HARDLINE
EXPLORATION CORP.

# NATIONAL INSTRUMENT 43-101 TECHNICAL REPORT

On the

# SILVER LAKE PROPERTY

OMINECA MINING REGION, BRITISH COLUMBIA, CANADA

**Located Within:**

NTS Sheet: 093L/01E and 093L/01W

**Centered at Approximately:**

Latitude 54°10'37" North by Longitude 126°21'32" West

**Report Prepared for:**

## Prosperity Exploration Corp.

#1240, 789 W. Pender St.
Vancouver, BC, V6C 1H2

**Report Prepared by:**

**Hardline Exploration Corp**
7351 Cedar Rd
Smithers, BC, Canada
V0J2N2

**Report Authored By:**

**James M. Hutter, P.Geo.**

EFFECTIVE DATE: January 21, 2021

REVISED DATE: July 19, 2021

# Table of Contents

# List of Tables



# List of Figures

# 1 Summary


The Silver Lake project is an exploration stage project approximately 30 km southeast of Houston, BC in the Omineca Mining Division. Prosperity Exploration Corp ("Prosperity" or "the Company") has entered into an option agreement to earn a 100% interest in the property.

The property is comprised of eight contiguous mineral claims totalling 1647.24 ha. Mineral exploration on and in the immediate vicinity of the property has been intermittent since the mid-1900's and focused on silver, gold, copper, and molybdenum. Reasonable access to the Property and well-maintained road networks from nearby towns may permit year-long work programs at the Silver Lake Project.

The property lies within the Stikine terrane and is underlain by Mesozoic to Cenozoic sedimentary and volcanic rocks and related intrusive stocks. Rocks at the Silver Lake property are ascribed to the Cretaceous Skeena and Kasalka Groups and Eocene Endako Group and Goosly Lake and Nanika plutonic suites. Mineralization on the property occurs as Cu-Ag-Au and polymetallic Ag-Pb-Zn+/-Au style mineralization and massive sulfide vein systems in altered volcanics of the Goosly Lake formation.

This report is a compilation of work completed on the project to date. The intent of this report is to provide a comprehensive summary of the work completed on the property to date and provide a platform for future mineral exploration on the property, as well as a detailed understanding of the property and its potential to host mineralization.

The Project area has undergone exploration programs since 1967 and has two Minfile occurrences, both hosting silver and zinc mineralization. Previous drilling in vicinity of the SAM Minfile in 1986 intersected semi-massive sulfides occurring along the margins of andesitic tuffs and volcanic breccias. Silver values ranging from 25 to 715 ppm silver and zinc up to 9.5 percent were within a larger pyritic calcite-quartz-silicate alteration zone. The silver-zinc mineralization found in the area of the SAM Minfile is located between depths of 20 to 230 meters. The southern part of the Property hosts the ORION showing where pyritic and massive sulfide float boulders have been located. These float boulders may be related to nearby Goosly Lake Formation gabbroic intrusive rocks.

The property contains exploration targets resulting from elevated metal-in-soil geochemical surveys, geophysical surveys, and geological mapping. This historic work is summarized in Section 6. It is the opinion of the author that the Silver Lake Property is a property of merit worthy of further exploration.

The 2020 VTEM survey outlined a strong VTEM with coincident magnetic anomaly on the South Shore geophysical target, to the south of Goosly Lake. Historical geophysical data includes a ZTEM survey, which covers the Equity Silver mine and a portion of the Silver Lake property anomaly. The ZTEM data shows similar responses between the Equity Silver mine and the Silver Lake area. The VTEM survey collected over the Silver Lake property defined a large anomalous EM trend that strikes N-S and is coincident with a ZTEM anomaly. Depth inversions of the ZTEM data indicates that both the Equity Mine anomaly and Silver Lake anomaly have large depth extend in excess of 1 km. The magnetic data acquired by the ZTEM and VTEM surveys show a close proximity of elevated magnetic susceptibility to both the Equity Silver mine and the Silver Lake anomaly. Geologically, the presence of intrusive bodies consisting of granitic stocks and syenomonzonite-gabbro stocks appear to be similar in both the Equity Silver mine and the L&L Silver Lake anomaly. Preliminary modelling of the VTEM L&L response indicates a large weakly to

moderately conductive body in excess of 2 km in strike length and 1 km in width with depth to top in the range of 100 meters. No previous drilling in this area has been reported and it is a valid exploration target. This zone should be further explored by detailed geological mapping of structures, geochemical surveying and trenching. If results are positive this area should be further tested by diamond core drilling.

A recommended work program consisting of historic data compilation, geochemical sampling and mechanized trenching is suggested. The cost of an initial exploration program is estimated at $102,55 for a year-one program. A follow-up phase, if warranted by positive results may include geophysical surveying and 1100 meters of diamond drilling estimated at $500,000.

Phase 1 targeting includes:

- A GIS data compilation of all historic geochemical surveys, geophysical surveys, geological mapping and drilling campaigns. Areas or samples with elevated Ag, Cu, Au, Pb, Zn and geophysical anomalies should be prioritized for initial field verification and exploration.

- Follow-up on known historical geochemical and geophysical anomalies at the South Shore, Northwest, Gilliam and SAM targets. An attempt to locate historic drill core should be made to validate historical drilling. If historic core is located in usable condition a series of samples should be sent for thin section and XRD for mineralogy, specifically testing for the sulfide and sulfosalt assemblage comprising the Equity mineralization. Additional geochemical surveys and mapping should be completed to define drill targets.

- Follow-up high priority VTEM, ZTEM and Mag anomalies over the South Shore Block. A geochemical survey should be completed across the anomalies as well as geological mapping, and mechanized trenching at higher potential zones.

# 2 Introduction and Terms of Reference

## 2.1 Purpose of Report

This Independent Technical Report on the Silver Lake Property (the “Property”) was commissioned by Prosperity Exploration Corp (“Prosperity”, the “Company”) a company incorporated in British Columbia, Canada, with an address at #1240 – 789 West Pender St, Vancouver, BC, V6C1H2. The Property is located in British Columbia, 32 kilometres southeast of Houston, BC. This report has been prepared in compliance with National Instrument 43-101: Standards of Disclosure for Mineral Projects, Form 43-101F1 and Companion Policy 43-101CP.

The sources of information accessed in preparation of this report are given in the references section at the end of this report as well as information and discussions with the Company’s personnel and the property vendor.

Verification of access to and within the Property; and collection of two surface rock samples from outcrop to confirm the presence of the previously reported lithologies.

The qualified person (“QP”) as defined in NI 43-101 and author of this report is James Hutter. James Hutter is an independent Consulting Geologist with over 40 years experience working on porphyry and precious metal mineralization/deposits. The qualified person has no prior involvement with the vendor, the

Optionor or the Silver Lake Property and is responsible for all items in this report. The scope of the author's visit included a one-day field visit, where various features of the property were reviewed including: review of exposed surface geology; verification of access to and within the Property; and collection of two surface rock samples from outcrop to confirm the presence of the previously reported lithologies.

The author has no reason to doubt the reliability of the information provided by the Company. The author reserves the right, but will not be obliged, to revise the report and conclusions if additional information becomes known subsequent to the date of this report.

## 2.2 Terms of Reference

The Issuer engaged the services of the author through Hardline Exploration Corp on December 4, 2020 to write an independent NI 43-101 Technical Report on the Silver Lake Property in northern British Columbia, Canada as part of its qualifying documentation for the Canadian Securities Exchange (CSE).

## 2.3 Abbreviations and Units of Measurement

Metric units are used throughout this report and all dollar amounts are reported in Canadian Dollars (CAD$) unless otherwise stated. Coordinates within this report use EPSG 26909 NAD83 UTM Zone 9N unless otherwise stated. The following is a list () of abbreviations which may be used in this report:

*Table 2.3.1 - Abbreviations and Units of Measurement*

| Abbreviation | Description |
|---|---|
| % | percent |
| AA | atomic absorption |
| Ag | silver |
| AMSL | above mean sea level |
| as | arsenic |
| Au | gold |
| AuEq | gold equivalent grade |
| Az | azimuth |
| b.y. | billion years |
| CAD$ | Canadian dollar |
| cl | chlorite |
| cm | centimetre |
| $cm^2$ | square centimetre |
| $cm^3$ | cubic centimetre |
| cc | chalcocite |
| cp | chalcopyrite |
| | |
| Cu | copper |
| cy | clay |
| °C | degree Celsius |
| °F | degree Fahrenheit |
| DDH | diamond drill hole |
| ep | epidote |
| ft | feet |
| $ft^2$ | square feet |

| Abbreviation | Description |
|---|---|
| li | limonite |
| m | metre |
| $m^2$ | square metre |
| $m^3$ | cubic metre |
| Ma | million years ago |
| mg | magnetite |
| mm | millimetre |
| $mm^2$ | square millimetre |
| $mm^3$ | cubic millimetre |
| mn | pyrolusite |
| Mo | Molybdenum |
| Moz | million troy ounces |
| ms | sericite |
| Mt | million tonnes |
| mu | muscovite |
| m.y. | million years |
| NAD | North American Datum |
| NI 43-101 | National Instrument 43-101 |
| opt | ounces per short ton |
| oz | troy ounce (31.1035 grams) |
| Pb | lead |
| pf | plagioclase |
| ppb | parts per billion |
| ppm | parts per million |
| py | pyrite |

| Abbreviation | Description |
|---|---|
| $ft^3$ | cubic feet |
| g | gram |
| gl | galena |
| go | goethite |
| GPS | Global Positioning System |
| gpt | grams per tonne |
| ha | hectare |
| hg | mercury |
| hm | hematite |
| ICP | induced coupled plasma |
| kf | potassic feldspar |
| kg | kilogram |
| km | kilometre |
| $km^2$ | square kilometre |
| l | litre |

| Abbreviation | Description |
|---|---|
| QA | Quality Assurance |
| QC | Quality Control |
| qz | quartz |
| RC | reverse circulation drilling |
| RQD | rock quality description |
| sb | antimony |
| Sedar | System for Electronic Document Analysis and Retrieval |
| SG | specific gravity |
| sp | sphalerite |
| st | short ton (2,000 pounds) |
| t | tonne (1,000 kg or 2,204.6 lbs) |
| to | tourmaline |
| um | micron |
| US$ | United States dollar |
| Zn | zinc |

# 3 Reliance on Other Experts

Not required as no reliance on other experts was sought.

# 4 Property Description and Location

## 4.1 Location

The Silver Lake Property is situated around Goosly Lake, approximately 30km southeast of the town of Houston, BC in north-central British Columbia (Figure 4.1). The Property consists of 8 contiguous mineral claims totalling 1647.24 ha within the Omineca Mining Division (Table 4.2.1). The mineral claims are located on Crown Land and administered by the Government of British Columbia's Mineral Titles Online system ("MTO"). The Property claims lie within NTS Map sheet 093L with the center coordinates of 671658mE, 6005105mN (WGS 84, UTM 9N; Lat: 54°9'54" and Long: -126°22'12").

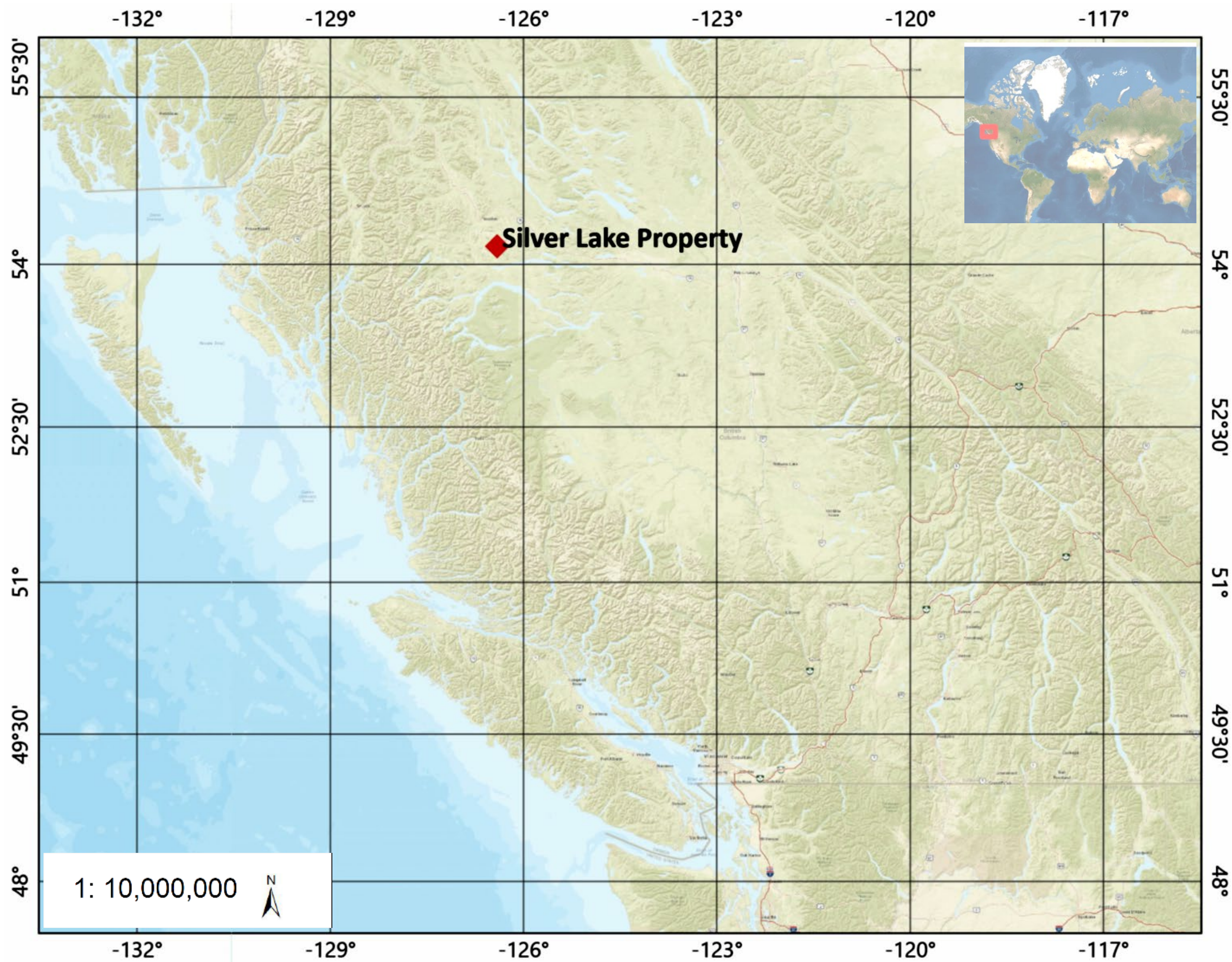


Figure 4.1 - Location Map of the Silver Lake Project

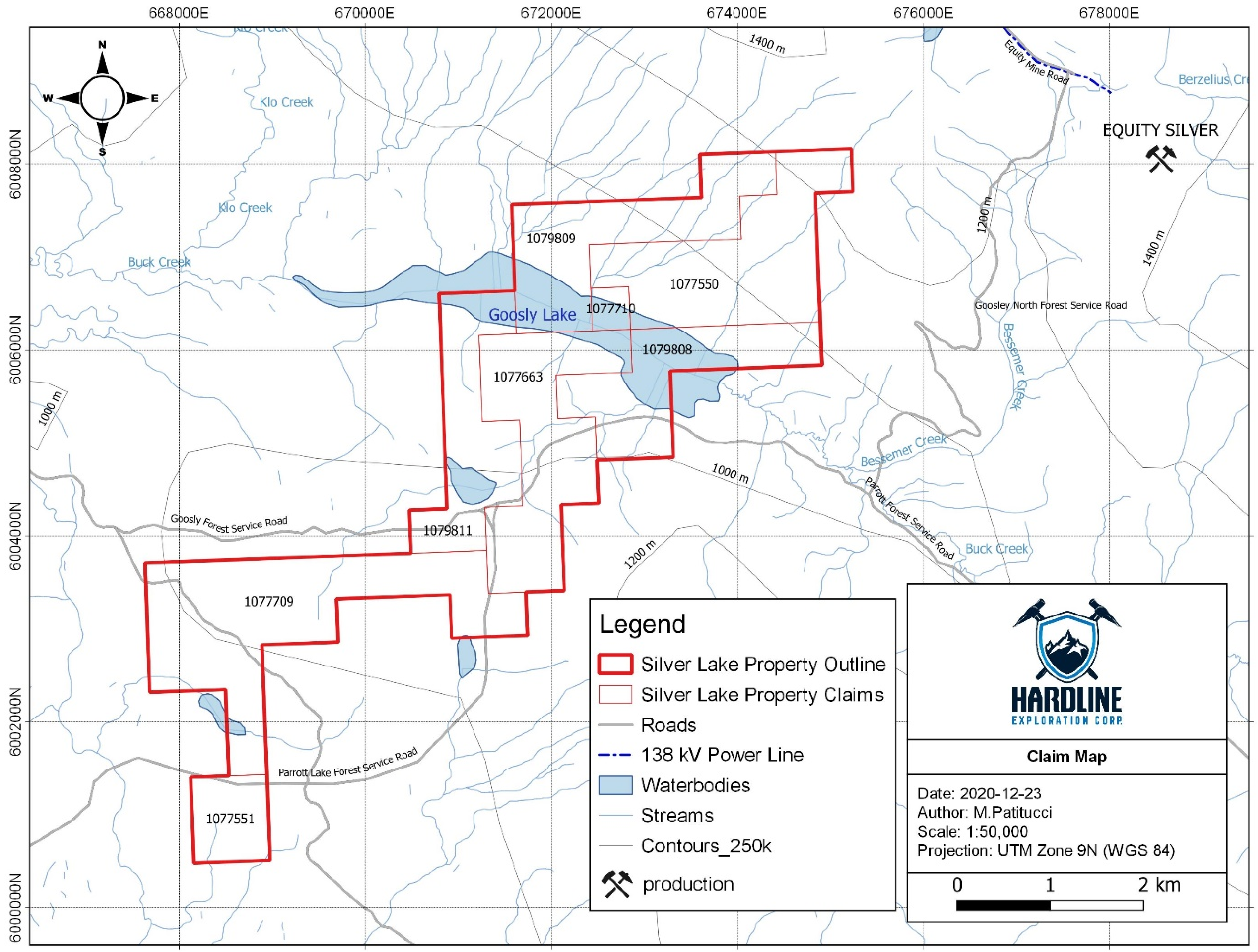


Figure 4.2 - Silver Lake Property Mineral Tenures. 8 contiguous claims totalling 1647.24 ha.

## 4.2 Mineral Titles

The Silver Lake Project consists of eight (8) contiguous mineral claims covering some 1647.24 Ha located in the Omineca Mining Division of northwest British Columbia Prosperity Exploration Corp has entered into an option agreement dated November 27, 2020 with Multiple Metals Resources Ltd (the “Optionor”) and Robert F. Weicker (the “Nominee”) to acquire a 100% interest in the Property.

The vendor and registered owner of the claims are:

Robert F. Weicker, an individual with an address at 2801, 1166 Melville Street, Vancouver, BC, V6E 4P5 (the “Nominee”) and Multiple Metals Resources Ltd., a British Columbia corporation with an address at 2801, 1166 Melville Street, Vancouver, BC, V6E 4P5 (the “Optionor”)

To maintain the Option in good standing, Prosperity shall issue Prosperity Shares to the Optionor as follows:

(a) Issue to the Optionor a total of 500,000 Prosperity Shares as follows:

i. An initial amount of 100,000 Prosperity Shares on or before the date which is five days of the Date that Prosperity comes to trade on the CSE. And

ii. Issue an amount of 150,000 Prosperity Shares on or before the date which is 12 months of the Date that Prosperity comes to trade on the CSE. And

iii. Issue an amount of 150,000 Prosperity Shares on or before the date which is 24 months of the Date that Prosperity comes to trade on the CSE. And

iv. Issue an amount of 100,000 Prosperity Shares on or before the date which is 36 months of the Date that Prosperity comes to trade on the CSE. And

(b) Make cash payments to the Optionor totalling $400,000 as follows:

i. An amount of $10,000 on or before the date which is five days from the date that Prosperity comes to trade on the CSE: and

ii. An amount of $15,000 on or before the date which is 12 months from the date that Prosperity comes to trade on the CSE: and

iii. An amount of $25,000 on or before the date which is 24 months from the date that Prosperity comes to trade on the CSE: and

iv. An amount of $50,000 on or before the date which is 12 months from the date that Prosperity comes to trade on the CSE: and

v. An amount of $125,000 on or before the date which is 48 months from the date that Prosperity comes to trade on the CSE: and

vi. An amount of $175,000 on or before the date which is 60 months from the date that Prosperity comes to trade on the CSE.

(c) The original vendors will retain a 2% net smelter royalty of which 0.75% can be purchased for $250,000 at any time.

Table 4.2.1 - Silver Lake Project Mineral Tenures as of 30-Dec-2020. *Protected status as an extension of time allotted to apply work to claims and extends to 2021-Dec-31, re: Covid19. All tenures are located within NTS Map Sheet 093L

| Tenure ID | Claim Name | Owner | Issue Date | Good To Date | Status | Area (ha) |
|---|---|---|---|---|---|---|
| 1077550 | SILVER SAM | 128515 (100%) | 2020/JUL/25 | 2021/JUL/25 | PROTECTED* | 283.90 |
| 1077551 | ORION | 128515 (100%) | 2020/JUL/25 | 2021/JUL/25 | PROTECTED* | 75.80 |
| 1077663 | SOUTH SHORE SILVER | 128515 (100%) | 2020/JUL/29 | 2021/JUL/29 | PROTECTED* | 265.08 |
| 1077709 | GILLIAM LINK | 128515 (100%) | 2020/JUL/31 | 2021/JUL/31 | PROTECTED* | 397.77 |
| 1077710 | LAKE LINK | 128515 (100%) | 2020/JUL/31 | 2021/JUL/31 | PROTECTED* | 18.93 |
| 1079808 | GOOSLY LAKE | 128515 (100%) | 2020/NOV/29 | 2021/NOV/29 | PROTECTED* | 189.32 |
| 1079809 | SILVER LAKE N | 128515 (100%) | 2020/NOV/29 | 2021/NOV/29 | PROTECTED* | 227.11 |
| 1079811 | SILVER STAR W | 128515 (100%) | 2020/NOV/29 | 2021/NOV/29 | PROTECTED* | 189.34 |
| | | | | | | **1647.24** |

## 4.3 Mineral Rights in British Columbia

Mineral Claims in British Columbia are subdivided into two major categories: Placer and Mineral. Both are acquired using the Mineral Titles Online (MTO) system. The online MTO system allows clients to acquire and maintain (register work, payments, etc.) mineral and placer claims. Mineral Titles can be acquired anywhere in the province where there are no other impeding interests (other mineral titles, reserves, parks, etc.).

The electronic Internet map allows you to select single or multiple adjoining grid cells. Cell sizes vary from approximately 21 hectares (457m x 463m) in the south to approximately 16 hectares at the north of the province. Cell size variance is due to the longitude lines that gradually converge toward the North Pole.

MTO will calculate the exact area in hectares according to the cells you select, and calculate the required fee. The fee is charged for the entire cell, even though a portion may be unavailable due to a prior legacy title or alienated land. The fee for Mineral Claim registration is $1.75 per hectare.

Upon immediate confirmation of payment, the mineral rights title is issued and assigned a tenure number for the registered claim. Email confirmation of your transaction and title is sent immediately.

Rights to any ground encumbered by existing legacy claims will not be granted with the cell claim except through the Conversion process. However, the rights held by a legacy claim or lease will accrue to the cell claim if the legacy claim or lease should terminate through forfeiture, abandonment, or cancellation, but not if the legacy claim is taken to lease. Similarly, if a cell partially covers land that is alienated (park, reserve etc.) or a reserve, no rights to the alienated or reserved land are acquired. But, if that alienation or reserve is subsequently rescinded, the rights held by the cell expand over the former alienated or reserve land within the border of the cell.

Upon registration, a cell claim is deemed to commence as of that date (“Date of Issue”), and is good until the “Expiry Date” (Good to Date) that is one year from the date of registration. To maintain the claim beyond the expiry date, exploration and development work must be performed and registered, or a payment instead of exploration and development may be registered. If the claim is not maintained, it will forfeit at the end of the “expiry date” and it is the responsibility of every recorded holder to maintain their claims; no notice of pending forfeiture is sent to the recorded holder.

A mineral or placer claim has a set expiry date (the “Good to Date”), and in order to maintain the claim beyond that expiry date, the recorded holder (or an agent) must, on or before the expiry date, register either exploration and development work that was performed on the claim, or a payment instead of exploration and development. Failure to maintain a claim results in automatic forfeiture at the end (midnight) of the expiry date; there is no notice to the claim holder prior to forfeiture.

When exploration and development work or a payment instead of work is registered, you may advance the claim forward to any new date. With a payment, instead of work the minimum requirement is 6 months, and the new date cannot exceed one year from the current expiry date; with work, it may be any date up to a maximum of ten years beyond the current anniversary year. “Anniversary year” means the period of time that you are now in from the last expiry date to the next immediate expiry date.

All recorded holders of a claim must hold a valid Free Miners Certificate (“FMC”) when either work or a payment is registered on the claim.

Clients need to register a certain value of work or a "cash-in-lieu of work" payment to their claims in MTO. The following tables outline the costs required to maintain a claim for one year:

Table 4.3.1 - BC work requirements for mineral tenures.

| Anniversary Years | Work Requirements |
|---|---|
| 1 and 2 | $5 / hectare |
| 3 and 4 | $10 / hectare |
| 5 and 6 | $15 / hectare |
| 7 and subsequent | $20 / hectare |

Table 4.3.2 - BC cash-in-lieu for mineral tenures.

| Anniversary Years | Cash Payment-in-Lieu of Work |
|---|---|
| 1 and 2 | $10 / hectare |
| 3 and 4 | $20 / hectare |
| 5 and 6 | $30 / hectare |
| 7 and subsequent | $40 / hectare |

## 4.4 Property Legal Status

The Mineral Titles Online website (https://www.mtonline.gov.bc.ca/mtov/home.do) confirms that all claims of the Silver Lake property as described in Table 4.1 were in good standing at the date of this report and that no legal encumbrances were registered with the Mineral Titles Branch against the titles at that date. The author makes no further assertion with regard to the legal status of the property. The property has not been legally surveyed to date and no requirement to do so has existed.

There are no other royalties, back-in rights, environmental liabilities, or other known risks to undertake exploration.

## 4.5 Surface Rights in British Columbia

Surface rights are not included with mineral claims in British Columbia.

## 4.6 Permitting

Any work which disturbs the surface by mechanical means on a mineral claim in British Columbia requires a Notice of Work (NOW) permit under the Mines Act. The owner must receive written approval from a Provincial Mines Inspector prior to undertaking such work. This includes but is not limited to the following types of work: drilling, trenching, excavating, blasting, construction of a camp, demolition of a camp, induced polarization surveys using exposed electrodes, and reclamation.

Exploration activities which do not require a NOW permit include: prospecting with hand tools, geological/geochemical surveys, airborne geophysical surveys, ground geophysics without exposed electrodes, hand trenching, and the establishment of grids. These activities and those that require Permits are outlined and governed by the Mines Act of British Columbia.

The Chief Inspector of Mines makes the decision if land access will be permitted. Other agencies, principally the Ministry of Forests, Lands and Natural Resources (FLNRO), determine where and how the access may be constructed and used. With the Chief Inspector's authorization, a mineral tenure holder must be issued the appropriate "Special Use Permit" by FLNRO, subject to specified terms and conditions.

The Ministry of Energy and Mines makes the decision whether land access is appropriate and FLNRO issue a Special Use Permit. However, a collaborative effort and authorization between ministries, jointly determine the location, design and maintenance provisions of the approved road.

Notification must be provided before entering private land for any mining or exploration activity, including non-intrusive forms of mineral exploration such as mapping surface features and collecting rock, water or soil samples. Notification may be hand delivered, mailed, emailed or faxed to the owner shown on the British Columbia Assessment Authority records or the Land Title Office records. Mining activities cannot start sooner than eight days after notice has been served. Notice must include a description or map of where the work will be conducted and a description of what type of work will be done, when it will take place and approximately how many people will be on the site.

The issuer does not currently have any permits pertaining to exploration on the property.

# 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

## 5.1 Accessibility

The Project area can be accessed via two primary routes from the nearest community of Houston, BC. First, entry along the Equity Mine Road, a 38km gravel road leads to the northern claims then following a series of forest service roads to access the rest of the property. Alternatively access to southern-most claims can be made from Highway 16 via the Buck Flats Road which stems to the Goosly Forest Service road; however, off-road vehicles may be required along old under-maintained logging roads (Figure 4-2).

Multiple networks of logging roads and gravel roads from nearby communities provide excellent access to the property claims. The road downhill from the mine site to Goosly Lake is maintained in winter by Equity to provide access to the Bessemer Creek water monitoring pond and other stream check stations (W. Gruenwald, 2015); therefore, it may be feasibly possible for year-round work programs to be conducted on the Property.

