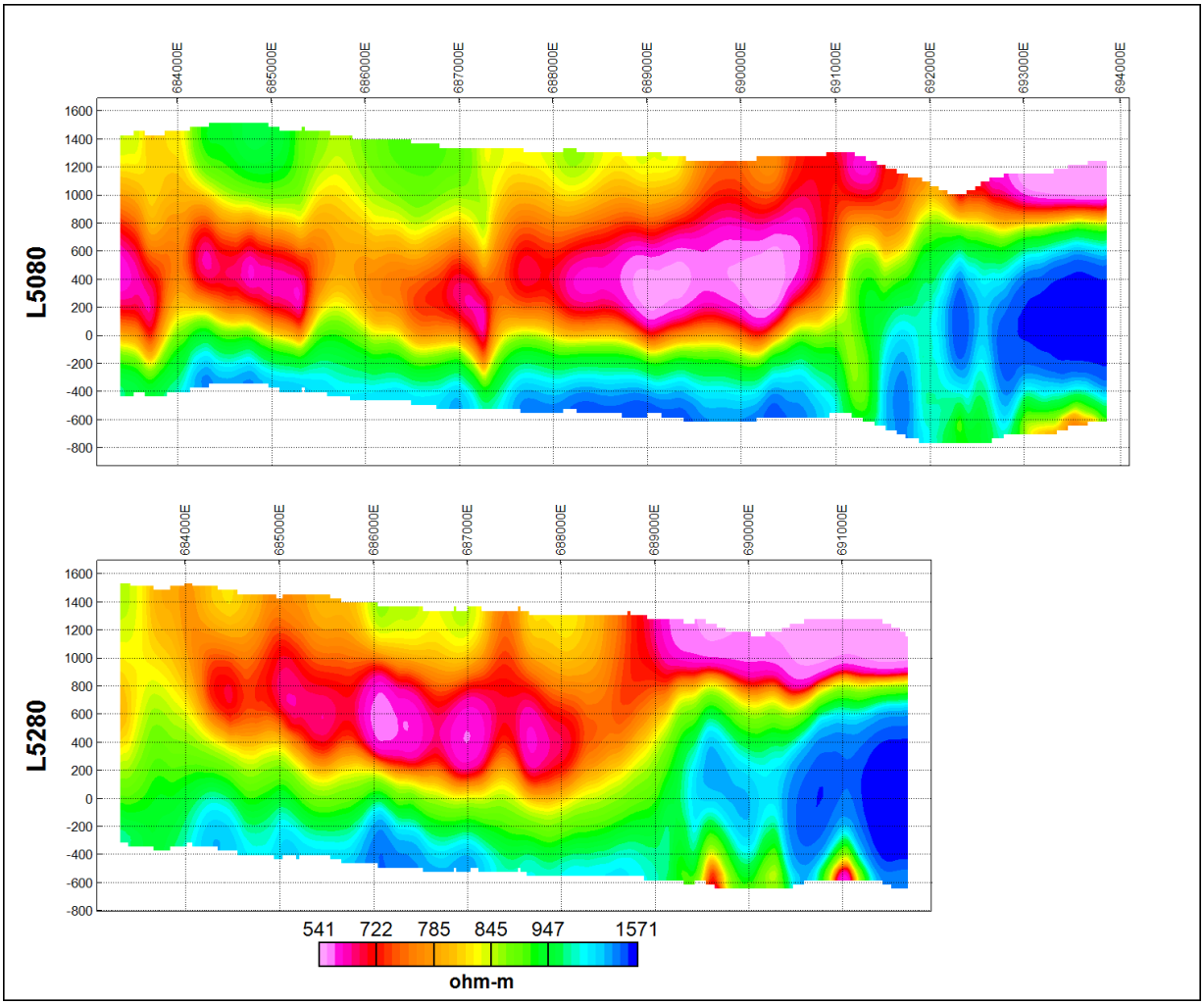

Figure 14 - Resistivity sections alone survey lines from north and central parts of the South Block

It is recommended to analyze all geophysical data, MobileMT EM, VLF and magnetic in relation to an exploration model considered for the surveyed areas and integrate these data with other available geological and geochemical information, for outlining prospective places for follow up exploration.

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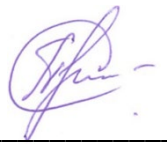
Alexander Prikhodko, Ph.D., P.Geo



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August, 12, 2021

MobileMT Job#21039 for Golden Lake Exploration Inc.

Appendix I Company Profile

About us

Expert Geophysics Limited is based in Toronto, Canada.

President and founder, **Andrei Bagrianski**, Ph.D., P.Geo., has over 35 years of professional experience in the acquisition, processing, and interpretation of airborne and ground geophysical data for a wide range of applications. From 2002 to 2016, he was Chief Operating Officer and General Manager at Geotech Ltd. Andrei has been directly involved in contracting, organizing, and supervising hundreds of airborne geophysical surveys on all continents except Antarctica. Andrei has extensive international field work experience that includes projects in Australia, Brazil, Bolivia, Colombia, Ecuador, Peru, Botswana, Malawi, South Africa, Libya, USA, Canada, Russia, Kazakhstan, and India.

Petr Kuzmin, Ph.D., the designer of the **MobileMT** system, has over 40 years of experience in the development of ground and airborne TDEM, MT, and IP methods, equipment, and software. Working for Geotech Ltd., Canada, from 2000 until 2009, Dr. Kuzmin was the principal designer of the award winning systems VTEM, ZTEM, and AirMt. Since 2009, Dr. Kuzmin has completed a number of successful developments: ground AFMAG, ultra-fast airborne TD (HiRes), airborne VLF system, an airborne navigation system, a high accuracy magnetometer counter, and the MobileMT. Dr. Kuzmin holds a doctorate in Geophysics, has authored nearly 20 patents, and published over 40 technical papers.

Vice President and Chief Geophysicist, **Alexander Prikhodko**, Ph.D. in geoscience, P.Geo., Executive MBA, has previously held Chief Geophysicist position, for 10 years, in a gold-platinum mining company extensively used in its mineral exploration programs borehole, ground and airborne geophysics. He has been associated with the airborne geophysics industry since 2005 (Aeroquest Limited and Geotech Ltd.) holding management positions as Regional General Manager, Data Interpretation Manager, Director of Geophysics and working on exploration projects for diverse commodities in regions over the world. He is an author and co-author of many publications dedicated to airborne EM. In 2019 he was awarded Barlow Medal for Best Geological Paper published in CIM publications (Canadian Institute of Mining, Metallurgy and Petroleum).

Services

Expert Geophysics Limited specializes in airborne geophysical surveys with advanced electromagnetic systems. **EGL** offers surveying with **Mobile MagnetoTellurics** (**MobileMT**), the most advanced generation of airborne AFMAG technologies. The patent pending **MobileMT** technology utilizes naturally occurring electromagnetic fields in the frequency range of 25 Hz – 30 000 Hz. The **MobileMT** technology is the product of extensive experience in developing equipment and signal/data processing algorithms for natural electromagnetic fields measurement. **MobileMT** combines the latest advances in electronics, airborne system design, and sophisticated signal processing techniques.

Appendix II MobileMT electromagnetic technology

MobileMT (Mobile MagnetoTellurics) is a newly developed approach to electromagnetic data acquisition from synchronized a towed three component inductive magnetic sensor and grounded two orthogonal electric lines. The system is designed and implemented in order to overcome existing limitations of airborne techniques based on passive electromagnetic fields principles and, ultimately, for improving exploration efficiency.

MobileMTis a passive airborne electromagnetic technique that records magnetic (in the air) and electric (on the ground) fields generated by natural sources in the audio frequency range. The natural electromagnetic primary field sources for MobileMT are considered with frequencies ranging from 25 Hz to 30 kHz (ELF+VLF). The exploration system includes two pairs of grounded electric wire lines, one of them is for reference signal, and moving three-component inductive coil system softly suspended and with low-noise signal amplifiers for magnetic field measurements (dB/dt) in three orthogonal directions. A crucial element of the technology is the capability of aerial acquisition magnetotelluric data in four decades frequency band. Field data are acquired using stationary orthogonal pairs of electrical field sensors (grounded wire dipoles) and towed magnetic field detectors (three orthogonal induction coils).

In order to continue evolution of the airborne electromagnetic passive fields technology and in comparison with the last AFMAG development (Bob Lo, 2009) the current development is focused on:

- Expanding measured frequencies range into high end to complement deep exploration with near surface, shallow and medium depth of investigation;
- Increasing sensitivity and reducing system noise level to provide with data at low natural electromagnetic fields signal conditions especially in the range of the last hundred – first thousands Hz frequencies band where the field spectral density is lowest (dead-band);
- Providing ability to recover electrical properties differences between geological boundaries of any direction, including and between horizontal and vertical boundaries;
- Increasing spatial and frequency data resolution;
- Measuring of elements of admittance-type transfer functions of the magnetotelluric field.

Theory and Method

Some part of the thunderstorm energy is converted into electromagnetic fields that are propagated in the ionosphere-Earth interspace. These electromagnetic fields and the currents induced by these fields in the subsurface are used in audiomagnetetotelluric prospecting to measure the electrical resistivity of geological environment.

Measuring telluric currents induced by the natural electromagnetic fields in the subsurface on the ground synchronised with measuring the magnetic components of the natural audio frequency electromagnetic fields in the air and mutual processing both airborne and ground data (Figure 1) is a way to improve the quality and increase informative of the measured airborne data. In practice the reference fields may be measured by inductive coils or grounded electric lines (Labson et al., 1985). To obtain accurate signal of the natural field spectrum and eliminate noise spectra of sensors we use electrical field measurements at the base station. One of the reasons of choosing electrical components for reference is capacity to control the natural signal strength in the wire lines. Each electrical field component on the base station is registered independently from two sensors, signal and reference, which is utilized to eliminate the data bias distortions (Labson et al., 1985). This technical solution is critically helpful in periods of weak natural field signals in some frequency bands.

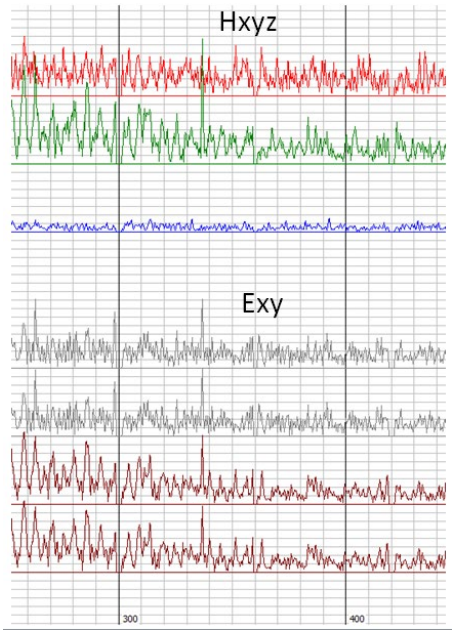

Figure 1. A section of time series of *E*xy and *H*xyz data

Exploiting signals of two horizontal electric components along with three magnetic components we can process them with the magnetotellurics response functions based on linear relations between components of the electric and magnetic fields. In general, processing of the field data is based on the Larsen and Chave robust remote-reference method (Chave et al., 1987; Larsen, 1989). The data processing program merges the stationary measured electrical two horizontal components and the moving orientation irrelevant receiver of three magnetic field components into one file. The program applies FFT technique to the recordings and calculates the matrixes of the relations between the electric and magnetic signals (six admittances) on the different time bases and in different frequency bands. In the result of modular computation of the matrixes determinants, as rotation invariant parameters, we calculate apparent conductivity in mS/m as a parameter of EM mapping. The rotation invariant parameters are free from the receiver motion distortions. The admittances (***Y***) are represented as the electric field horizontal vectors projection into the space of the magnetic field three components. In other words, the combined system measures combination of tensor and scalar (rotational invariant) components as the transfer function of a total magnetic field, through the three orthogonal directions measurements of an airborne receiver, to the two orthogonal horizontal directions of electric field measured at a ground base location. Generalizing the Weiss-Parkinson relationship (Berdichevsky and Zhdanov, 1984), such as that measured three orthogonal magnetic field components (***H***xyz) are linearly related to the horizontal electric fields measured on the ground (***E***xy, reference), with adoption it to the admittances domain (***Y***):

$$\begin{bmatrix} Hx \\ Hy \\ Hz \end{bmatrix} = \begin{bmatrix} Yxx & Yxy \\ Yyx & Yyy \\ Yzx & Yzy \end{bmatrix} \begin{bmatrix} Ex \\ Ey \end{bmatrix} \quad (1)$$

Solutions of the equations are obtained by averaging over a number of closely spaced frequencies **Error! Reference source not found.**(Table below).

An example of frequency windows used for harmonics averaging. Base 15 Hz, Gates ratio 2.

N	Window, Hz		
	start	end	mid
1	15	30	23
2	30	68	49
3	68	135	101
4	135	270	203
5	270	540	405
6	540	1080	810
7	1080	2160	1620
8	2160	4320	3240
9	4320	8640	6480
10	8640	17280	12960
11	17280	28800	23040

The windowing way is flexible and can be optimized depending on signals, cultural noise and an exploration task.

H (magnetic) and ***E*** (electric) components time series data, fully synchronized, digitized and recorded at 73,728 Hz frequency, is converted from time to frequency domain using FFT technique. The complex data spectrums (field examples in 2 and 3) is expressed in apparent conductivity (σ) equivalent to its real part:

$$\sigma = \mu\omega|Y^2| \qquad (2)$$

where ***Y*** is the determinant of the corresponded matrix in (1); Y^2 = im(Y^2)/re(Y^2); μ is the magnetic permeability of free air and ω is the angular frequency.

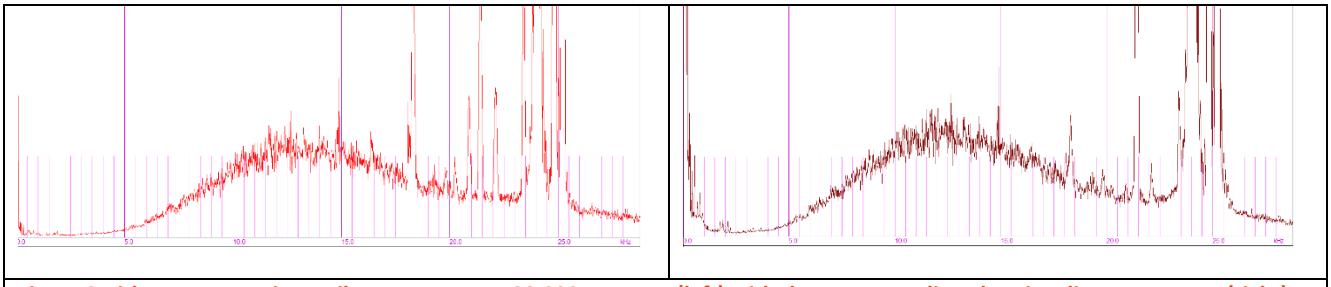

Figure 2 Airborne magnetic X-coil spectrum up to 30,000 Hz range (left) with the corresponding electric X-line 1 spectrum (right)

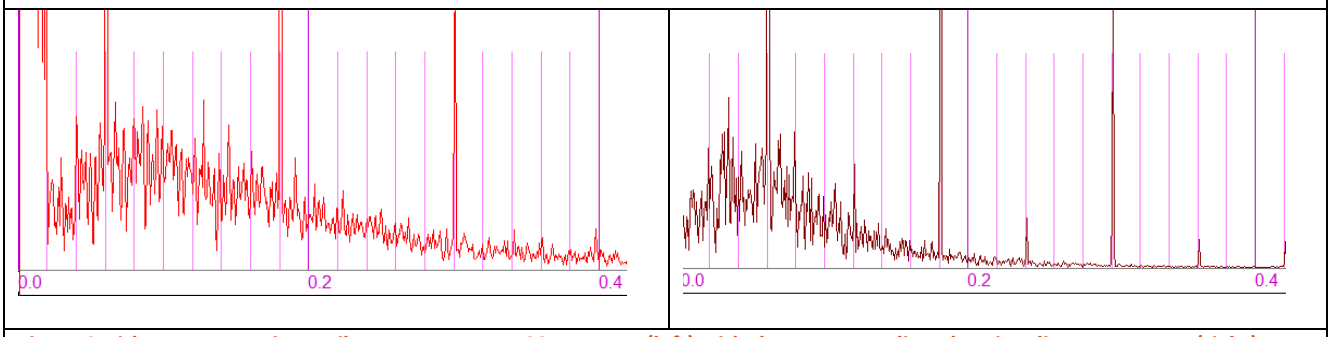

Figure 3 Airborne magnetic X-coil spectrum up to 400 Hz range (left) with the corresponding electric X-line 1 spectrum (right)

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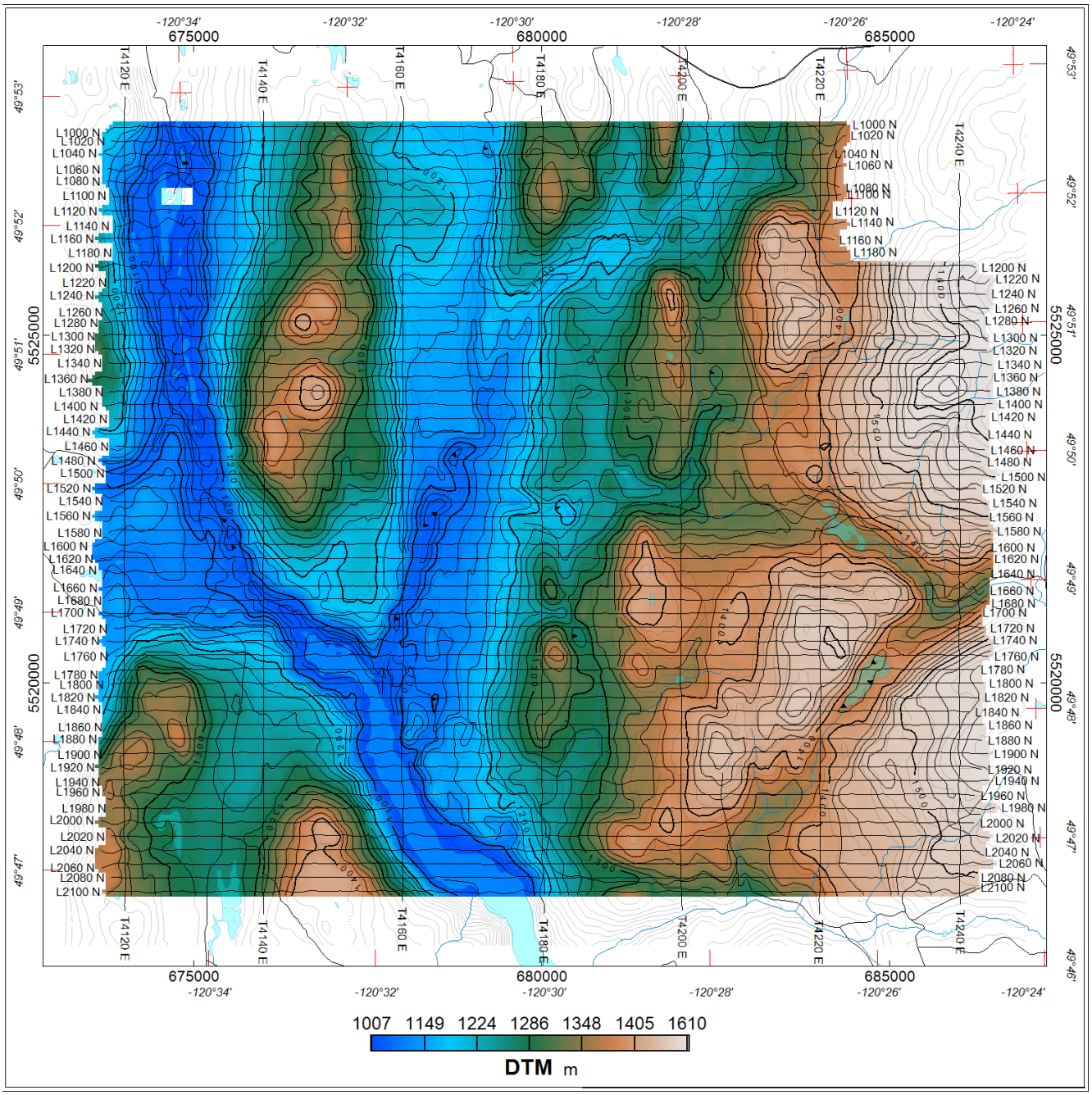
Appendix III MobileMT maps images[1]