Mining personnel, labour and services are readily available from the communities of Houston and Smithers located less than 100 km away. Trucking, expediting, industrial supplies, heavy duty machinery and operators are available locally as well. Mining and exploration personnel and services are readily available including numerous helicopters, drilling, expediting, heavy equipment, pad and camp construction companies as well as the Smithers Branch of the Ministry of Energy and Mines. There are also daily commercial flights to Smithers from Vancouver. Power could be sourced from the existing 138kV utility line power line running into the Equity Mine, less than 5 kilometres from the Property. Water may be sourced from numerous creeks, streams and lakes within the claim boundaries and surrounding areas. The claim block contains abundant suitable areas for potential tailings storage, waste disposal, heap leach pads and processing plant sites.

At the Property there are no existing permanent structures or facilities. There are no known obstructions which would affect the surface rights for mining operations.

## 5.2 Climate and Physiography

The climate at the Silver Lake Project property is typical of north-central BC. The nearby community of Houston lies 596m above sea level. The climate is cold and temperate. There is moderate rainfall even in the driest months. Climate data from the Smithers Regional Airport Station is listed below in (Table 5.2.1) provides a historical average of the monthly temperatures and precipitation of the region.

The area ranges from elevations 900m in the southwest corner of the property to 1300m in the northeastern claims within the Nechako physiographic region. The area is forested by mixed stands of predominantly second growth sub alpine pine and spruce. Many portions of the property have undergone logging over the past 20+ years. Cut blocks from previous logging around the area are commonly seen from satellite imagery, vegetation including spruce, fir and hemlock, or spruce and pine.

The region is characterized by low mountainous terrain and gently rolling hills that rise above flat areas of swampy ground with few streams. Thick overburden is common as glacial veneer layers (5-18 m thick) and gravel deposits up to 50m. Percussion drilling and diamond drilling confirm these extensive blankets of overburn. Outcrop is typically found along bluffs, hillsides and road cuts.

Table 5.2.1 - Climate Data for Smithers Regional Airport Station (Environment Canada)

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily Average (°C) | -7.2 | -4.4 | 0.1 | 4.8 | 9.4 | 13 | 15.2 | 14.6 | 9.9 | 4.4 | -2.1 | -7.1 | |
| Record High (°C) | 15.6 | 11.9 | 18.9 | 25.8 | 35.8 | 34.2 | 36 | 35.2 | 31.1 | 24.4 | 15.6 | 13.6 | |
| Record Low (°C) | -43.9 | -35.6 | -33.3 | -18.3 | -7.2 | -4.1 | -1.1 | -2.2 | -6.7 | -22 | -32.4 | -39 | |
| Avg Precipitation (mm) | 42.7 | 23.4 | 20.6 | 23.8 | 38.1 | 55.2 | 45.6 | 43.8 | 53.8 | 64.8 | 55 | 41.9 | 508.5 |
| Avg Rainfall (mm) | 10.1 | 5.5 | 6.7 | 18.7 | 37.4 | 55.2 | 45.6 | 43.8 | 53.8 | 56.9 | 25.6 | 8 | 367.2 |
| Avg Snowfall (cm) | 44.5 | 23.5 | 16.7 | 5.6 | 0.7 | 0 | 0 | 0 | 0 | 8.6 | 37.4 | 45.6 | 182.7 |
| 1981 to 2010 Canadian Climate Normals station data; Smithers BC; 54°49'29.000" N 127°10'58.000" W 521.8 m | | | | | | | | | | | | | |

# 6 History

The history of work on the Silver Lake Project area dates back to 1969, after the discovery of the Equity Silver Mine to the east of the project area sparked an extensive period of exploration and claim staking. Extensive geochemical sampling, geophysical surveys, physical work, percussion and diamond drilling have been conducted on various cells within the Silver Lake Property. To the date of this report, no mineral resource or reserve estimates have been produced and there is no record of historical production on the Property. The history of exploration on the Property is summarized in the section below (Table 5.2.1).

Table 5.2.1 - Summarized History of Exploration on the Silver Lake Project area

| Year | Assessment Report No. | History of exploration on the Silver Lake Project |
|---|---|---|
| 1969 | *2196* | Bayland Mines Ltd. conducted geochemical soil on the KG claims group to the south of Goosly Lake. No anomalous values were observed in soils. |
| | *2239* | Mark V Mines carried out a limited geochemical survey on the southern portion FKE/NRG claims. The results were inconclusive due to depth of overburden or glacial till in the area. |
| | *2311* | Silver Standard Mines Ltd completed geochemical soil sampling and 240.0 km of grid line physical work on behalf of owner Dorita Silver Mines on their Goosly property. Results indicated three broad anomalous regions with elevated silver and two copper outlines. Claim groups Goosly West and Goosly North West are applicable to this report. |
| | *2335* | Orequest Exploration Synd. completed 500 soil samples over the Goosly Lake Project claims. Two areas of slightly anomalous copper with were outlined on the north side of Goosly Lake, referred to as Cu-1 and Cu-2. |
| | *2207* | Physical line cutting of 66.0 km on the KG property claims to the south of Goosly Lake was completed on behalf of Panther Mines Ltd. |
| 1970 | *2726* | Mark V Mines completed a secondary geochemical in complement to their 1969 field work; however, focus was on the previously unsampled northern portion of the claims. Soil geochemistry was unable to outline anomalous regions of silver or copper-in-soil. |
| | *2863* | Lewes River Mines conducted a geochemical soil sampling survey on the Goosly property with limited outcrop mapping. Two anomalous silver-copper regions were outlined to the south of Goosly Lake near the Buck Flats / Goosly Lake Forest Service Road. Aerial extent of Anomaly 1 is approximately 3000 feet x 400 feet. |
| | *2971* | Orequest Exploration Synd. conducted additional geochemical, geophysical and geological work on the Goosly Lake project claims. 400 soil samples were collected within the mapped 4500 ha area. Nine (9) bulldozer trenches were dug, three of which reached bedrock. Two (2) percussion drillholes completed (totalling 219.5 m). No significant metal values from drilling were observed. GL-1 tested an elevated zinc-in-soil outline (Zn-1), while GL-2 tested Cu-2 (anomalous copper-in-soil) areas from 1969 fieldwork. |

| | | |
|---|---|---|
| 1971 | *3508* | Payette River Mines conducted the first geophysical work reported on the Goosly property with 10.1 line-kms of induced polarization (IP) surveying focused on the "anomalous" regions indicated by Silver Standard Resources in 1969 (AR 2311). The survey was able to outline a "thumbprint" chargeability anomaly at approximately 90 feet depth within the DG 1 claim block. |
| 1974 | *5195* | Payette River Mines completed ~250 meters of percussion drilling over 4 drill holes to test the source of the IP anomaly outlined in 1971 work. Holes P-1, P-2 and P-3 intersected a dacite unit which contained 5-10% pyrite within the current property claims. The pyrite content was likely the causative source of the IP anomaly. No economically significant mineralization was observed, though zinc values ranged between 65 – 1100 ppm, and silver ranges from 0.6 to 4.8 ppm in sampled cuttings. |
| 1976 | *6151* | Gillian Mines Ltd carried out initial geochemical surveying of soils (830 samples), geological mapping, 51.0 line-kms of IP and one-VLF survey. Soil surveying identified few low-level Cu and Ag anomalies. Geophysical surveys outlined a VLF and coinciding IP anomaly to the north area along a mapped the contact between gabbro and volcanic units; in addition to four (4) more VLF conductors in the Gillian property. |
| | *6148* | Gillian Mines Ltd completed a phase 2 program in late 1976 on the Gillian property. A total of 11 percussion drillholes tested the area around the rhyolitic stock on the Gillian West claims, PG-9 to PG-11 lie within the claim boundaries of this report. Drilling was unable to successfully answer the IP anomalies although alteration and pyrite mineralization were noted in the drill-logs. Though no ore-grade mineralization was intersected, anomalous silver values above 2.0 ppm threshold were noted in holes PG -9 and -10. |
| 1979-1981 | *8189* | Gillian Mines Ltd further advanced the Gillian project and completed 3 NQ-sized drillholes, totalling 116.4 meters in late 1979. Drilling in the area of the rhyolite breccia dome failed to intersect any significant mineralization. A 16.5 line-km survey of vector pulse electromagnetometer survey was conducted over the property. Results indicate a conductive surface overburden layer, but no strong conductors were observed.<br><br>Early 1980 began the second stage of drilling with completion of and additional 33 drillholes (80-1 thru 80-33) by end of year. Total meterage drilled is unknown publicly for that year (Referenced in AR 10851). Drill results are not readily available, though drilling alluded to cutting a zone which represents a lower rhyolite horizon. |
| 1980 | *8828* | Geokor Energy Holdings Ltd completed two (2) diamond drillholes totalling 41.1 meters, using a Winkie drill on the Tow property. Drilling was to test recent geochemical and geophysical work done to the west at the Gillian property and test similarities in local geology. Weak sulfide mineralization was noted but no assay results are publicised. |
| 1981 | *10851* | Gillian Mines Ltd completed the most extensive drill program to date on the Loyd North Claims (on Gillian Property) totalling 2332.3 meters of NQ sized drillholes (81-34 thru 81-45). No economic intervals from drilling were reported. A detailed |

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| | | ground magnetometer survey was conducted and outlined 3 anomalies to test following a northeastern trend through the property. |
| 1985 | *14346* | Normine Resources Ltd completed 10.5-line kms of line cutting to complete geochemical soil samples (117), IP and magnetometer surveys on the Goosly 2 claim group. Several parallel mercury-in-soil anomalies were outlined along the southwest of previous percussion drilling along the quartz-sericite-sulfide zone. |
| | *14183* | Normine Resources Ltd completed 14.1-line kms of line cutting to complete IP, magnetic and VLF surveys over the claims. Three strong chargeability anomalies were identified, however no electromagnetic targets are associated |
| 1986 | *15967* | Normine Resources Ltd. completed 24 percussion drillholes on the Goosly 1 and Goosly 2 claims in additional to 319 soil geochemical samples. Though no significant intervals were reported in drilling, “anomalous geochemical signatures” expected to the peripheral of an Equity Silver-Copper type deposit were observed in PH 86-07 and PH 86-08. Physical construction of 5.8 km of roads were built to access the 29 drill pad sites. |
| 1984-1986 | *17307* | Faraway Gold Mines drilled fifteen (15) percussion holes in 1984, followed by another twenty-five (25) percussion holes in 1985 in the 200 meters by 240-meter-long quartz-sericite alteration zone on the Sam claims. Highlights included a 3-meter interval of 50 ppm silver and 15,000 ppm zinc. No record of drillhole logs or assay data was found publicly.<br><br>Between 1986-1987, Faraway Gold Mines drilled a total of 45 NQ-sized diamond drill holes. Drillholes collared on the Property are identified in Section 6.5 (Drilling). Successful diamond drilling in the East, West, Central and South Zones s returned elevated silver values. Mineralization encountered was primally semi-massive to massive sulfide zones of pyrite with minor chalcopyrite, magnetite, sphalerite and lesser tetrahedrite, diamond drilling noted similarities to the nearby Equity Silver Mine in terms of rock sequences and tuffaceous units. During this exploration campaign, 3.5 km of roads were constructed allowing access via old logging roads to drill sites. |
| 2008 - 2009 | GBC 2008-10, GBC 2009-06, GBC 2009-11, GBC 2009-18, GBC 2009-24 | Geoscience BC launched regional QUEST-West Project in June 2008 to help identify mineral potential with two airborne geophysical surveys, one ground geophysical survey and additional geoscience data compilation. Further follow-up reanalysis and compilation of maps are publicly available through this source. |
| 2009 | *31051* | Owners B.Church and D.Haughton conducted a 1.6 reconnaissance self-potential (SP) geophysical survey on the Gillian Silver property, to the south of Goosly Lake. The survey aided in the extent of bedrock geology observation which may be buried by thick overburden; however, no sulfide ore was detected/recognized by the survey. Fifteeen field grab/chip samples were collected for analysis and comparison to geophysical interpretation. One gossanous float sample assayed highest values for Cu (99.7 ppm), S (0.4%), and very high Sb (85.4 ppm). |
| 2017 | *37100* | Copper Mountain Mining Corp. completed 40-line kms of a helicopter-borne AFMAG Z-axis Tipper electromagnetic (ZTEM) surveying across the Goose 1 |

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| | property. Data interprets a conductive zone that trends 160° from the southern part of Equity Mine to Goose 1 property. |

## 6.1 Mapping and Prospecting

Geological mapping was conducted by Lewes River Mines Ltd., in 1970 on the southern regions including Gail 1-50 and GMGW 1-100 claims of the current Project boundary. Very limited outcropping exists on the claims and was mapped by the operator at the time, partially due to snowfall conditions. Mapped outcrops of Tertiary and Mesozoic Volcanics were seen along the Goosly Lake Forest Service Road. Tertiary and Mesozoic dioritic stocks are mapped along the NW-SE access road between Goosly Lake FSR and Parrott Lake FSR which runs along Wet Lake, this area falls within Tenure 107709 of this property.

Work completed by Orequest Exploration Syndicate in 1970 completed geological mapping on the Sam Goosly Lake project within the central to northern parts of the present claims this report focuses on. Limited outcrop exposures and investigation exposed trenches to bedrock noted flat lying basalts atop typically broken and highly weathered trachyandesites.

## 6.2 Rock Sampling and Trenching

In 1970, Orequest Exploration Syndicate excavated a total of nine (9) bulldozer trenches on the Goosly Lake Property. Trenching was able to confirm the presence of a thick till/sand layer in excess of 10 feet deep in the southern part of the claims (trenches #1 thru #6); meanwhile, trenches #7, #8 and #9 reached bedrock due to only a thin overburden in the northern area of the claims. The majority of trenches were approximately 100 feet in length, although no reference to orientation of the trenches could be found by the author of this report. No significant mineralization was referenced in the 1970 assessment report by Orequest Resouces Syndicate Ltd. Exact trench locations are unknown.

In addition to complement their geophysical survey in 2008 for owner/operators Church and Haughton on their Gillian Silver Claims, a total of 10 rock samples were collected over anomalous self-potential (SP) stations. The collection of samples represents the rock types encountered across the property, ranging from Skeena Group argillite/siltstone and Goosly Intrusive alkaline gabbro. NC-1A thru NC-1E were sub-samples from gossaniferous float vein material found along Leg 1 of the SP survey. NC-2 (A thru C) and NC-3 (A and B) were collected along Legs 2 and 3 of the survey and are argillite and gabbroic rocks respectively. Sample NC-1C had the highest values for Cu (99.7 ppm), S (0.4%), and very high Sb (85.4 ppm). No other significant Cu-Ag mineralization was observed in the sampling program.

## 6.3 Soil Geochemistry

Between June 27$^{th}$ to August 14$^{th}$ of 1969, Bayland Mines Ltd. conducted a soil survey on the KG 11-20 and KG31-40 claims which lie 2.5 miles south of Goosly Lake. Exact locations to these claims are unknown to the author. A total of 281 samples were taken on grid lines every 200 feet using a soil auger reaching depths of 3 ft. Low background metal contents were noted in the soils, while no obvious anomalous values were observed.

During October 30$^{th}$ to November 13$^{th}$ 1969, Mark V Mines Ltd. carried out a total of 772 soil samples along 100-foot intervals within the claims FKE 1 – 13, FKE 15, FKE 17, FKE 19 and NRG 1-34 (50 contiguous claims) on the south-west side of Goosly Lake. A portion of these claims are a part of the present South

Silver Shore (Tenure ID 1077663) and Silver Star W (Tenure ID 1079811) claim groups. Copper values range between 1 ppm to 66ppm, while zinc values are more erratic and no obvious correlation to a structural pattern or zone was detected. The lack of patterns is suggested by the operators to be caused by thick overburden and/or glacial transportation of material and suggest alternative methods of sampling for further working in this area.

In the summer of 1969, Dorita Silver Mines Ltd. completed a soil sampling survey on the groups totalling 3850 soil samples. Applicable claim groups pertaining to the scope of this report can refer to Goosly West and Goosly North-West claim groups described by Dorita Silver Mines Ltd. The results of the 1969 soil sampling confirmed the presence of multiple anomalous copper-in-soil and silver-in-soil anomalies. Specifically, on the Goosly Lake claim group (Tenure ID 1079809) and Silver Sam (Tenure ID 1077550) groups there are elevated Ag and Cu sample stations with up to 195 ppm Cu and 1.5 ppm Ag around the toe of Goosly Lake drainage to Buck Creek.

From June 20th to September 9th, 1969, Orequest Exploration Syndicate collected 500 soil samples over the JR, JT, CR, AM and FG claims (parts of Lake Link, Silver Lake N and Silver Sam claim groups; 1079809, 1077710 and 1077550 tenures). Grid lines of soil sampling as well as sampling along a newly constructed access road by Orequest Exploration outlined 4 discrete zinc-in-soil anomalies and 2 copper-in-soil anomalous areas. Copper values range from 10 ppm to 67 ppm, while zinc values fall between 18 and 420 ppm. Anomaly Zn-1 coincides with Cu-1 within the JR 4 claim block which corresponds to the NW corner of claim group Silver Lake N block. No elevated values of silver-in-soils were observed over the survey, highest noted sample returned 1.5 ppm Ag.

Between August 17th to September 14th, 1970, Mark V Mines Ltd. continued to prospect and soil sample near the headwaters of Buck Creek into Goosly Lake and along the south side of Goosly Lake. Survey lines ran N-S along local grid lines and along E-W tie lines. Overall, the results of the 906 collected soil samples failed to demonstrate any anomalous outlines, only few erratic isolated values of copper-zinc were seen. The presence of an impermeable layer underlaying the overburden and glacial till may be preventing the rise of mineralized water into the soils; consequently, soil surveying over this region may be an ineffective method of sampling.

During the period of October 15th to October 29th, 1970, Lewes River Mines Ltd., completed a geochemical sampling of soil and silt on the Gail 1-50 and GMGW 1-100 claim group (parts of Gilliam Link, Silver Star W and South Shore Silver groups; Tenure IDs 1077709, 1079811 and 1077663 respectively). A total of 1789 soil samples were collected across the claims in addition to 14 silt samples. Three anomalous areas of copper-in-soil greater than background of 40 ppm were outlined which also coincide with silver values above normative concentrations. Anomalies 1 and 2 are within the claim boundaries of this report. Copper values at Anomaly 1 are between 41 to 104 ppm over an extent of 3000 ft by 400 ft, while silver-in-soil ranges between 0.5 to 2.5 ppm. Anomaly 2 has higher concentration of silver-in-soil values between 0.5 to 3.0 ppm Ag but lesser arial extent. Copper values at Anomaly 2 are up to 146 ppm Cu, and are the highest reported on this survey.

During August and September, 1970, Orequest Exploration Syndicate completed additional work on Goosly Lake Property following up the 1969 program. A total of 400 soil samples in the B-horizon were taken along East-West grid lines at 100-foot intervals typically. This second phase of soil sampling disagreed with the 1969 campaigns anomaly Cu-1 area, area Cu-2 however remains slightly anomalous in copper-in-soil. 1970 sampling confirmed the existence of areas of slightly elevated zinc on the property in anomalies Zn-1 to Zn-3 in the Silver Sam claim group.

An initial phase exploration program was carried out by Gillian Mines Ltd. between May 24th and June 18th, 1976 which included soil sampling along 100-meter spaced E-W lines at 50-meter intervals. The Gillian Claims formerly included GMGW and Gail claims, which were worked by Lewes River Mines Ltd in 1970. Copper and silver-in-soil anomalies were delimitated by geophysical surveys and located in close proximity to mapped gabbro units. The highest of the 830 soil samples was located in the NE area of the grid and returned 73 ppm Cu.

Between June and July of 1985, Normine Resources Ltd., carried out geochemical surveys on the Goosly 2 claim group near the east of Goosly Lake. A total of 117 'B' horizon soil samples were collected in the "East Grid" area of the property, corresponding to the location of percussion drilling completed by Faraway Gold Mines in 1984-1985 on the Silver Sam mineral claim. Two arsenic anomalies ranging between 10-24ppm were outlined with a northeastern trending structure; furthermore, these anomalies have coincident mercury anomalies between 150-250 ppb.

Continuing on past seasons work, Normine Resources Ltd., completed further geochemical surveys over Goosly 1 "West Grid" with a total of 114 'A' Horizon analyzed for Hg and 205 'B' horizon samples analyzed for Au, Zn, As and Ag. Due to the nature of thick glacial till/overburden layers seen in percussion drilling, the survey may not be entirely reflective of bedrock geochemistry, therefore the operator at the time suggests alternative survey methods.

2008, QUEST West Project by Geoscience BC completed stream sediment and lake sediment sampling across a large sample area. Samples were collected on and around the Project area of Silver Lake Property. Multiple elevated lake sediment samples were anomalous in copper and silver concentrations within Goosly Lake (both above 90th percentile). Data is readily available for public interpretation from Geoscience BC (Quest West Project).

## 6.4 Geophysical Surveys

**1971 IP Survey (Payette River Mines)**

In 1971 Payette River Mines conducted 10.1-line kms of induced-polarization on the W and D.G. Claims. A peak chargeability anomaly was outlined near a NE-SW trending creek within D.G. 1 claim block, which is located within the boundaries and scope of this report. A depth probe station atop the anomaly center suggests the depth to top of the polarizing body is at 90 feet depth; furthermore, a SP gradient to the west of the anomaly supports a bedrock lithology change in the area. The results of the survey also indicate a hybrid-sulfide type of polarization through the 8/4 second current pulse ratios recorded.

**1976 IP and EM-VLF Surveys (Gillian Mines Ltd)**

During 1976 on the Gillian property, Gillian Mines Ltd completed 51.0-line kms of electromagnetic (V.L.F) and induced polarization (IP). The results of the IP survey were able to outline two 'sub-anomalous features as described by Potter (1976). The northern most anomaly is coincident with a V.L.F conductor and elevated soil geochemical results. VLF surveying identified five (5) conductors over the survey area, all of which have a north to north-westerly strike.

**1979 IP and EM-VLF Surveys (Gillian Mines Ltd)**

In 1979, Gillian Mines Ltd completed 16.5-line kms of vector pulse electromagnetometer surveying on the Goosly Lake property. Results show that the survey area is underlain by a highly conductive unit that strikes northwest and shallowly dips north east. No strongly conductive massive sulfide type reflections were noted in the survey area.

**1981 Ground Magnetometer Survey (Gillian Mines Ltd)**

In 1981, Gillian Mines Ltd conducted a detailed ground magnetometer survey on the Gillian property. Most of the survey was completed on the Gillian West claim block. Total length of the survey lines is unknown. The interpreted results of this survey are not available publicly.

**1985 IP, Ground Magnetometer and VLF-EM Surveys (Normine Resources Ltd)**

In 1985, Normine Resources Ltd completed 10.5-line kms of surveying including IP, ground magnetometer and VLF geophysical work on the Goosly 2 claim, in addition to 14.1-line kms on Goosly 1 claims. VLF results were unable to identify any conductive zones within the survey area. Three chargeability anomalies were identified, however coincident with IP resistivity lows and lack of VLF responses correlates to a low priority target with no electromagnetic signature within these zones. All three anomalies are less than 20 meters from surface.

**2008 Airborne Gravimetric and Electromagnetic Surveys (Geoscience BC)**

2008, QUEST West Project by Geoscience BC airborne gravimetric and electromagnetic surveys across a large sample area including over the Project area of Silver Lake Property in addition to a detailed survey block flown over the Equity Silver Mine. Data is readily available for public interpretation from Geoscience BC (Quest West Project).

**2009 Self-Potential Survey (Church and Haughton)**

In 2009 Church and Haughton completed 1.6-line kms of self-potential surveying on the Gillian Silver claims. Results of the survey supported local geological observations on the property; however, the survey did not indicate any ore-like bodies of mineralization.

**2016 ZTEM Survey (Copper Mountain Mining Corp)**

In 2016 Copper Mountain Mining Corp completed an airborne AFMAG Z-Axis Tipper electromagnetic (ZTEM) survey over the Goose property, NE of Goosly Lake. Results of the survey indicate a conductive response within the area of previous drilling on Goose 1 claims by Faraway Gold Mines between 1984-1986. Structural interpretation indicates a trend of the zone towards 160° rather than field/regional reports of 120°.

## 6.5 Drilling

**1970 Percussion Drilling (Orequest Exploration Syndicate)**

During the 1970 season, Orequest Exploration Syndicate completed a total of 2 percussion holes totalling 720 feet (219.5 meters). Drilling was contracted by Tonto Explorations (Vancouver, B.C.), the extent of procedures used and drilling log sheets are historical and not publicly available. GL-1 was collared at 30S:8E and GL-2 was collared at 20S:7W, both holes were vertical and located in local grid lines. Drillhole GL-1 was within the historic claim JT68, while GL-2 was within JT69, both collared within present claim boundaries. Exact collar locations are not available. Assay results for cuttings are summarized in Table 6.5.1 below.

*Table 6.5.1 - Percussion Drilling results from Payette RIver Mines on D.G. claims from 1971 season.*

| Drillhole | Footage interval | Cu (ppm) | Zn (ppm) | Pb (ppm) | Ag (ppm) |
|---|---|---|---|---|---|
| GL-1 | 20 – 30 | 25 | 95 | 7 | 0.5 |
| GL-1 | 100 – 110 | 35 | 80 | 10 | 1.0 |
| GL-1 | 190 - 200 | 40 | 75 | 13 | 1.0 |
| | | | | | |
| GL-2 | 30 – 40 | 35 | 73 | 10 | 2.0 |
| GL-2 | 100 – 110 | 25 | 48 | 10 | 1.0 |
| GL-2 | 190 - 200 | 35 | 75 | 10 | 0.5 |

**1974 Percussion Drilling (Payette River Mines)**

Payette River Mines completed 4 vertical percussion drillholes on the D.G. claims to the northwest of Goosly Lake to test an IP anomaly centered on the D.G. #1 claim block from a 1971 survey (MacDonald, A, 1974). Approximately 250 meters (820 feet) of percussion drilling was completed by Josco Mining Co., Ltd (Kamloops, B.C.). Three of the four holes (Holes P-1 thru P-3) were within the present “Silver Lake N” claim block (Tenure ID 1079809), while P-4 was drilled off the current property boundaries this report entails. The cuttings from the holes were analyzed for Mo, Cu, Zn, Ag, Sb, As and Au, though no ore grade material was encountered as reported in Assessment Report 5195 for any of the percussion holes. Exact collar locations are not available.

**1976 Percussion Drilling (Gillian Mines Limited)**

Eleven (11) percussion holes drilled by H.N. Horning Percussion Drilling Ltd (Kamloops, B.C.) were completed in the 1976 campaign by Gillian Mines Limited from October 5th to October 15th (Culbert. R, 1976). A total of 697.1 meters (2287 feet) were completed by the contractor, holes drilled in this campaign were prefixed “PG-1” thru “PG-11”. Initial drillhole targeting a fragmental breccia in rhyolite outcropping at 51S and 55E local grid lines. No exact collar locations are provided publicly. Drilling occurred on/in close proximity to the western claim boundary edge of the Gilliam Link claim (Tenure ID 1077709) encompassed within the area of this report. Percussion holes PG-1 thru PG-8 were drilled off the present property boundaries, while PG9 thru PG-11 were collared within the claims. Geochemical analysis at 10-foot intervals for Cu, Pb, Zn, Ag, As, Hg and Mn was used as a guide to nearby mineralization. Anomalous Cu values were noted in drillholes PG-9, -10 and -11, above 55 ppm threshold for the entirety of the holes; 60ft, 50ft and 50ft respectively. Furthermore, geochemical analysis of holes PG-9 and -10 had anomalous values of Ag above 2ppm background threshold.

**1979-1980 Diamond Drilling (Gillian Mines Limited)**

An initial phase of drilling began early December and ran until December 14th, 1979 where drilling contractor J.T. Thomas Diamond Drilling Ltd. (Smithers, B.C.) completed 3 NQ-sized drillholes totalling 1652 ft (503.5m). Drillholes were testing a region referred to as “Breccia Dome”, logged core displayed varying degrees of auto brecciation with pyrite mineralization noted in most of the holes. The location of the drillholes are within the south-western part of the Gillliam Link claim (Tenure ID 1077709) and within the current claim boundaries. Exact collar locations are not available.

A second phase of drilling also incurred in the ARIS report 8189B which references an additional 3 drillholes collared in early 1980 (80-1, 80-2 and 80-3). The grid locations of these drillholes are also within close proximity to the 1979 drilling and intersected as series of argillites and deeper rhyolitic units. Collar locations are believed to all be within the current Property claim boundaries based on public reports.

The authors search of publicly available files determined that between 1980 and 1981 while under the same operator that phase 2 drilling continued and completed with drillhole 80-33. The date of completion and collar locations are unknown and documentation of drilling is unavailable. The total meterage between early to mid 1980 to the beginning of 1981 under the Gillian Mines Ltd operation is unknown. The second phase of drilling included drillholes 80-1 to 80-33, for a total of 33 diamond drillholes. **The collar locations in reference to the Property boundaries are unknown to the author; therefore, they are not used in the evaluation of the property.**

**1980 Diamond Drilling (Geokor Energy Holdings Ltd)**

Between July 26th and September 2nd, 1980 Nuson Drilling Ltd. completed 2 diamond drillholes for Geokor Energy Holdings ltd. on the Tow claim (Now ESE part of Gilliam Link (Tenure ID 1077709). A total of 41.1 meters (135 feet) in two vertically drilled holes tested geological and geological work to the west of the Tow claims and presence of IP, EM and weak geochemical anomalies. Drilling was collared in thick overburden and was unable to intersect any mineralization. Exact collar locations are not available.