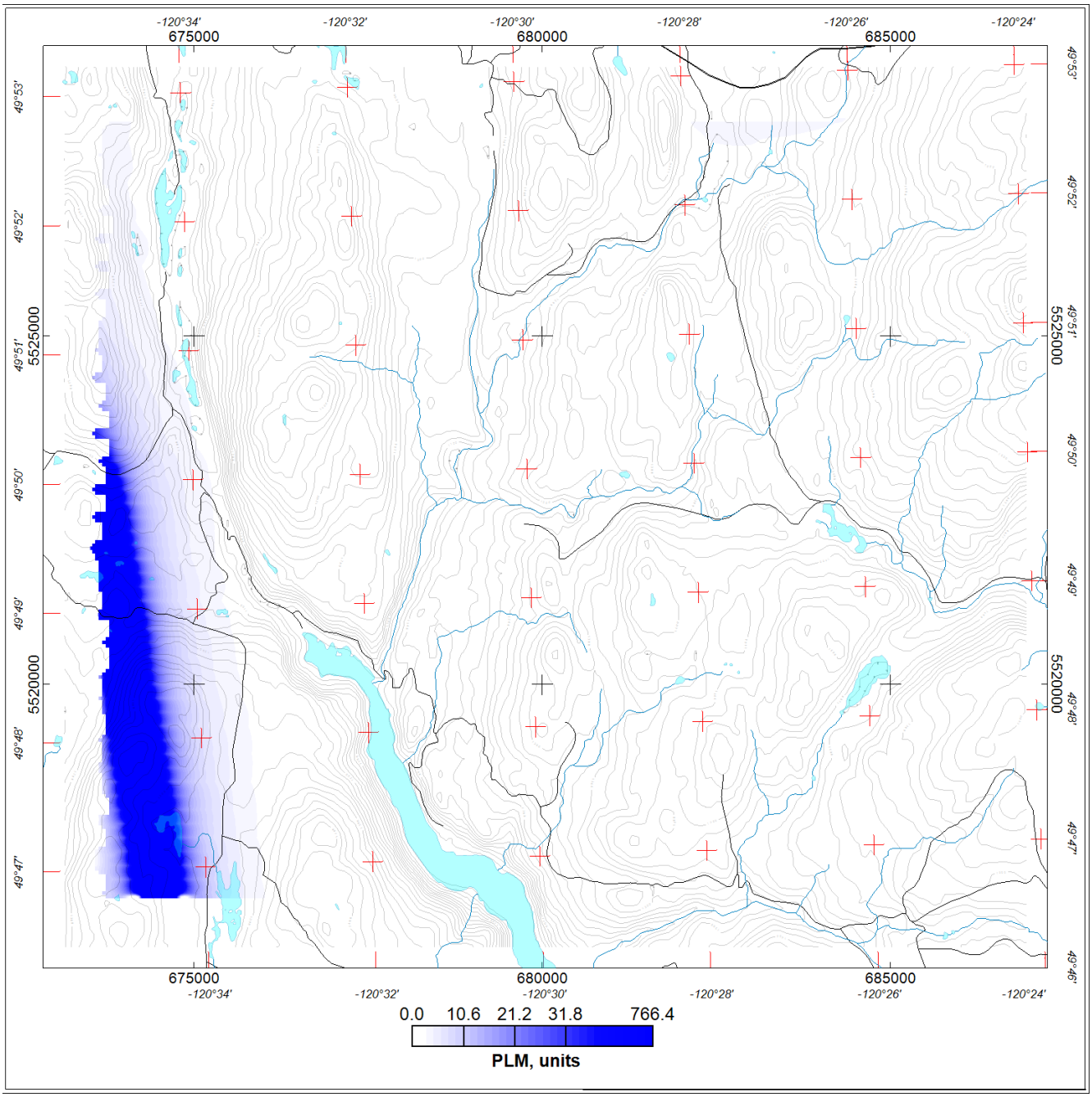
North Block



Digital Terrain Model (DTM)

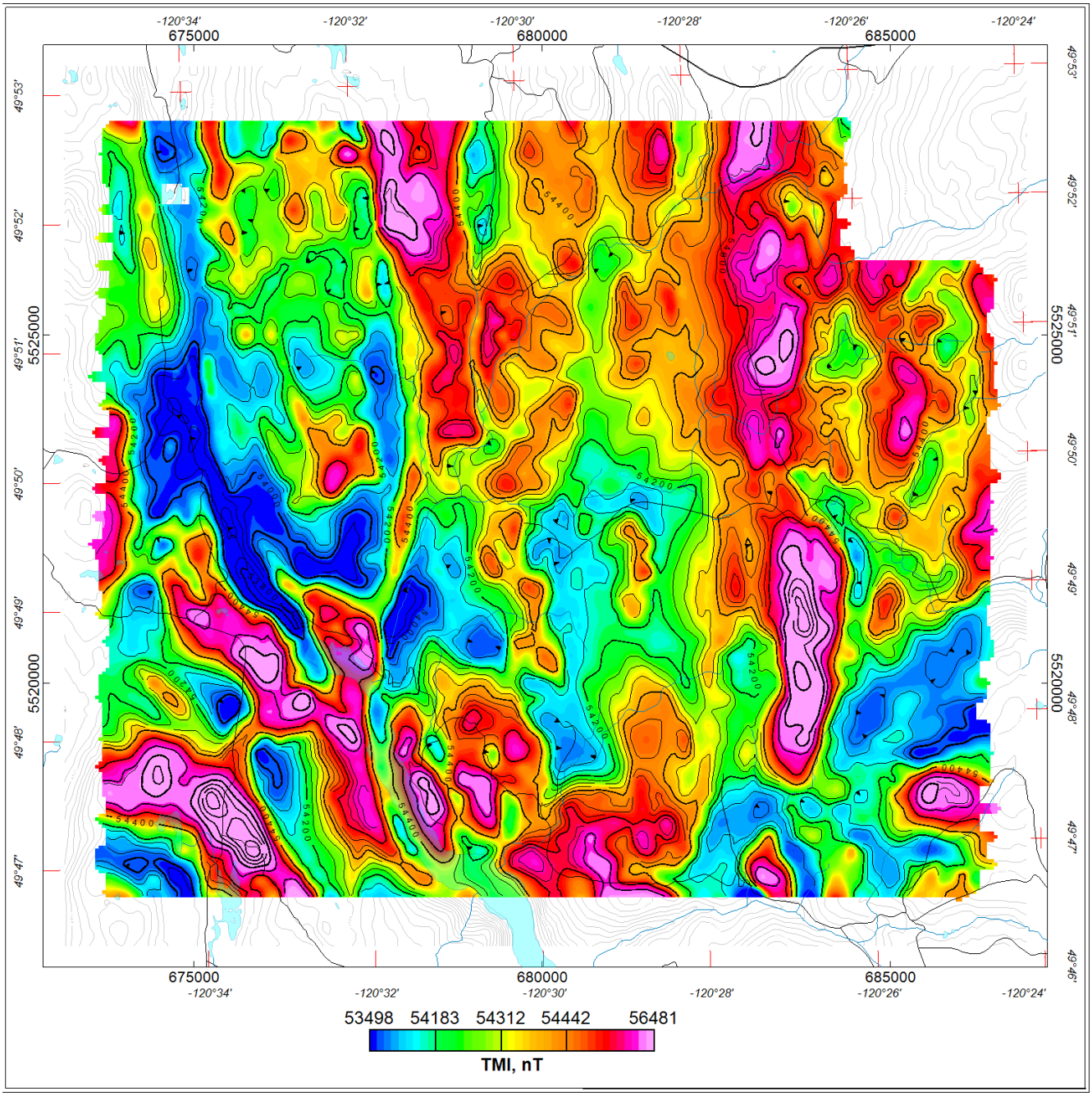
[1] Only selected maps are presented in the Appendix. A full set of maps is following the report in geosoft and pdf formats.

North Block



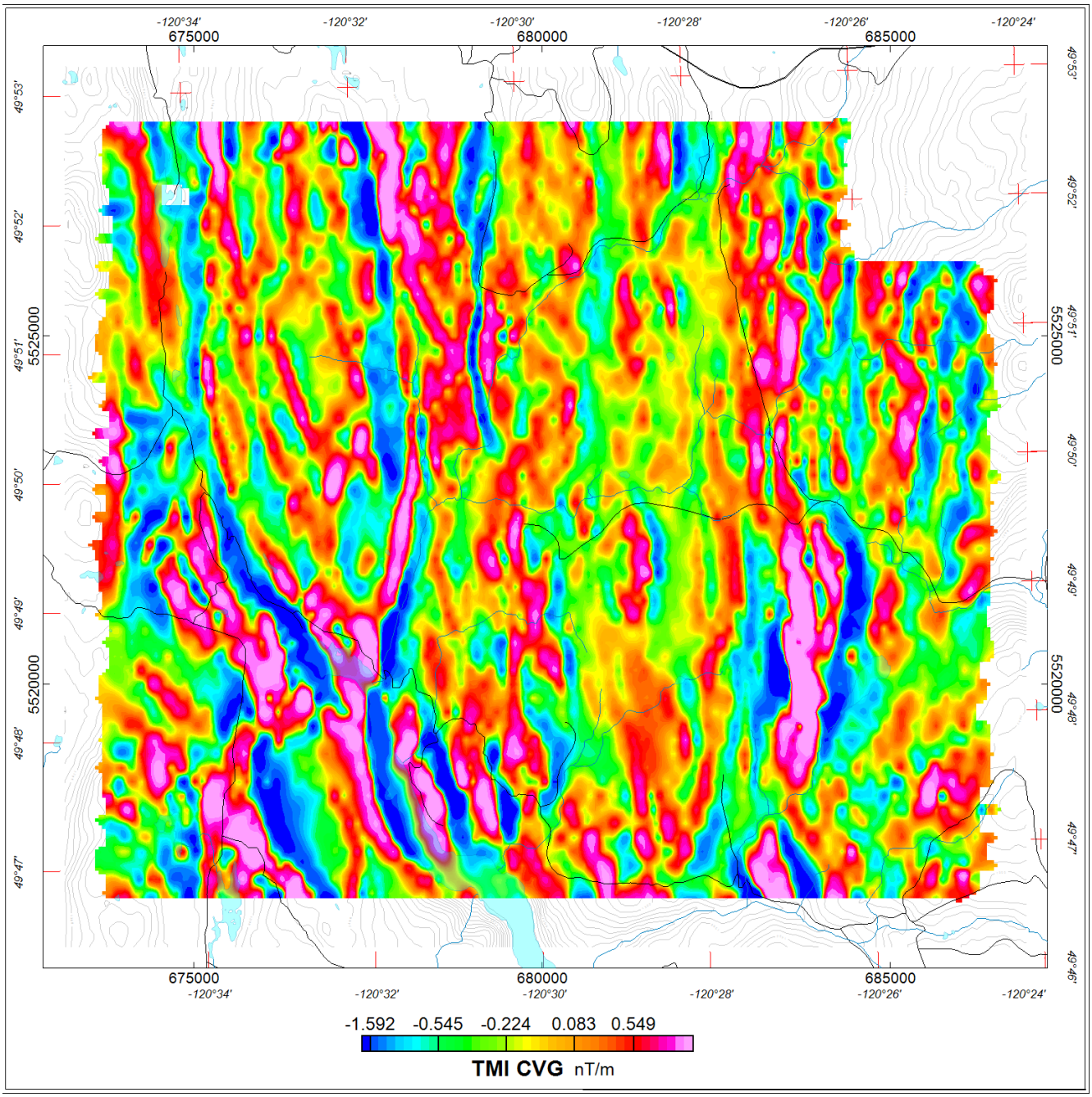
Powerline Monitor

North Block



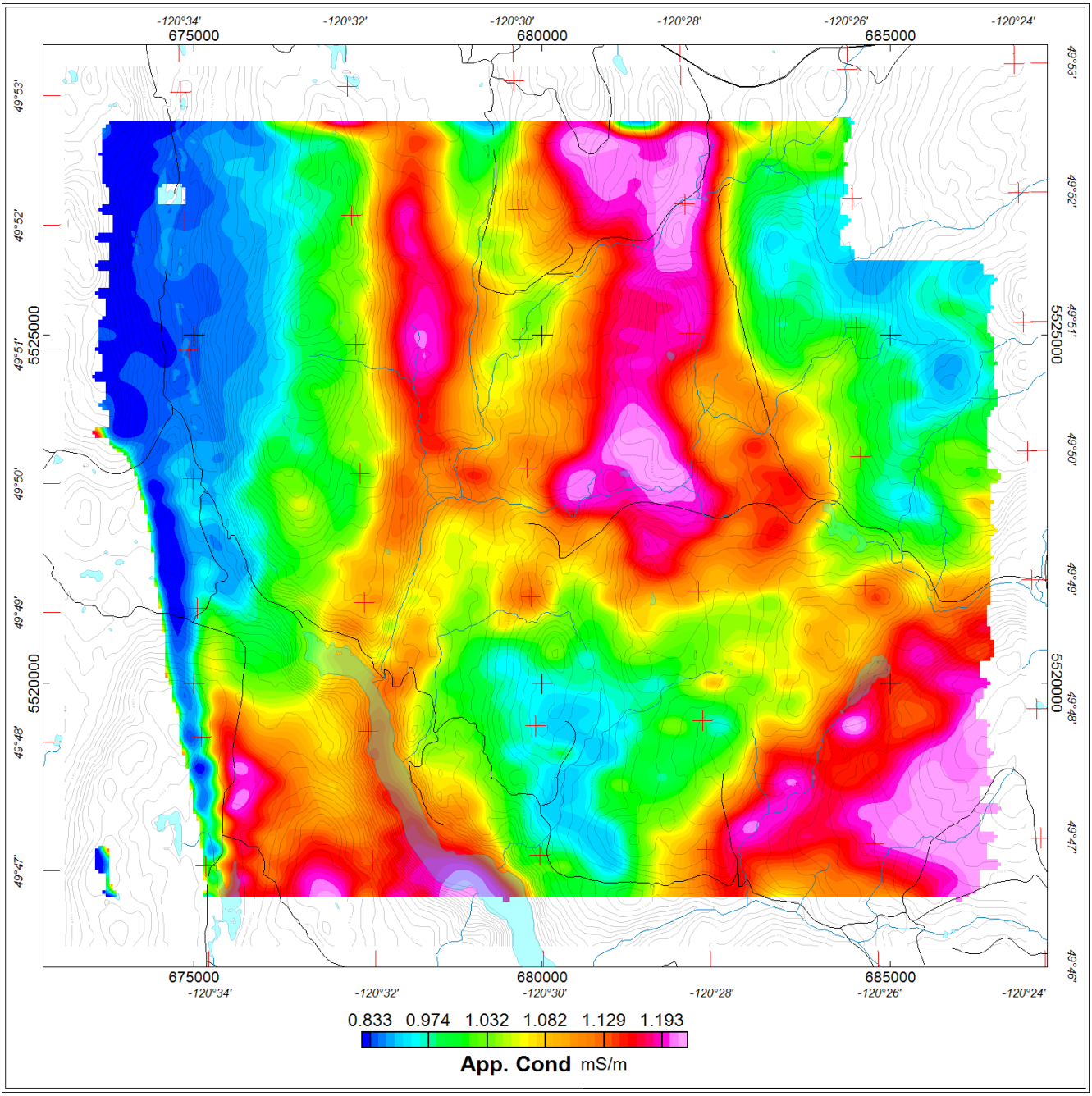
Total Magnetic Intensity Map (TMI)

North Block



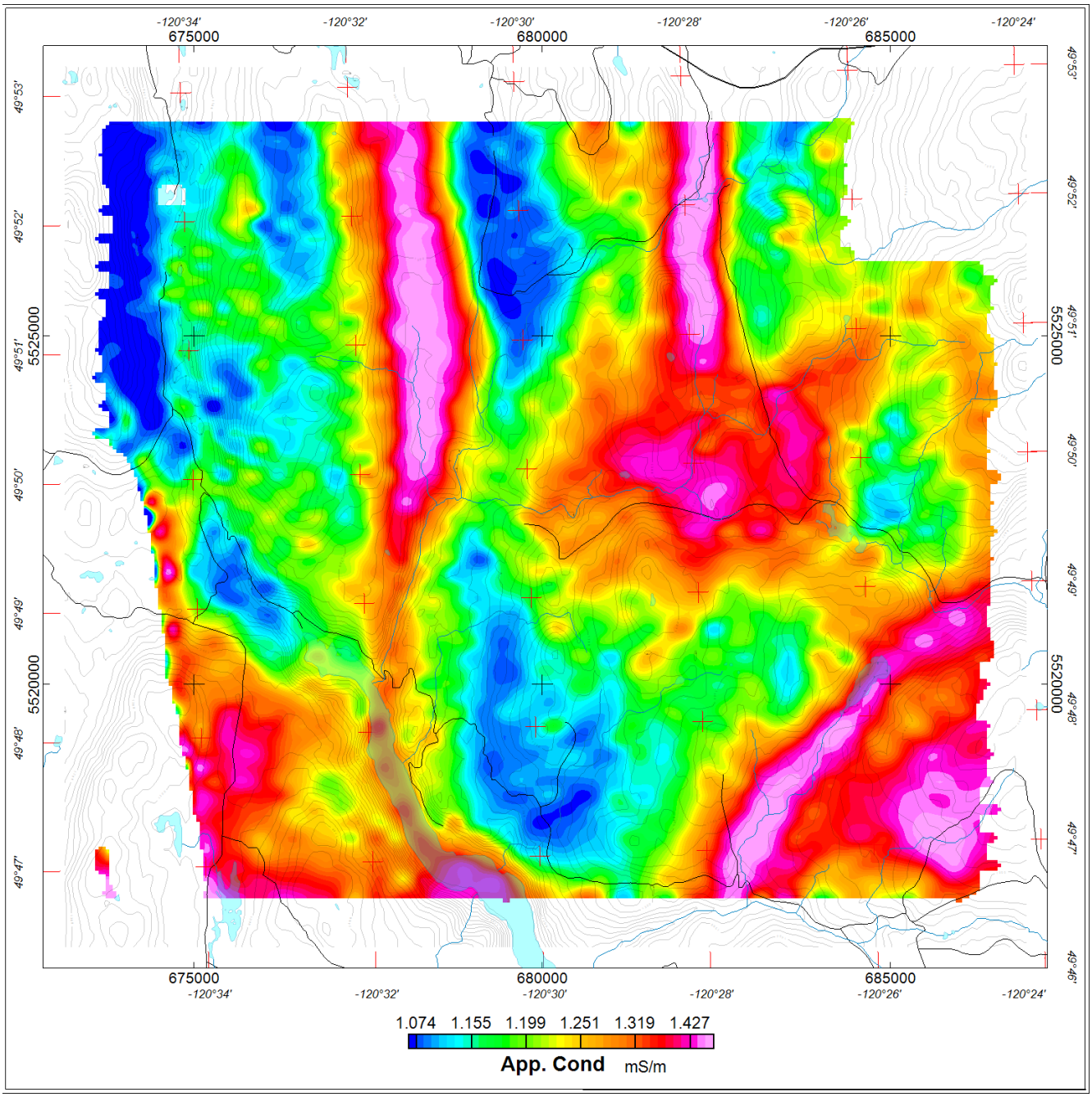
Calculated Vertical Derivative Map of magnetic field (CVG-TMI)