**1981 Diamond Drilling (Gillian Mines Limited)**

Diamond drilling continued on Gillliam Link (formerly Loyd claims) claim (Tenure ID 1077709) in January 21st 1981 and was completed on April 15th, 1981. A total of 2332.3 meters (7652 ft) were drilled over a series of 12 NQ-sized drillholes in this time (81-34 thru 81-45) by J.T. Thomas Drilling Ltd. Geochemical analysis of drill core shows hydrothermal alteration of country rock likely by a sill-like intrusive (Stevenson. P, 1982). This drill program identified a rhyolitic basement assemblage in more recent drilling of holes 80-25 to 80-33 and 81-34 to 81-45. The locations and orientation of drillholes is unavailable and the author of this report was unable to find reference to them publicly. **The author is unable to correlate the locations of these drillholes to current claim boundaries based on historic gridlines; therefore, they are not used in the evaluation of this report.**

**1984-1985 Percussion Drilling (Faraway Gold Mines Ltd.)**

Faraway Gold Mines Ltd., a private company who optioned the property that same year completed 15 percussion drillholes in the winter of 1984 and a further 25 percussion drillholes in early 1985 on the Sam mineral claim. The results of the percussion drilling returned highly anomalous values in zinc and silver; specifically, hole S-12 has a 180 ft. section from 210 ft. to end of hole at 390 ft. which returned 0.26 % to 1.5% Zn, with silver values between 4.6 to 23 ppm. Hole 17 intersected a 3-meter section containing 920 ppm zinc, 204 ppm copper and 50 ppm silver. A general trending northeast alteration zone of the dacitic rocks typically contains the more anomalous metal concentrations. Exact collar locations are not available; however, percussion holes are collared on the now Silver Sam mineral claim, with the bounds of the Property.

**1986 Percussion Drilling (Normine Resources Ltd.)**

During the period of October 20th to November 11th, 1986 Normine Resources Ltd. contracted L. Spence Enterprises Ltd. (Vancouver, B.C.) to complete 1326.5 meters (4352 ft) of percussion drilling over a series of 24 holes on their Goosly Lake Property. Holes PH 86-01 to PH 86-11, PH 86-21, and PH 86-22 were drilled on Goosly 2 claim groups and tested a westerly trending IP anomaly; while, the remainder of the holes were drilled on Goosly 1 claim block which is beyond the property boundaries of this report to the west. Percussion holes PH 86-07 and -08 intersected an altered pyritic tuff unit described to be geochemically anomalous to that of the nearby Equity Silver-Copper Type deposit (Norman. G, 1987). Exact collar locations for percussion holes are not available publicly upon review by the author of this report.

**1986-1987 Diamond Drilling (Faraway Gold Mines Ltd./Equity Silver Mines)**

Equity Silver Mines under agreement with Faraway Gold Mines Ltd managed the 1987 program and completed a total of 45 diamond drillholes on the Sam claim group between 1986 and 1987, sixteen (16) of which are collared within the current claim boundaries of the Project. The option agreement gave Equity Silver Mines the first right of refusal to the property. J.T. Thomas Diamond Drilling Ltd. completed 5926.8 meters of NQ coring. Total meterage from the six (6) holes collared in 1986 is unknown by the author of this report. The significant results from the drilling campaign are listed below in Table 6.5.2. The sulfide intervals hosting mineralization were found within a series of green-grey andesitic tuff and volcanic breccia units. Sulfide mineralization was typically brecciated or within a clay matrix and comprised of mainly pyrite with minor sphalerite, chalcopyrite, tetrahedrite and arsenopyrite, highlighted results are seen in Table 6.5.2. Drilling supports a hypothesis of a mineralized zone striking 120° that steeply dips to the north.

Collar locations for diamond drillhole are not available from public data; however, some orientations are listed for drillholes collared in 1987 in Table 6.5.3 (below). The author of this report was unable to find information on drill holes collared in 1986. Drillholes targeted four main zones: West, East, Central and South. Current claim boundaries include the following drillholes:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 86-001 | 86-002 | 87-011 | 87-012 | 87-013 | 87-014 | 87-015 | 87-016 |
| 87-028 | 87-029 | 87-030 | 87-031 | 87-032 | 87-033 | 87-037 | 87-038 |

Table 6.5.2 – Highlighted Analytical Results in 1986-1987 drillholes on Sam Claims.

| DDH No. | Zone | Ag (ppm) | Zn (%) | Interval (ft) | Length (ft) |
|---|---|---|---|---|---|
| ***11*** | West | 13 | 0.03 | 366 - 393 | 27 |
| ***11*** | West | 154 | 0.19 | 393 - 398 | 5 |
| ***12*** | West | 44 | 1.97 | 523 - 535 | 12 |
| ***12*** | West | 44 | 0.02 | 580 - 612 | 32 |
| ***14*** | West | 120 | 7.94 | 817 - 823 | 5 |
| ***14*** | West | 3 | 5.01 | 823 - 833 | 10 |

Table 6.5.3 - 1987 Diamond drillhole information on Sam claims, by Faraway Gold Mines Ltd. Not all drillhole information was available in public reports. Listed drillholes are on the claims of the Project.

| DDH No. | Zone | Azimuth (°) | Dip (°) | Length (m) |
|---|---|---|---|---|
| ***30*** | West | 360 | -45 | 152.4 |
| ***29*** | West | 180 | -45 | 152.4 |
| ***14*** | West | 150 | -45 | 155.4 |
| ***28*** | West | 180 | -45 | 164.6 |
| ***15*** | West | 150 | -45 | 152.4 |
| ***12*** | West | 327 | -45 | 152.4 |
| ***11*** | West | 150 | -45 | 207.3 |
| ***13*** | West | 150 | -45 | 152.4 |
| ***16*** | West | 150 | -45 | 150.4 |
| ***31*** | Central | 180 | -45 | 152.4 |
| ***32*** | Central | 180 | -45 | 149.4 |
| ***33*** | Central | 180 | -45 | 161.5 |

# 7 Geological Setting and Mineralization

## 7.1 Geologic Setting and Regional Geology

The Silver Lake property is located within the Intermontane tectonic province of British Columbia and underlain by rock assemblages of the allochthonous Stikine terrane. The Stikine terrane formed outboard of ancestral North America starting in the Late Paleozoic and was accreted initially to other allochthonous terranes including Quesnel and Cache Creek terranes. These terranes were subsequently sutured to the North American margin in the Middle Jurassic. The mosaic of terranes has since been intruded by post-accretion plutonic suites and covered by siliciclastic deposits.

### 7.1.1 The Stikine Terrane

The Stikine terrane generally trends northwest spanning over 1,500 km along the length of British Columbia and varies in width from over 300 km wide to less than 100 km. It is the largest terrane in BC among the most metallogenetically significant. The Philippine microplate with complex, opposite-facing arcs is considered a present-day analog (Marsden and Thorkelson, 1992).

The Stikine terrane is a complex volcanic arc assemblage built during three episodes of island arc formation between the late Paleozoic and early Mesozoic. Each is represented by an unconformity-bounded volcanic-sedimentary sequence and coeval intrusive suite: 1) Devonian to Permian Stikine assemblage and Asitka Group and Forrest Kerr and More Creek plutons, (Logan et al. 2000; Gunning et al. 2006); Middle to Upper Triassic Stuhini and Takla Groups and accompanying intrusions such as the Hotailuh and Hickman batholiths (Souther, 1977; Monger, 1977; Dostal et al. 1999); and Lower to Middle Jurassic Hazelton Group and related high-level intrusions such as the Texas Creek suite (Barresi et al., 2015). Much of the porphyry related metal endowment is contained within sub-volcanic intrusive complexes related to the Stuhini and Hazelton Groups.

### 7.1.2 Post Accretionary Stratigraphic Rocks

Middle – late Mesozoic Bowser Lake Group and Skeena Group rocks formed in syn -post accretionary basins and cover much of the north-central part of the Stikine terrane. The Bowser Lake Group sedimentary sequence spans the former basin between the Stikine Arch and Skeena Arch and consists of nine different sedimentary assemblages (Evanchick et al., 2001).

The Mesozoic volcano-sedimentary packages of Stikinia form the basement rocks in the area, which are comprised of Late Triassic to Middle Jurassic arc volcanic rocks and their erosional products. The Bowser formation records marine deposition from the Upper Jurassic until the mid-Cretaceous as overlapping basinal assemblages, with subsequent deposition of the Skeena Group in the Early Cretaceous. Continental margin arcs were episodically deposited unconformably during the Late Cretaceous to Eocene producing the Kasalka, Ootsa Lake, and Endako groups (Kim et al., 2015).

### 7.1.3 Post Accretionary Intrusions

During late Mesozoic to Cenozoic time, intrusive rocks formed in an intracontinental setting, after the outboard host arc and related terranes accreted to the western margin of North America and accumulated siliciclastic cover rocks. The intrusive rocks are interpreted to occur in continental back arc settings and individual deposits are generally hosted by older country rocks referred to above. Deposits are generally hosted within the Hazelton group and show a spectrum of metal associations and deposit styles; porphyry copper-molybdenum at the Huckleberry mine (currently on care and maintenance status); porphyry copper-gold at past producing Bell and Granisle mines; porphyry molybdenum at the past producing Kitsault mine. Precious and base metal vein deposits can occur peripheral to intrusive stocks, such as at the Equity Silver Mine.

### 7.1.4 Structure and Folding

Braided sets of post-accretionary, northwest trending, strike-slip faults transect the mosaic of terranes and set the overall structural grain of the Cordillera. Faults record mainly dextral displacement from mid Cretaceous to Eocene and with a cumulative offset up to 800 km (Gabrielse et al., 2006).

The Skeena Arch is a northeast - southwest structural corridor which transects approximately the middle of the Stikine terrane. The Skeena Arch is the topographic highland which separates the Bowser basin sediments to the north and the Nechako plateau to the south. Faults in this area create a mesh-like map pattern which cross-cut the general northwest trend of the Cordillera with east-northeast trending host and graben faults. The Skeena Arch is endowed with over 800 known mineral occurrences detailed in the BC geological Survey's MINFILE database.

The broader Silver Lake property region lies in the Skeena Fold Belt, a regional fold and thrust belt primarily expressed in thinly layered strata of the Bowser Basin but also present within Stuhini and Hazelton strata. The majority of fold and thrust faults trend northwest and accommodate northeasterly shortening during the Cretaceous. Northeast trending folds in the domains on the western side of the fold belt have similar geometry and scale as northwest trending folds.

The Silver Lake property lies in a block-faulted depression controlled by a system of en echelon strike-slip faults linked by pull-aparts referred to by some authors as the Buck Creek Basin (Dostal et al., 2005). Basin fill is comprised of intermittent sedimentary and volcanic rocks and associated intrusive stocks, dikes, and sills.

## 7.2 Property Geology

The Silver Lake property and surrounding area is underlain by sedimentary rocks of the Skeena Group (Red Rose Formation), andesitic volcanics of the Kasalka Group, and volcanics of the Endako Group (Buck Creek, Goosly Lake formations). A stock belonging to the Goosly Lake plutonic suite is mapped intruding Kasalka Group sediments in the western portion of the Gilliam Link claim (1077709). Property geology map shown in Figure 7.7.1.

### 7.2.1 Skeena Group

The Skeena group is comprised of marine and continental sedimentary rocks and volcanic strata deposited in the Early to Late Cretaceous following regional uplift and erosion of the Skeena Arch. Sediments of the Skeena Group were transported southwest across the arch from the Pinchi belt and Columbian orogen (Tipper and Richards, 1976). The Skeena Group has been separated into the Lower Cretaceous Red Rose Formation and the Upper Cretaceous Brian Boru Formation (Sutherland Brown, A. 1960). Volcanics in the Skeena Group have been separated into the Brian Boru Formation, consisting of grey to green basaltic to rhyolitic breccias, tuffs, and flows. Andesites occur as flows or breccias ranging from purple to green to grey.

Sedimentary rocks of the Skeena Group at the Silver Lake Property have been ascribed to the Red Rose Formation, and are described as greywacke, sandstone, shale, and conglomerate with common coal seams. Skeena Group sediments are, in places, difficult to distinguish from Bowser Lake and Hazelton group sediments, and are differentiated based on the presence of fine flakes of detrital muscovite which are lacking in Hazelton and Bowser Lake sediments.

### 7.2.2 Kasalka Group

The Kasalka Group has a wide distribution in British Columbia, from Kemano to the west and as far north as Smithers. Kasalka Group rocks have been interpreted to be Cretaceous andesite to rhyolite with a basal unconformity of conglomerate overlying deformed, older rocks. Basal conglomerates are unconformably overlain by thick packages of andesite flows and volcaniclastic rocks. The youngest members of the Kasalka group consist of rhyolitic flows that unconformably overlie the andesitic flows and volcaniclastic rocks (MacIntyre, 1977, 1985).

Kasalka Group volcanics are associated with several mineral deposits, including the large Blackwater epithermal-style Au-Ag deposit. The Capoose Au-Ag deposit south of Fraser Lake is hosted in similar rock types of comparable age to the Kasalka group, as well as the Newton deposit located southeast of the Blackwater deposit hosted in Late Cretaceous felsic volcanic rocks likely representing a southerly occurrence of the Kasalka Group (Kim et al., 2015).

The Kasalka Group basal conglomerate is characterized by polymictic, poorly sorted, clast supported, cobble to boulder conglomerate. Exposures of basal conglomerate of the Kasalka Group can be found north and south of Francois Lake and trending northwest for 28km. Cobble-sized clasts are generally well-rounded and comprised of fine-grained green and maroon volcanics and flow-banded rhyolite. Conglomerate matrix is either volcanic, similar to the green-maroon lithoclasts, or of sedimentary origin as dominantly dark red quartz-feldspar and matrix with green-grey silica cement (MacIntyre, 1977). These conglomerates form the base of the Kasalka Group, which unconformably overlie the Jurassic Hazelton and Middle Cretaceous Skeena groups.

Andesite flows form the largest component of the Kasalka Group, sitting unconformably on top of the basal conglomerate. Outcrops are found along a similar northwest trend from Burns Lake to Knewstubb Lake. Andesites are described as pale grey-brown to grey-purple weathering andesite to dacite flows, with grey to maroon fresh surfaces and ubiquitous plagioclase and hornblende phenocrysts.

Rhyolites of the Kasalka Group are described as whitish-pink to grey weathering rhyolitic ash to crystal tuffs. They are light pink-grey to bright pink on fresh surfaces and chalky green lithic fragments of altered green pumice in fine-grained matrix. Lithic fragments make up to 15% of the unit.

A large portion of the Silver Lake property is interpreted to be underlain by Kasalka group andesitic volcanic rocks.

### 7.2.3 Ootsa Lake and Endako Groups

The Ootsa Lake Group is defined as an Eocene to Oligocene assemblage of mainly rhyolitic to dacitic lavas, volcaniclastic rocks, and minor basalt, andesite, and sedimentary rocks. The Endako Group is comprised of flat-lying to gently dipping strata of amygdaloidal, plagioclase-phyric, and rarely pyroxene or olivine phyric dacitic, basaltic to andesitic lavas up to 600m thick (Bordet, Hart, and Mihalynuk, 2014). Endako Group strata are only reported in the Nechako Plateau south of Fort Fraser and at Blackdome mine, where they unconformably overlie the Ootsa Lake Group.

Endako Group rocks at the Silver Lake property belong to the Goosly Lake and Buck Creek formations. The Goosly Lake formation is comprised of trachyandesite flows, dikes, and stocks. Goosly Lake volcanics and associated intrusions have been dated to 52+/-1Ma (Dostal et al., 2001). At the Silver Lake property, the Goosly formation occurs as alkaline volcanics ascribed to the Endako Group and as monzodiorite to gabbroic intrusive rocks located in the southwest portion of the claim block. Buck Creek formation rocks are described as intermediate to mafic flows and breccias dating to 50+/-1Ma (Dostal et al. 2001). Rocks belonging to the Buck Creek formation in the area surrounding the Silver Lake property are described as basaltic volcanic rocks.

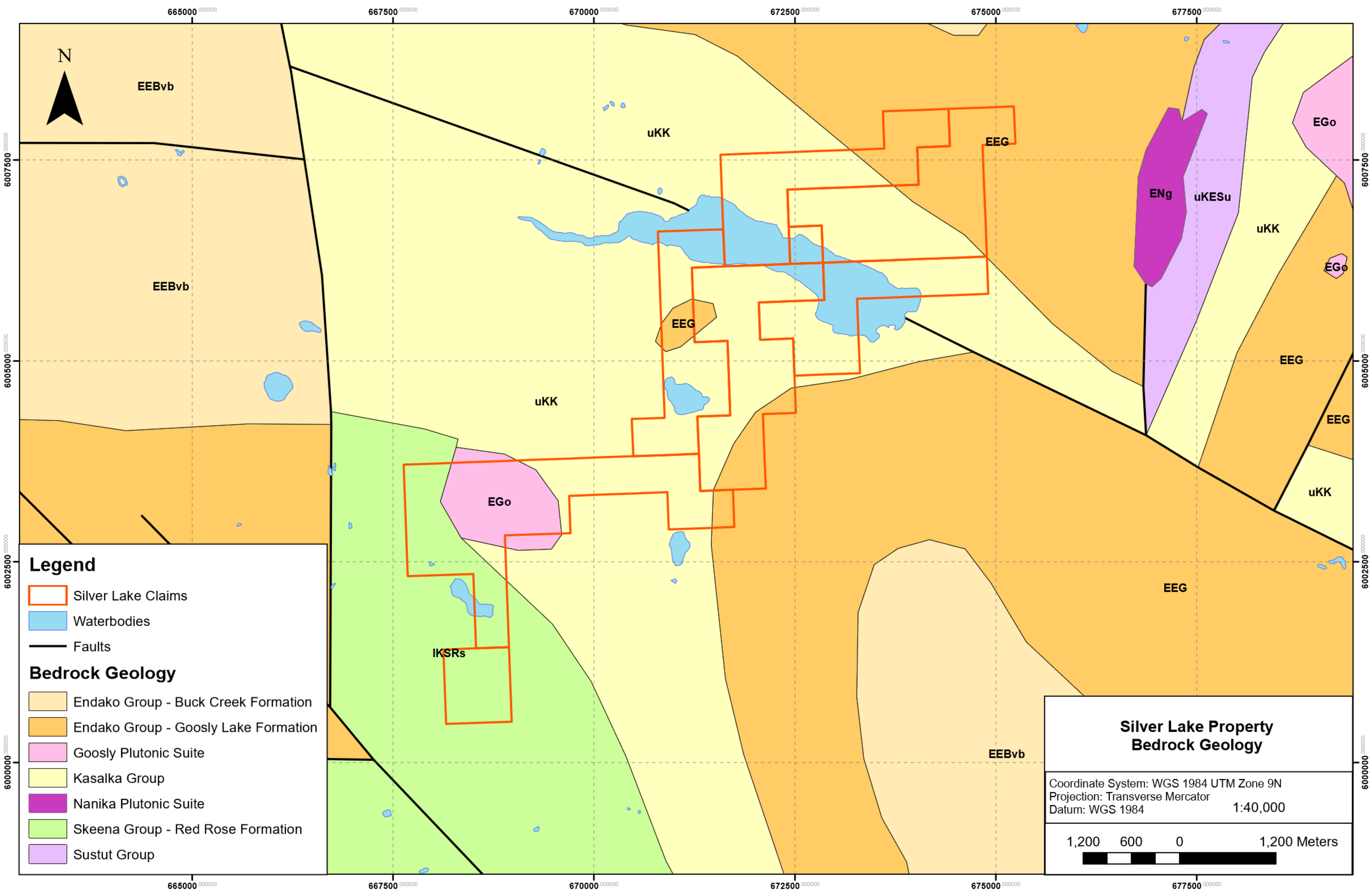



*Figure 7.7.1 - Silver Lake property geology map*

## 7.3 Mineralization and Structure

There are at least two known MINFILE showings on the Silver Lake property and ten additional showings, prospects, and past producers in the area immediately surrounding the claims. Mineralization style is predominantly polymetallic base and precious metal veins within Eocene volcanics of the Goosly Lake formation and associated intrusive rocks and porphyry-style copper +/- molybdenum +/- gold mineralization in Nanika intrusive rocks.

The Equity Silver mine lies roughly seven kilometers to the northeast of the center of the Silver Lake claim block and is a past producing silver mine. Mineralization at the Equity Silver mine is interpreted to be epigenetic in origin, resulting from hydrothermal metal-bearing fluid incursions into volcaniclastic country rocks. The source of the hydrothermal fluid is thought to be nearby intrusive activity.

### 7.3.1 ORION, DOE showing (MINFILE 093L 330)

The Orion showing is located in the Orion claim block (1077551) and is reported to host exposures of pyrite and float of massive sulfides. The showing is underlain by sedimentary rocks of the Red Rose formation with nearby gabbro stock intruding volcanic rocks. In 1967, North Pacific mines completed a magnetic survey and identified two anomalous areas in the vicinity of the showing. Some diamond drilling is reported to have been completed on these zones, but no records are available.

### 7.3.2 SAM, NWB, DG Showing (MINFILE 093L 260)

The SAM showing is located in the northeast portion of the property on the Silver Sam tenure (1077550). It is reported to host subvolcanic Cu-Ag-Au and polymetallic Ag-Pb-Zn+/-Au style mineralization. The showing occurs in sericite-carbonate-chlorite-quartz altered Eocene volcanics belonging to the Goosly Lake formation. Massive sulfide veins ranging from 0.1 to 3.0 meters thick are reported to occur along the southeast side of an altered belt of andesitic tuffs and volcanic breccias. The dominant sulfide is pyrite with minor sphalerite and traces of chalcopyrite, tetrahedrite, and arsenopyrite. The alteration zone strikes 120 degrees and dips steeply north, ranging from 70 to 200 meters thick.

In 1986 and 1987, drilling intersected several massive to semi-massive sulfide intervals in the East zone within pyritic quartz-calcite-silicate alterations zones. Silver values within massive sulfide intervals ranged from 25.0 to 715.0 grams per tonne.

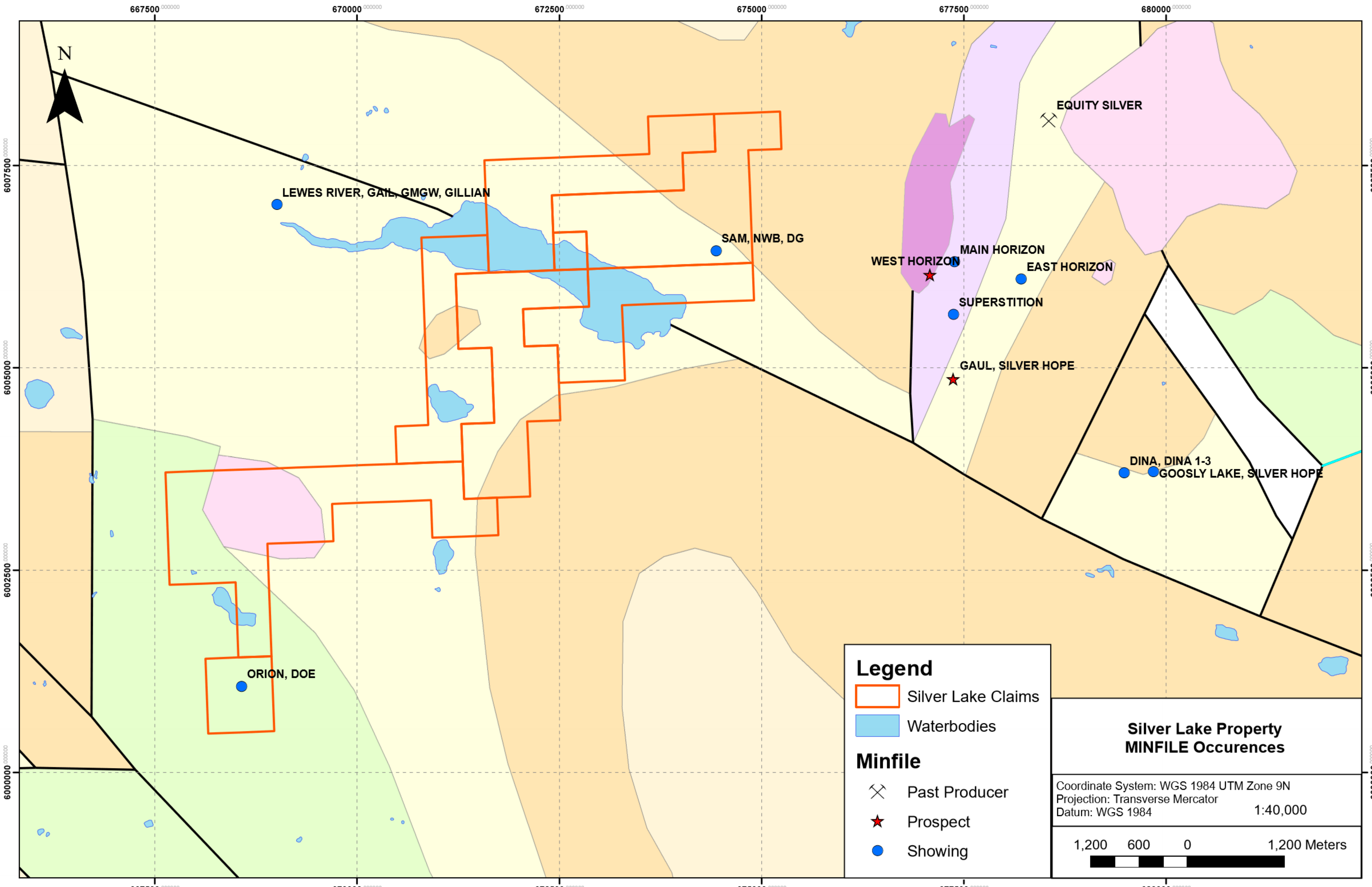



Figure 7.2 - MINFILE occurrences on Silver Lake property and surrounding claims.

# 8 Deposit Types

Two deposit styles occur in the area of the Silver Lake property and are the focus of historical and current exploration efforts. Mineralization at the Silver Lake property is likely intrusion related and may be porphyry calc-alkalic or porphyry related epithermal.

## 8.1 Porphyry Calc-alkalic Exploration Model

A description of porphyry-style systems is provided by Rogers (2010) and seen in Figure 8.1 below:

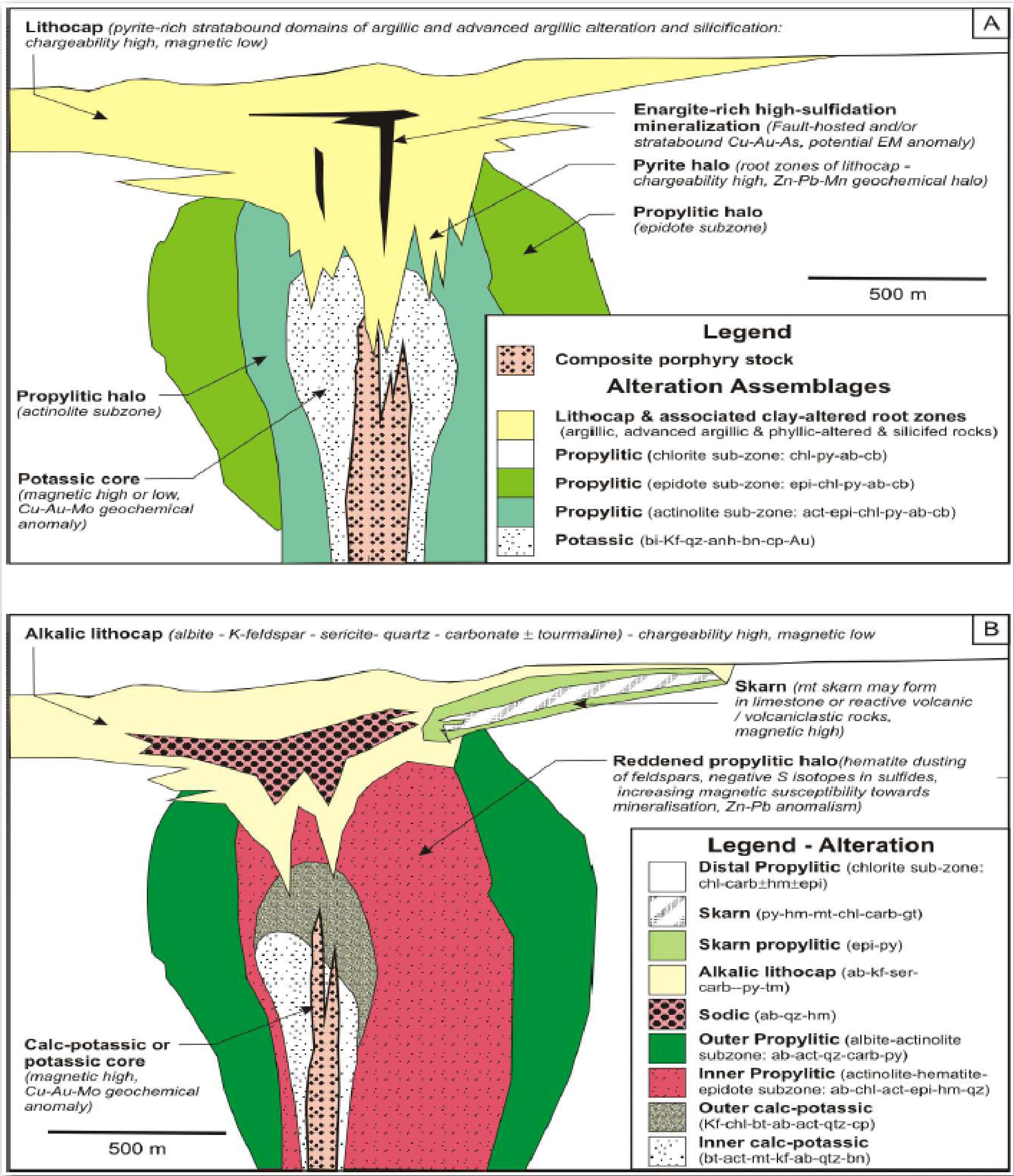
*"…fracture-controlled quartz-sulfide veinlets and veins, and sulfide disseminations in fractures hosted by, or proximal to, high-level, calc-alkaline, intermediate to felsic, porphyritic intrusions. There may be a spatial and genetic relationship to high-level (epizonal), calc-alkaline, intermediate to felsic stocks, dykes, sills, and breccia pipes, with porphyritic phases, that are intrusive into volcanic and sedimentary rocks. These commonly occur as subvolcanic intrusions to volcanic complexes. The porphyritic intrusions and/or the surrounding country rocks may host the mineralization. Multiple intrusive phases and brecciation are common. Typical general associations are: quartz monzonite to alkali feldspar granite: Mo-W; granodiorite to quartz monzonite: Cu-Mo; and diorite-quartz diorite-tonalite: Cu-Au-(Mo)."*

Nanika intrusives in the vicinity if the Silver Lake property, such as the Berg and the Lucky Ship, are known hosts for porphyry copper-silver-molybdenum mineralization. The Berg deposit hosts a NI 43-101 measured and indicated resource of 506.0 Mt grading 0.30% Cu, 0.037% Mo, and 3.8g/t Ag (Harris and Labrenz, 2009). The Berg Deposit is located roughly 80km southwest of the Silver Lake property and does not indicate the presence of related mineralization on the Silver Lake property.