North Block



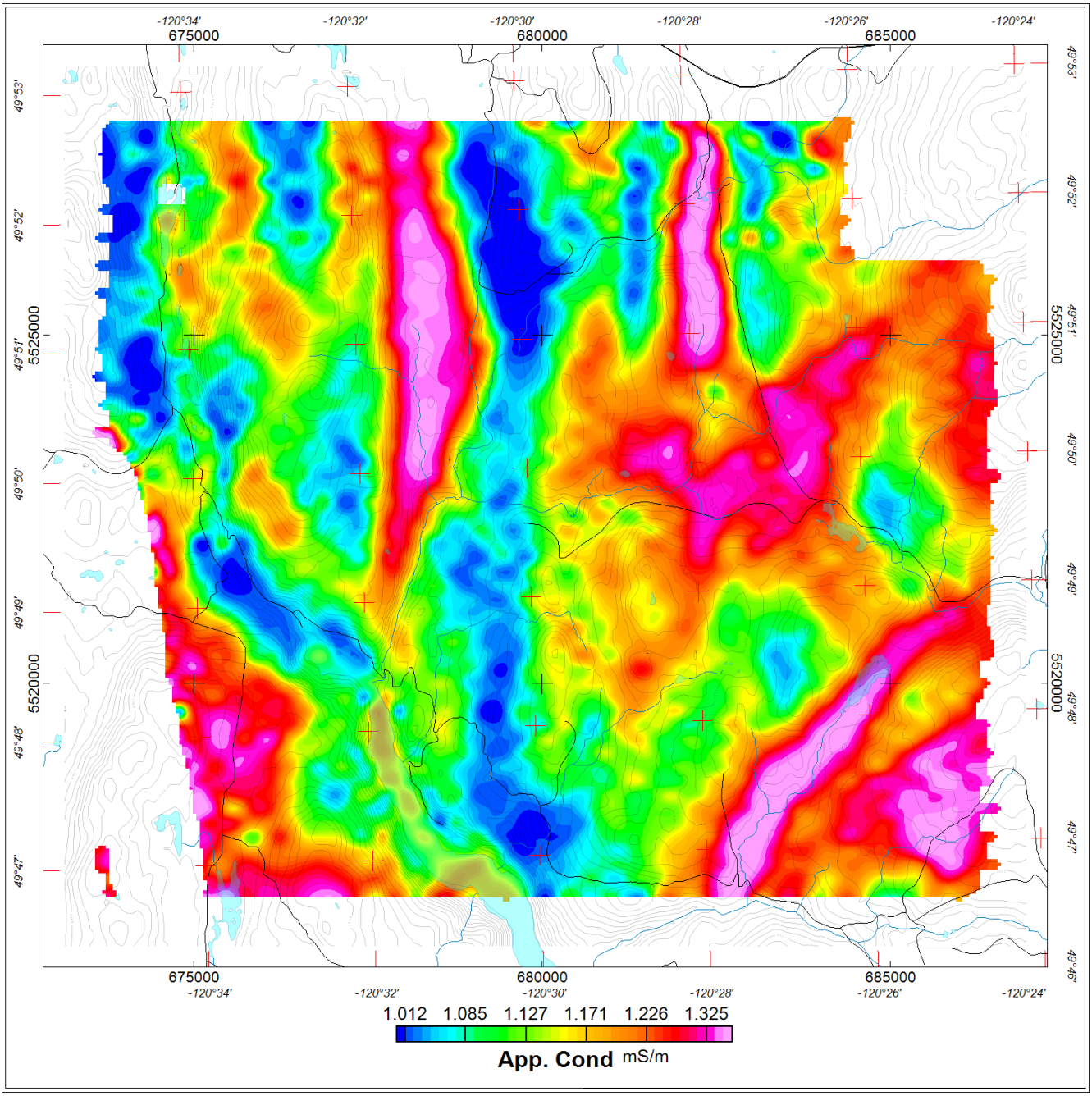
apparent conductivity (26 Hz)

North Block



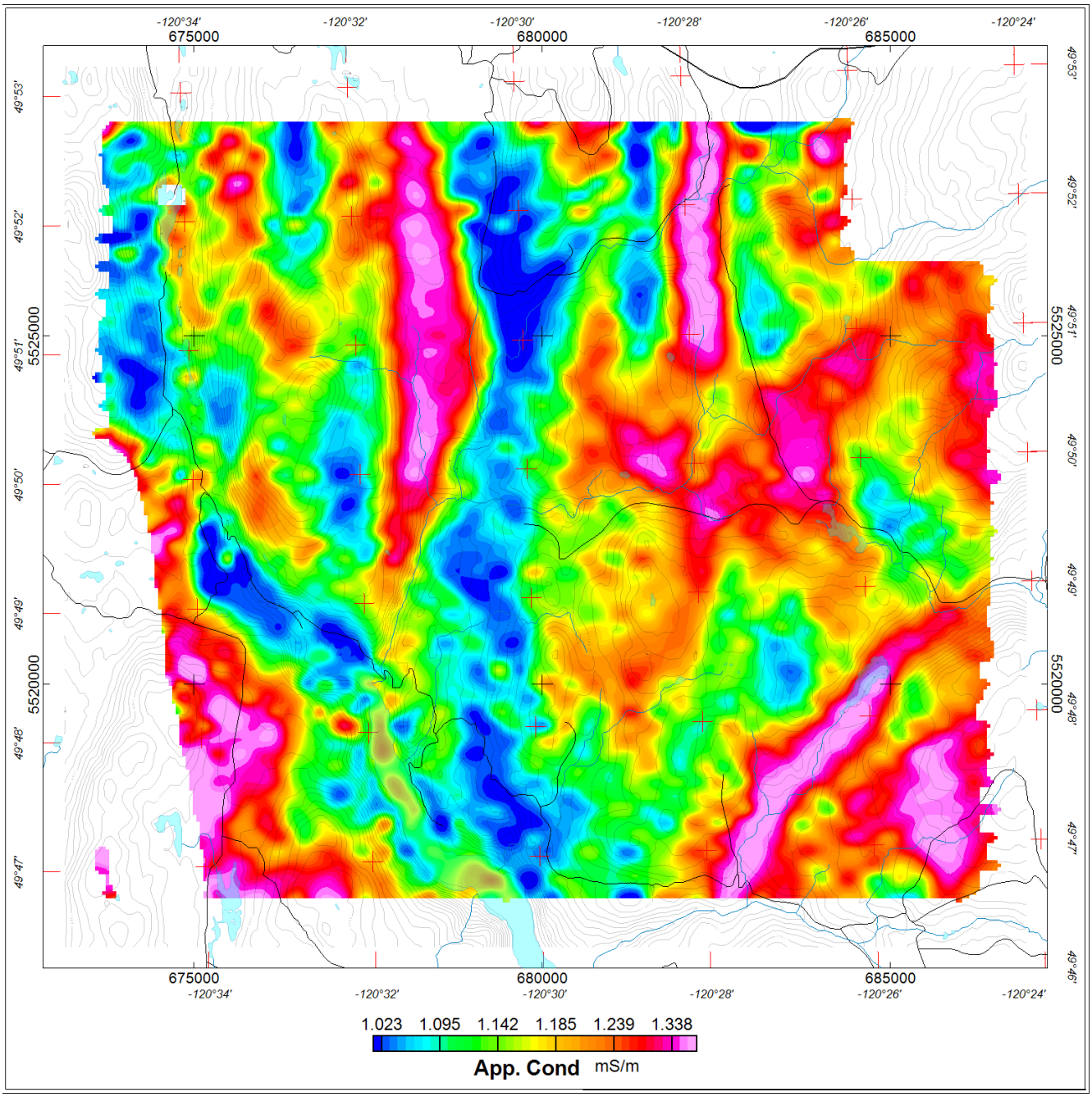
apparent conductivity (101 Hz)

North Block



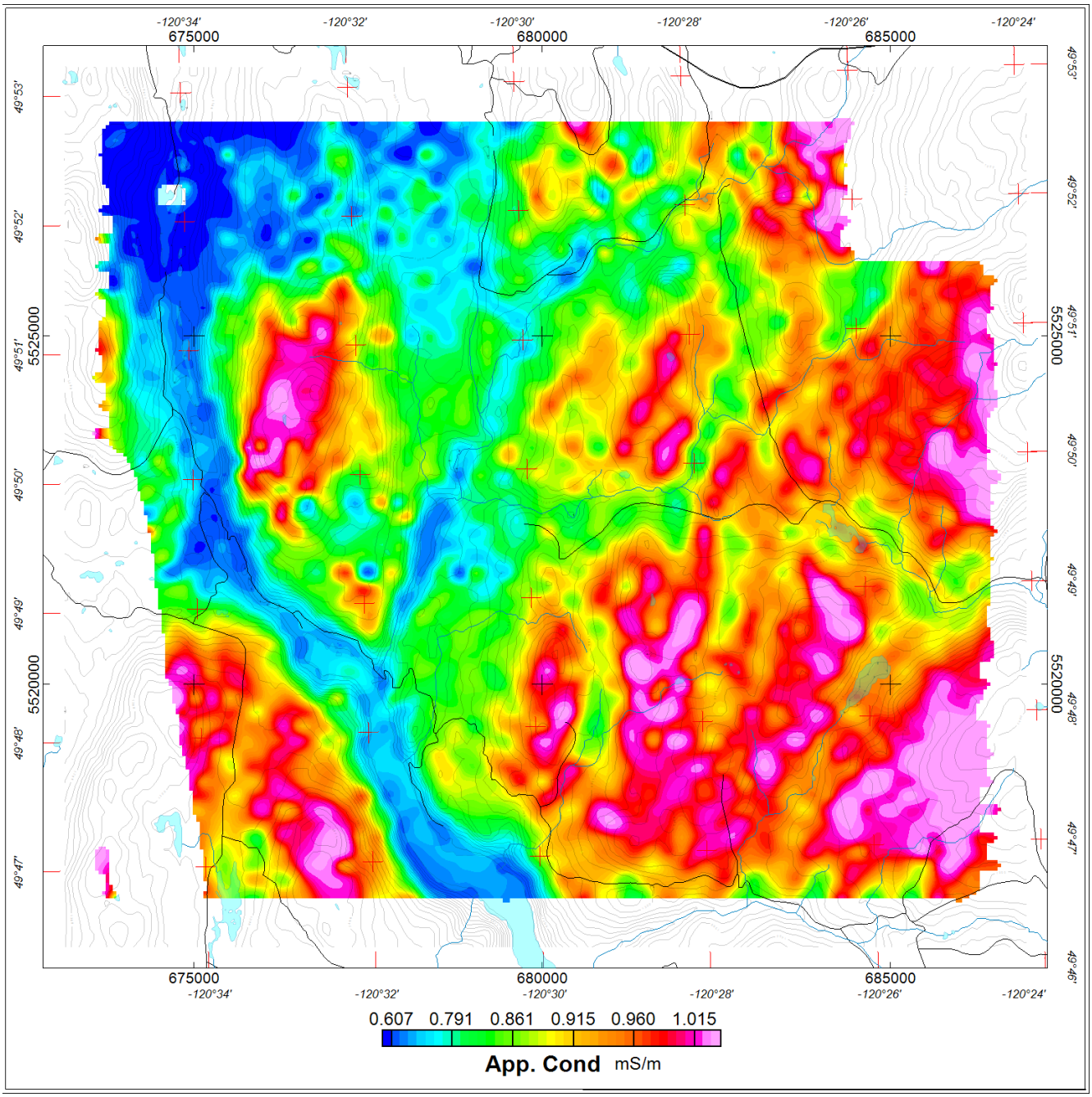
Apparent conductivity (268 Hz)

North Block



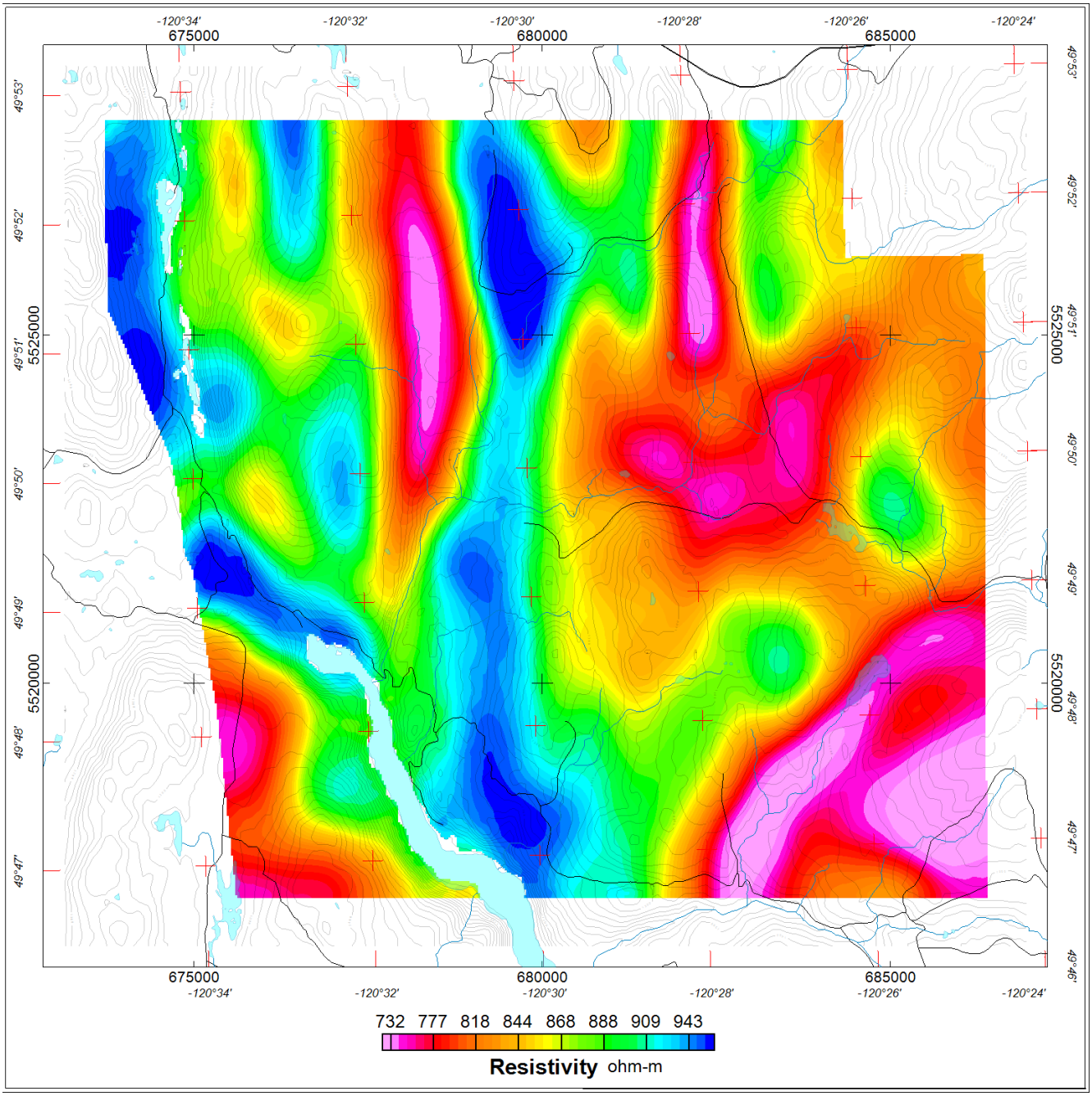
Apparent conductivity (341 Hz)

North Block



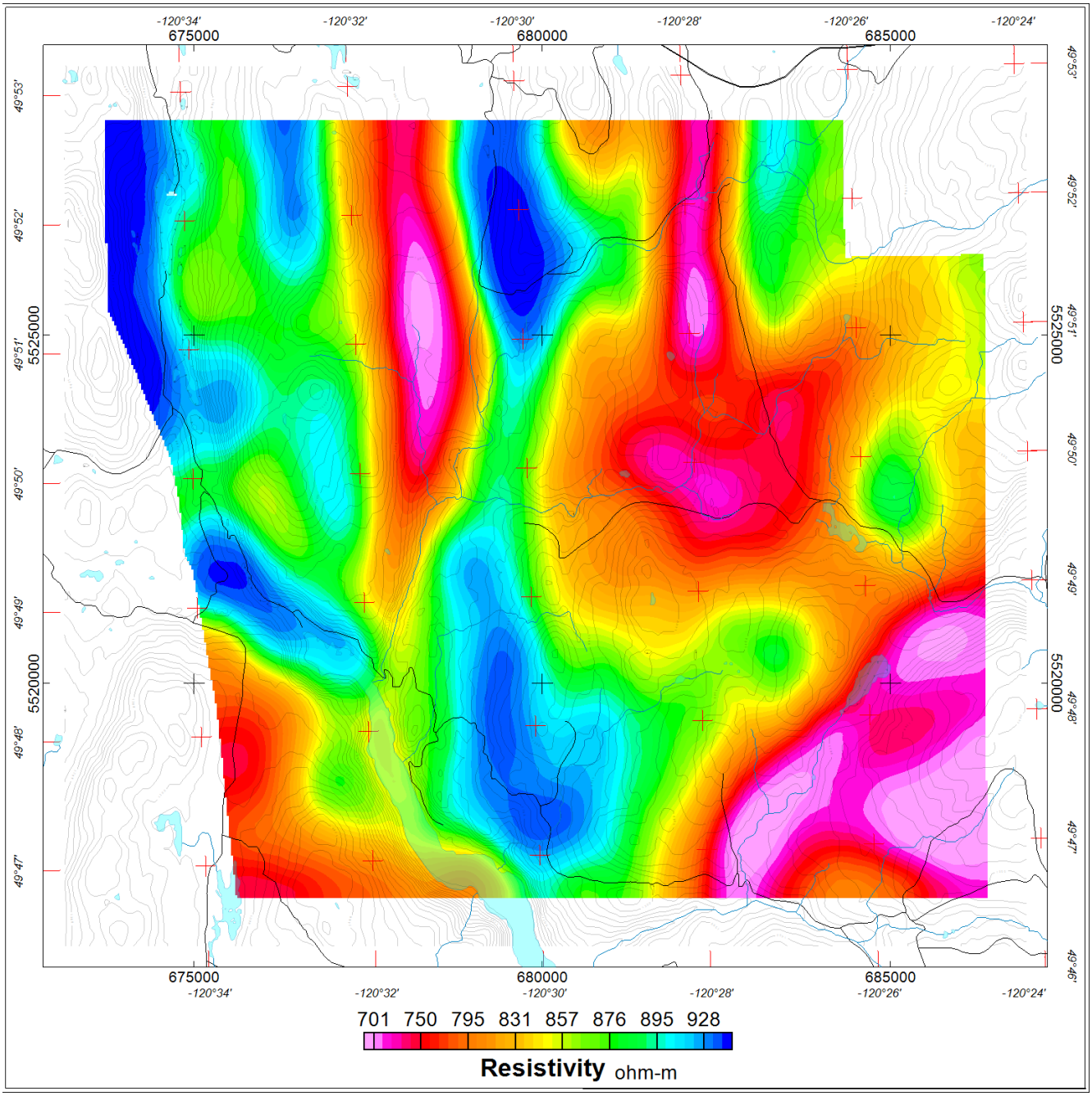
Apparent conductivity (4274 Hz)

North Block



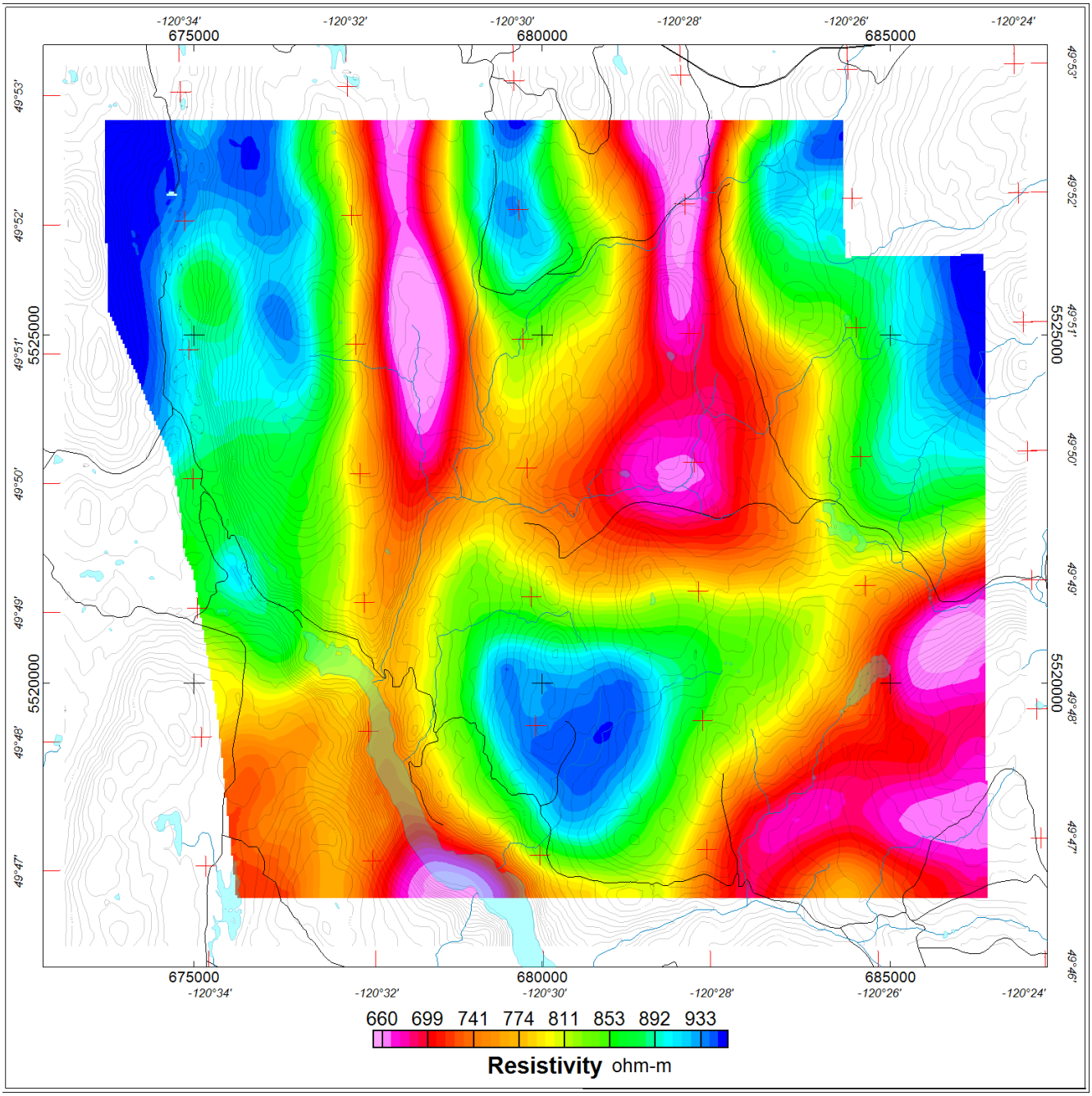
Resistivity at elevation of 1000m ASL (from EM data inversions)

North Block



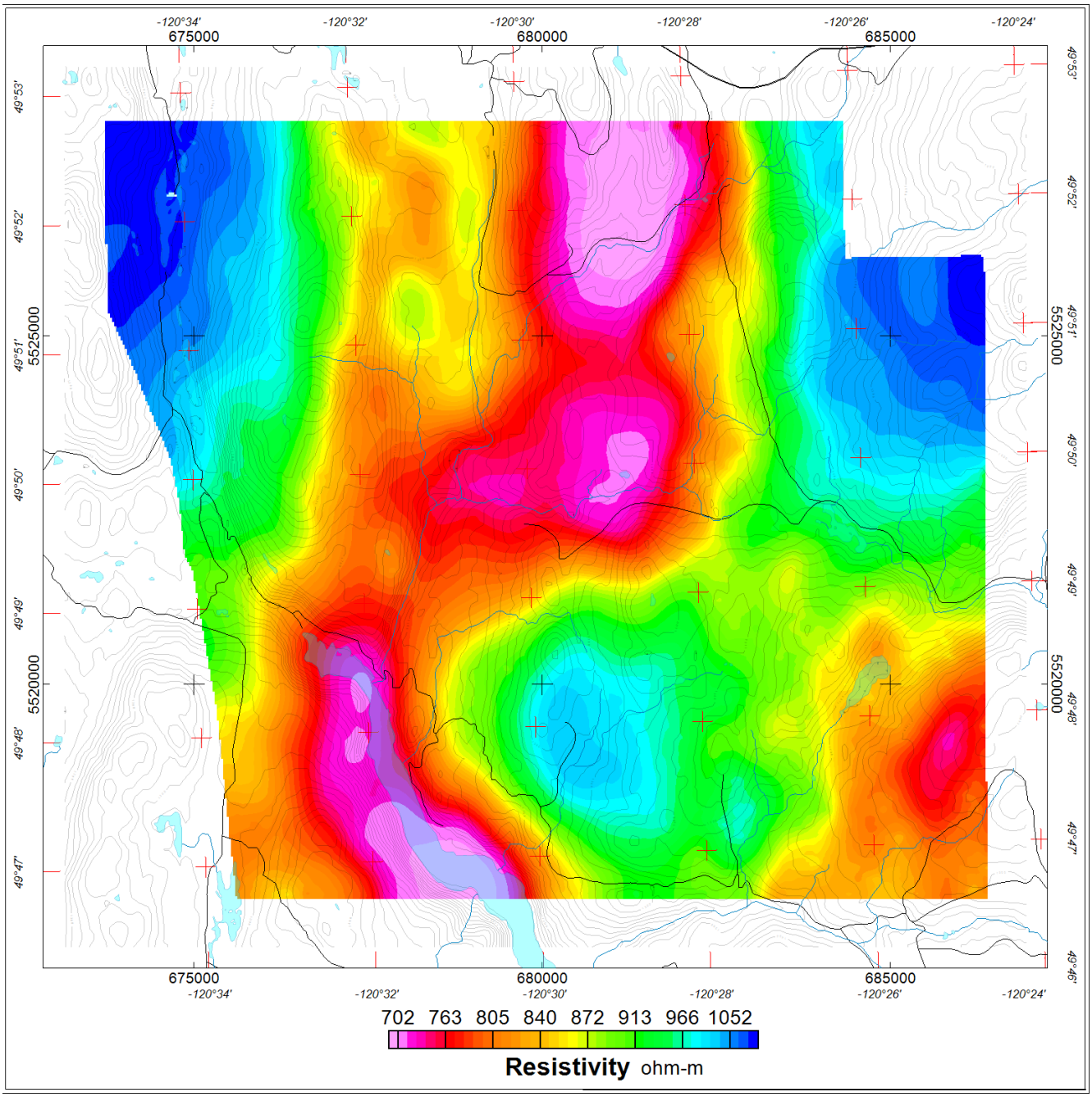
Resistivity at elevation of 800 m ASL

North Block



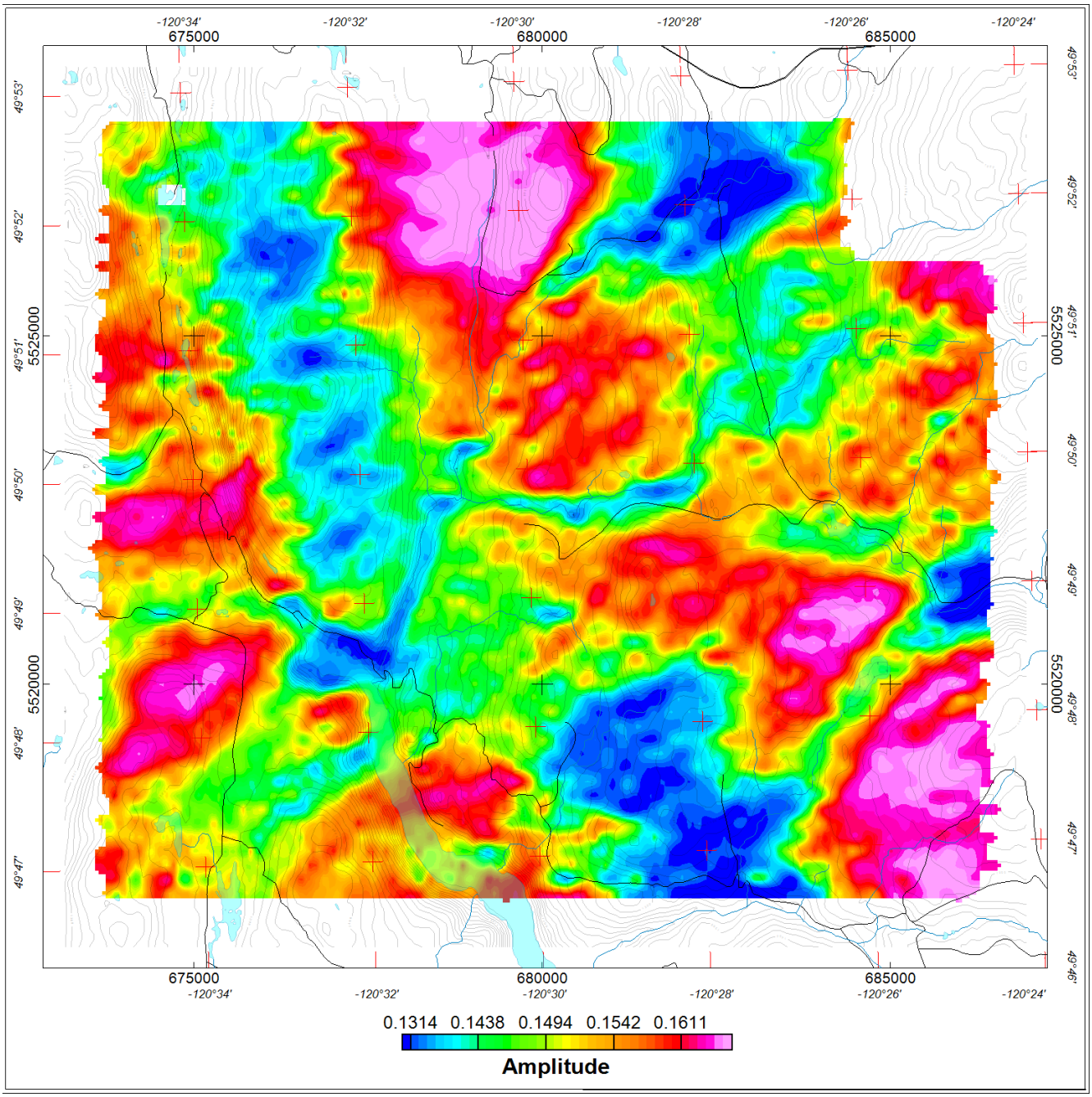
Resistivity at elevation of 400m ASL

North Block



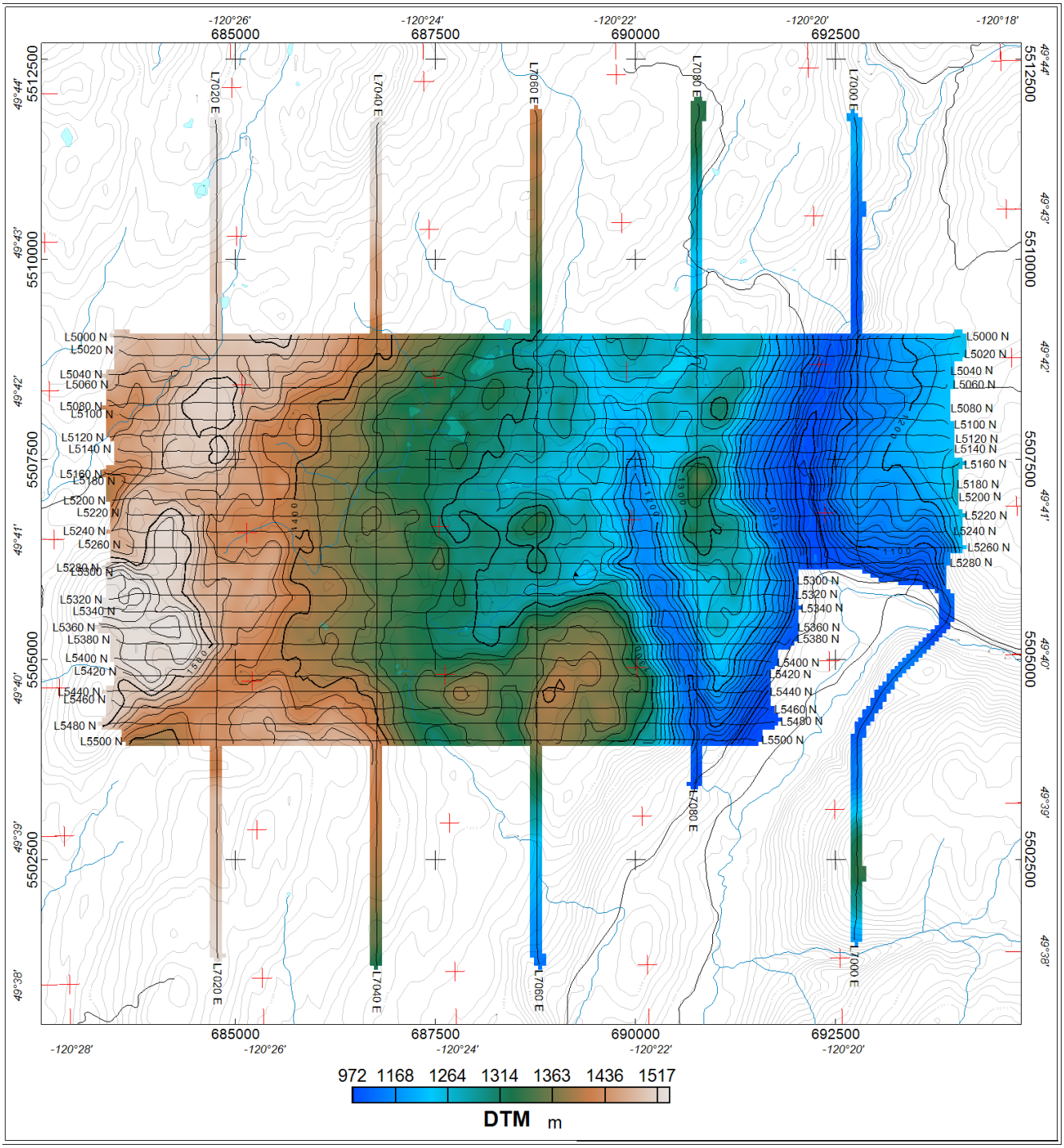
Resistivity at elevation of -200m ASL

North Block



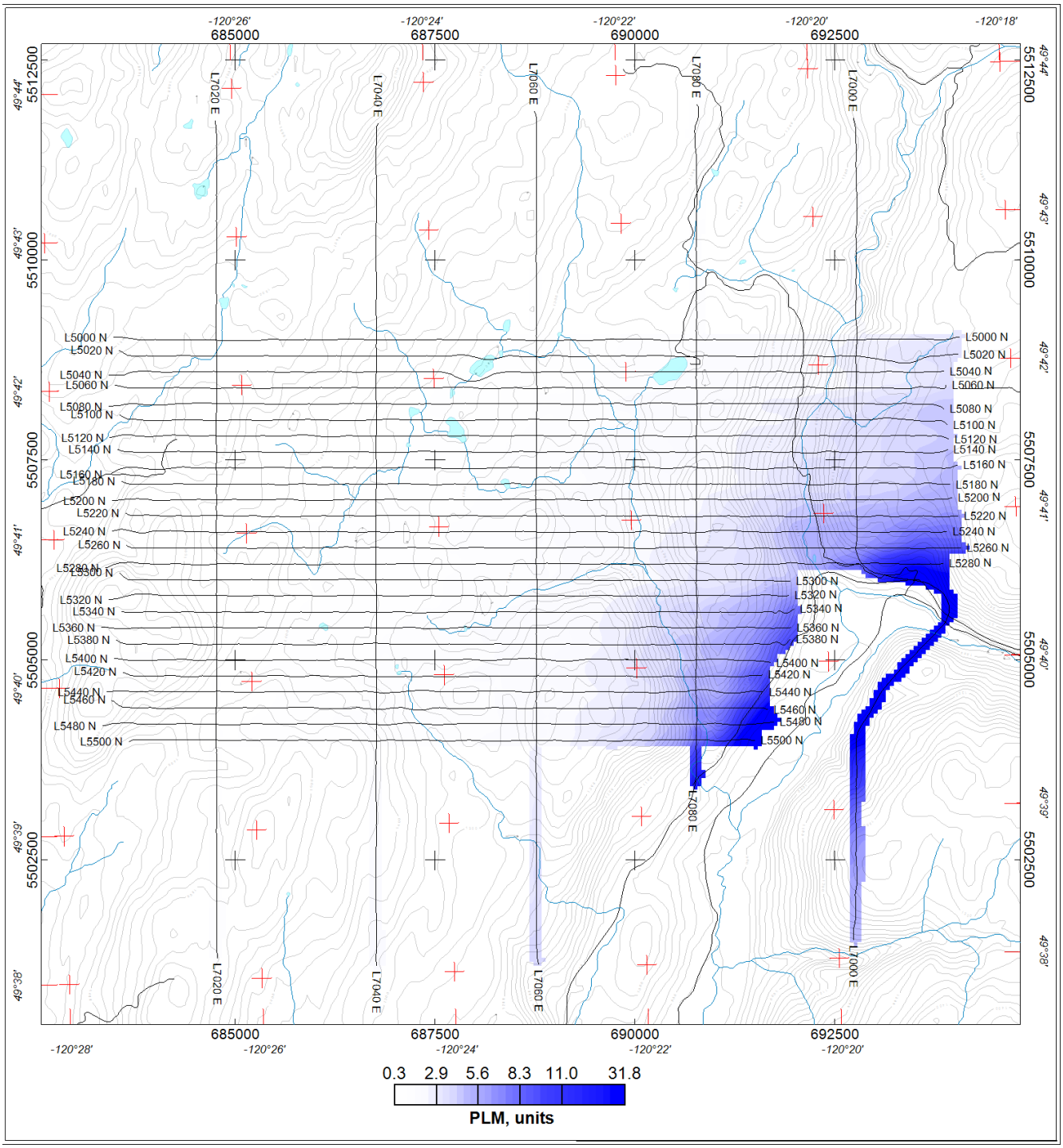
VLF amplitude map, 24.0 kHz

South Block



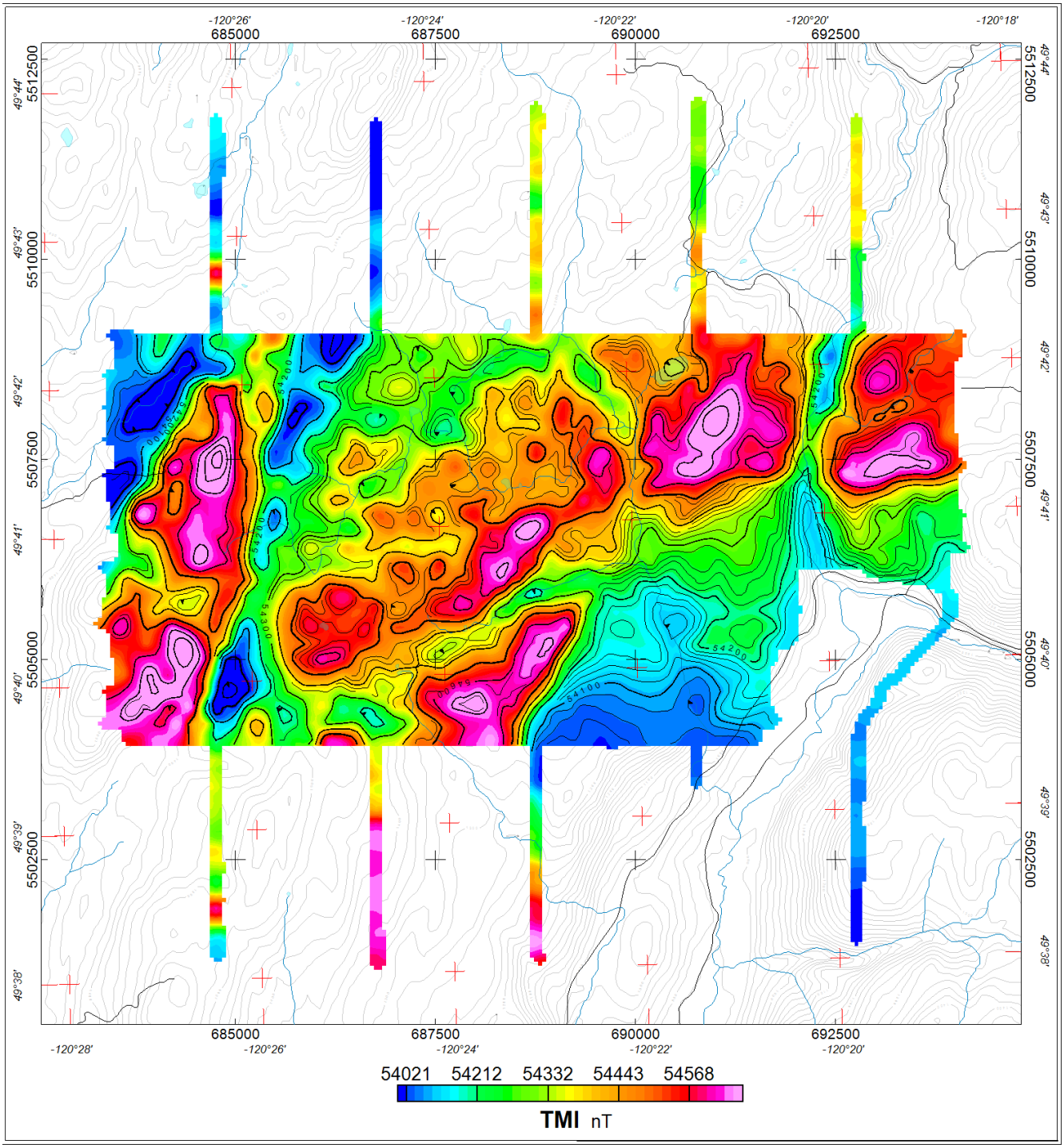
Digital terrain model (DTM)