The Lucky Ship deposit is an Eocene porphyry deposit located roughly 45km southwest of the Silver Lake property. The Lucky Ship deposit hosts an NI 43-101 indicated resource estimate of 65.5 Mt grading 0.064% Mo within a multiphase porphyry and breccia Nanika intrusion (Lee and White, 2008). The Lucky Ship deposit does not indicate the presence of related mineralization on the Silver Lake property.

The calc-alkaline porphyry copper-molybdenum-silver deposits described above occur as disseminations and stockwork veins with and along the margins of Eocene Nanika intrusive rocks. The mineralization at the Silver Lake property is believed to be, in part, sourced from nearby Nanika intrusives.

*Figure 8.1 - Zoned porphyry system model after Holliday and Cooke, 2007.*




## 8.2 Porphyry Related Epithermal

The following description of epithermal deposits has been modified from John et al., 2010:

*"Epithermal gold-silver deposits are shallowly formed vein, stockwork, disseminated, and replacement deposits that are mined primarily for their gold and silver contents; some deposits also contain substantial resources of lead, zinc, copper, and (or) mercury. Although many epithermal deposits are known for their high gold grades (bonanza ores with more than 1 troy ounce [31.10348 grams of gold per short ton] [34.3 parts per million]) amenable to mining by underground methods, many bulk tonnage deposits with as little*

*as 1 part per million (ppm) gold or less are presently being exploited by open-pit mining… epithermal deposits most commonly occur as veins or breccias developed in local extensional or dilational fault and fracture zones. Disseminated and replacement ore also commonly forms in permeable lithologies where horizons intersect faults or fractures that allowed fluid ingress. Most known epithermal gold-silver deposits are Cenozoic, which reflects preferential preservation of these shallowly formed deposits in tectonically unstable regions.*"

Copper-silver-gold mineralization at the Equity Silver Mine is epigenetic in origin, resulting from intrusive activity and the introduction of metal-bearing solutions into the pyroclastic division of the Goosly sequence. Sulfides introduced into the permeable country rock formed stringers and disseminations which grade into zones of massive sulfide. In the Southern Tail zone, sulfides formed veins, fracture fillings, and breccia zones in brittle and less permeable tuffs. Remobilization and concentration of sulfides occurred adjacent to post-mineralization dikes.

# 9 Exploration

## 9.1 2020 Geophysical Survey

In December 2020, Prosperity Exploration Corp. contracted Geotech Ltd. to conduct 170 line-kms of airborne Versatile Time Domain Electromagnetic (VTEM) flight lines over the Silver Lake Property. Line spacing was approximately 150-meters between E-W lines, with 5 N-S tie lines approximately 1200 meters spaced. Full details on the procedures and parameters can be found in the accompanying report in APPENDIX B:.

A summary from the conclusions and recommendations from the VTEM survey include "*Based on the geophysical results obtained at Silver Lake Property, several prominent, anomalous EM conductive and resistive zones have been defined within the property, that also correlate well with magnetic high and low features. In particular, a large (~0.5km EW x 2km NS) conductive anomaly in the west-central part of the block, is part of a more extensive NS low resistivity trend and also partly coincides with a flanking major magnetic high. To the south of this main feature, another, smaller conductive high narrower NE-trending conductive lineament, which correlates with a ring-like magnetic low that forms the edge of a magnetic high at southeastern edge of the block*"

At the time of the effective date of this report, a public domain assessment report for the VTEM survey does not exist, therefor the author has included it in APPENDIX B.

# 10 Drilling

No drilling has been carried out by the vendor or issuer. Historic drilling is summarized in Section 6.

# 11 Sample Preparation, Analysis, and Security

This section is not applicable as no exploration or sampling has been undertaken by the vendor or operator.

# 12 Data Verification

An in-depth analysis and data verification of previous data has been completed the by the author and summarized below. As well the author completed a site visit on July 18, 2021 to visually confirm the access to the property, presence of historic drilling in the area of the Sam showing and assess the area for a future exploration program.

The author accessed the Property via logging roads beginning immediately south of the Equity Mine. Current logging activities permit year-round access to the property. The author was able to verify historic drill roads at the Sam showing and collected rock samples from exposed bedrock. The author confirmed the presence of mapped Endako Group rocks.

The author has reviewed historic assessment reports and analyzed the sample procedures and analytical quality control measures and it is the author's opinion that the sample preparation, security measures taken and analytical procedures were adequate to evaluate and confirm the presence of mineralization detailed in this report.

Figure 12.1 – Rock samples the author collected on the July 18 site visit. Outcrop consists of the Endako Group grey, brown, maroon green, phyric trachyandesite

The historic sampling of drill core from previous operators was done using a variety of methods and, in some cases, little information was recorded on sample preparation or security. In some cases, little to no information is provided on analytical methods. Historic sample preparation, analysis and security when available is summarized below.

## 12.1 Diamond Drilling Sample Preparation, Analysis, and QA/QC

### 12.1.1 1979-1980 Drill Program (Gillian Mines Ltd.)

No information on sampling procedures, sampling intervals and analytical methods used on drill core sampling from the 1979 drill program exist publicly on the Gillian claims and are unknown to the author. 16 non-correlated assay samples were present in the Assessment Report No. 8189A. Samples were analyzed for Pb, Zn, Ag, As, Hg and Au seen in lab certificate 51844.

### 12.1.2 1980-1981 Drill Program (Gillain Mines Ltd.)

Limited information on sampling procedures or intervals from the 1980-1981 drill program on the Gillain property are readily available to the author of this report; however, Assessment Report No. 10851 describes some information of geochemical procedures as follows:

Drill core from drill hole 80-25 thru 81-36 were sampled typically at four (4) foot intervals for twelve element analysis. Drillholes 80-3, 80-7, 80-10 and 80-23 were sampled at one-foot intervals. Drillholes 80-25 to 80-33 and 81-36 were analysed for copper, lead, zinc, silver, gold, barium and occasionally fluorine.

Drillholes 80-3, 80-5 to 80-7, 80-9 to 80-13 and 80-23 were analyzed for copper, lead, cadmium, silver, gold, fluorine and barium in addition to some portions analyzed for mercury, cobalt and iron.

No assay data was found by the author of the report regarding analytical methods used to analyzed the elements listed above.

### 12.1.3 1980 Drill Program (Geokor Energy Holdings Ltd.)

No reference to sampling information or assays were reported to have been taken in the Assessment Report No. 8828 for the drill program conducted on the Tow Property.

### 12.1.4 1986-1987 Drill Program (Faraway Gold Mines Ltd.)

Core samples from the drill program were assayed at the Equity Mine site assay lab. Split core samples were crushed to 6 mm, riffled down to about 500 gm, dried and pulverized to 325 mesh. Gold was determined on a 35 gram sub sample by fire assay/AAS. Cu, Pb, Ag, Zn, Fe, As and Sb were obtained by digesting one-gram samples in $HNO_3$: Tartarin acid: HCl and analyzing the solution by AAS. A total of 653 samples were analyzed from drillcore on the Sam claims. Sample lengths varied from 0.1 to 3.0 meters in length and were collected according to lithology, alteration and mineralization.

Core was stored at the Equity Mine site after logged and sampled.

Analytical results from the 1987 drill program are included in Assessment Report No. 17307. The author of this report was not able to verify the existence of any QA/QC lab certificates from the Equity Mine assay lab and cannot evaluate the sample security or for these samples.

## 12.2 Percussion Drilling Sample Preparation and Analysis, and QA/QC

### 12.2.1 1970 Percussion Drill Program (Orequest Exploration Synd.)

Limited information regarding the analytical procedures are available to the public. Drillholes were reported in 10-foot intervals at the top, middle and lower part of the holes.

No assay data specific to these intervals was found by the author of this report. Analytical methods of analysis and sample security are not known to the author.

### 12.2.2 1974 Percussion Drill Program (Payette River Mines Ltd.)

Cuttings from P-1 thru P-4 percussion holes drilled on the D.G claims were analyzed for Mo, Cu, Zn, Ag, Sb, As and Au in 30 foot to 60-foot sections. No analytical methods or procedures are available or know by the author.

### 12.2.3 1976 Percussion Drill Program (Gillian Mines Ltd.)

Limited information pertaining to the analysis and sample methods conducted on drillcore cuttings are available for the four (4) percussion holes completed on the Gillian Property. Min-En Laboratories Ltd. completed geochemical analysis of the cuttings and assays are available in Assessment Report No. 6148. A total of 199 samples were collected in 10-foot sections.

The author of this report was unable to locate laboratory certificates or QA/QC verification of these samples.

### 12.2.4 1984-1985 Percussion Drill Program (Faraway Gold Mines Ltd.)

The 1984-1985 program collected and analyzed samples from 10-foot sections of core for copper, silver and zinc from the forty (40) drillholes completed (PF830418). Procedures in the collection and analytical methods applied to these samples are unknown as described in Property File 830410. Samples were analyzed by Bondar-Clegg & Company Ltd., of North Vancouver, B.C.

The author of this report was unable to locate laboratory certificates or QA/QC verification of these samples.

### 12.2.5 1986 Percussion Drill Program (Normine Resources Ltd.)

The percussion drill program completed by Normine Resources Ltd. collected a total of 339 samples were mechanically split at an 8:1 with the 1/8 portion collected in settling pail. Rock fragments settle to the bottom while overflow was allowed to escape. Samples were taken every 10 feet down the hole. A small amount of flocculent was mixed with the sample slurry and the mixture allowed to settle for 5 to 7 minutes. The water was drained off and the remaining sample placed in a 10” x 17” Hubco sample bag, the material of which allows the water to drain. A small plastic vial was filled with a representative portion of the sample and retained for binocular examination. These vials were marked with hole number and footage and stored in the Company (Normine Resources Ltd.) office located in Vancouver, B.C.

Percussion holes were logged at the drill site as the percussion hole was drilled. A binocular microscope was used to examine the sample as the fineness of the pulverized material precludes a detailed unaided visual observation. Conclusive rock type determinations are difficult even with detailed binocular descriptions.

The sample was also panned to allow visual observation of heavy minerals, in this particular instance predominately magnetite and pyrite were observed.

The analytical procedure for geochemical analysis on cuttings from the 1986 program comprised multi-element analyses completed by Min-En Laboratories Ltd. which geochemically analyzed the above samples via I.C.P. for the followed elements: Ag, As, Cd, Cu, Fe, Mn, Mo, Ni, Pb, Sb, V, Zn, and Au; in addition, a selected 58 of the above samples were geochemically analyzed for: Al, B, Ba, Be, Bi, Ca, Co, K, Li, MG, Na, P, Sr and Th.

The assay certificates are available in Assessment Report No. 15967.

Information regarding the sample security, storage or lab QA/QC is not available on public reports and are unknown to the author.

## 12.3 Stream Sediment Sample Preparation and Analysis, and QA/QC

### 12.3.1 1970 Stream Sediment Program (Lewes River Mines Ltd.)

Limited information regarding the sample analysis of the geochemical program from 1970 was available in Assessment Report No. 2863. Geochemical analysis was completed by Chemex Labs Ltd., North Vancouver, B.C. Insufficient records are available of the total number of silt samples collected and the analytical procedure employed by the laboratory for this type of sample is not known to the author.

## 12.4 Soil Sample Preparation and Analysis, and QA/QC

### 12.4.1 1969 Soil Program (Bayland Mines Ltd.)

A total of 281 soil samples were collected and submitted from the 1969 geochemical work done on the KG claims group. Samples were collected on all lines every 200 feet. A specially constructed 1” wide soil auger was used to facilitate sampling down to 3 feet. The sample was put in a brown paper envelope and careful notes were kept regarding depth, color, type horizon, texture, angle of slope, and direction of drainage. Each night, all information from the field was transferred to specially printed sheets to form a permanent record and prevent any possible errors. The samples were dried, packed in boxes, and shipped by rail to the laboratory. Every 400 feet along the baseline a soil profile was established and samples taken from different horizons and depths to properly correlate analytical results.

Analytical procedures are described in Assessment Report No. 2196 as follows:

All samples were sent to: Vancouver Geochemical Laboratories Ltd., 1521 Pemberton Ave., North Vancouver. The minus 80 mesh fraction was used; weight of sample 0.5 gram, volume of dilution 10 ml., extraction with hot HN03 and HCLO4 (Techtron AA4) nitrous and acetylene for Mo and acetylene and air for Cu and Zn. The analyst was Mr. Conway Chun.

The analytical certificates from Vancouver Geochemical Laboratories Ltd., are not included in the Assessment Report No 2196; therefore, the author has insufficient records form the 1969 program to evaluate the sample security or QA/QC for these samples.

### 12.4.2 1969 Soil Program (Mark V Mines Ltd.)

A total of 772 geochemical soil samples were collected and submitted to T.S.L Laboratories in Vancouver for analysis. In swampy areas samples were typically collected at depths from 2’ to 3’ below surface level; otherwise, if present the ‘B’ horizon was collected. Samples were placed into soil sampling bags marked with the sample number and location. Upon receival at T.S.L Laboratories Ltd. the samples underwent preparation and analysis for copper and zinc measurements. Sample preparation consisted of drying samples in an oven at 200°F then separately sieved through a nylon screen to -18 mesh size. One-gram of the sample is measured and digested by hot hydrochloric acid. The resulting solution is brought up to volume and read in a Jarrel-Ash Atomic Absorption unit. Samples are measured against standard solutions and frequently checked by use of samples analyzed on other machines and laboratories.

The analytical certificates from T.S.L Laboratories Ltd., are not included in the Assessment Report No 2239; therefore, the author has insufficient records form the 1969 program to evaluate the sample security or QA/QC for these samples.

### 12.4.3 1969 Soil Program (Dorita Silver Mines Ltd.)

In the 1969 geochemical program completed on the Goosly property, a total of 3850 soil samples were collected using a short-handled shovel or 1 ½ inch auger from the top of the 'B' horizon as described in Assessment Report No. 2311. Field dried samples were submitted to a commercial laboratory in Vancouver. Samples were sieved to minus 80 mesh and partially retained for analysis.

A standard scoop of minus 80 mesh soil was digested using perchloric-nitric attack. Analysis for copper and silver were made using the atomic absorption method of trace analysis. Internal laboratory standard samples were inserted and run with each digestion batch (40 samples).

The analytical certificates from "commercial laboratory" are not included in the Assessment Report No 2311; therefore, the author has insufficient records form the 1969 program to evaluate the sample security.

### 12.4.4 1969 Soil Program (Orequest Exploration Synd.)

The 1969 soil program over the Goosly Lake project collected a total of 500 soil samples along N-S lines approximately 200 feet spaced stations and lines separated by 3000 feet, while cross lines were spaced at 800 feet. Standard field practice of soil sample collection and accompanying notes were collected as samples were collected from the 'B' horizon using a shovel.

500 samples were submitted to Vancouver Geochemical Laboratories Ltd., North Vancouver, and underwent drying preparation and sieved to minus 80 fraction for analysis. 1.0 g or 0.5 g of the 80-minus sample was used and weight by top loading balance. Samples were heated in a sand bath with nitric and perchloric acids (15% to 85% by volume of concentrate acids respectively). Digested samples were diluted with demineralized water to fixed volume and shaken.

Molybdenum analysis was determined using a Techtron Atomic Absorption Spectrophotometer Model AA4 with a molybdenum hollow cathode lamp. Digested samples were aspirated directly into a nitrous oxide acetylene flame. Results were read out on a Photovolt Varicord Model 43 chart reader. Molybdenum value, in parts per million, was calculated by comparing a set of molybdenum standards.

Copper, zinc, silver and lead analyses were determined using a Techtron Atomic Absorption Spectrophotometer Model AA4 with a respective hollow cathode lamp. The digested samples were aspirated direction into an air acetylene flame.

The analytical certificates from Vancouver Geochemical Laboratories Ltd., are not included in the Assessment Report No 2335; therefore, the author has insufficient records form the 1969 program to evaluate the sample security or QA/QC for these samples.

### 12.4.5 1970 Soil Program (Mark V Mines Ltd.)

Samples were collected along lines with 100' stations from the 'B' horizon layer situated 15" to 18" below surface. A total of 906 soil samples were collected for geochemical analysis.

110 samples were analyzed at T.S.L Laboratories for copper and zinc. Upon receival at T.S.L Laboratories Ltd. the samples underwent preparation and analysis for copper and zinc measurements. Sample preparation consisted of drying samples in an oven at 200°F then separately sieved through a nylon screen to -18 mesh size. One-gram of the sample is measured and digested by hot hydrochloric acid. The resulting solution is brought up to volume and read in a Jarrel-Ash Atomic Absorption unit. Samples are measured against standard solutions and frequently checked by use of samples analyzed on other machines and laboratories.

The analytical certificates T.S.L Laboratories Ltd., are not included in the Assessment Report No 2726; therefore, the author has insufficient records form the 1970 program to evaluate the sample security or QA/QC for these samples.

Vancouver Geochemical Laboratories did the assays on silver using a Techtron Atomic Absorption Spectrophotometer Model AA4 with a respective hollow cathode lamp. The digested samples were aspirated direction into an air acetylene flame.

The analytical certificates from Vancouver Geochemical Laboratories Ltd., are not included in the Assessment Report No 2726; therefore, the author has insufficient records form the 1970 program to evaluate the sample security or QA/QC for these samples.

### 12.4.6 1970 Soil Program (Lewes River Mines Ltd.)

The 1970 geochemical program consisted of the collection of 1789 soil samples taken along 400' intervals along cut lines on the Goosly property. Samples were collected from the 'B' horizon with a mattock grubhoe. Analysis was completed by Chemex Labs Ltd., North Vancouver, B.C., for copper and silver determinations. Sample preparation screened the soils though minus-60 mesh and used atomic absorption spectrometry of hot nitric-perchloric extraction.

The analytical certificates from Chemex Labs Ltd., are not included in the Assessment Report No 2863; therefore, the author has insufficient records form the 1970 program to evaluate the sample security or QA/QC for these samples.

### 12.4.7 1970 Soil Program (Orequest Resources Synd.)

1970 geochemical program was complementary to the 1969 program completed by the owner, Orequest Resources Synd, and was infilling soil lines in the Goosly Lake property.

A total of 400 samples were submitted to Vancouver Geochemical Laboratories Ltd., North Vancouver, and underwent drying preparation and sieved to minus 80 fraction for analysis. 1.0 g or 0.5 g of the 80-minus sample was used and weight by top loading balance. Samples were heated in a sand bath with nitric and perchloric acids (15% to 85% by volume of concentrate acids respectively). Digested samples were diluted with demineralized water to fixed volume and shaken.

Molybdenum analysis was determined using a Techtron Atomic Absorption Spectrophotometer Model AA4 with a molybdenum hollow cathode lamp. Digested samples were aspirated directly into a nitrous oxide acetylene flame. Results were read out on a Photovolt Varicord Model 43 chart reader. Molybdenum value, in parts per million, was calculated by comparing a set of molybdenum standards.

Copper, zinc, silver and lead analyses were determined using a Techtron Atomic Absorption Spectrophotometer Model AA4 with a respective hollow cathode lamp. The digested samples were aspirated direction into an air acetylene flame.

The analytical certificates from Vancouver Geochemical Laboratories Ltd., are not included in the Assessment Report No 2971; therefore, the author has insufficient records form the 1970 program to evaluate the sample security or QA/QC for these samples.

### 12.4.8 1976 Soil Program (Gillian Mines Ltd.)

In 1976, a total of 830 soil samples were taken at 50-meter intervals along cut grid lines from the 'B' horizon from pits dug with a grub-hoe from the Gillian property. Samples were prepared and sent to Min-En Laboratories in North Vancouver, B.C. for multielement analysis. Sample preparation included oven drying the shipped kraft bags, then sieving through minus-80 mesh. Determinations were as follows: i) Nitric and perchloric acid digestion and atomic absorption analysis for Cu, Zn and Ag, and ii) Flameless atomic absorption for Hg, and iii) calorimetric determination of Ag.

The analytical certificates from Min-En Laboratories are not included in the Assessment Report No 6151; therefore, the author has insufficient records from the 1976 program to evaluate the sample security or QA/QC for these samples.

### 12.4.9 1985 Soil Program (Normine Resources Ltd.)

In 1986, 117 soil samples were collected from the 'B' horizon from the Goosly 2 claim group at 50-meter spacing along grid lines. Soils were analyzed by Min-En Laboratories, North Vancouver, B.C., for copper, lead, zinc, silver and arsenic. A further 123 geochemical samples at 25-meter spacing were collected for mercury analysis along the same grid.

Procedures for Cu, Pb, Zn, Ag are as follows;

Samples were dried at 95° then screened to minus-80 mesh size for analysis. 1.0 gram of the samples are digested for 6 hours with HNO3 and HClO4 mixture. Samples are diluted to a standard volume. The solutions are analysed by Atomic Absorption Spectrophotometers.

Copper, lead, zinc and silver are analysed using the CH2H2-Air flame combination. Background corrections for Pb, Ag upon request are completed.

Procedures for Hg, 1.0 gram sample is digested with nitric and sulphuric acid. Then further oxidized with 30% H2O2 while heading and repeating the oxidizing steps. After cooling and diluting the solution, 5% KMNO4 is added in the titrating manner until the pink colour is obtained. Mercury is realized by reducing solution into a flameless atomic absorption chamber and measured in comparing samples with known standards.

Procedures for As are not described in the Assessment Report No. 14346.

The analytical certificates from Min-En Laboratories, are not included in the Assessment Report No 14346; therefore, the author has insufficient records form the 1986 program to evaluate the sample security or QA/QC for these samples.

#### 12.4.10 1986 Soil Program (Normine Resources Ltd.)

A total of 114 'A' horizon and 205 'B' samples were collected from 50-meter stations along lines spaced at 200 meter intervals on the Goosly 1 and Goosly 2 claims. The following analytical methods were completed by Min-En Laboratories, Vancouver.

Procedures for Cu, Pb, Zn, Ag are as follows:

Samples were dried at 95° then screened to minus-80 mesh size for analysis. 1.0 gram of the samples are digested for 6 hours with HNO3 and HClO4 mixture. Samples are diluted to a standard volume. The samples are analysed by computer operated Jarrel Ash 9000ICP inductively coupled plasma analyser. Reports are formatted by routing computer dotline print out.

Procedures for Hg are not described in the Assessment Report No. 15967.

Procedures for As are not described in the Assessment Report No. 15967.

The analytical certificates from Min-En Laboratories, are included in the Assessment Report No 15967; however, the author has no record of internal lab QA/QC procedures nor security of samples.

## 12.5 Trench, Grab, Chip, and Channel Sample Preparation and Analysis, and QA/QC

### 12.5.1 1969 Trench Program (Orequest Resources Synd.)

Trench samples were collected from seven (7) trenches and sampled at 1-foot depth intervals. A total of 42 samples collected from the trenches were sent for copper and zinc analyses.

Samples were received at Vancouver Geochemical Labs then dried in a ventilated oven. Rock samples were crushed and pulverized to minus-80 mesh. 1.0 g or 0.5 g of the 80-minus sample was used and weight by top loading balance. Samples were heated in a sand bath with nitric and perchloric acids (15% to 85% by volume of concentrate acids respectively). Digested samples were diluted with demineralized water to fixed volume and shaken. Copper, zinc, silver and lead analyses were determined using a Techtron Atomic Absorption Spectrophotometer Model AA4 with a respective hollow cathode lamp. The digested samples were aspirated direction into an air acetylene flame. The analyses were supervised or determined by Mr.Conway Chun, or Mr. Laurie Nicol and their laboratory staff.

Analytical certificates from Vancouver Geochemical Labs are not available in Assessment Report No. 2971. Sample QA/QC verification and security are unknown to the author of the report.

### 12.5.2 2009 Rock Sampling Program (Church and Haughton)

A limited sampling program to accompany geophysical work was completed in 2009 by B.Church and D.Haugton. A total of 15 rock samples were sent to Acme Analytical Laboratories Ltd., Vancouver, B.C. for multielement and whole rock analysis. In this case Acme's 41 element 'Group 1EX' package was used that is adaptable for litho- or stream sediment geochemical prospecting. The 41-element package analyzed for Ag, Al, As, Au, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, Hf, K, La, Li. Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Pb, S, Sb, Sc, Sn, Sr, Ta, Th, Ti, U, V, W, Y and Zn 4-acid digestion with ICO-ES finish. This analytical method follows a routine whereby samples split to 0.25g and are subjected to combined acid dissolution, HF + HNO3 + HCIO4, followed by take-up of the dried residue in HCL. The final determination is done by ICP-mass spectrometry that gives lower detection limits for the major elements in the range 0.001 to 0.01 % and 0.1 to 1 ppm for minor elements. The quality of results is gauged by replicate analyses and the use of standard samples. In addition to the 15 original samples, Acme Labs inserted replicate samples and standard reference material to batch analyses.

Analytical certificates and quality control reports are included in Assessment Report No. 31051 (See "VAN08009219.1").

# 23 Adjacent Properties

Information provided about adjacent properties may be useful for geologic settings, structural, and geochemical information for the exploration of mineral potential on the Silver Lake Property; however, the presence of mineralization on adjacent properties is not an indicative measure of the mineral potential on the Property.

Notable properties near the Silver Lake Property includes Equity Silver Mine (Newmont Corp), Silver Hope Property (Finlay Minerals Ltd.) and Silver Queen Property (Equity Metals Corp.)