South Block



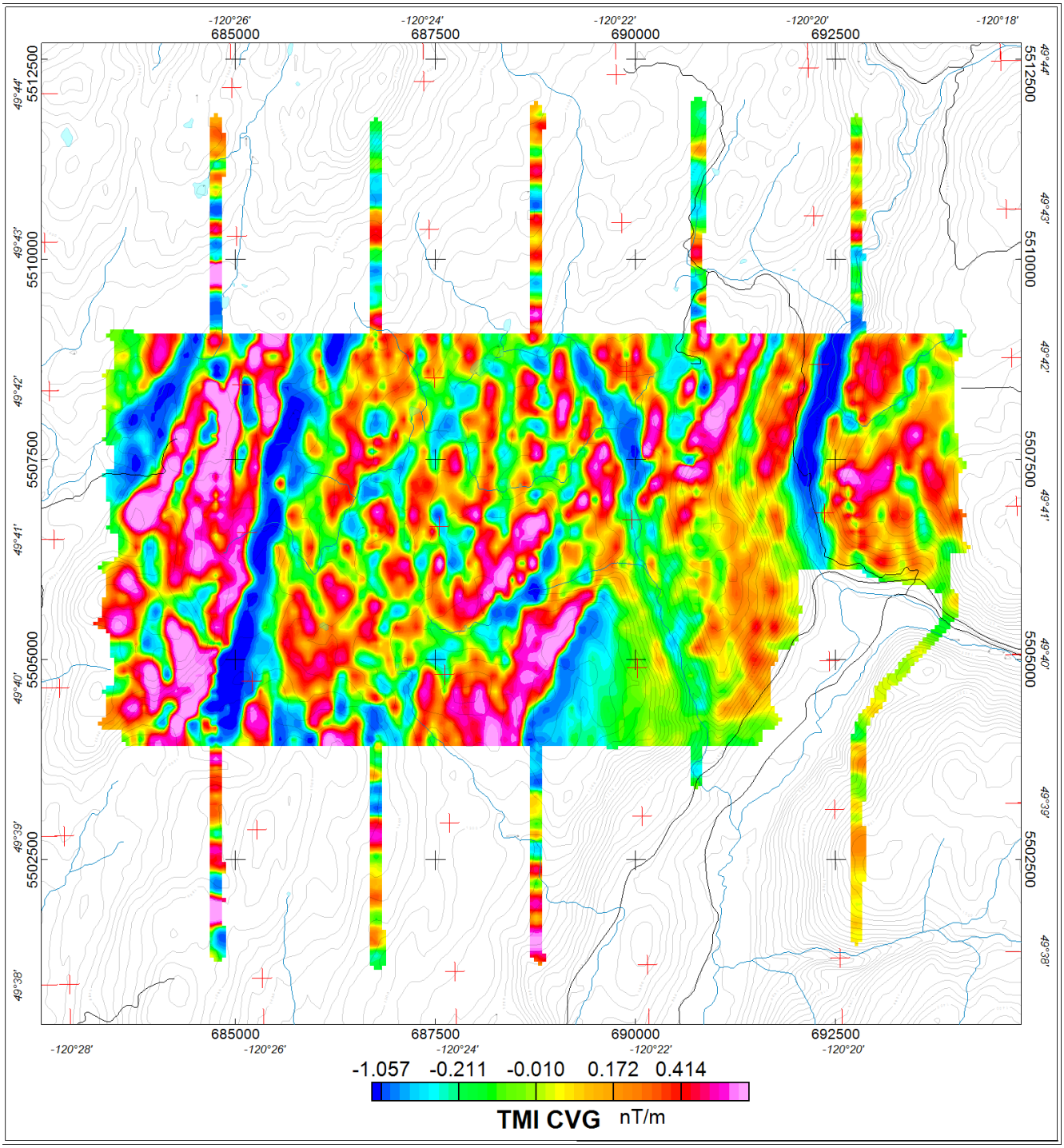
Powerline monitor

South Block



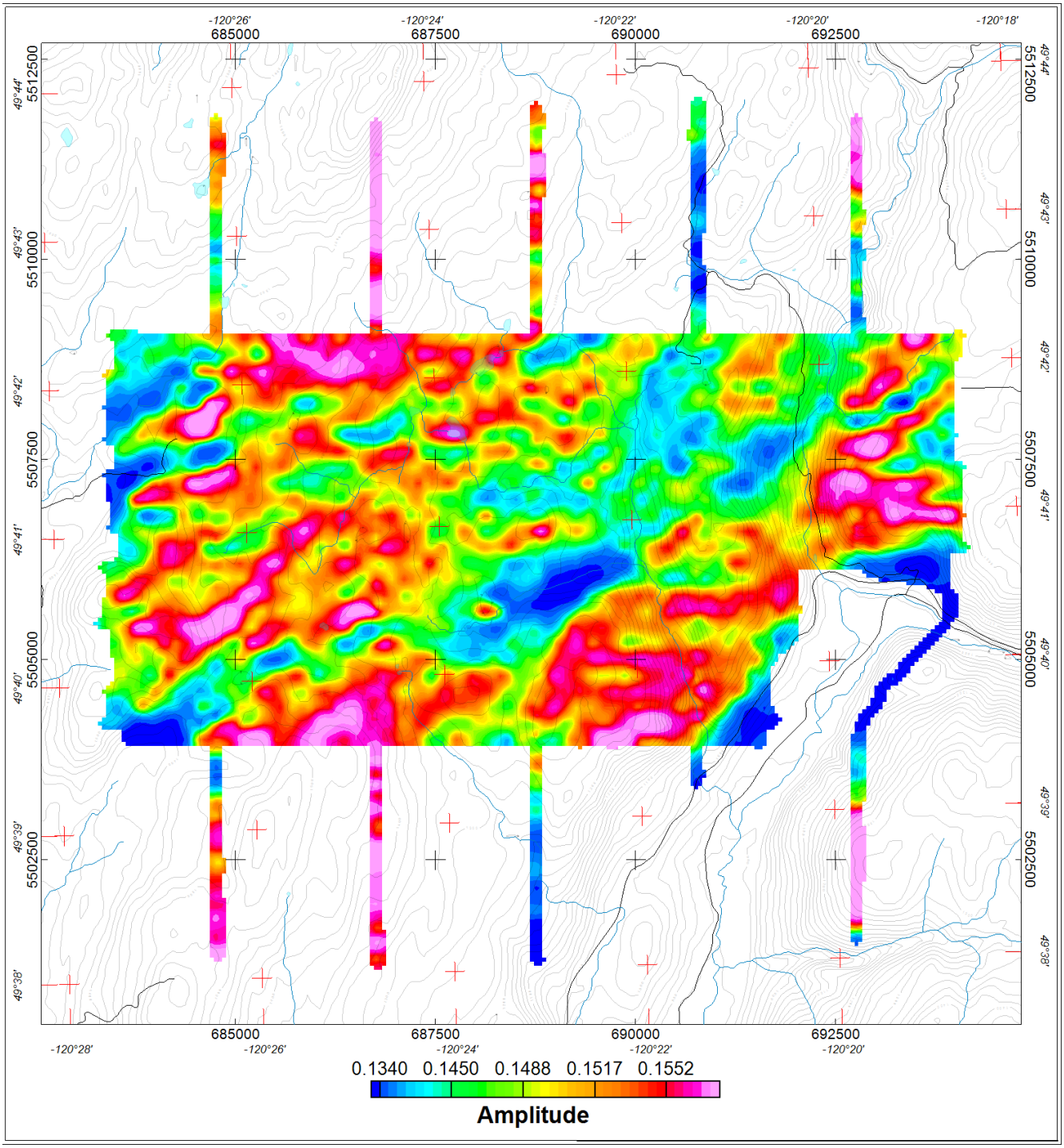
Total magnetic intensity (TMI)

South Block



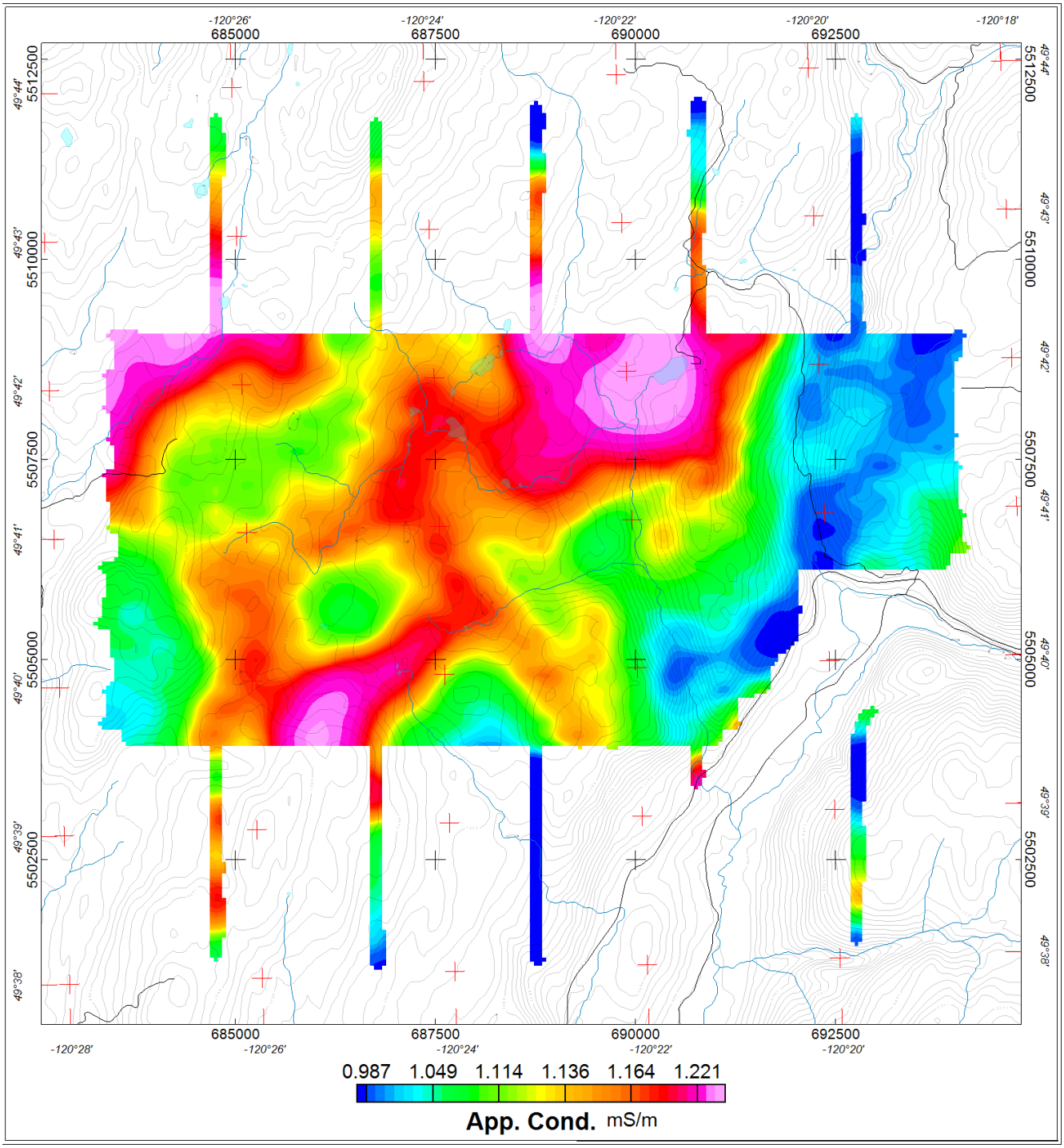
Calculated vertical gradient of total magnetic intensity (CVG-TMI)

South Block



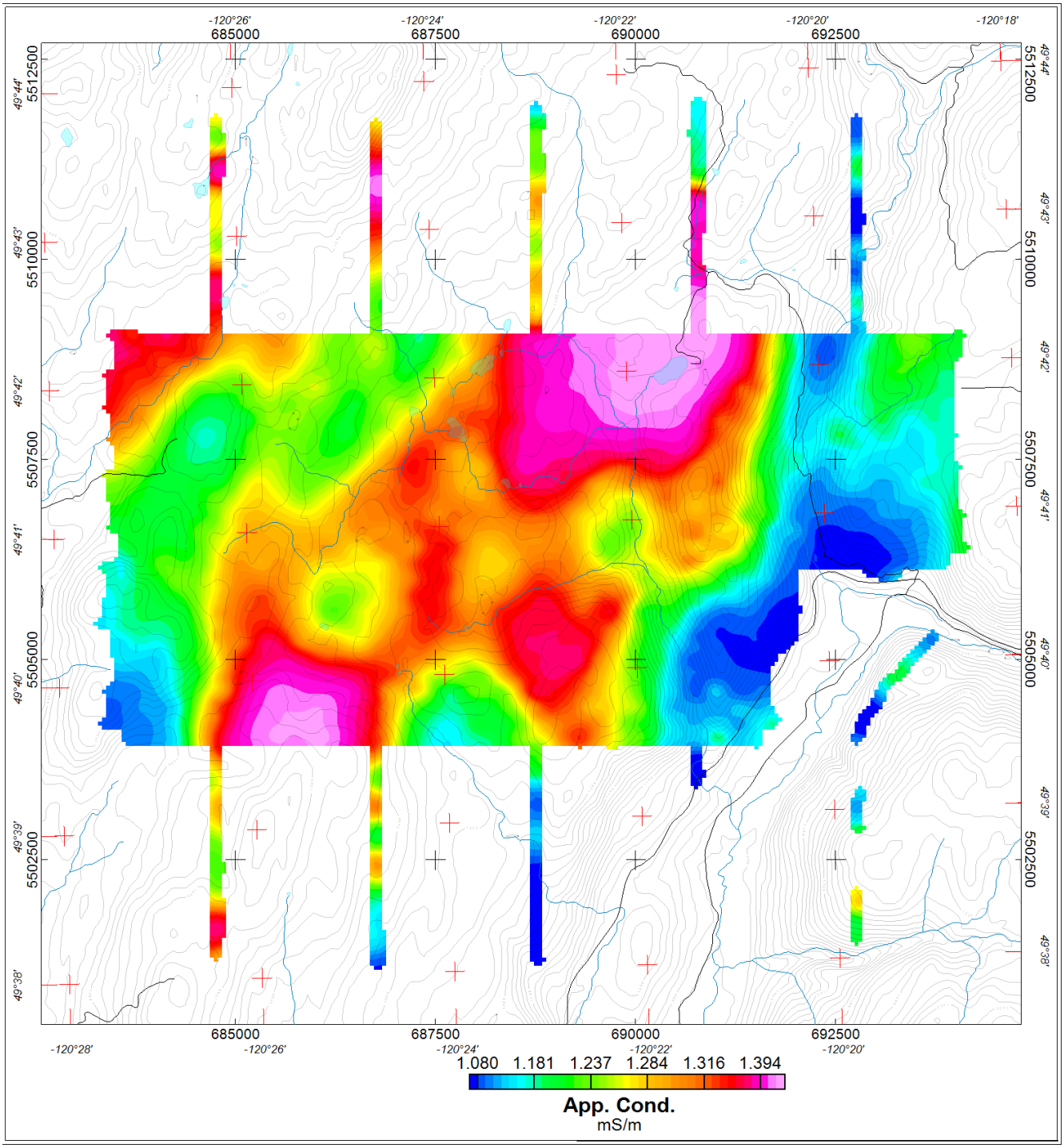
VLF secondary field amplitude at frequency of 24.0 kHz