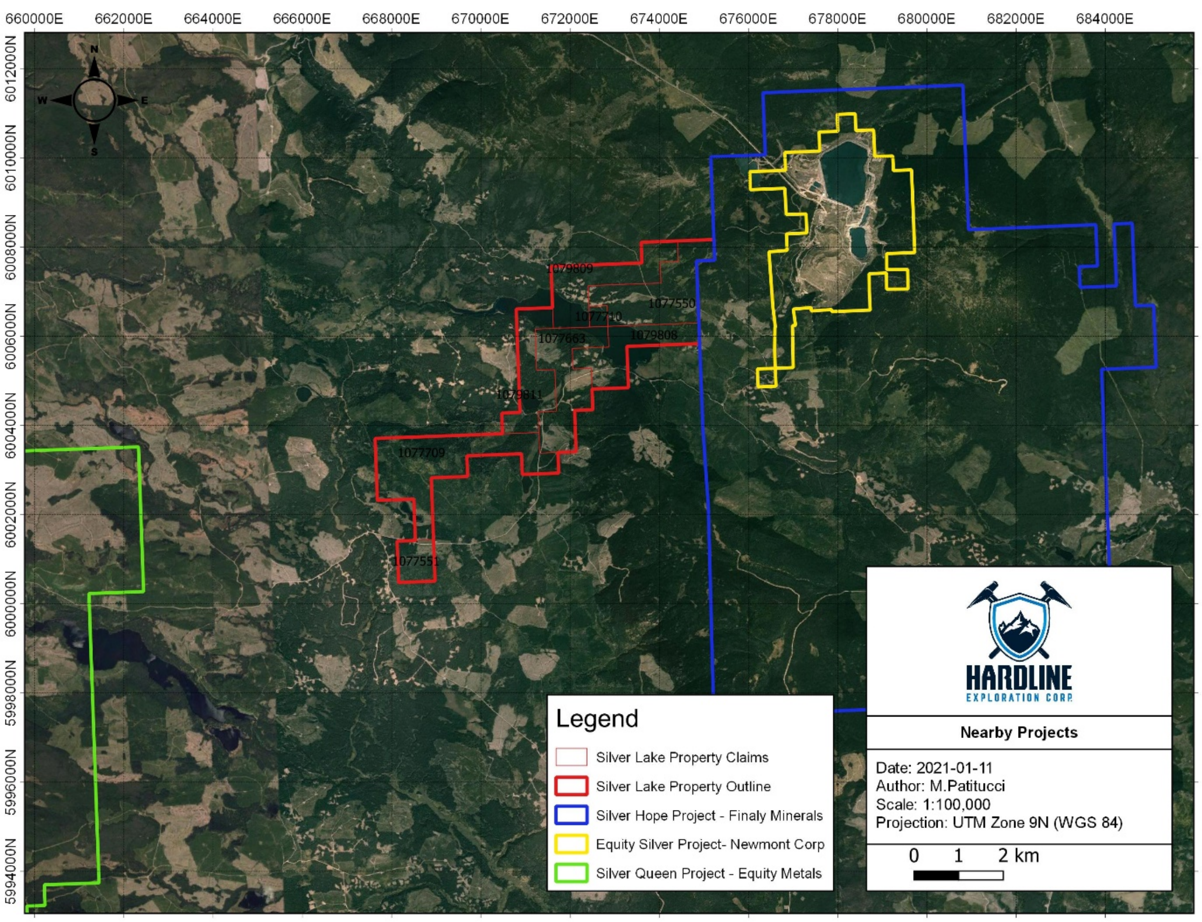



*Figure 23.1 - Nearby claims surrounding the Silver Lake Property.*

<u>Equity Silver Mine – Newmont Corp.</u>

The Equity Silver mine, to the east of the Silver Lake Project area, is a significant past producing mine. Equity Silver Mines Ltd. ceased milling in January 1994, after thirteen years of open pit and underground production.

The Equity Silver mine consisted of several epigenetic related Cu-Ag-Au deposits namely the Main, North, Waterline, and Southern Tail Zones. Mineralization at the Equity Silver Mine consisted of pyrite, chalcopyrite, pyrrhotite and tetrahedrite with minor galena, sphalerite, argentite, minor pyrargyrite and other silver sulphosalts. Alteration stages noted include advanced argillic, chlorite, specularite and local sericite, pyrophyllite, andalusite tourmaline and minor scorzalite, corundum and dumortierite. Sulfide mineralization is structurally restricted to tabular fracture zones that run sub-parallel to parallel to stratigraphy occurring in veins and disseminations within replacement bodies in the zones. The three main ore zones have local variations in sulfide mineralization styles. The Main Zone is approximately 60-120 meters thick and contains fine grained disseminations with lesser veins. Southern Tail Zone ore is comprised of coarse grained, predominately veins with lesser disseminations and is approximately 30 meters thick. Other zones of mineralization include a zone of copper-molybdenum mineralization in a quartz stockwork in and adjacent to the quartz monzonite stock and a large zone of tourmaline-pyrite breccia located to the west and northwest of the Main zone.

Production totalled 2,219,480 kilograms of silver, 15,802 kilograms of gold and 84,086 kilograms of copper, from over 33.8 Million tonnes mined at an average grade of 64.9 grams per tonne silver, 0.4 per cent copper, and 0.46 gram per tonne gold, primarily mined from the Main and Southern Tail Zones (Detailed MINFILE and Production Report 093L 001).

It has been interpreted by Cyr et al., 1984, that the copper-silver-gold mineralization at the Equity Mine is epigenetic in origin and may be related to the emplacement of the Paleocene quartz monzonite stock to the west. Coincident K-Ar ages were obtained for both the quartz monzonite and the sericitized tuffs hosting the mineralization. However, given the interpretations by Church and Barakso (1990) and D. MacIntyre et al. (2003) of the Goosly volcanics, which host the sulfide mineralization, as being correlative with the Lower Cretaceous Skeena Group, it is possible that age dates of the volcanics may have been thermally reset by a later intrusive episode.

Silver Hope Property – Finlay Minerals Ltd.

The Silver Hope property is geologically and genetically relevant to the Paleocene-aged quartz monzonite stock of the Goosly Intrusive that outcrops on the Silver Lake Claims. The Silver Hope property is directly east of the Silver Lake project area and currently owned and operated by Finlay Minerals Ltd. Exploration is focussed on targeting a southern continuation of the NNE Equity Mine mesothermal Cu-Ag-Au mineralization in addition to Cu-Mo mineralization displayed in the 2010 discovery of the West Horizon area. Successful drilling results highlighted by Hole SH10-03 that returned 3.4g/t Ag, 0.30% Cu, and 0.02% Mo over 219.87 meters. Multiphase exploration in 2011 was successful in discovering a gold-silver-copper mineralization with a distinct geochemical signature potentially related to a deep magmatic source in hole SH11-12. This hole returned grades of 0.4g/t Au, 29.37g/t Ag, and 0.19% Cu (0.91% Cu EQ) over 76 meters (Gruenwald, 2014).

Silver Queen – Equity Metals Corp

The Silver Queen project comprises mesothermal and epithermal polymetallic veins. Goosly intrusion related dikes are contemporaneous with vein emplacement approximately 20km southwest of the Silver

Lake Property. The Silver Queen and Equity deposits appear to be genetically related thus representing the full spectrum of hydrothermal plumbing systems driven by the intrusions. A prominent lineament 30 km long trends east-northeast from the Silver Queen Property towards a central uplift hosting the Equity Silver Mine. The lineament appears to be associated with a radial fracture coinciding with the eruptive axis in the Kasalka Group volcanics. Mineralization on the Silver Queen Property consists of quartz-carbonate-barite-specularite veins that contain disseminated to locally massive pyrite, sphalerite, galena, chalcopyrite, tennantite and argentian tetrahedrite. Approximately 20 mineralized veins have been discovered. The main quartz vein systems are the Wrinch (including the No. 3 Vein), Camp, Portal, Chisholm, George Lake and Cole systems. The average width of the veins is 0.9 to 1.2 m and locally increases up to 4.6 m. Sulfides include pyrite, sphalerite, with accessory chalcopyrite, galena and tennantite within a quartz/rhodochrosite/barite gangue. Rocks adjacent to the veins are argillically altered. A broad zone of propylitic alteration is distal to the vein systems.

Equity Metals (formerly New Nadina Explorations Ltd.) conducted a number of exploration and drilling programs on the Silver Queen Property since 2010. Drilling campaigns in 2010, 2011, 2012/13, 2017 and 2018 drilled a total of 51 holes for a total of 18,204 m. Drilling initially focussed on defining extensions of the vein systems, however, drilling in 2011 discovered Cu-Mo porphyry mineralization named the Itsit Porphyry. Subsequent drilling in 2012/13, 2017, and 2018 has focussed on porphyry targets associated with Titan IP and ZTEM geophysical anomalies.

On July 16th, 2019, Equity Metals Ltd. released a maiden NI 43-101 Resource Estimate of 85Kozs Au, 5.2Mozs Ag, 5Mlbs Cu, 17Mlbs Pb and 114Mlbs Zn (244,000oz AuEq) Indicated and 64Kozs Au, 4.7Mozs Ag, 5Mlbs Cu, 16Mlbs Pb and 92Mlbs Zn (193,000oz AuEq) Inferred (Burga et al., 2019)

Past production, resources estimates, and mineralization on adjacent properties are not indicative of the mineral potential on the Silver Lake property.

# 24 Other Relevant Data and Information

To the author's best knowledge, all the relevant data and information has been provided in the preceding text.

# 25 Interpretation and Conclusions

The Silver Lake Project has potential to host mineralization including "Equity-Type" Ag-Cu-Au, VMS, porphyry and epithermal related mineral deposits. Equity Mine type rocks have been identified on the Silver Lake Property through various stages of exploration on the claims dating back to late 1960s.

Exploration campaigns in the Project area have identified geochemical metal-in-soil anomalies, specifically of interest are the areas south of Goosly Lake, loosely referred to as the South Shore and Gilliam Block targets. A 48 Ma Goosly Intrusion (gabbro-monzonite), near the Gillian target, is in a similar stratigraphic sequence as the intrusion on the Equity Mine and may provide a heat source and the introduction of metal-bearing solutions into the pyroclastic division of the Goosly sequence. A weak magnetic feature is noted by recent geophysical surveys in and around this area and may warrant further investigation.

The 2020 VTEM survey outlined a strong VTEM with coincident magnetic anomaly on the South Shore geophysical target, to the south of Goosly Lake. Historical geophysical data includes a ZTEM survey, which covers the Equity Silver mine and a portion of the Silver Lake property anomaly. The ZTEM data shows similar responses between the Equity Silver mine and the Silver Lake area. The VTEM survey collected over the Silver Lake property defined a large anomalous EM trend that strikes N-S and is coincident with a ZTEM anomaly. Depth inversions of the ZTEM data indicates that both the Equity Mine anomaly and Silver Lake anomaly have large depth extent in excess of 1 km. The magnetic data acquired by the ZTEM and VTEM surveys show a close proximity of elevated magnetic susceptibility to both the Equity Silver mine and the Silver Lake anomaly. Geologically, the presence of intrusive bodies consisting of granitic stocks and syenomonzonite-gabbro stocks appear to be similar in both the Equity Silver mine and the L&L Silver Lake anomaly. The VTEM L&L response indicates a large weak to moderately conductive body in excess of 2 km in strike length and 1 km in width with depth to top in the range of 100 meters. No previous drilling in this area has been reported and it is a valid exploration target. This zone should be further explored by detailed geological mapping of structures, geochemical surveying and trenching. If results are positive this area should be further tested by diamond core drilling.

Soil geochemistry anomalies associated in and around the South Shore silver target have multiple instances of silver-in-soil greater than 1 ppm over neighbouring stations. Much of the historic exploration focused on geochemical surveys of B Horizon soils; however, the true extent to which the source bedrock would be represented in areas of thick overburden may be misrepresented. Limited bedrock exposures exist at slope breaks or constructed road cuts. Significant overburden may inhibit standard B-horizon soil sampling. Alternative geochemical methods such as Ah horizon, spatiotemporal geochemical hydrocarbons (SGH) or biological (tree bark, tree top) sampling may be better suited.

The SAM minfile showing to the NE of Goosly Lake is a silver target which intersects volcaniclastic rocks similar to that at nearby Equity Mine. Geophysical ZTEM data suggests a magnetic structure with NNW trend. Historical percussion and limited diamond drilling by Faraway Gold Mines returned moderate silver results up to 154 ppm Ag in drillhole 87-011 within the West Zone. The extension of this zone remains open to the NNW and is a valid silver target. This NW extension should be further explored with detailed geochemical sampling, geological mapping and trenching. If results are positive this extension of the zone may be drill tested.

# 26 Recommendations

Further exploration and evaluation of the Silver Lake Property is recommended by the author. Prospective mineralization similar to nearby Equity Mine have been identified in addition to comparative geological stratigraphy in various areas of the project. The following recommendations are made by the Author:

- A GIS data compilation of all historic geochemical surveys, geophysical surveys, and drilling campaigns. Areas or samples with elevated Ag, Cu, Au, Pb, Zn should be prioritized for initial field verification and exploration.
- Follow-up on known historical geochemical and geophysical anomalies at the South Shore, Northwest, Gilliam and SAM targets. An attempt to located historic drill core should be made to validate historical drilling. If historic core is located in usable condition, a series of samples should be sent for thin section and XRD for mineralogy, specifically testing for the sulfide and sulfosalt assemblage comprising the Equity mineralization. Additional geochemical surveys and mapping should be completed to define drill targets.
- Follow-up high priority VTEM, ZTEM and Mag anomalies over the South Shore Block. A geochemical survey should be completed across the anomalies as well as geological mapping, and mechanized trenching at higher potential zones.

## 26.1 Proposed Work Program

The proposed work program allows for geochemical sampling, rock sampling and prospecting at various high priority target areas on the property, as well as mechanized trenching. A later phase would be contingent on positive results from Phase 1 and would entail ground geophysical surveys and diamond drilling to test targets.

*Table 26.1.1 - Proposed exploration budget.*

| | Description | | Estimated Cost (CAD) |
|---|---|---|---|
| **Phase 1** | **Geologic and Structural Mapping, Prospecting, Soil Sampling** | | |
| | 2 week, 5-person crew (1 Senior Geologist, 1 Project Geologist, 1 Geologist, 2 Helpers (Junior Geologist and Field Assistant) | $35,350 | $ 102,155 |
| | Trucks (2) + Equipment Rentals (CanDig, ATV, trailers, pXRF, Mag-sus, hand-held radios) | $7,435 | |
| | Shipping, Flights, Meals, Fuel, Hotel, Consumables | $14,370 | |
| | Analytical/Sampling | $45,000 | |
| | **TOTAL PHASE 1** | | **$ 102,155** |
| **Phase 2** | **Follow-up (Contingent on positive results in Phase 1)** | | |
| | Geophysical: IP surveying (line-kms TBD based on area of interest) | | **$** 100,000 |
| | Diamond Drilling: 1150 meters of diamond drilling to test anomalies<br>$350/m all in cost | | $ 400,000 |
| | **TOTAL PHASE 2** | | **$ 500,000** |

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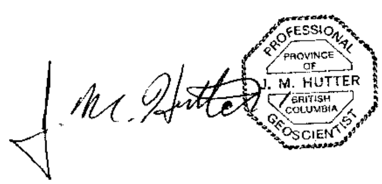
# APPENDIX A: Date, Signature and Certificate of Authors

This certificate applies to NI43-101 Technical Report for the Silver Lake Project prepared for Prosperity Exploration Corp. effective as of January 21, 2021.

I, James M. Hutter, P. Geo., do hereby certify that:

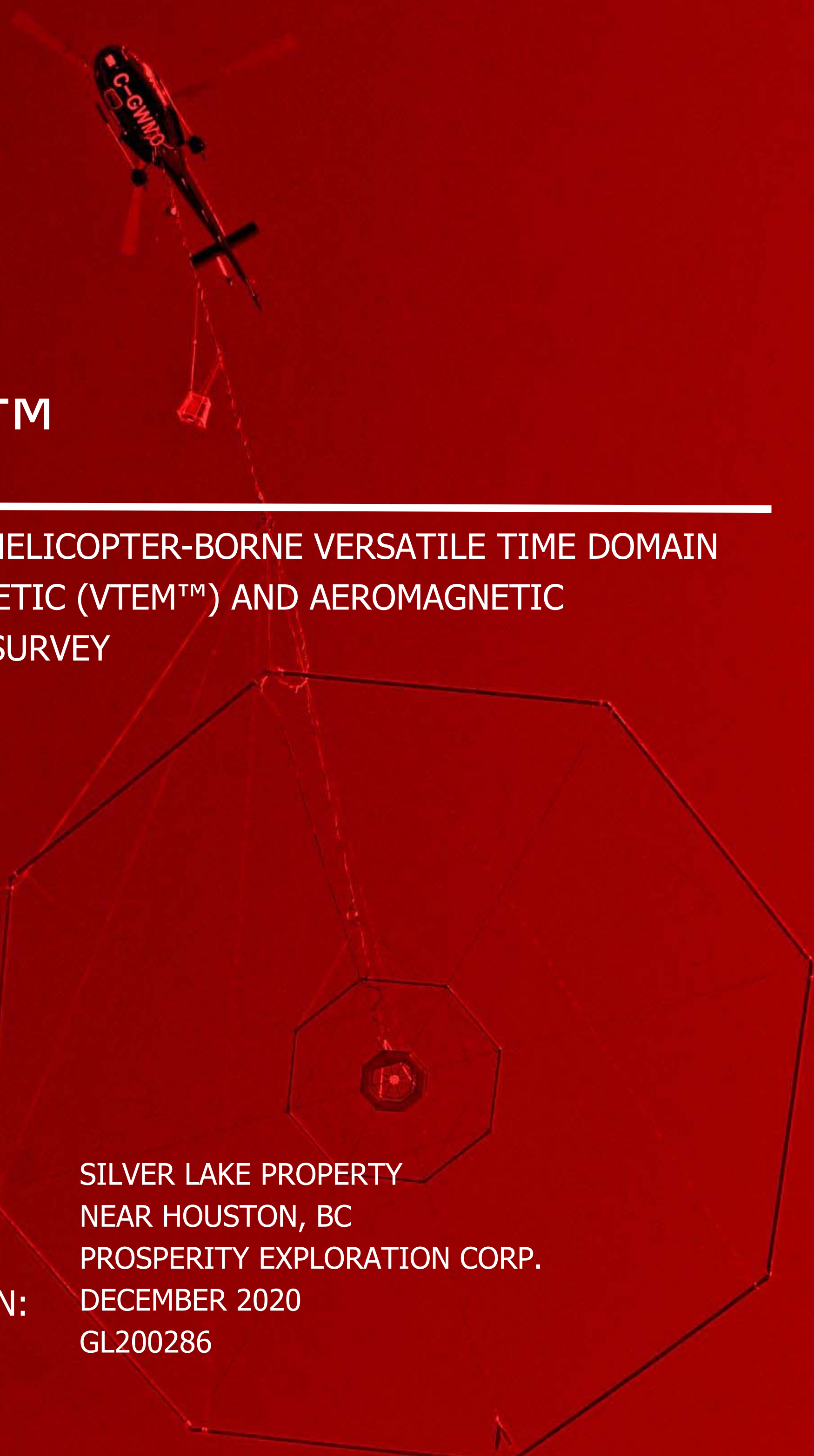
1) I am a consulting geologist with an office at 4407 Alfred Avenue, Smithers, BC, Canada;
2) I am a graduate of the University of British Columbia, in 1976, with a BSc in Geology.
3) I am a Professional Geoscientist in good standing with Engineers and Geoscientists BC;
4) I have practiced my profession since 1976 in various capacities and I have experience working on polymetallic deposits and porphyry copper ± molybdenum ± gold deposits in British Columbia;
5) I am a Qualified Person as defined in National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
6) I, as the qualified person, am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
7) I have attended the property on July 18, 2021;
8) I am responsible for all items within this report;
9) I have had no previous involvement with the mineral property in question;
10) I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the technical report, and that this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
11) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the technical report;

James M. Hutter, P.Geo




Dated this 19th day of July, 2021

# APPENDIX B: 2020 Geotech. Ltd VTEM Data (Final Report)



# VTEM™

## REPORT ON A HELICOPTER-BORNE VERSATILE TIME DOMAIN ELECTROMAGNETIC (VTEM™) AND AEROMAGNETIC GEOPHYSICAL SURVEY

| | |
|---|---|
| PROJECT: | SILVER LAKE PROPERTY |
| LOCATION: | NEAR HOUSTON, BC |
| FOR: | PROSPERITY EXPLORATION CORP. |
| SURVEY FLOWN: | DECEMBER 2020 |
| PROJECT: | GL200286 |

Geotech Ltd.
270 Industrial Parkway South
Aurora, ON Canada L4G 3T9

Tel: +1 905 841 5004
Web: www.geotech.ca
Email: info@geotech.ca

GEOTECH
AIRBORNE GEOPHYSICAL SURVEYS

# TABLE OF CONTENTS



# LIST OF FIGURES



# LIST OF TABLES

# APPENDICES

# EXECUTIVE SUMMARY

## SILVER LAKE PROPERTY
## NEAR HOUSTON, BC

Between December 9th and 16th, 2020, Geotech Ltd. carried out a helicopter-borne geophysical survey over Silver Lake Property situated near Houston, BC.

Principal geophysical sensors included a versatile time domain electromagnetic (VTEM™) system, and a caesium magnetometer. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 181 line-kilometres of geophysical data were acquired during the survey.

In-field data quality assurance and preliminary processing were carried out on a daily basis during the acquisition phase. Preliminary and final data processing, including generation of final digital data and map products were undertaken from the office of Geotech Ltd. in Aurora, Ontario.

The processed survey results are presented as the following maps:

- Electromagnetic stacked profiles of the B-field Z Component,
- Electromagnetic stacked profiles of dB/dt Z Component,
- B-Field Z Component Channel grid,
- dB/dt Z Component Channel grid,
- Total Magnetic Intensity (TMI),
- Calculated Vertical Derivative (CVG),
- dB/dt Z Component Calculated Time Constant (Tau) with CVG contours, and
- Resistivity Depth Images (RDI) sections and plans are presented.

Digital data includes all electromagnetic and magnetic products, plus ancillary data including the waveform.

The survey report describes the procedures for data acquisition, equipment used, processing, final image presentation and the specifications for the digital data set.

# 1. INTRODUCTION

## 1.1 GENERAL CONSIDERATIONS

Geotech Ltd. performed a helicopter-borne geophysical survey over Silver Lake Property situated near Houston, BC (Figure 1 & Figure 2).

Robert Weicker represented Prosperity Exploration Corp. during the data acquisition and data processing phases of this project.

The geophysical surveys consisted of helicopter borne EM using the versatile time-domain electromagnetic (VTEM™) system with Full-Waveform processing. Measurements consisted of Vertical (Z) component and aeromagnetics using a caesium magnetometer. A total of 181 line-km of geophysical data were acquired during the survey.

The crew was based out of Burns Lake Airport, BC (Figure 2) for the acquisition phase of the survey. Survey flying started and finished on December 14th, 2020.

Data quality control and quality assurance, and preliminary data processing were carried out on a daily basis during the acquisition phase of the project. Final data processing followed immediately after the end of the survey. Final reporting, data presentation and archiving were completed from the Aurora office of Geotech Ltd. in January 2021.

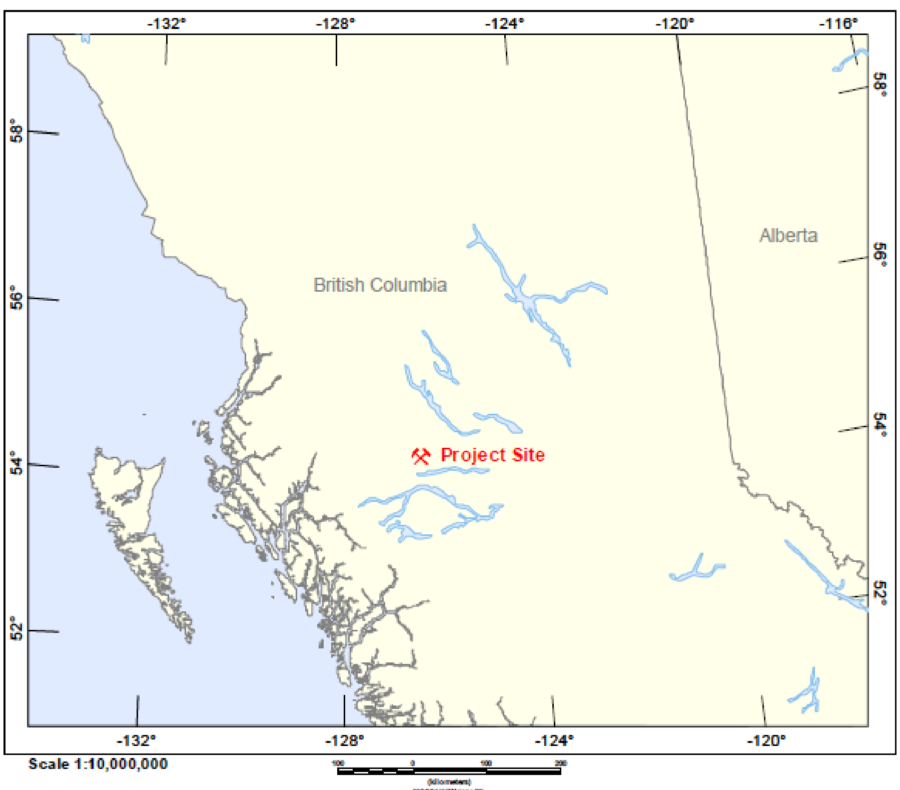



Figure 1: Survey location.

## 1.2 SURVEY AND SYSTEM SPECIFICATIONS

The Silver Lake Property survey area is is approximately 30km southeast of Houston, BC (Figure 2).

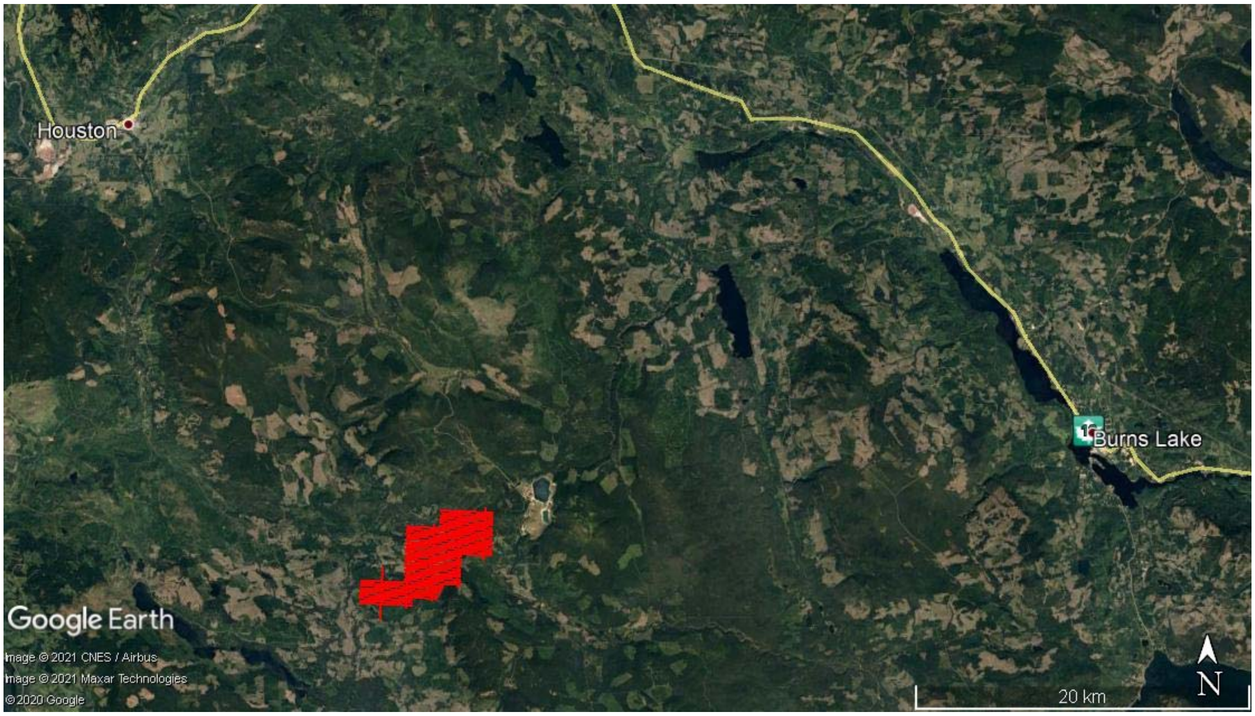



Figure 2: Survey area locations on Google Earth.

The survey area was flown in a west to east (N 90° E azimuth) direction, with traverse line spacing of 150 metres as depicted in Figure 3. Tie lines were flown perpendicular (N 0º E) to the traverse lines at 1500 metre line spacing. For more detailed information on the flight spacing and direction see Table 1.

## 1.3 TOPOGRAPHIC RELIEF AND CULTURAL FEATURES

Topographically, the survey area exhibits moderate relief with elevations ranging from 908 to 1285 metres above mean sea level over an area of 23 square kilometres.

There are roads within the Silver Lake Property survey area. There is a mine ~2.5km off the northeast corner of the property.

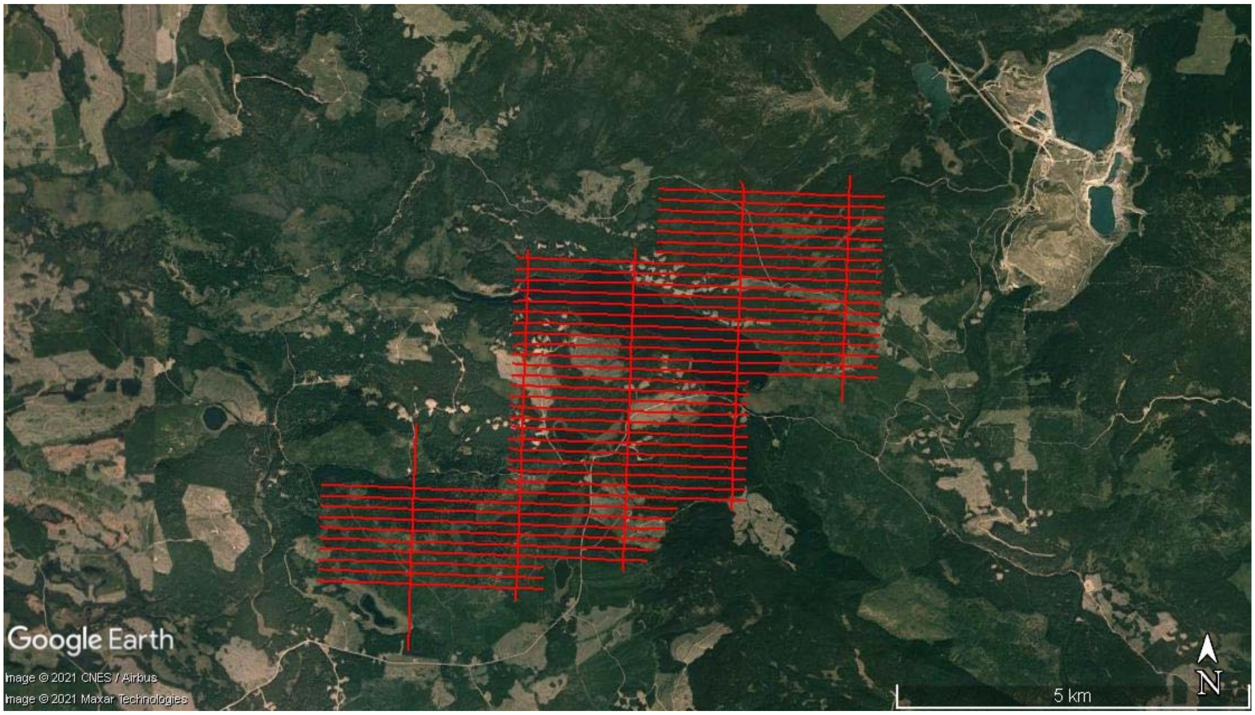



Figure 3: Flight path over a Google Earth Image.

# 2. DATA ACQUISITION

## 2.1 SURVEY AREA

The survey area (see Figure 3 and Appendix A) and general flight specifications are as follows:

Table 1: Survey Specifications

| Survey block | Line spacing (m) | Area ($Km^2$) | Planned Line-km | Actual[1] Line-km | Flight direction | Line numbers |
|---|---|---|---|---|---|---|
| Silver Lake Property | Traverse: 150 | 23 | 170 | 181 | N 90° E / N 270° E | L1000 – L1380 |
| | Tie: 1500 | | | | N 00° E / N 180° E | T2000 – T2040 |
| TOTAL | | 23 | 170 | 181 | | |

Survey area boundaries co-ordinates are provided in Appendix B.

## 2.2 SURVEY OPERATIONS

The crew were based out of Burns Lake Airport, BC during the survey. The following table shows the timing of the flying.

Table 2: Survey schedule

| Date | Comments |
|---|---|
| 09-Dec | Mobilization to Burns Lake Airport |
| 10-Dec | System assembly |
| 11-Dec | Complete system assembly |
| 12-Dec | Standby - Weather day |
| 13-Dec | Test flights |
| 14-Dec | Production Flight - 170 km flown. Flight path completed |
| 15-Dec | Received demobilization approval |
| 16-Dec | Demobilization |

[1] Note: Actual Line kilometres represent the total line kilometres in the final database. These line-km normally exceed the Planned Line-km, as indicated in the survey NAV files.

## 2.3 FLIGHT SPECIFICATIONS

During the survey, the helicopter was maintained at a mean altitude of 99 metres above the ground with an average survey speed of 100 km/hour. This allowed for an average Transmitter-receiver loop terrain clearance of 62 metres and a magnetic sensor clearance of 86 metres.

The on-board operator was responsible for monitoring the system integrity. He also maintained a detailed flight log during the survey, tracking the times of the flight as well as any unusual geophysical or topographic features.

On return of the aircrew to the base camp the survey data was transferred from a compact flash card (PCMCIA) to the data processing computer. The data were then uploaded via ftp to the Geotech office in Aurora for daily quality assurance and quality control by qualified personnel.

## 2.4 AIRCRAFT AND EQUIPMENT

### 2.4.1 SURVEY AIRCRAFT

The survey was flown using a Eurocopter Aerospatiale 350B3 helicopter, registration C-FKOI. The helicopter is owned and operated by Geotech Aviation. Installation of the geophysical and ancillary equipment was carried out by a Geotech Ltd crew.

### 2.4.2 ELECTROMAGNETIC SYSTEM

The electromagnetic system was a Geotech Time Domain EM (VTEM™) full receiver-waveform streamed data recorded system. The "full waveform VTEM system" uses the streamed half-cycle recording of transmitter and receiver waveforms to obtain a complete system response calibration throughout the entire survey flight. VTEM with the Serial number 22 had been used for the survey. The VTEM™ transmitter current waveform is shown diagrammatically in Figure 4.

The VTEM™ Receiver and transmitter coils were in concentric-coplanar and Z-direction oriented configuration. The Transmitter-receiver loop was towed at a mean distance of 37 metres below the aircraft as shown in Figure 5.

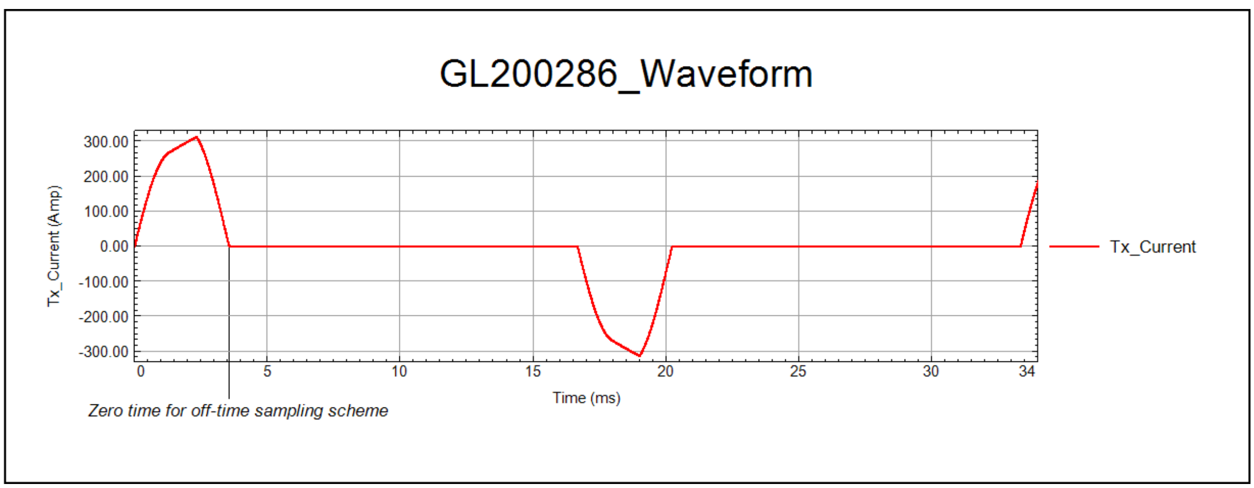



Figure 4: VTEM™ Transmitter Current Waveform.

The VTEM™ decay sampling scheme is shown in Table 3 below. Forty-five time measurement gates were used for the final data processing in the range from 0.021 to 10.667 msec. Zero time for the off-time sampling scheme is equal to the current pulse width and is defined as the time near the end of the turn-off ramp where the dI/dt waveform falls to 1/2 of its peak value.

Table 3: Off-Time Decay Sampling Scheme

| VTEM™ Decay Sampling Scheme | | | | |
|---|---|---|---|---|
| Index | Start | End | Middle | Width |
| Milliseconds | | | | |
| 4 | 0.018 | 0.023 | 0.021 | 0.005 |
| 5 | 0.023 | 0.029 | 0.026 | 0.005 |
| 6 | 0.029 | 0.034 | 0.031 | 0.005 |
| 7 | 0.034 | 0.039 | 0.036 | 0.005 |
| 8 | 0.039 | 0.045 | 0.042 | 0.006 |
| 9 | 0.045 | 0.051 | 0.048 | 0.007 |
| 10 | 0.051 | 0.059 | 0.055 | 0.008 |
| 11 | 0.059 | 0.068 | 0.063 | 0.009 |
| 12 | 0.068 | 0.078 | 0.073 | 0.010 |
| 13 | 0.078 | 0.090 | 0.083 | 0.012 |
| 14 | 0.090 | 0.103 | 0.096 | 0.013 |
| 15 | 0.103 | 0.118 | 0.110 | 0.015 |
| 16 | 0.118 | 0.136 | 0.126 | 0.018 |
| 17 | 0.136 | 0.156 | 0.145 | 0.020 |
| 18 | 0.156 | 0.179 | 0.167 | 0.023 |
| 19 | 0.179 | 0.206 | 0.190 | 0.027 |
| 20 | 0.206 | 0.236 | 0.220 | 0.030 |
| 21 | 0.236 | 0.271 | 0.253 | 0.035 |
| 22 | 0.271 | 0.312 | 0.290 | 0.040 |
| 23 | 0.312 | 0.358 | 0.333 | 0.046 |
| 24 | 0.358 | 0.411 | 0.383 | 0.053 |
| 25 | 0.411 | 0.472 | 0.440 | 0.061 |
| 26 | 0.472 | 0.543 | 0.505 | 0.070 |
| 27 | 0.543 | 0.623 | 0.580 | 0.081 |
| 28 | 0.623 | 0.716 | 0.667 | 0.093 |
| 29 | 0.716 | 0.823 | 0.766 | 0.107 |
| 30 | 0.823 | 0.945 | 0.880 | 0.122 |
| 31 | 0.945 | 1.086 | 1.010 | 0.141 |
| 32 | 1.086 | 1.247 | 1.161 | 0.161 |
| 33 | 1.247 | 1.432 | 1.333 | 0.185 |
| 34 | 1.432 | 1.646 | 1.531 | 0.214 |
| 35 | 1.646 | 1.891 | 1.760 | 0.245 |
| 36 | 1.891 | 2.172 | 2.021 | 0.281 |
| 37 | 2.172 | 2.1217 | 2.323 | 0.323 |

| VTEM™ Decay Sampling Scheme | | | | |
|---|---|---|---|---|
| Index | Start | End | Middle | Width |
| Milliseconds | | | | |
| 38 | 2.1217 | 2.865 | 2.667 | 0.370 |
| 39 | 2.865 | 3.290 | 3.063 | 0.427 |
| 40 | 3.290 | 3.781 | 3.521 | 0.490 |
| 41 | 3.781 | 4.341 | 4.042 | 0.560 |
| 42 | 4.341 | 4.987 | 4.641 | 0.646 |
| 43 | 4.987 | 5.729 | 5.333 | 0.742 |
| 44 | 5.729 | 6.581 | 6.125 | 0.852 |
| 45 | 6.581 | 7.560 | 7.036 | 0.979 |
| 46 | 7.560 | 8.685 | 8.083 | 1.125 |
| 47 | 8.685 | 9.977 | 9.286 | 1.290 |
| 48 | 9.977 | 11.458 | 10.667 | 1.482 |

Z Component: 4 - 48 time gates

VTEM™ system specifications:

| Transmitter | Receiver |
| --- | --- |
| • Transmitter loop diameter: 17.6 m<br>• Number of turns: 4<br>• Effective Transmitter loop area: 973 $m^2$<br>• Transmitter base frequency: 30 Hz<br>• Peak current: 311.7 A<br>• Pulse width: 3.55 ms<br>• Waveform shape: Bi-polar trapezoid<br>• Peak dipole moment: 303,327 nIA<br>• Average transmitter-receiver loop terrain clearance: 62 metres above the ground | • Z-Coil diameter: 1.2 m<br>• Number of turns: 100<br>• Effective coil area: 113.04 $m^2$ |

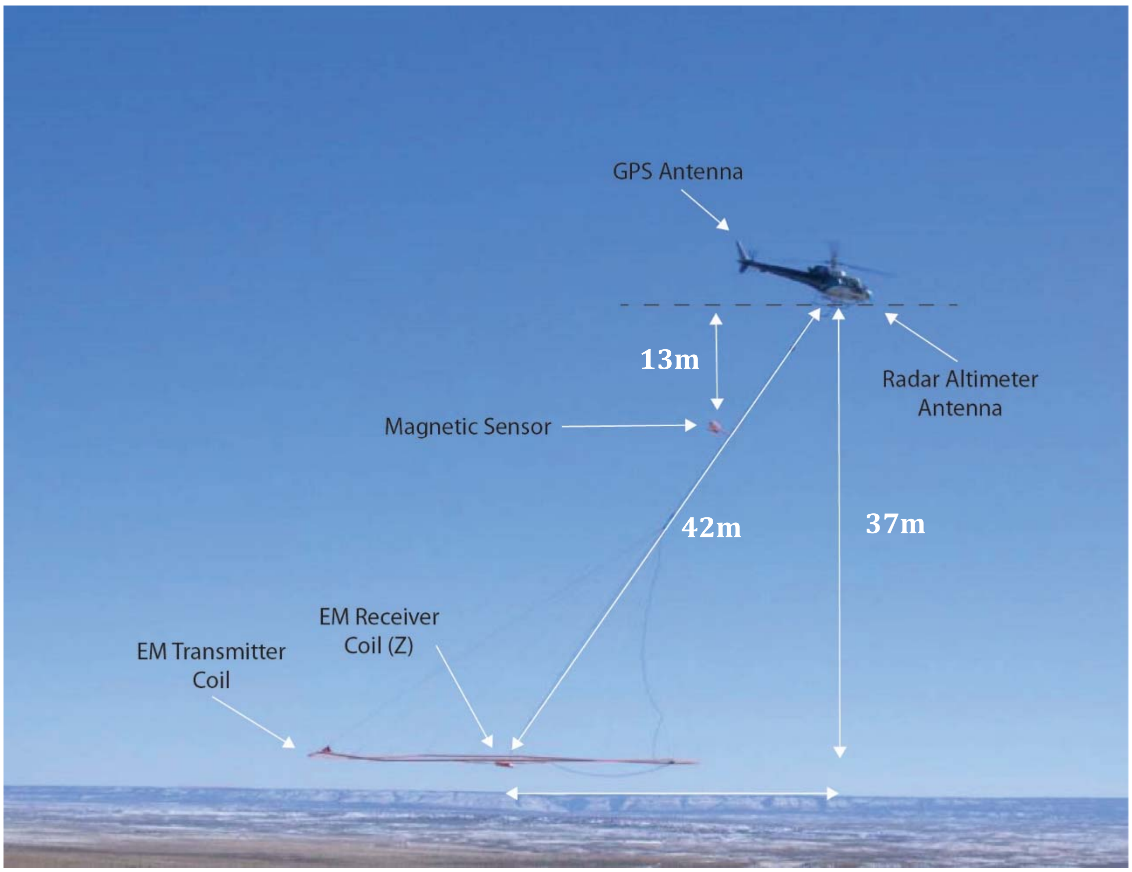



Figure 5: VTEM™ System Configuration.

### 2.4.3 FULL WAVEFORM VTEM™ SENSOR CALIBRATION

The calibration is performed on the complete VTEM™ system installed in and connected to the helicopter, using special calibration equipment. This calibration takes place on the ground at the start of the project prior to surveying.

The procedure takes half-cycle files acquired and calculates a calibration file consisting of a single stacked half-cycle waveform. The purpose of the stacking is to attenuate natural and man-made magnetic signals, leaving only the response to the calibration signal.

This calibration allows the transfer function between the EM receiver and data acquisition system and also the transfer function of the current monitor and data acquisition system to be determined. These calibration results are then used in VTEM full waveform processing.

### 2.4.4 RADAR ALTIMETER

A Terra TRA 3000/TRI 40 radar altimeter was used to record terrain clearance. The antenna was mounted beneath the bubble of the helicopter cockpit (Figure 5).

### 2.4.5 GPS NAVIGATION SYSTEM

The navigation system used was a Geotech PC104 based navigation system utilizing a NovAtel's WAAS (Wide Area Augmentation System) enabled GPS receiver, Geotech navigate software, a full screen display with controls in front of the pilot to direct the flight and a NovAtel GPS antenna mounted on the helicopter tail (Figure 5). As many as 11 GPS and two WAAS satellites may be monitored at any one time. The positional accuracy or circular error probability (CEP) is 1.8 m, with WAAS active, it is 1.0 m. The co-ordinates of the survey area were set-up prior to the survey and the information was fed into the airborne navigation system. The second GPS antenna is installed on the additional magnetic loop together with Gyro Inclinometer.

### 2.4.6 DIGITAL ACQUISITION SYSTEM

A Geotech data acquisition system recorded the digital survey data on an internal compact flash card. Data is displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. The data type and sampling interval as provided in Table 4.

Table 4: Acquisition Sampling Rates

| Data Type | Sampling |
|---|---|
| TDEM | 0.1 sec |
| Magnetometer | 0.1 sec |
| GPS Position | 0.2 sec |
| Radar Altimeter | 0.2 sec |

## 2.5 BASE STATION

A combined magnetometer/GPS base station was utilized on this project. A Geometrics Caesium vapour magnetometer was used as a magnetic sensor with a sensitivity of 0.001 nT. The base station was recording the magnetic field together with the GPS time at 1 Hz on a base station computer.

The base station magnetometer sensor was installed away from electric transmission lines and moving ferrous objects such as motor vehicles. The base station data were backed-up to the data processing computer at the end of each survey day.

# 3. PERSONNEL

The following Geotech Ltd. personnel were involved in the project.

FIELD:

| | |
|---|---|
| Project Manager: | TaiChyi Shei (Office) |
| Data QC: | Nick Venter (Office) |
| Crew chief: | Viktor Shevchenko |
| Operator: | Jeremy Shin |

The survey pilot and the mechanical engineer were employed directly by the helicopter operator – Geotech Aviation.

| | |
|---|---|
| Pilot: | Christian Mazeron |
| Mechanical Engineer: | N/A |

OFFICE:

| | |
|---|---|
| Preliminary Data Processing: | Nick Venter |
| Final Data Processing: | Emily Data |
| Data QA/QC: | Zihao Han<br>Jean M. Legault |
| Reporting/Mapping: | Joseli Soares<br>Emily Data |

Processing phase was carried out under the supervision of Zihao Han and Jean M. Legault, M.Sc.A, P.Eng, and P.Geo - Chief Geophysicist. The customer relations were looked after by David Hitz.

# 4. DATA PROCESSING AND PRESENTATION

Data compilation and processing were carried out by the application of Geosoft OASIS Montaj and programs proprietary to Geotech Ltd.

## 4.1 FLIGHT PATH

The flight path, recorded by the acquisition program as WGS 84 latitude/longitude, was converted into the WGS84 Datum, UTM Zone 9 North coordinate system in Oasis Montaj.

The flight path was drawn using linear interpolation between x, y positions from the navigation system. Positions are updated every second and expressed as UTM easting's (x) and UTM northing's (y).

## 4.2 ELECTROMAGNETIC DATA

The Full Waveform EM specific data processing operations included:

- Half cycle stacking (performed at time of acquisition);
- System response correction;
- Parasitic and drift removal.

A three-stage digital filtering process was used to reject major sferic events and to reduce noise levels. Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events.

The signal to noise ratio was further improved by the application of a low pass linear digital filter. This filter has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 1 second or 15 metres. This filter is a symmetrical 1 sec linear filter.

The results are presented as stacked profiles of EM voltages for the time gates, in linear - logarithmic scale for the B-field and dB/dt responses in the Z component. B-field Z component time channel recorded at 1.760 milliseconds after the termination of the impulse is also presented as a colour image. Calculated Time Constant (TAU) with Calculated Vertical Derivative contours is presented in Appendix C. Resistivity Depth Image (RDI) is also presented in Appendix F and G.

VTEM™ receiver coil orientation Z-axis coil is oriented parallel to the transmitter coil axis and both are horizontal to the ground. Generalized modeling results of VTEM data, are shown in Appendix D.

Z component data produce double peak type anomalies for "thin" sub vertical targets and single peak for "thick" targets.

The limits and change-over of "thin-thick" depends on dimensions of a TEM system (Appendix D, Figure D-16).

## 4.3 MAGNETIC DATA

The processing of the magnetic data involved the correction for diurnal variations by using the digitally recorded ground base station magnetic values. The base station magnetometer data was edited and merged into the Geosoft GDB database on a daily basis. The aeromagnetic data was corrected for diurnal variations by subtracting the observed magnetic base station deviations.

Tie line levelling was carried out by adjusting intersection points along traverse lines. A micro-levelling procedure was applied to remove persistent low-amplitude components of flight-line noise remaining in the data.

The corrected magnetic data was interpolated between survey lines using a random point gridding method to yield x-y grid values for a standard grid cell size of 37.5 metres at the mapping scale. The Minimum Curvature algorithm was used to interpolate values onto a rectangular regular spaced grid.

# 5. DELIVERABLES

## 5.1 SURVEY REPORT

The survey report describes the data acquisition, processing, and final presentation of the survey results. The survey report is provided in two paper copies and digitally in PDF format.

## 5.2 MAPS

Final maps were produced at scale of 1:10,000 for best representation of the survey size and line spacing. The coordinate/projection system used was WGS84 Datum, UTM Zone 9 North. All maps show the flight path trace and topographic data; latitude and longitude are also noted on maps.

The results of the survey are presented as EM profiles, a late-time gate gridded EM channel, and a colour magnetic TMI contour map.

- Maps at 1:10,000 in Geosoft MAP format, as follows:

| | |
|---|---|
| GL200286_10k_dBdt: | dB/dt profiles Z Component, Time Gates 0.220 – 7.036 ms in linear – logarithmic scale. |
| GL200286_10k_BField: | B-field profiles Z Component, Time Gates 0.220 – 7.036 ms in linear – logarithmic scale. |
| GL200286_10k_BFz35: | B-field late time Z Component Channel 35, Time Gate 1.760 ms colour image. |
| GL200286_10k_SFz30: | VTEM dB/dt Z Component Channel 30, Time Gate 0.880 ms. |
| GL200286_10k_TMI: | Total Magnetic Intensity (TMI) colour image and contours. |
| GL200286_10k_CVG: | Calculated 1st Vertical Gradient (CVG) of TMI. |
| GL200286_10k_TauSF: | dB/dt Z Component Calculated Time Constant (Tau) with Calculated Vertical Derivative contours |

- Maps are also presented in PDF format.

- The topographic data base was derived from 1:500,000 DIVA-GIS data.

- A Google Earth file *GL200286_Prosperity.kml* showing the flight path of the block is included. Free versions of Google Earth software from: http://earth.google.com/download-earth.html

## 5.3 DIGITAL DATA

Two copies of the data and maps on DVD were prepared to accompany the report. Each DVD contains a digital file of the line data in GDB Geosoft Montaj format as well as the maps in Geosoft Montaj Map and PDF format.

### 5.3.1 DVD Structure

Data contains databases, grids and maps, as described below.
Report contains a copy of the report and appendices in PDF format.

Databases in Geosoft GDB format, containing the channels listed in Table 5.

Table 5: Geosoft GDB Data Format

| Channel name | Units | Description |
|---|---|---|
| X | metres | UTM Easting WGS84 Zone 9 North |
| Y | metres | UTM Northing WGS84 Zone 9 North |
| Longitude | Decimal Degrees | WGS 84 Longitude data |
| Latitude | Decimal Degrees | WGS 84 Latitude data |
| Z | metres | GPS antenna elevation (above Geoid) |
| Zb | metres | EM bird elevation (above Geoid) |
| Radar | metres | helicopter terrain clearance from radar altimeter |
| Radarb | metres | Calculated EM transmitter-receiver loop terrain clearance from radar altimeter |
| DEM | metres | Digital Elevation Model |
| Gtime | Seconds of the day | GPS time |
| Mag1 | nT | Magnetic diurnal variation data |
| Basemag | nT | Magnetic diurnal variation data |
| Mag2 | nT | Diurnal corrected Total Magnetic field data |
| Mag3 | nT | Levelled Total Magnetic field data |
| CVG | nT/m | Calculated Magnetic Vertical Gradient |
| SFz[4] | $pV/(A*m^4)$ | Z dB/dt 0.021millisecond time channel |
| SFz[5] | $pV/(A*m^4)$ | Z dB/dt 0.026 millisecond time channel |
| SFz[6] | $pV/(A*m^4)$ | Z dB/dt 0.031 millisecond time channel |
| SFz[7] | $pV/(A*m^4)$ | Z dB/dt 0.036 millisecond time channel |
| SFz[8] | $pV/(A*m^4)$ | Z dB/dt 0.042 millisecond time channel |
| SFz[9] | $pV/(A*m^4)$ | Z dB/dt 0.048 millisecond time channel |
| SFz[10] | $pV/(A*m^4)$ | Z dB/dt 0.055 millisecond time channel |
| SFz[11] | $pV/(A*m^4)$ | Z dB/dt 0.063 millisecond time channel |
| SFz[12] | $pV/(A*m^4)$ | Z dB/dt 0.073 millisecond time channel |
| SFz[13] | $pV/(A*m^4)$ | Z dB/dt 0.083 millisecond time channel |
| SFz[14] | $pV/(A*m^4)$ | Z dB/dt 0.096 millisecond time channel |
| SFz[15] | $pV/(A*m^4)$ | Z dB/dt 0.110 millisecond time channel |
| SFz[16] | $pV/(A*m^4)$ | Z dB/dt 0.126 millisecond time channel |
| SFz[17] | $pV/(A*m^4)$ | Z dB/dt 0.145 millisecond time channel |
| SFz[18] | $pV/(A*m^4)$ | Z dB/dt 0.167 millisecond time channel |
| SFz[19] | $pV/(A*m^4)$ | Z dB/dt 0.190 millisecond time channel |
| SFz[20] | $pV/(A*m^4)$ | Z dB/dt 0.220 millisecond time channel |

| Channel name | Units | Description |
|---|---|---|
| SFz[21] | pV/(A*m$^4$) | Z dB/dt 0.253 millisecond time channel |
| SFz[22] | pV/(A*m$^4$) | Z dB/dt 0.290 millisecond time channel |
| SFz[23] | pV/(A*m$^4$) | Z dB/dt 0.333 millisecond time channel |
| SFz[24] | pV/(A*m$^4$) | Z dB/dt 0.383 millisecond time channel |
| SFz[25] | pV/(A*m$^4$) | Z dB/dt 0.440 millisecond time channel |
| SFz[26] | pV/(A*m$^4$) | Z dB/dt 0.505 millisecond time channel |
| SFz[27] | pV/(A*m$^4$) | Z dB/dt 0.580 millisecond time channel |
| SFz[28] | pV/(A*m$^4$) | Z dB/dt 0.667 millisecond time channel |
| SFz[29] | pV/(A*m$^4$) | Z dB/dt 0.766 millisecond time channel |
| SFz[30] | pV/(A*m$^4$) | Z dB/dt 0.880 millisecond time channel |
| SFz[31] | pV/(A*m$^4$) | Z dB/dt 1.010 millisecond time channel |
| SFz[32] | pV/(A*m$^4$) | Z dB/dt 1.161 millisecond time channel |
| SFz[33] | pV/(A*m$^4$) | Z dB/dt 1.333 millisecond time channel |
| SFz[34] | pV/(A*m$^4$) | Z dB/dt 1.531 millisecond time channel |
| SFz[35] | pV/(A*m$^4$) | Z dB/dt 1.760 millisecond time channel |
| SFz[36] | pV/(A*m$^4$) | Z dB/dt 2.021 millisecond time channel |
| SFz[37] | pV/(A*m$^4$) | Z dB/dt 2.323 millisecond time channel |
| SFz[38] | pV/(A*m$^4$) | Z dB/dt 2.667 millisecond time channel |
| SFz[39] | pV/(A*m$^4$) | Z dB/dt 3.063 millisecond time channel |
| SFz[40] | pV/(A*m$^4$) | Z dB/dt 3.521 millisecond time channel |
| SFz[41] | pV/(A*m$^4$) | Z dB/dt 4.042 millisecond time channel |
| SFz[42] | pV/(A*m$^4$) | Z dB/dt 4.641 millisecond time channel |
| SFz[43] | pV/(A*m$^4$) | Z dB/dt 5.333 millisecond time channel |
| SFz[44] | pV/(A*m$^4$) | Z dB/dt 6.125 millisecond time channel |
| SFz[45] | pV/(A*m$^4$) | Z dB/dt 7.036 millisecond time channel |
| SFz[46] | pV/(A*m$^4$) | Z dB/dt 8.083 millisecond time channel |
| SFz[47] | pV/(A*m4) | Z dB/dt 9.286 millisecond time channel |
| SFz[48] | pV/(A*m4) | Z dB/dt 10.667 millisecond time channel |
| BFz | (pV*ms)/(A*m$^4$) | Z B-Field data for time channels 4 to 48 |
| NchanBF | | Latest time channels of TauBF calculation |
| TauBF | ms | Time constant B-Field calculated from late time gates |
| NchanSF | | Latest time channels of TAU calculations |
| TauSF | ms | Time constant dB/dt calculated from late time gates |
| PLM | | 60 Hz power line monitor |

Electromagnetic B-field and dB/dt Z component data is found in array channel format between indexes 4 – 48, as described above.