South Block



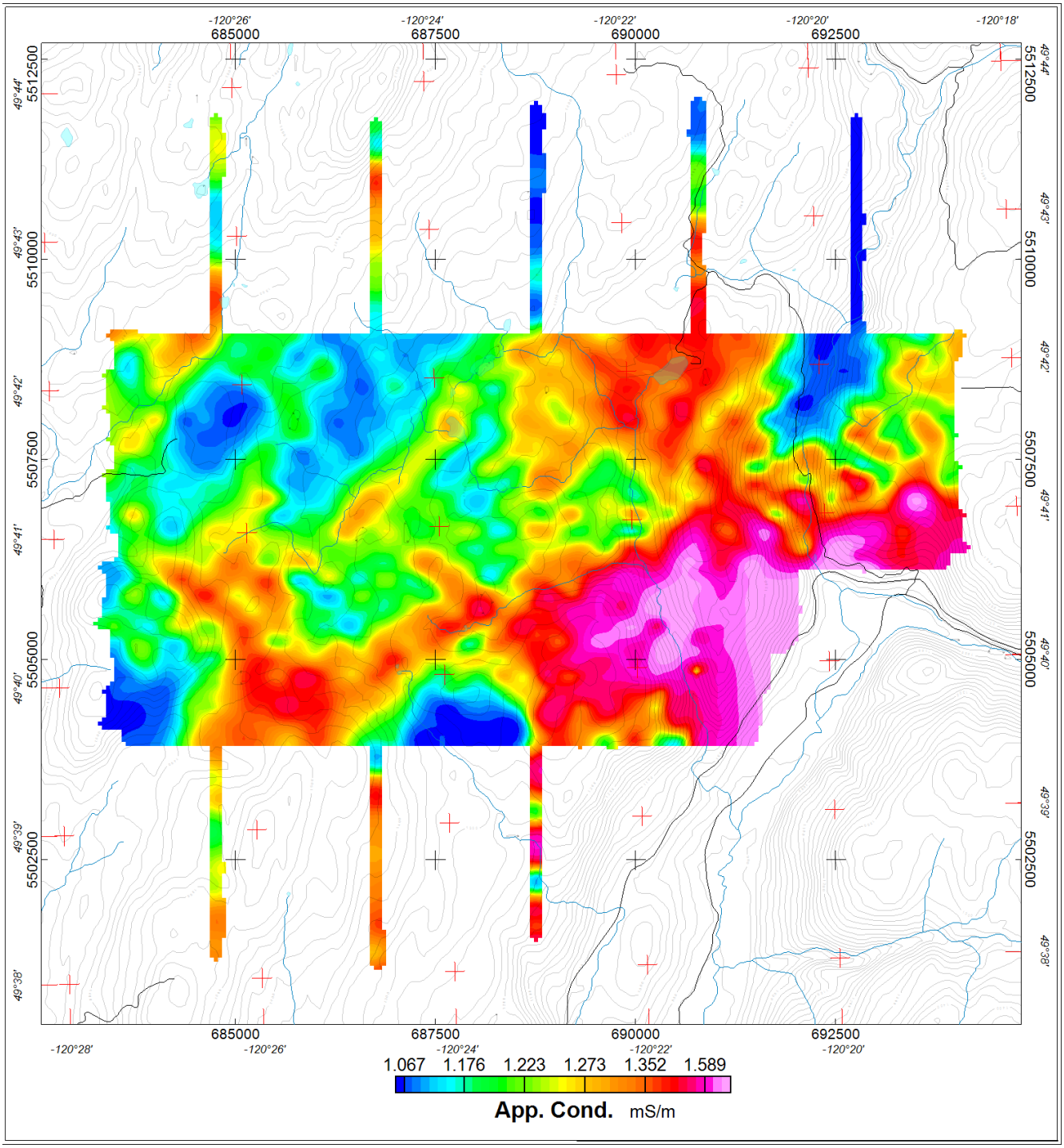
Apparent conductivity, 33 Hz

South Block



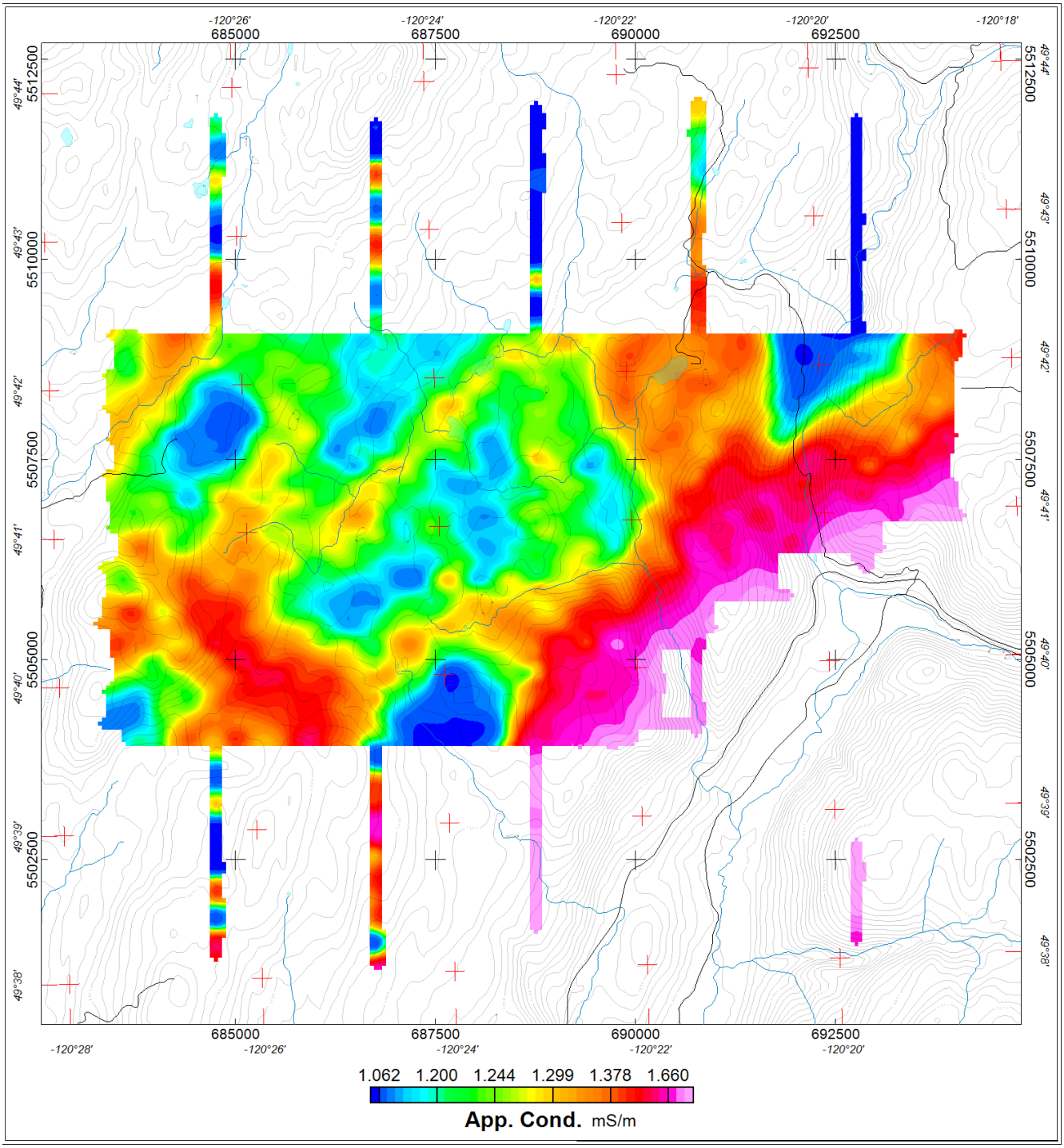
Apparent conductivity, 101 Hz

South Block



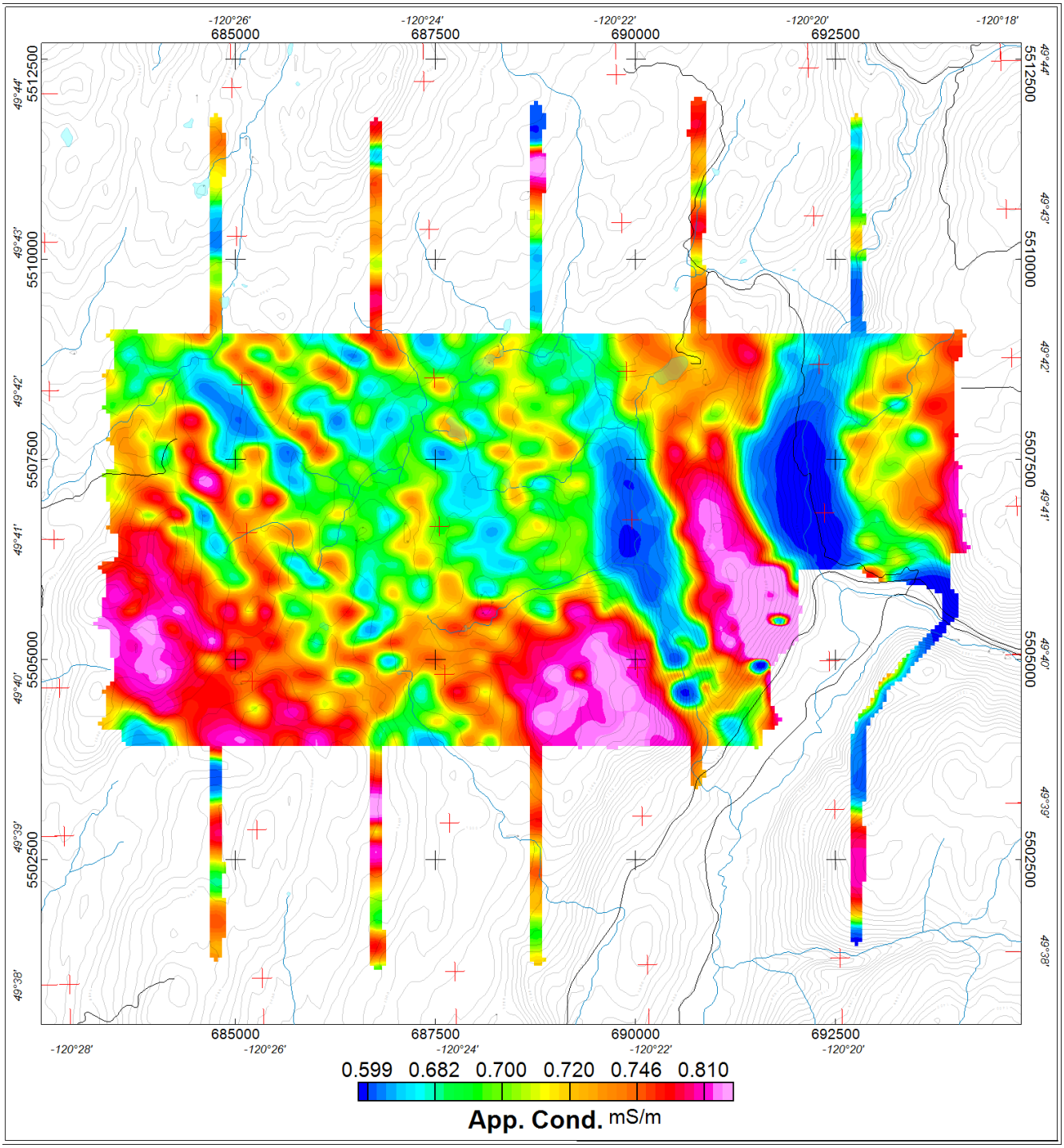
Apparent conductivity, 268 Hz

South Block



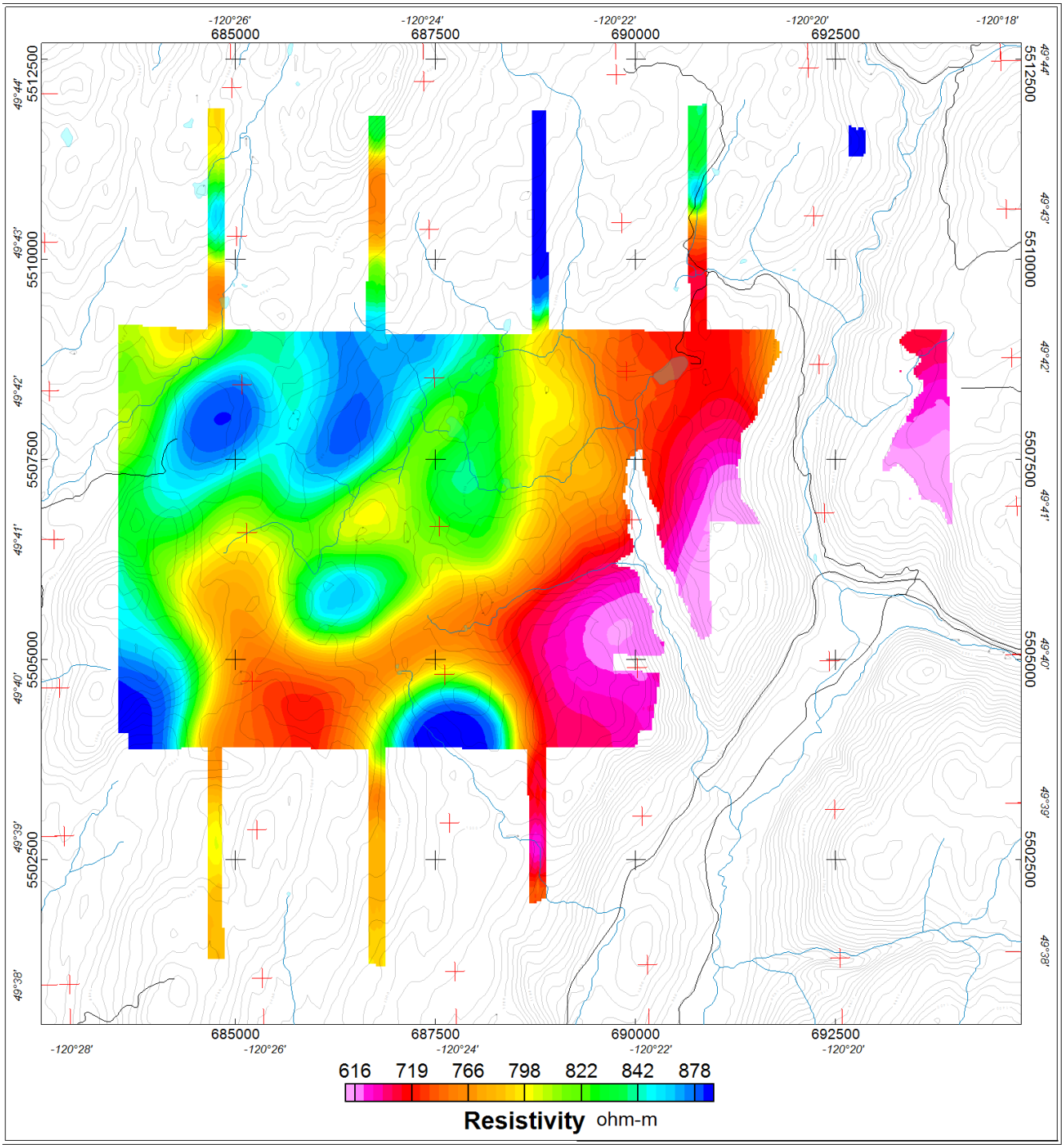
Apparent conductivity, 533 Hz

South Block



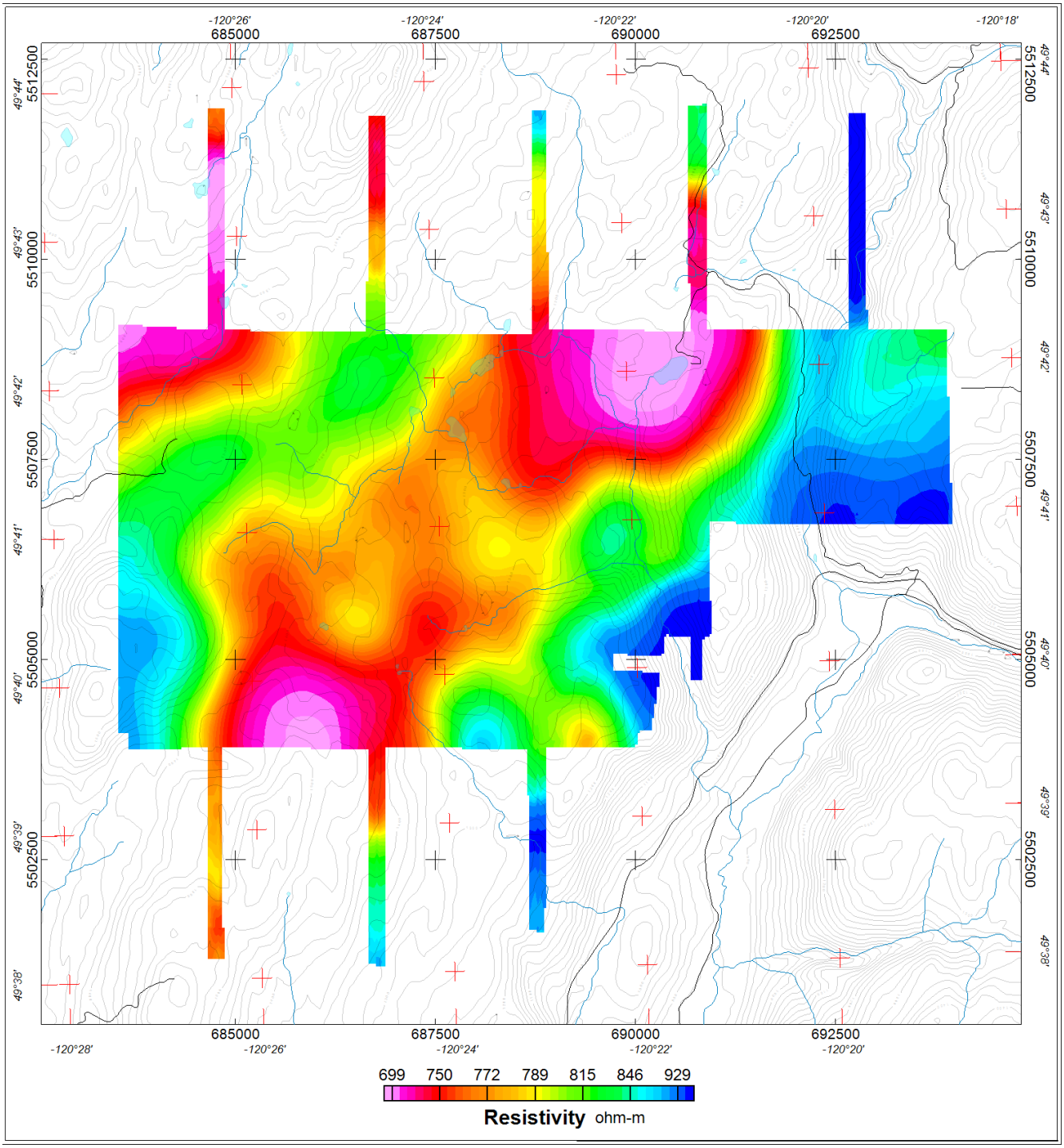
Apparent conductivity, 8550 Hz

South Block



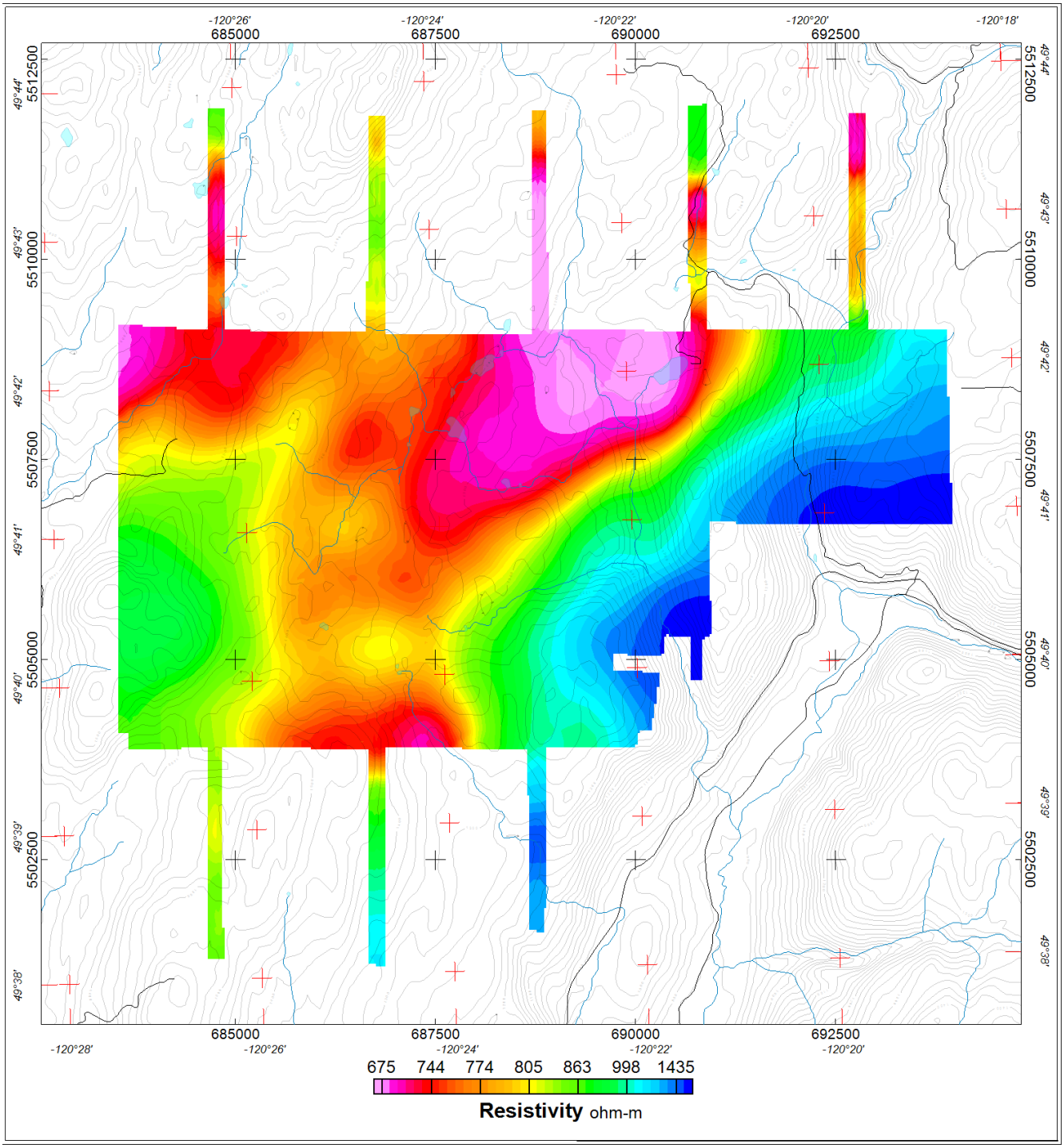
Resistivity at elevation of 1200 m (from EM data inversions)

South Block



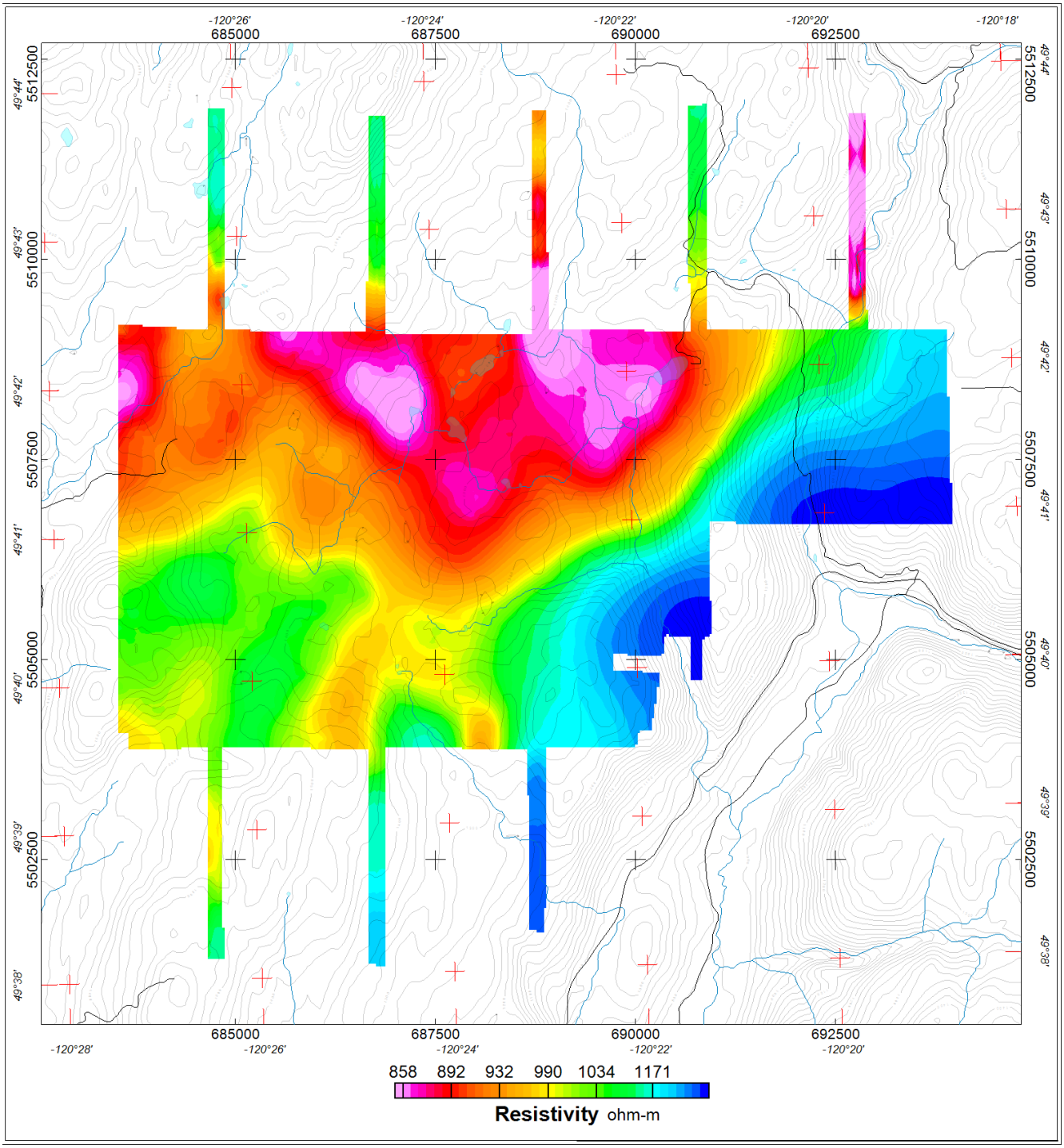
Resistivity at elevation of 800 m ASL

South Block



Resistivity at elevation of 400 m ASL

South Block



Resistivity at elevation of -100 m ASL

APPENDIX E

MARTIN ST. PIERRE - COPPERVIEW NORTH PROPERTY MOBILE MT INTERPRETATION

COPPERVIEW SOUTH PROPERTY MOBILE MT INTERPRETATION

INTRODUCTION

Golden Lake Resources Ltd executed an Expert Geophysics Ltd Mobile MT survey over its Copperview South property located in southern British Columbia. A total of 302 km was flow at a nominal survey line spacing of 200m. The Expert Geophysics Ltd system uses a helicopter to transport a total field cesium magnetometer and the Mobile MT system. The magnetometer operated at a sampling rate of 10Hz. The Mobile MT system measured the total magnetic field derived from 3 orthogonal coils with a digitising rate of 2000 Hz and extracts telluric activity for frequencies ranging from 26 to 17,009 Hz. The products supplied by Expert Geophysics Ltd and used for the interpretation consist of the total magnetic field and the resistivity inversion for altitude levels from 1000 meters to -100 meters at 200 meter increments and one 100 meter increment. The total magnetic data was inverted using the Geosoft Voxi software. The resultant 3D voxel was sliced at the same altitude level as the resistivity inversion.

Porphyry copper deposit is the primary exploration target and typically have lower electrical resistance then its host rock. Seven low resistivity anomalies were defined. They are presented on the altitude inversion slice maps. Also presented on the slice maps is a fault interpretation derived from the total magnetic field, and BC government assessment file occurrence locations which relate to either Alkalic Prophyry Cu-Au or Volcanic Redbed Cu. Claim blocks are also included.

PRESENTATION OF RESULTS AND DISCUSSION

The interpretation is presented in a series of fourteen figures that consist of two figures for each altitude inversion slice. The first figure shows the resistivity image altitude slice with the low resistivity anomalies outlines with names. The second shows the total magnetic inversion altitude slice with the low resistivity anomaly outlines included. All figures contain a fault interpretation derived from the total magnetic field, and BC government assessment file occurrence locations which relate to either Alkalic Prophyry Cu-Au or Volcanic Redbed Cu. Claim blocks are also included.

Porphyry copper deposit typically have lower electrical resistance then its host rock, and tend to have low to moderate magnetic susceptibility, although that is not always true. Higher priority will be given to low resistivity, low magnetic susceptibility anomalies. Also, porphyry copper deposits tend to have significant depth extent as they are derived from plutonic systems.

Anomaly A.

Anomaly A is located at the southwest border of the survey block. It is unbounded by the survey block to the south. It is contained within low to moderate magnetic susceptibilities. We see the anomaly clearly on altitude slices from 1000 m to 400 m (Figures 1 to 8). Due to its limited depth extend anomaly A is considered as a moderate priority target.

Anomaly B.

Anomaly B is located at the south-central border of the survey block. It is a north-south trending resistivity low that is inbounded by the survey block to the south. It is mostly coincident with low to moderate magnetic susceptibilities. We see the anomaly only on the 1000m altitude slice (Figures 1 and 2). Due to its very limited depth extent, anomaly B is considered as a low priority target.

Anomaly C.

Anomaly C is located north of anomaly B. It is a north-south trending resistivity low that is inbounded by the survey block to the south. It is mostly coincident with low magnetic susceptibilities. We see the anomaly only on the 1000m altitude slice (Figures 1 and 2). Due to its very limited depth extent, anomaly C is considered as a low priority target.

Anomaly D.

Anomaly D is located at the north-central border of the survey block. It is present in all altitude slices (Figures 1 to 14), and is unbounded by the survey block to the north. At the west side of the anomaly we see a tie line that shows low resistivities extending to the north for approximately 1.9 Km. This is present in altitude slices 600m to -100m (Figures 5, 7, 9, 11 and 13). The magnetic susceptibilities at higher altitudes of 1000m and 800m (Figures 2 and 4) show a complex mixture of moderate to high values. However, with decreasing altitude we see that the anomaly flanks higher susceptibilities locate to its south (Figures 6, 8, 10, 12 and 14). Anomaly D unlimited depth extent, combined with moderate susceptibilities and significant size potential make it a high priority target.

Anomaly E.

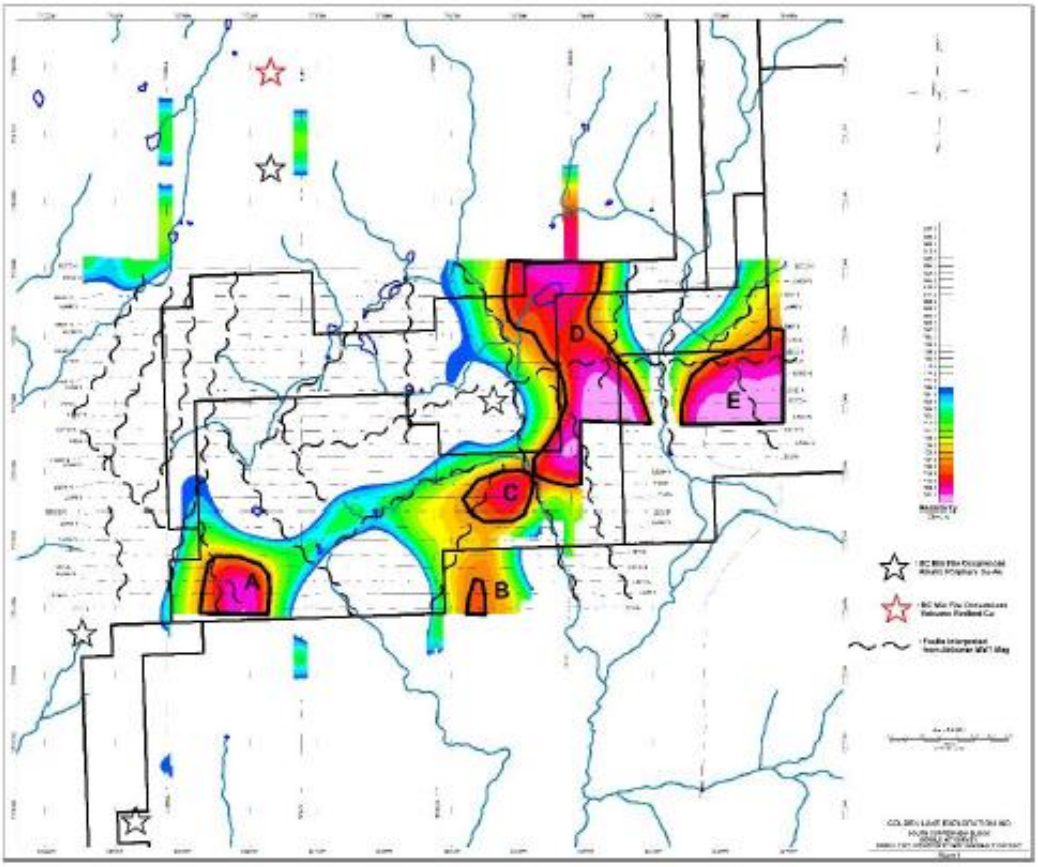
Anomaly E is located at the eastern boundary of the survey block. It is unbounded by the survey block to the east and south. The magnetic susceptibilities are a mixture of low to moderately high values. We see the anomaly only on the 1000m altitude slice (Figures 1 and 2). Due to its very limited depth extent, anomaly E is considered as a low priority target.

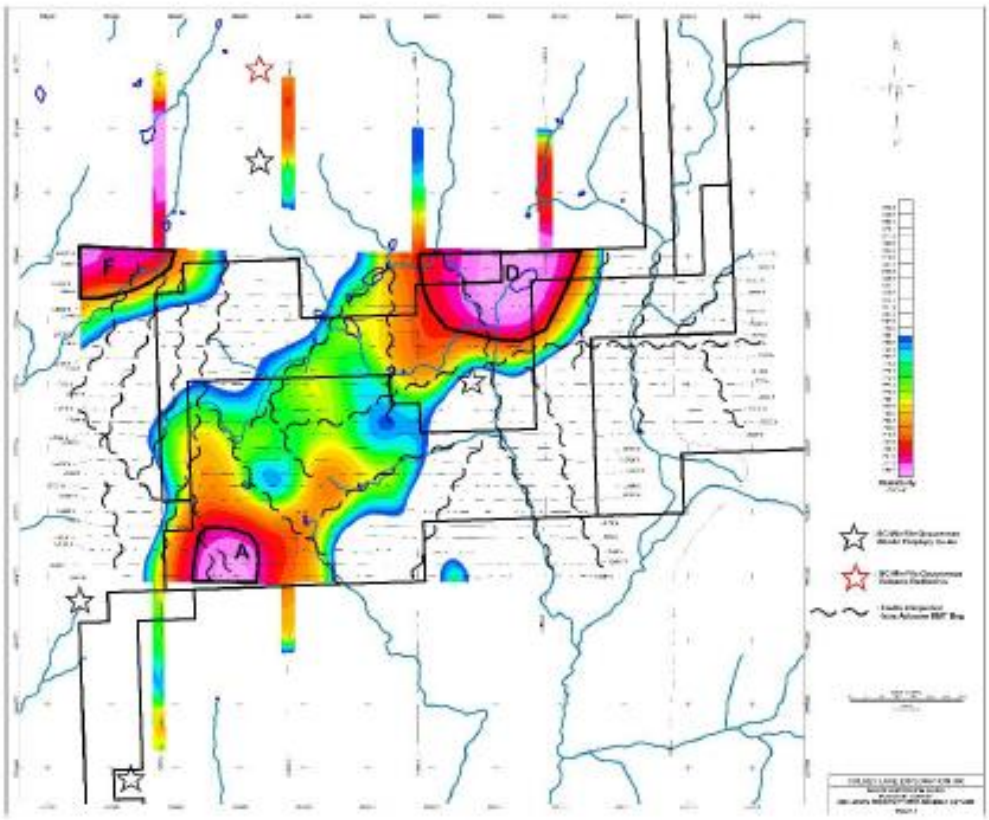
Anomalies F.

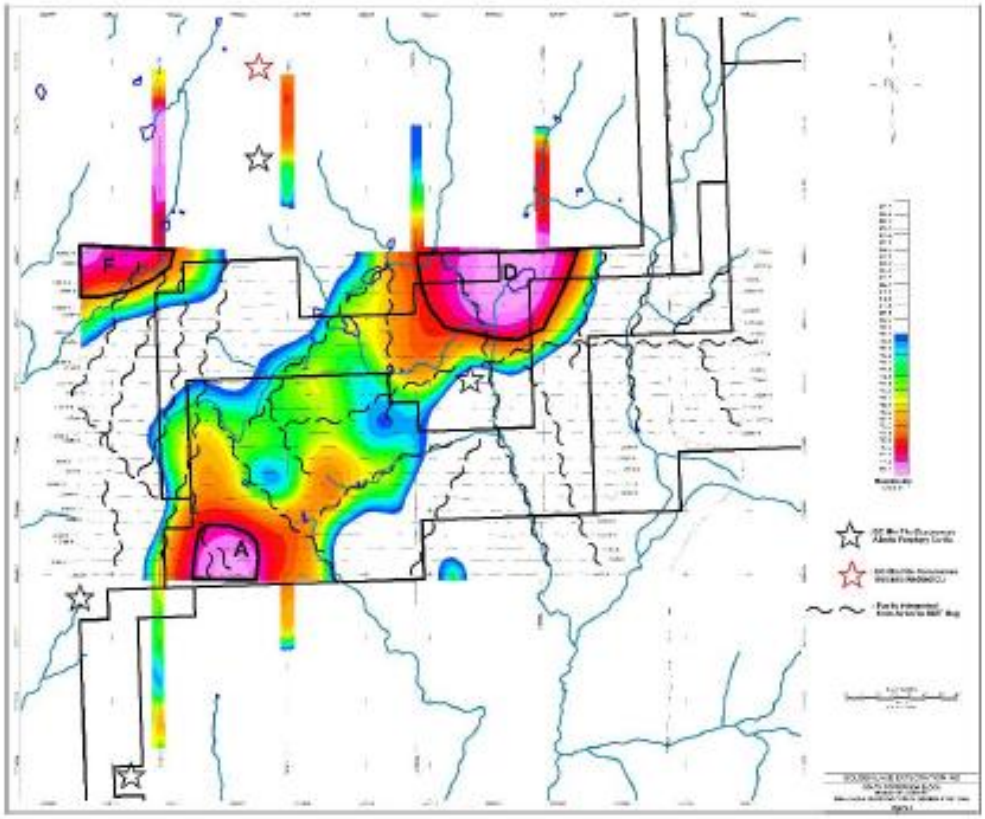
Anomaly F is located at the northwest corner of the survey block. It is unbounded by the survey block to the west and north. The anomaly first appears at the 800m altitude and is present in all of the lower altitude slices (Figures 3, 5, 7, 9, 11 and 13). The magnetic susceptibilities are generally low (Figures 4, 6, 8, 10, 12 and 14). Anomaly F geophysical characteristics of unlimited depth extent and low magnetic susceptibility makes it a high priority target. However, it is located outside of the current claim block and has limited coverage by the survey. As such, it is an anomaly to consider in future exploration.

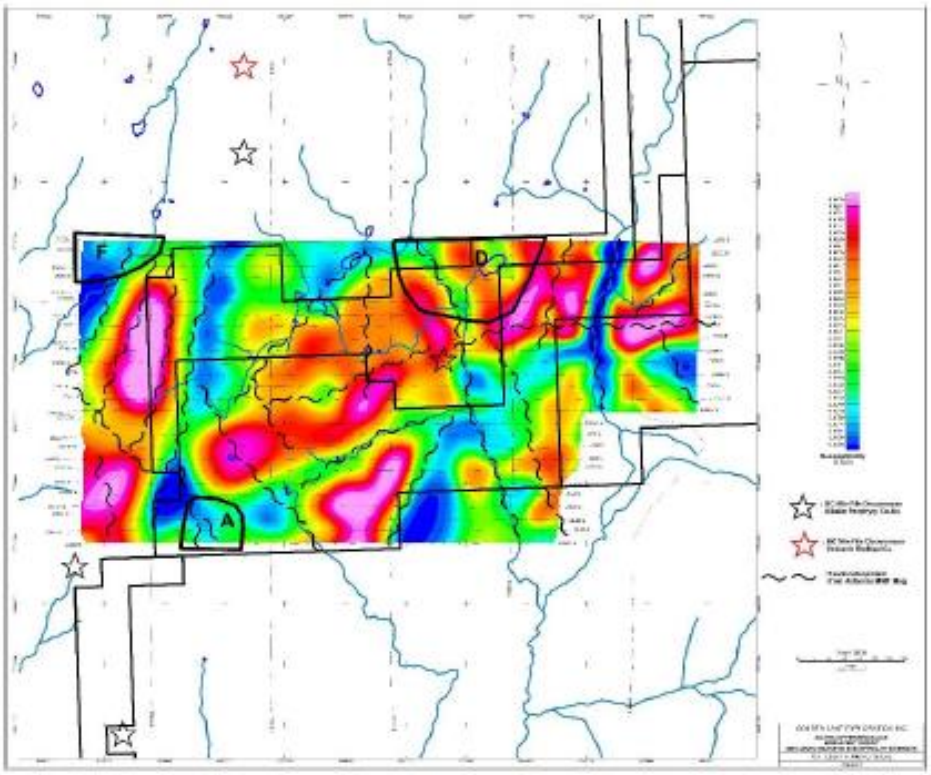
Anomaly G.