### 5.3.2 DATABASE OF THE APPARENT RESISTIVITY DEPTH IMAGING PRODUCTS

- in Geosoft GDB format, containing the following channels:

Table 6: Geosoft Resistivity Depth Image GDB Data Format

| Channel name | Units | Description |
|---|---|---|
| Xg | metres | UTM Easting WGS84 Zone 9 North |
| Yg | metres | UTM Northing WGS84 Zone 9 North |
| Dist | metres | Distance from the beginning of the line |
| Depth | metres | array channel, depth from the surface |
| Z | metres | array channel, depth from sea level |
| AppRes | Ohm-m | array channel, Apparent Resistivity |
| TR | metres | EM system height from sea level |
| Topo | metres | digital elevation model |
| Radarb | metres | Calculated EM transmitter-receiver loop terrain clearance from radar altimeter |
| SF | pV/(A*m^4) | array channel, dB/dT |
| MAG | nT | Total Magnetic Intensity |
| CVG | nT/m | Calculated Vertical Derivative |
| DOI | metres | Depth of Investigation: a measure of VTEM depth effectiveness |
| PLM | | 60Hz Power Line Monitor |

### 5.3.3 DATABASE OF THE VTEM WAVEFORM

- "GL200286_Waveform.gdb" in Geosoft GDB format, containing the following channels:

Table 7: Geosoft database for the VTEM waveform

| Channel name | Units | Description |
|---|---|---|
| Time | milliseconds | Sampling rate interval, 5.2083 microseconds |
| Tx_Current | amps | Output current of the transmitter |

### 5.3.4 GRIDS IN GEOSOFT GRD AND GEOTIFF FORMAT

- Grids in Geosoft GRD and GeoTIFF format, as follows:

| | |
|---|---|
| GL200286_BFz35: | B-Field Z Component Channel 35 (Time Gate 1.760ms) |
| GL200286_CVG: | Calculated Vertical Derivative (nT/m) |
| GL200286_DEM: | Digital Elevation Model (metres) |
| GL200286_Mag3: | Total Magnetic Intensity (nT) |
| GL200286_SFz15: | dB/dt Z Component Channel 15 (Time Gate 0.110 ms) |
| GL200286_SFz30: | dB/dt Z Component Channel 30 (Time Gate 0.880 ms) |
| GL200286_SFz45: | dB/dt Z Component Channel 45 (Time Gate 7.036 ms) |
| GL200286_TauBF: | B-Field Z Component, Calculated Time Constant (ms) from late time gates |
| GL200286_TauSF: | dB/dt Z Component, Calculated Time Constant (ms) from late time gates |

A Geosoft .GRD file has a .GI metadata file associated with it, containing grid projection information. A grid cell size of 37.5 metres was used.

# 6. CONCLUSIONS AND RECOMMENDATIONS

A helicopter-borne versatile time domain electromagnetic (VTEM™) geophysical survey has been completed over Silver Lake Property situated near Houston, BC.

The total area coverage is 23 km$^2$. Total survey line coverage is 181 line kilometres. The principal sensors included a Time Domain EM system, and a magnetometer system. Results have been presented as stacked profiles, and contour colour images at a scale of 1:10,000. A formal interpretation is not included in this report, however RDI resistivity-depth imaging has been performed in support of the VTEM data.

Based on the geophysical results obtained at Silver Lake Property, several prominent, anomalous EM conductive and resistive zones have been defined within the property, that also correlate well with magnetic high and low features. In particular, a large (~0.5km EW x 2km NS) conductive anomaly in the west-central part of the block, is part of a more extensive NS low resistivity trend and also partly coincides with a flanking major magnetic high. To the south of this main feature, another, smaller conductive high narrower NE-trending conductive lineament, which correlates with a ring-like magnetic low that forms the edge of a magnetic high at southeastern edge of the block. The relationship between EM and magnetic anomalies are best highlighted in the EM decay time-constant (TAU) and magnetic gradient (CVG) contour map (see Appendix C) and the resistivity-depth image (RDI) results (see Appendix F).

Based on the VTEM TAU results, the conductive targets have dB/dt time constants ranging from about 0.7 up to 1.1 ms, which is relatively high. Based on the RDI results, the apparent resistivity of bedrock geology is estimated range from a high of approximately 2000 ohm-m to lows of less than 5 ohm-m. According to the RDI images over all lines, the estimated depth to the top of these bodies is 50m and maximum depths of investigation (DOI) range from 350m to >450m.

Based on the Equity Silver epithermal to porphyry signatures sought for on the property (R. Weicker, pers. comm.), where clay alteration and structure play prominent roles in mineralization, both the EM conductivity and magnetic susceptibility are important elements. We therefore recommend that more advanced 1D layered earth modeling be performed on the EM data which will prove useful in highlighting weakly anomalous resistive and conductive features of interest, as well as better establishing their depth and vertical/lateral extents. Magnetic CET structural analysis and 3D MVI magnetic inversions will be useful for mapping structure, alteration, and lithology in 2D-3D space across the property. We recommend that more advanced, integrated interpretation be performed on these geophysical data and these results further evaluated against the known geology for future targeting. Ground follow-up using IP\Resistivity will prove useful in defining sulphide mineralization associated with possible porphyry and epithermal targets.

Respectfully submitted[2],

Nick Venter
**Geotech Ltd.**

Emily Data
**Geotech Ltd.**

Jean M. Legault, M.Sc.A, P.Eng, P.Geo.
**Geotech Ltd.**

Joseli Soares
**Geotech Ltd**

January 2021

[2] Final data processing of the EM and magnetic data were carried out by Emily Data, from the office of Geotech Ltd. in Aurora, Ontario, under the supervision of Zihao Han and Jean M. Legault, M.Sc.A, P.Eng, and P.Geo - Chief Geophysicist.

# APPENDIX A

## SURVEY AREA LOCATION MAP


Overview of the Survey Area

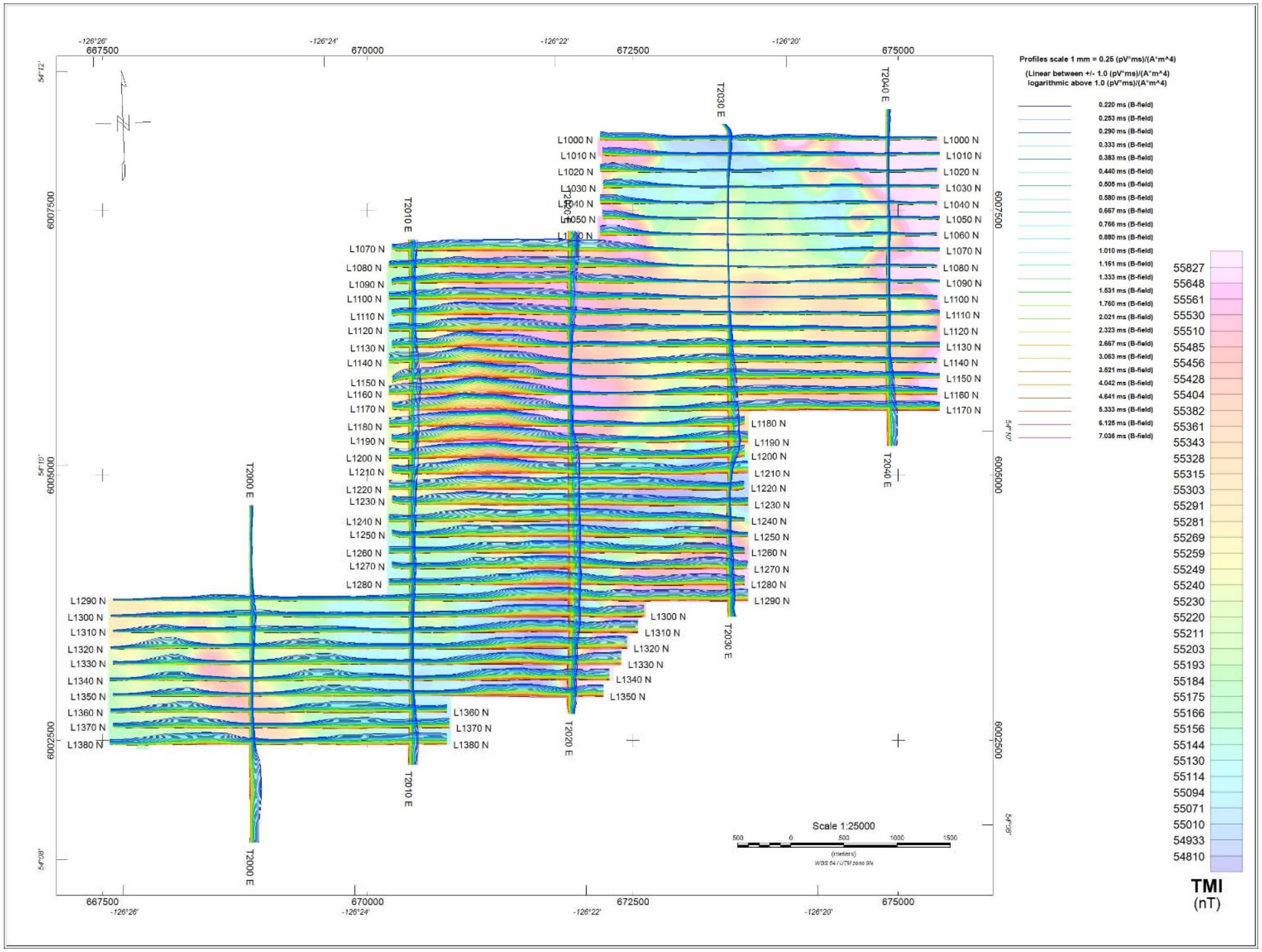
# APPENDIX B

## SURVEY AREA COORDINATES

(WGS 84, UTM Zone 9 North)

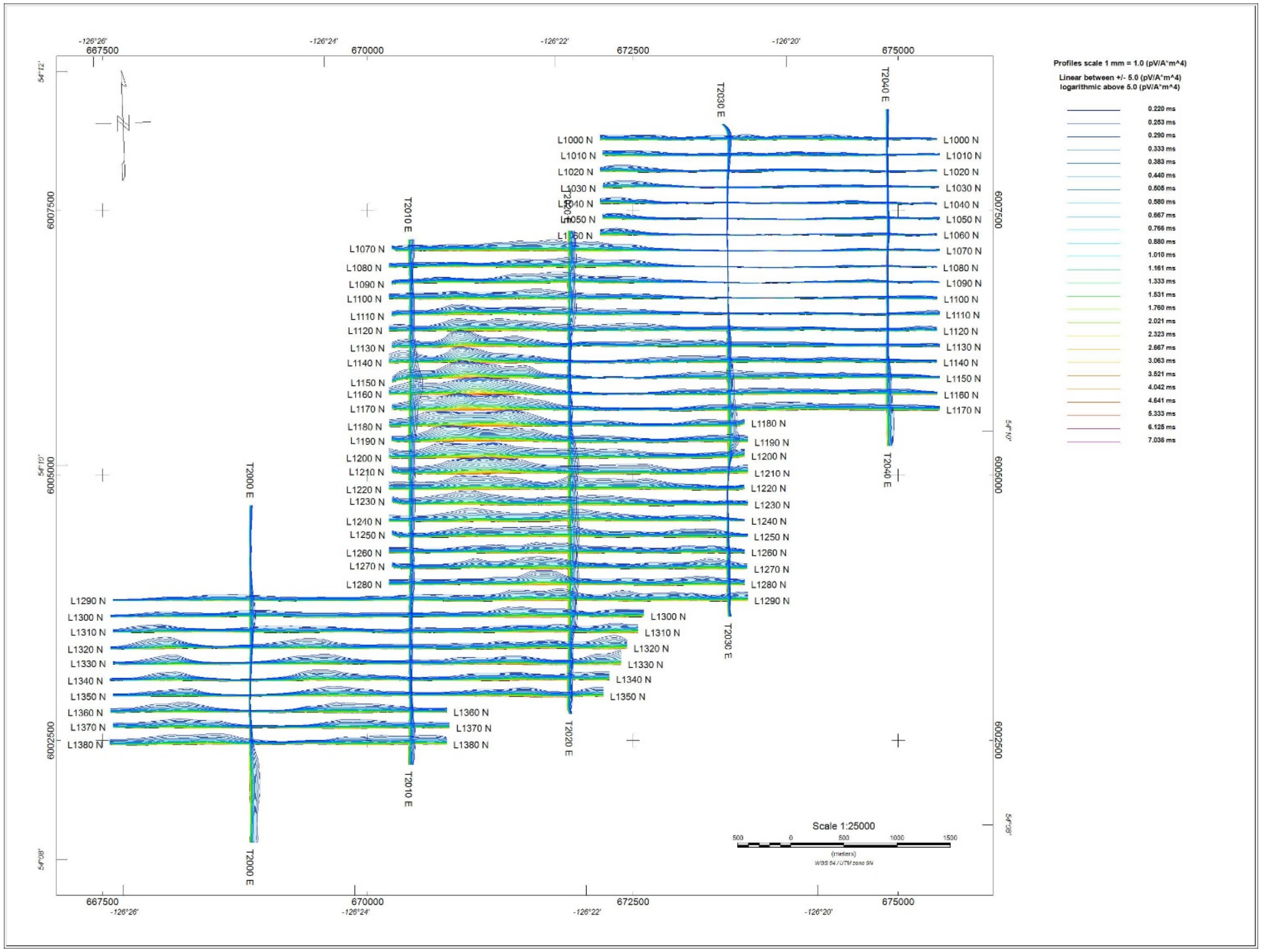
| X | Y |
|---|---|
| 672174.3 | 6008163.1 |
| 675393.5 | 6008168.2 |
| 675393.5 | 6005598.0 |
| 673575.3 | 6005613.5 |
| 673585.6 | 6003810.7 |
| 672643.0 | 6003810.7 |
| 672225.8 | 6002909.3 |
| 670783.6 | 6002914.5 |
| 670778.5 | 6002450.9 |
| 667538.7 | 6002445.8 |
| 667543.8 | 6003841.6 |
| 670181.0 | 6003846.8 |
| 670181.0 | 6007148.4 |
| 672158.9 | 6007153.5 |

# APPENDIX C - GEOPHYSICAL MAPS[1]

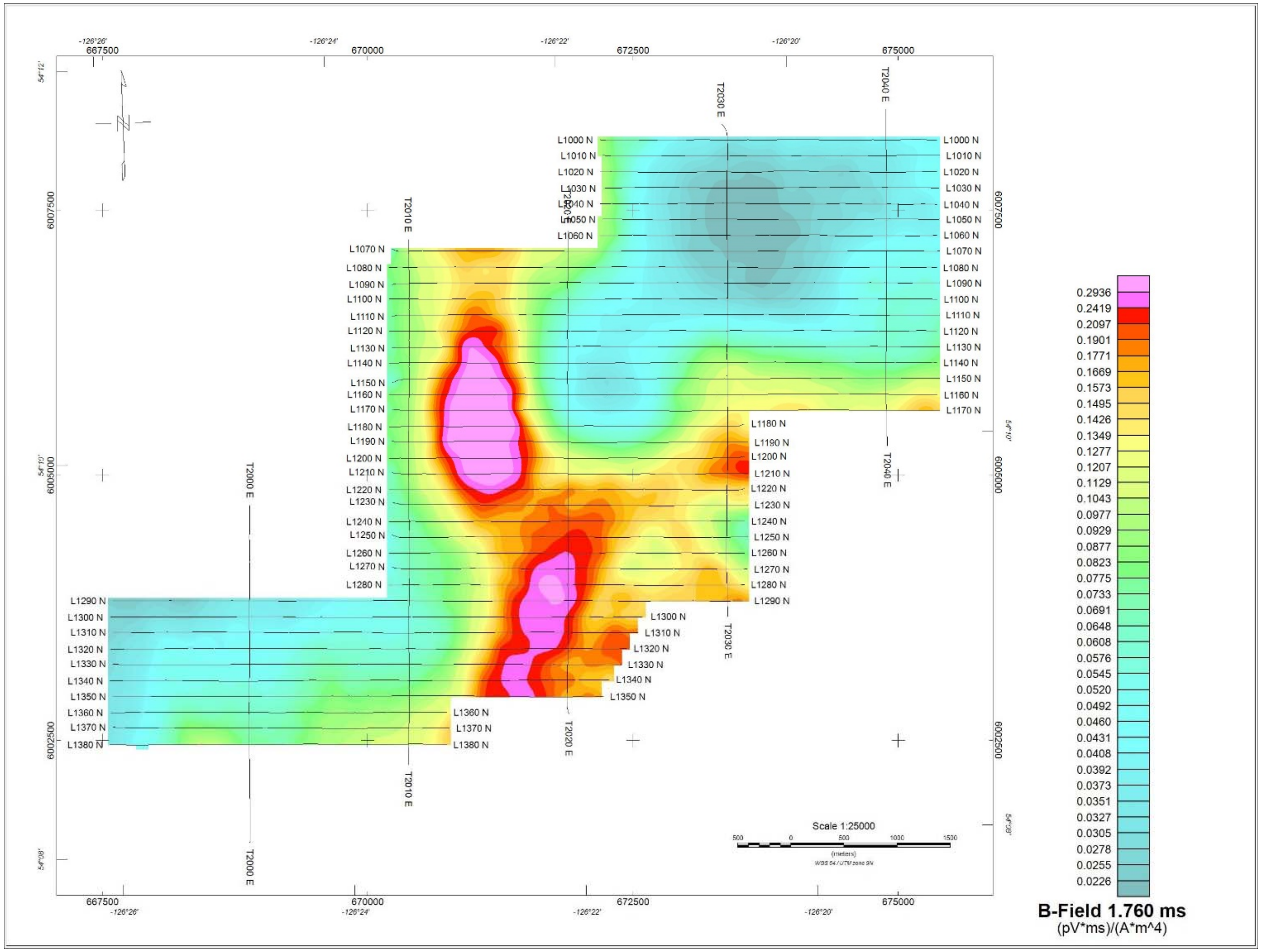



VTEM B-Field Z Component Profiles, Time Gates 0.220 to 7.036 ms, over total magnetic intensity grid contour

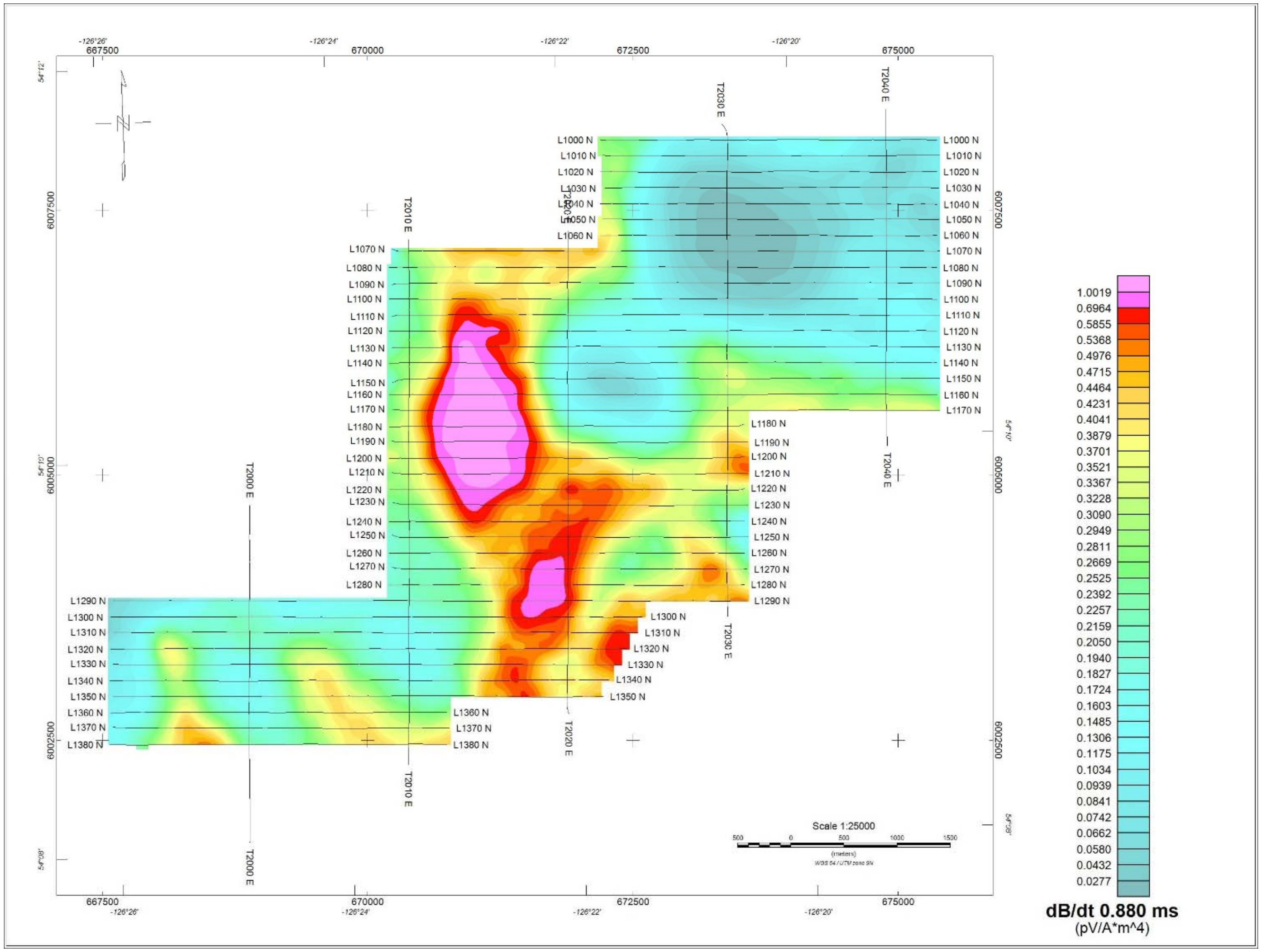
[1] Complete full size geophysical maps are also available in PDF format located in the final data maps folder



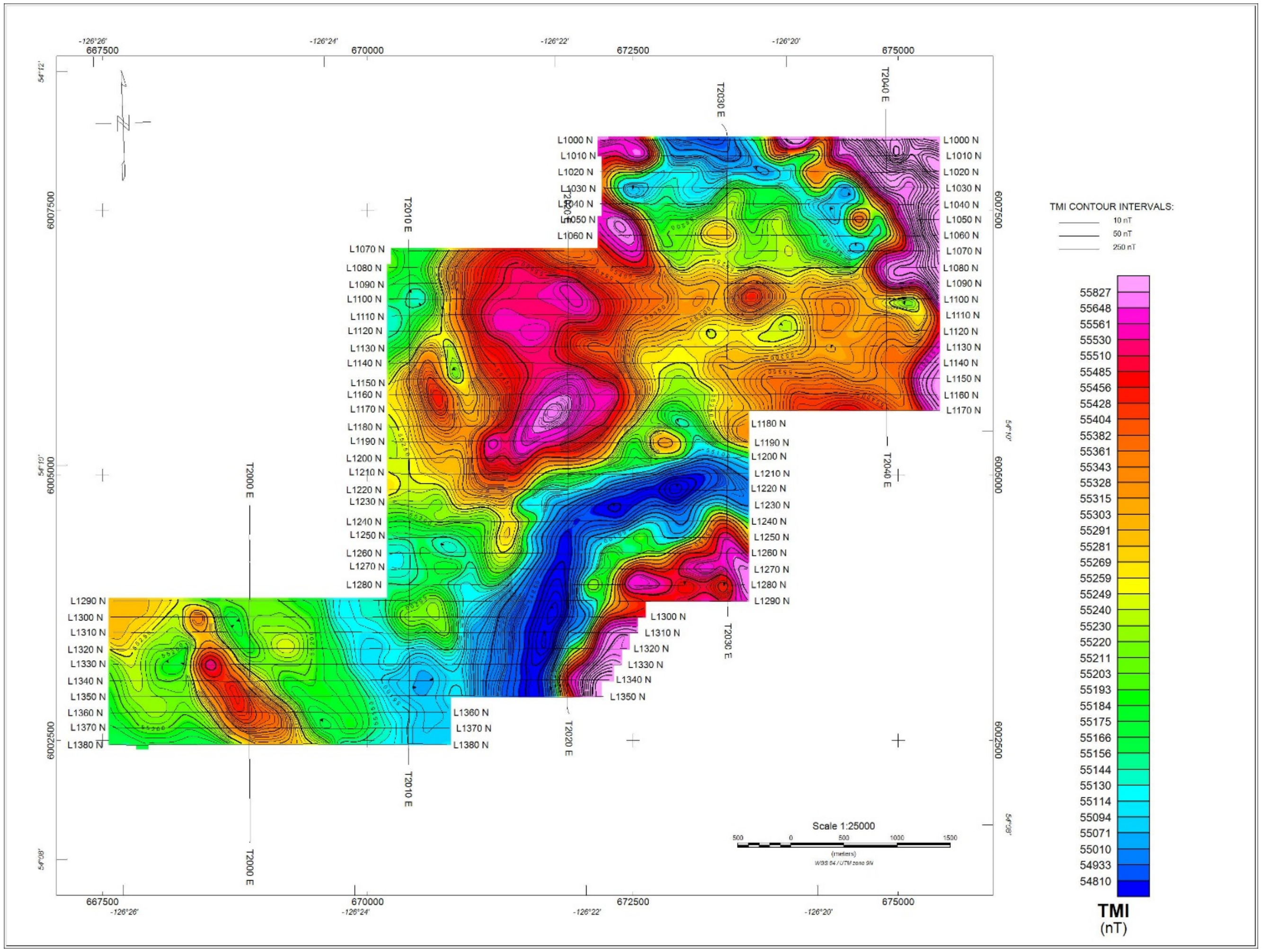

VTEM dB/dt Z Component Profiles, Time Gates 0.220 to 7.036 ms



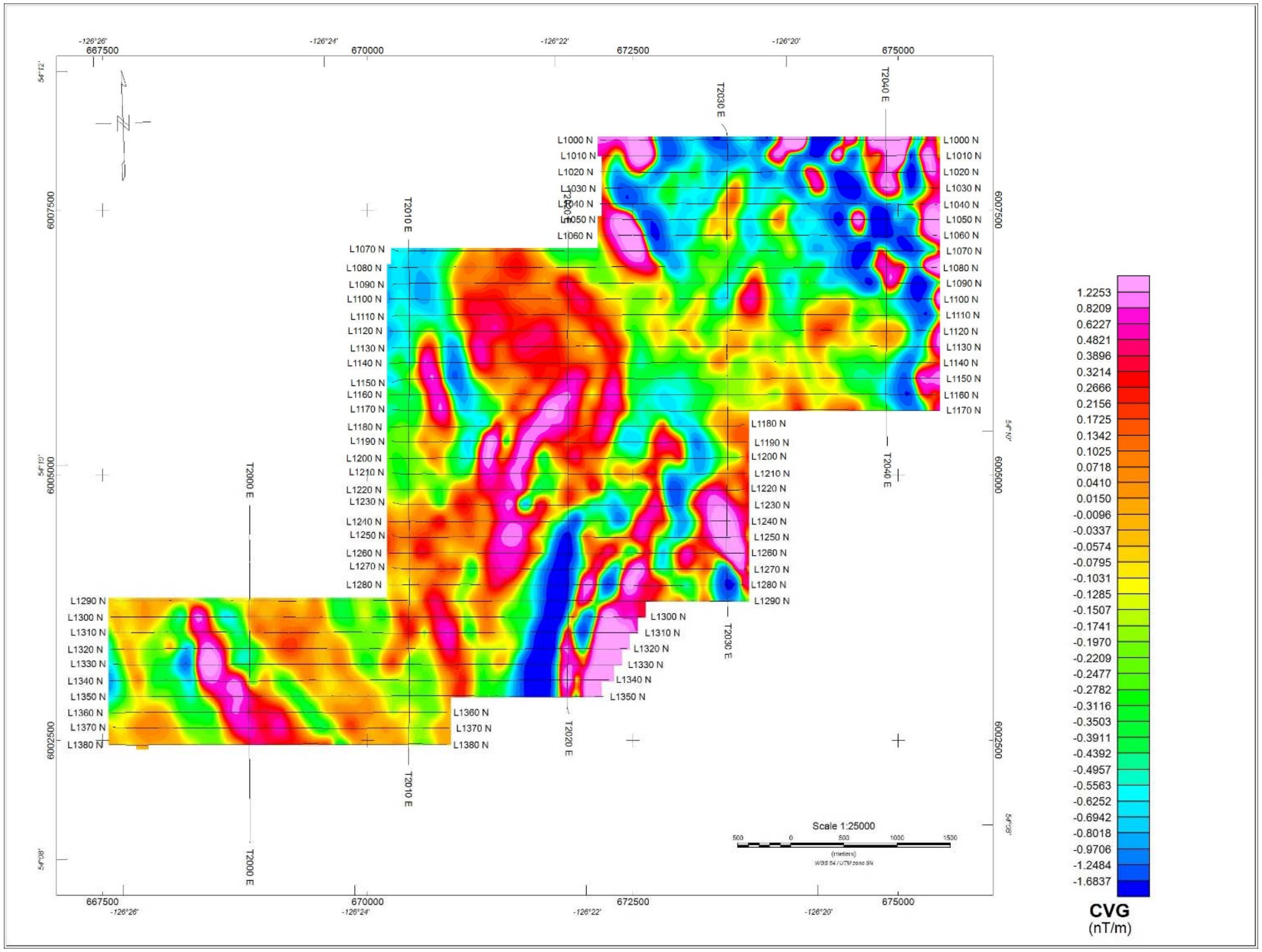
VTEM B-Field Z Component Channel 35, Time Gate 1.760 ms



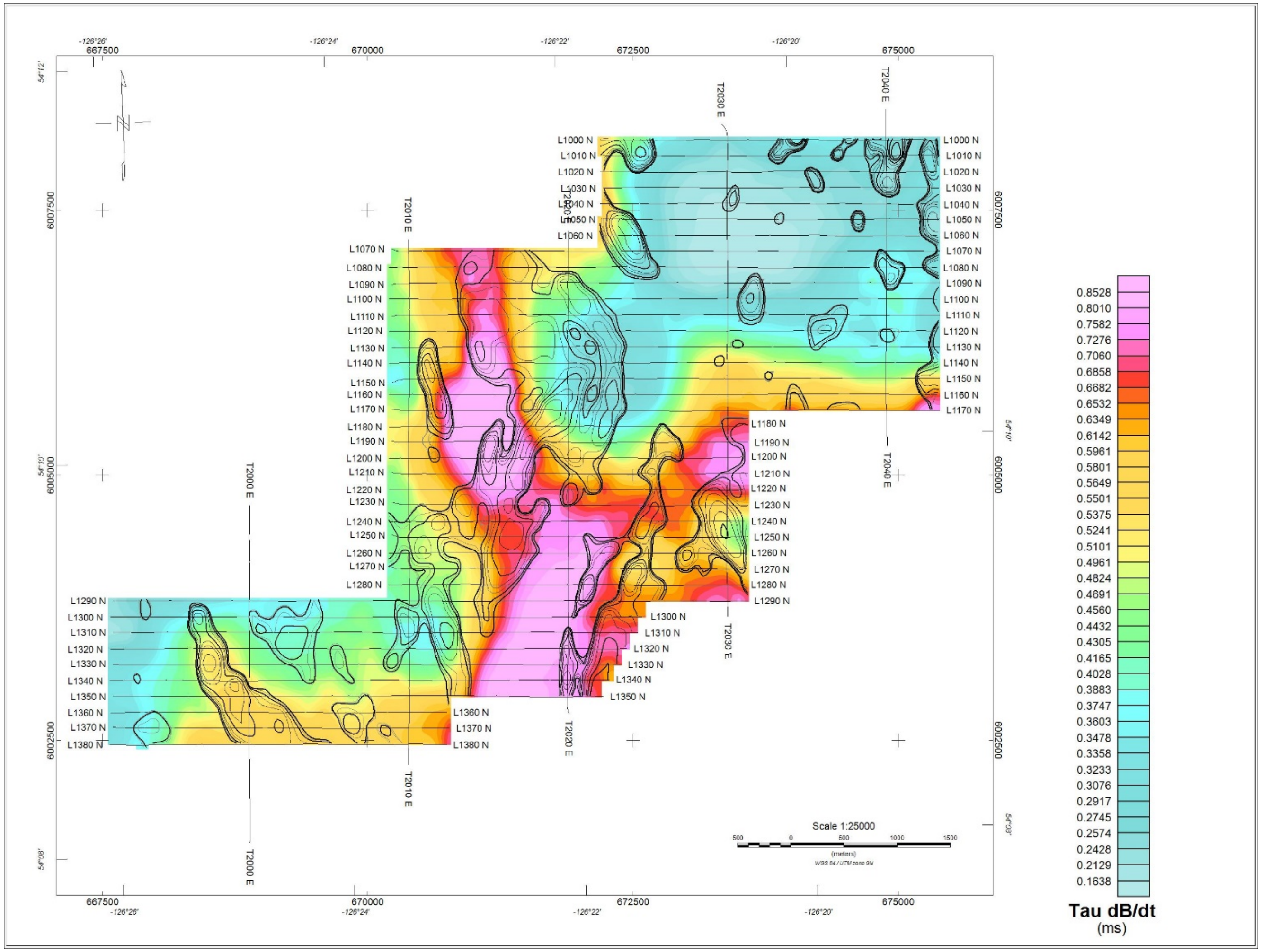

VTEM dB/dt Z Component Channel 30, Time Gate 0.880 ms.