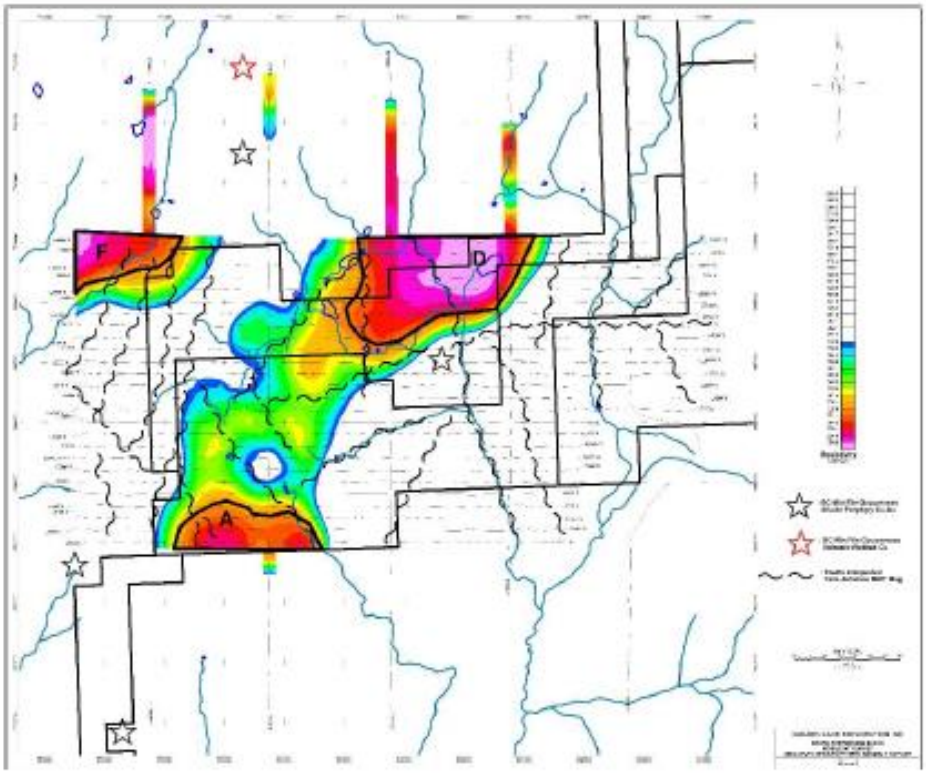
Anomaly G is located between anomalies D and F. It is present at the lower altitude slices from 200m to -100m and increases in intensity and size with lower altitude (Figures 9, 11 and 13). At its lowest altitude of -100m it becomes unbounded to the north. It is generally located within low magnetic susceptibilities (Figures 10, 12 and 14). Its close proximity to anomaly D suggests a possible relationship. Anomaly G unlimited depth extent, low susceptibility and possible relationship to anomaly D makes it a high priority target.

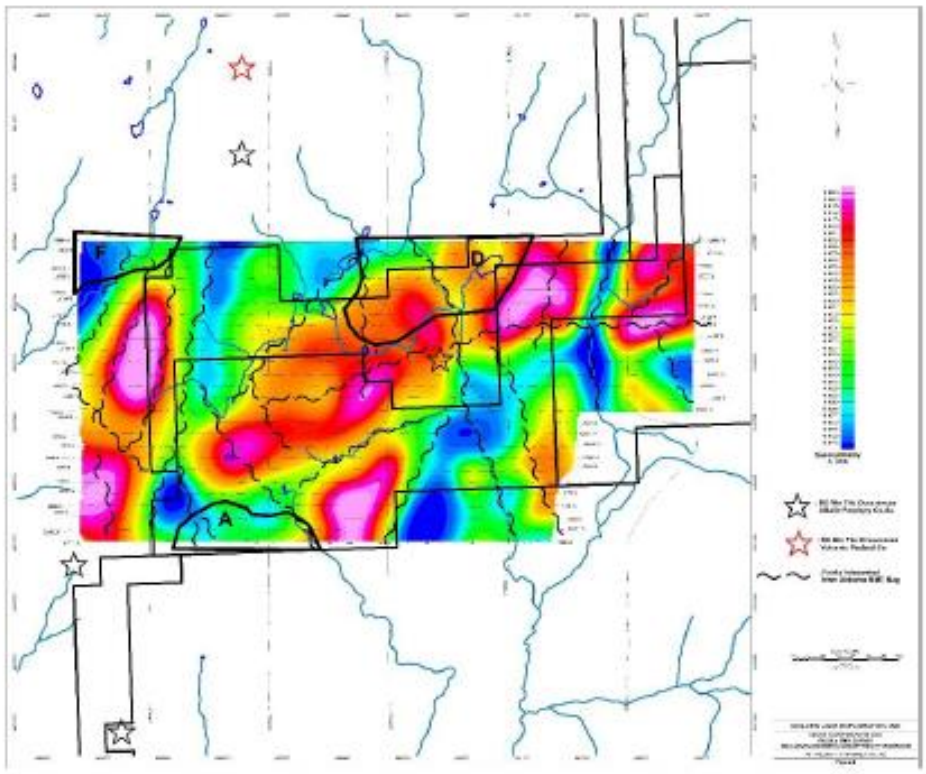


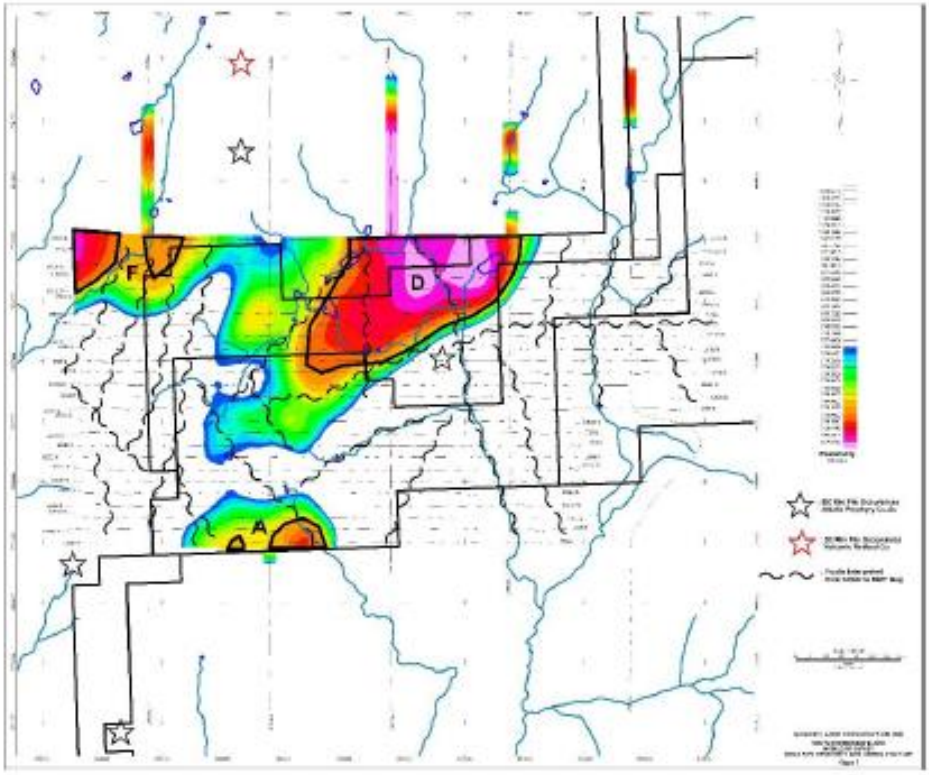

F
D
A

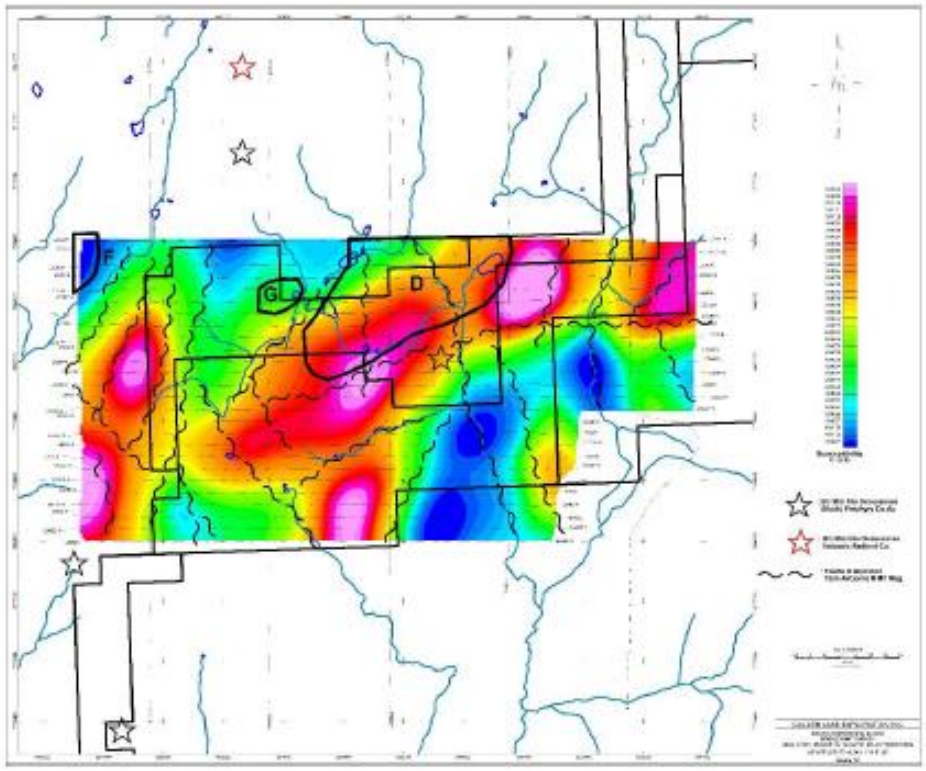

F
D
A

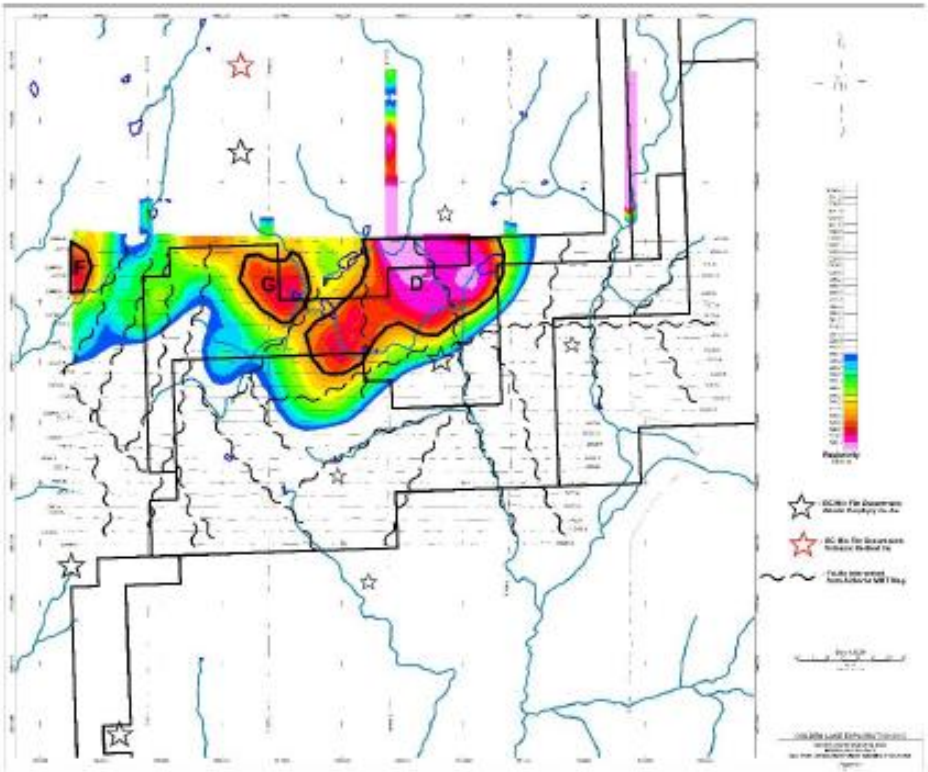

F
D
A

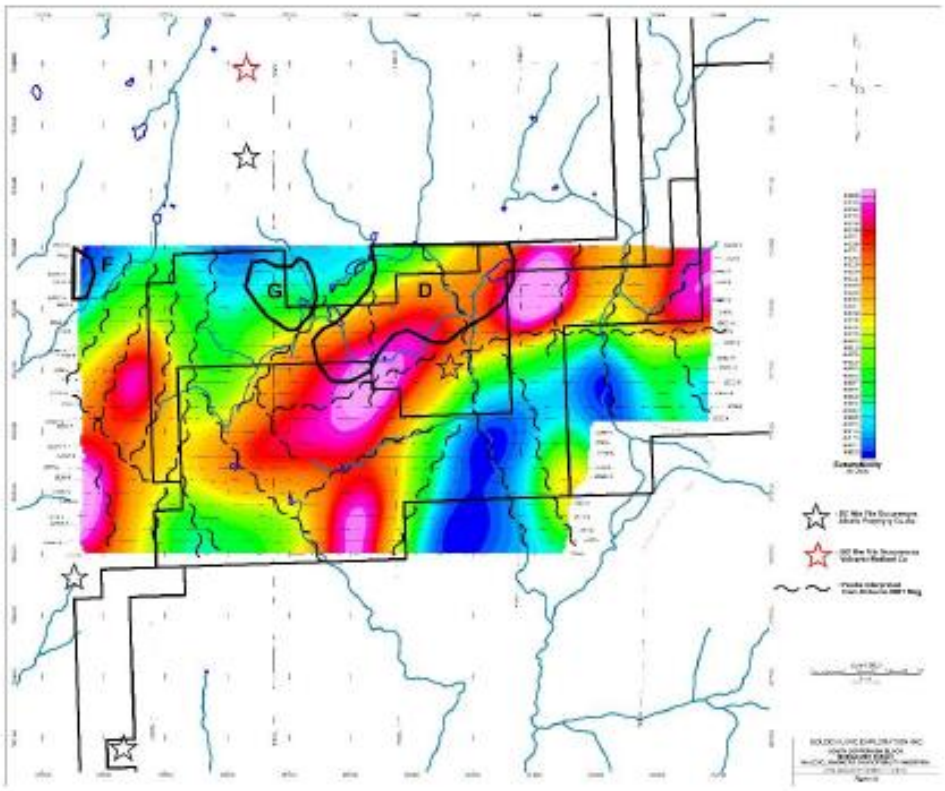

F
D
A

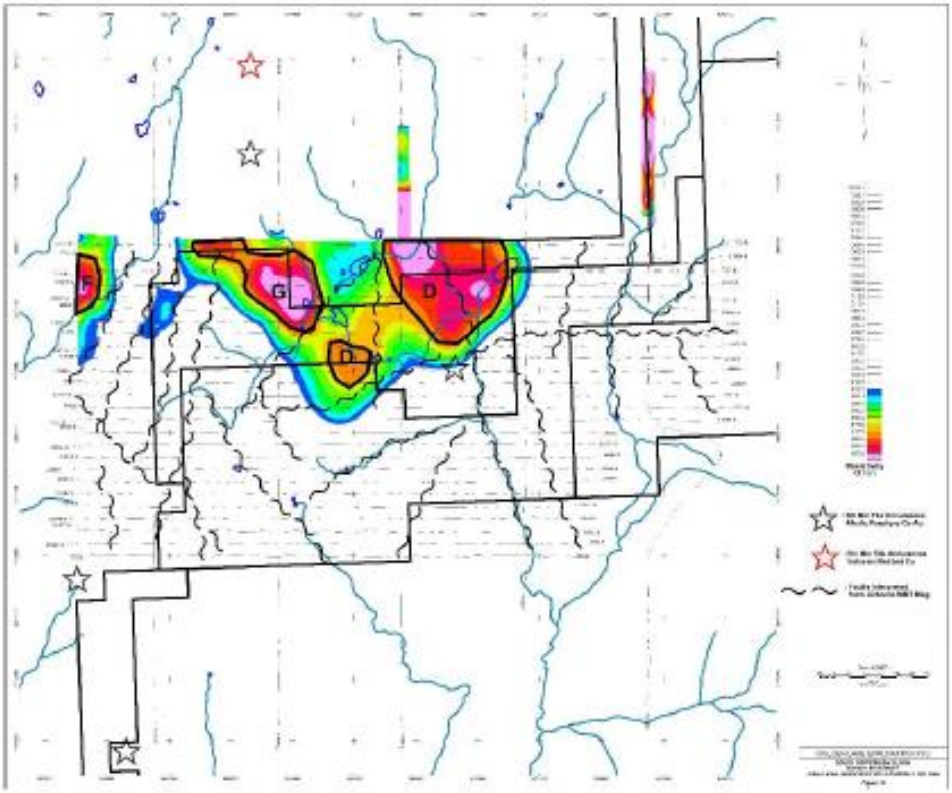

F
D
A

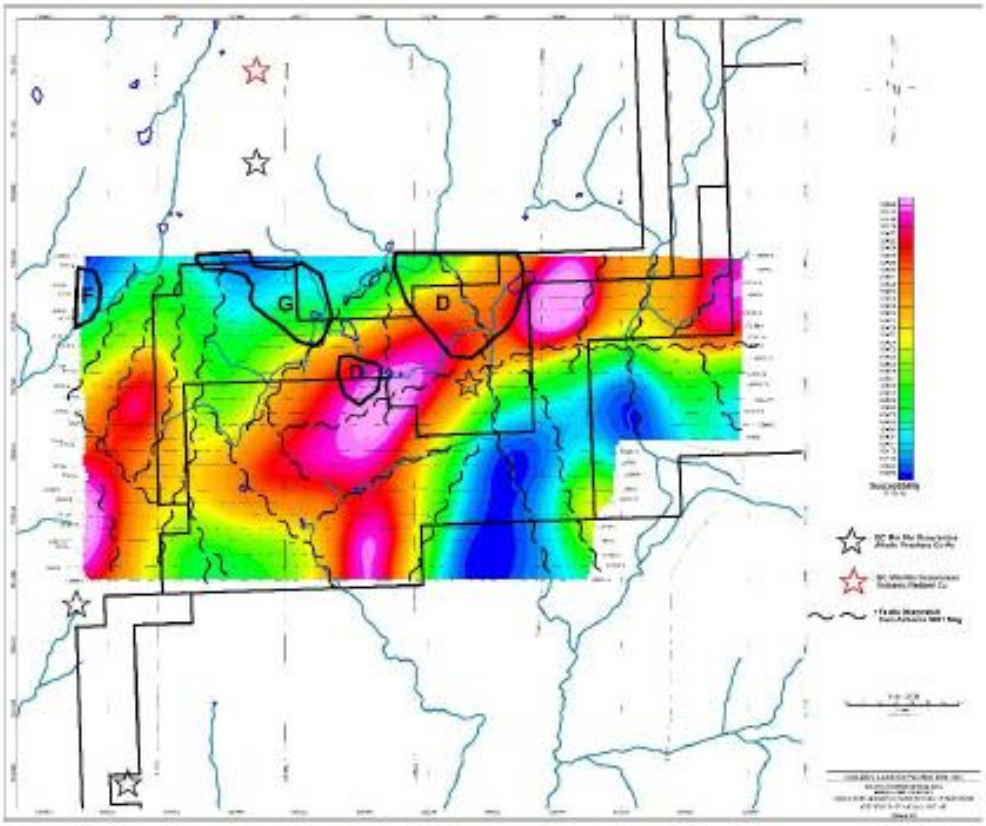

F
D
A


F
G
D


F
G
D


F
G
D


F
G
D
D



CONCLUSIONS AND RECOMMENDATION

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Ranking of the anomalies in decreasing priority is as follows:

Anomaly D
Anomaly G
Anomaly F
Anomaly A

The following anomalies are all considered a low priority:

Anomaly B
Anomaly C
Anomaly E

On a geophysical perspective it is recommended that IP be considered. The cheapest approach would Pole-Dipole 100m dipole spacing with N 1 to 8 separation for a 400 meter penetration. The most sophisticated and expensive approach would be 3D IP which could penetrate between 600 to 800m.