Total Magnetic Intensity (TMI)

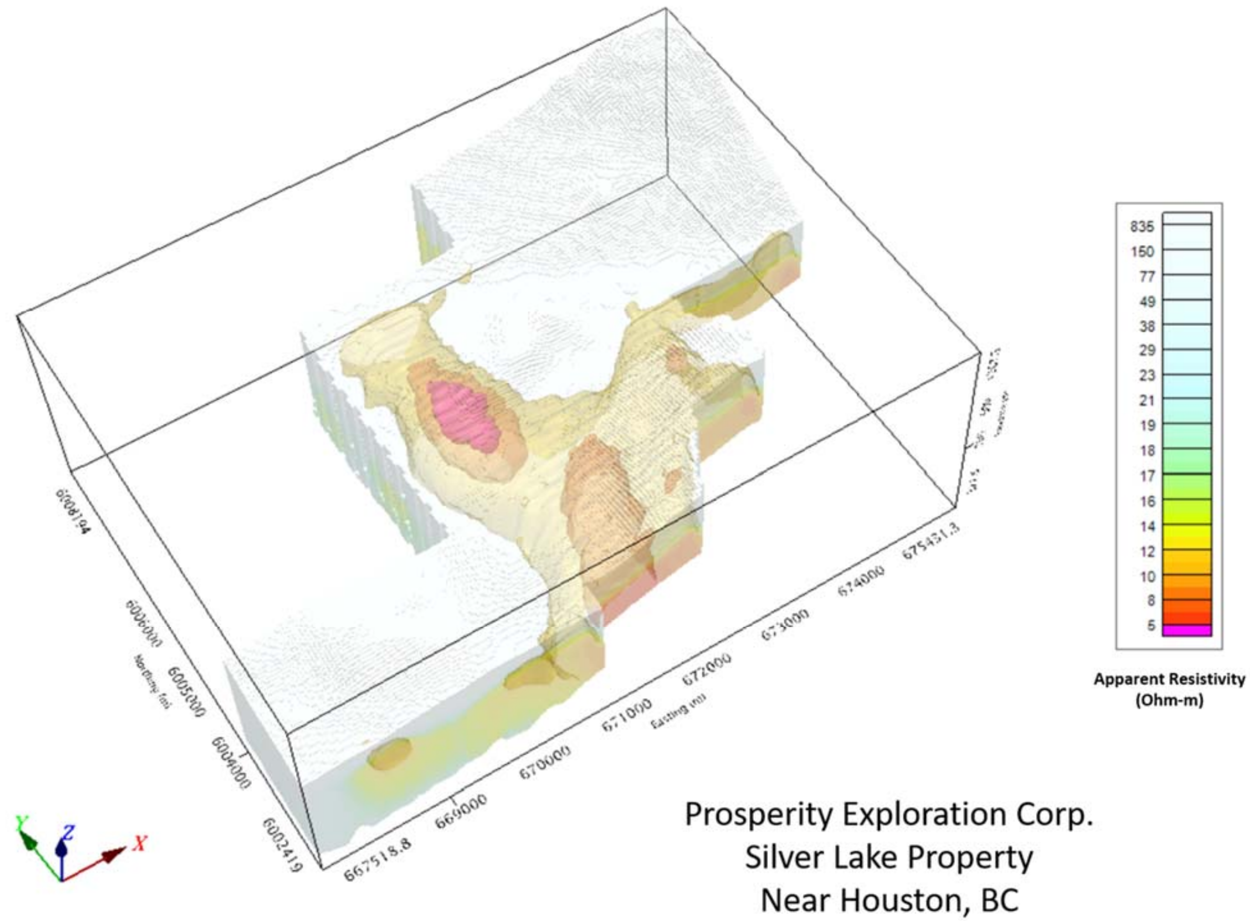



Calculated Vertical Derivative (CVG)




dB/dt Z Component Calculated Time Constant (Tau), with Calculated Vertical Derivative contours

## RESISTIVITY DEPTH IMAGE (RDI) MAPS




3D View of the RDI Apparent Resistivity Voxel

# APPENDIX D

## GENERALIZED MODELING RESULTS OF THE VTEM SYSTEM
## INTRODUCTION

The VTEM system is based on a concentric or central loop design, whereby, the receiver is positioned at the centre of a transmitter loop that produces a primary field. The wave form is a bi-polar, modified square wave with a turn-on and turn-off at each end.

During turn-on and turn-off, a time varying field is produced (dB/dt) and an electro-motive force (emf) is created as a finite impulse response. A current ring around the transmitter loop moves outward and downward as time progresses. When conductive rocks and mineralization are encountered, a secondary field is created by mutual induction and measured by the receiver at the centre of the transmitter loop.

Efficient modeling of the results can be carried out on regularly shaped geometries, thus yielding close approximations to the parameters of the measured targets. The following is a description of a series of common models made for the purpose of promoting a general understanding of the measured results.

A set of models has been produced for the Geotech VTEM™ system dB/dT Z and X components (see models D1 to D15). The Maxwell ™ modeling program (EMIT Technology Pty. Ltd. Midland, WA, AU) used to generate the following responses assumes a resistive half-space. The reader is encouraged to review these models, so as to get a general understanding of the responses as they apply to survey results. While these models do not begin to cover all possibilities, they give a general perspective on the simple and most commonly encountered anomalies.

As the plate dips and departs from the vertical position, the peaks become asymmetrical.

As the dip increases, the aspect ratio (Min/Max) decreases and this aspect ratio can be used as an empirical guide to dip angles from near 90º to about 30º. The method is not sensitive enough where dips are less than about 30º.

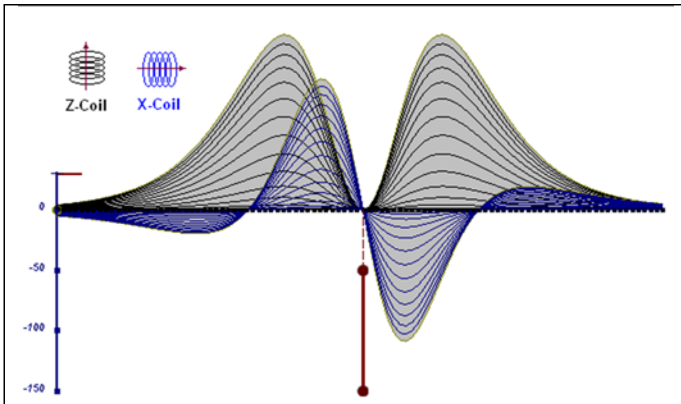



**Figure D-1**: vertical thin plate

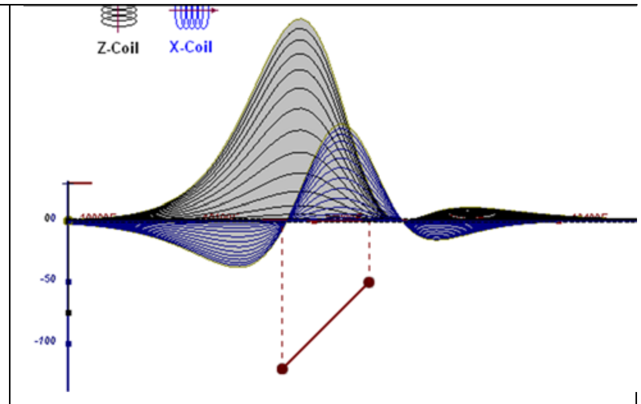



**Figure D-2**: inclined thin plate

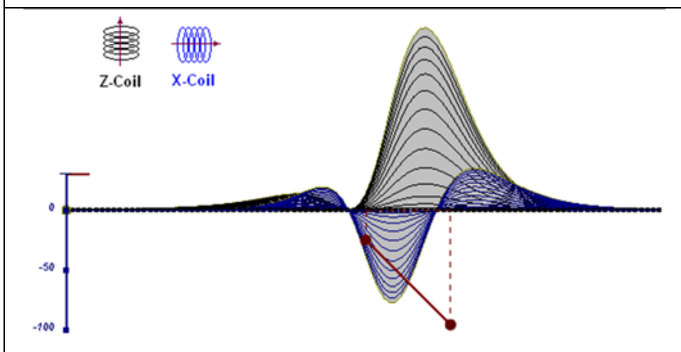



**Figure D-3**: inclined thin plate

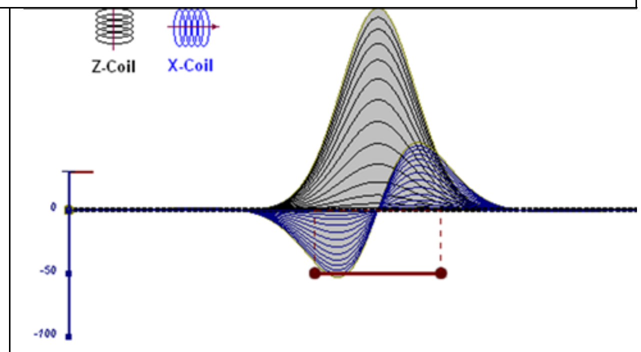



**Figure D-4**: horizontal thin plate

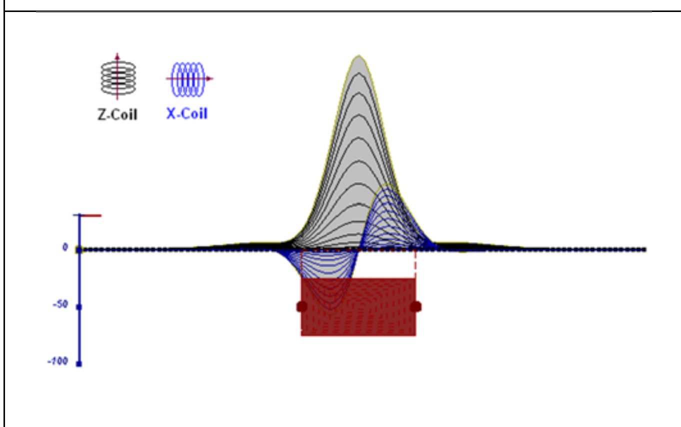



**Figure D-5**: horizontal thick plate (linear scale of the response)

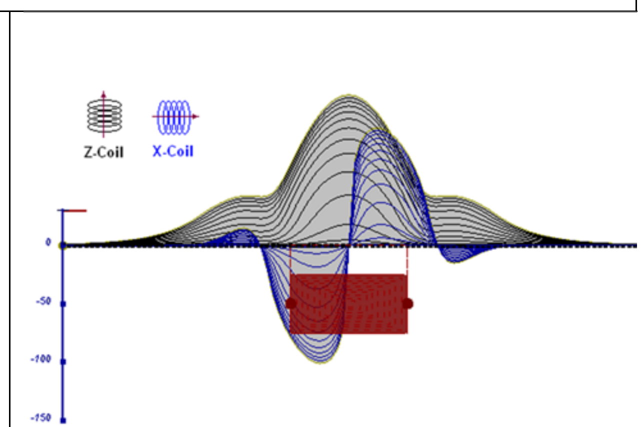



**Figure D-6**: horizontal thick plate (log scale of the response)

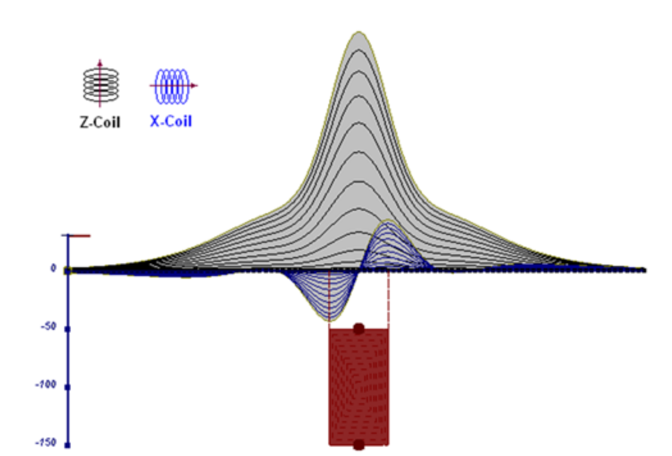



**Figure D-7**: vertical thick plate (linear scale of the response). 50 m depth

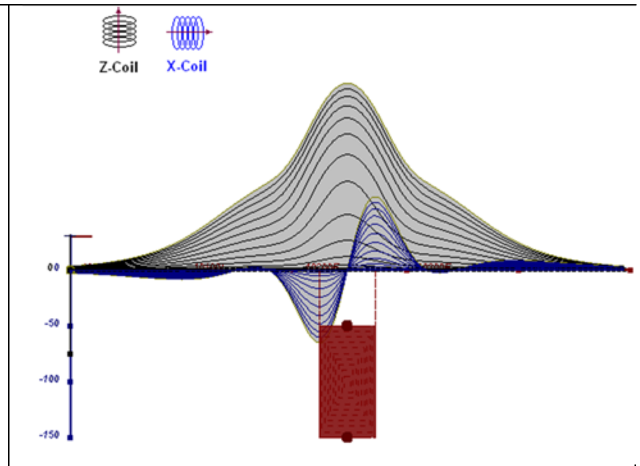



**Figure D-8**: vertical thick plate (log scale of the response). 50 m depth

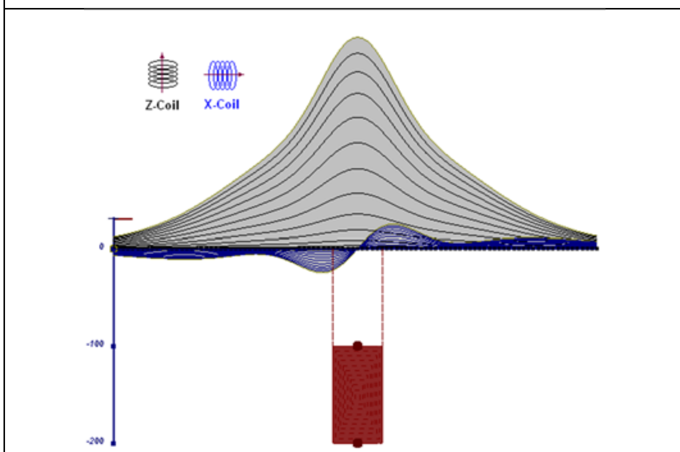



**Figure D-9**: vertical thick plate (linear scale of the response). 100 m depth

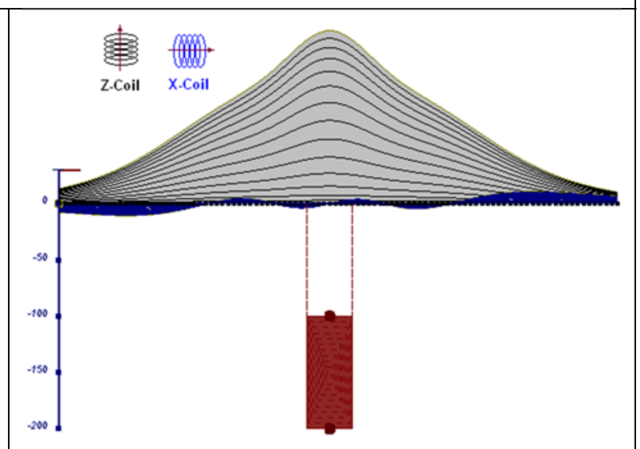



**Figure D-10**: vertical thick plate (linear scale of the response). Depth / horizontal thickness=2.5

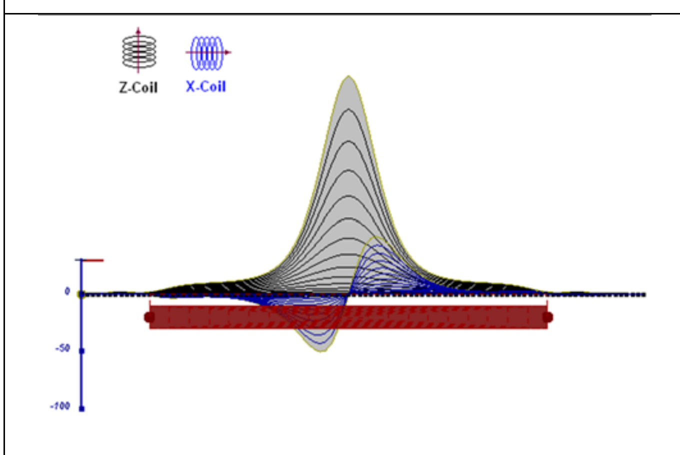



**Figure D-11**: horizontal thick plate (linear scale of the response)

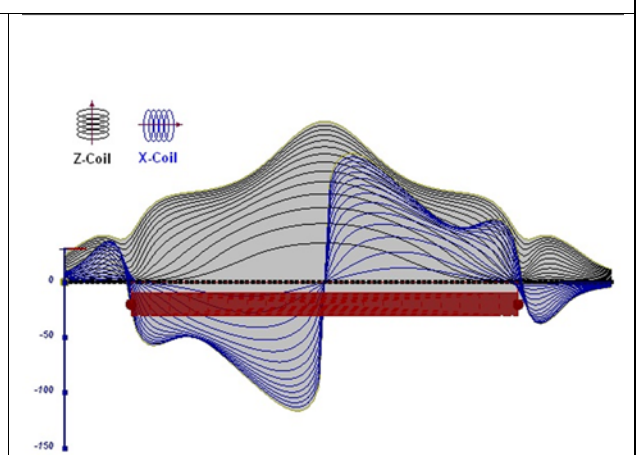



**Figure D-12**: horizontal thick plate (log scale of the response)

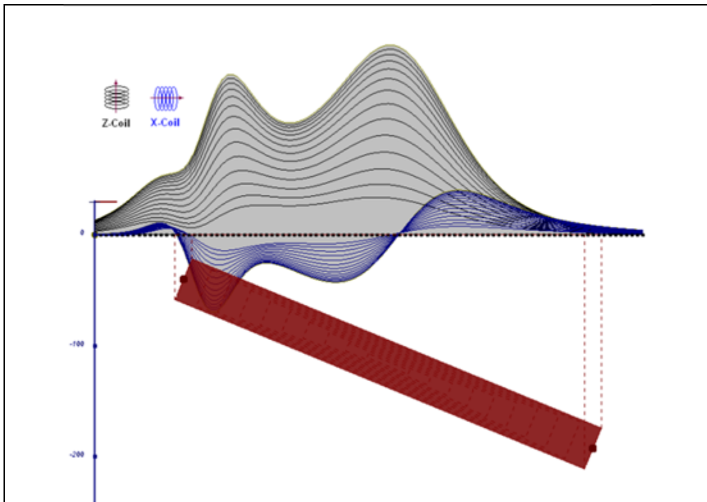



**Figure D-13**: inclined long thick plate

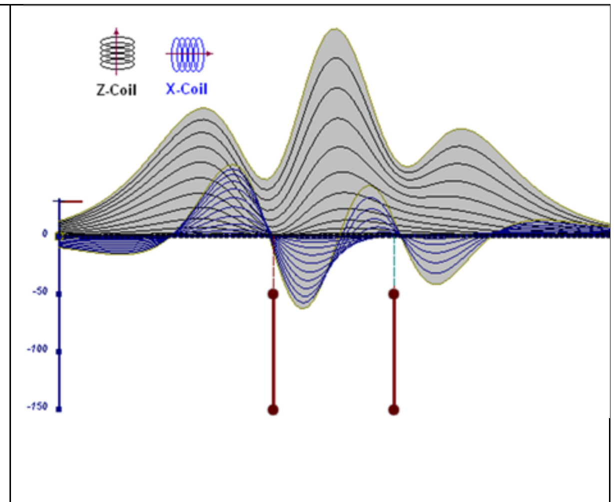



**Figure D-14**: two vertical thin plates

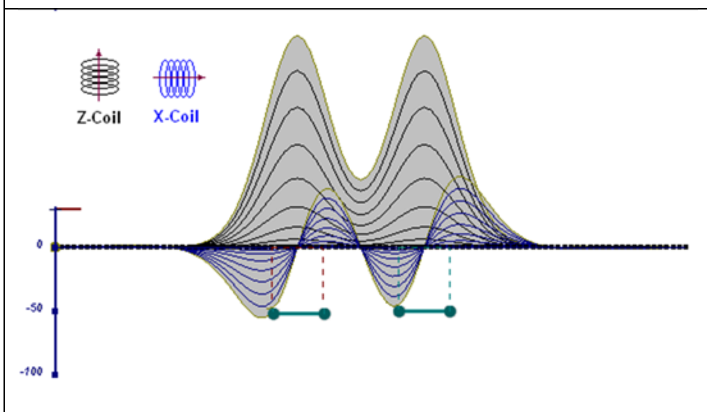



**Figure D-15**: two horizontal thin plates

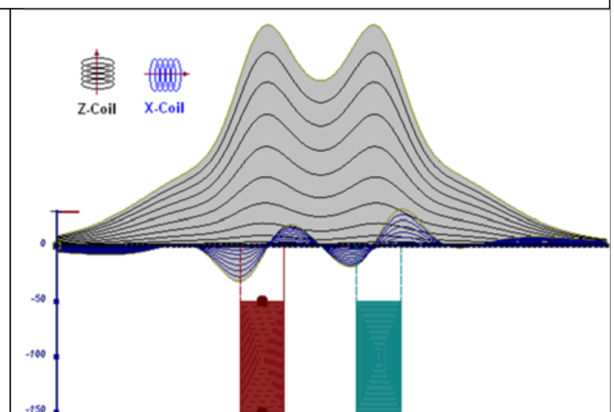



**Figure D-16**: two vertical thick plates

The same type of target but with different thickness, for example, creates different form of the response:

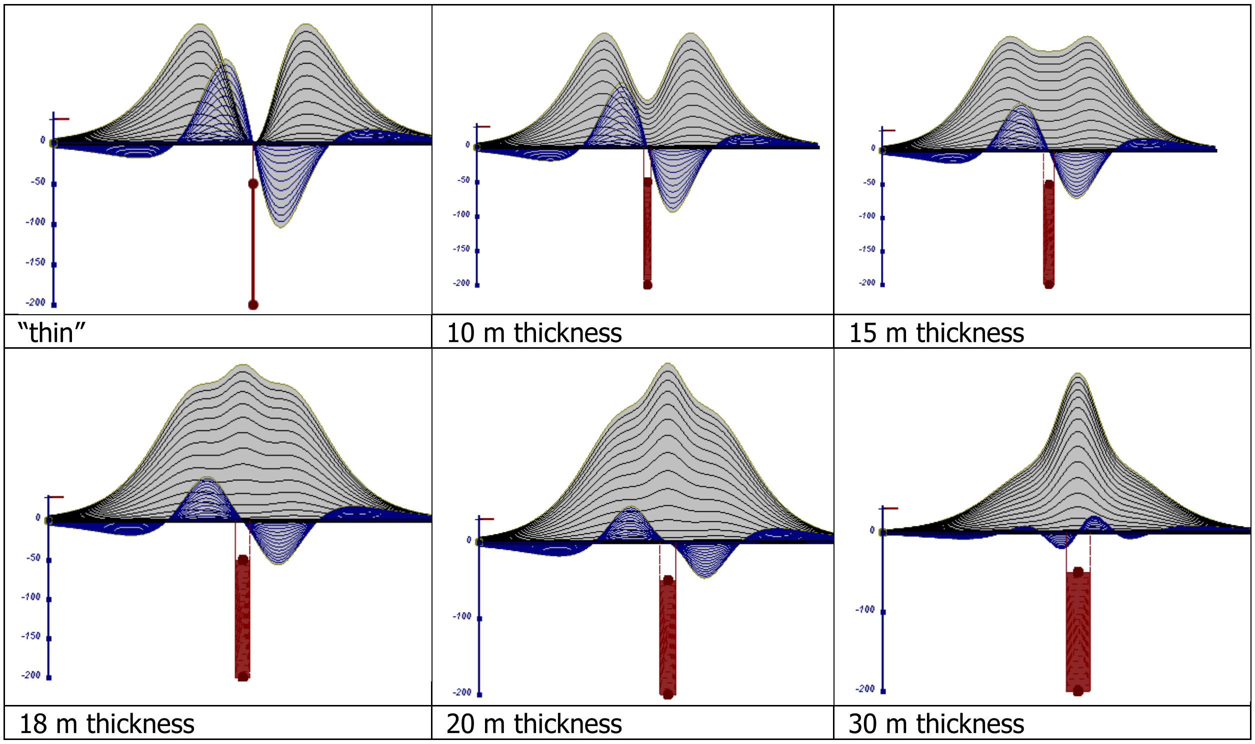



**Figure D-17**: Conductive vertical plate, depth 50 m, strike length 200 m, depth extends 150 m.

Alexander Prikhodko, PhD, P.Geo
**Geotech Ltd.**

September 2010

# APPENDIX E

## EM TIME CONSTANT (TAU) ANALYSIS

Estimation of time constant parameter[1] in transient electromagnetic method is one of the steps toward the extraction of the information about conductances beneath the surface from TEM measurements.

The most reliable method to discriminate or rank conductors from overburden, background or one and other is by calculating the EM field decay time constant (TAU parameter), which directly depends on conductance despite their depth and accordingly amplitude of the response.

## THEORY

As established in electromagnetic theory, the magnitude of the electro-motive force (emf) induced is proportional to the time rate of change of primary magnetic field at the conductor. This emf causes eddy currents to flow in the conductor with a characteristic transient decay, whose Time Constant (Tau) is a function of the conductance of the survey target or conductivity and geometry (including dimensions) of the target. The decaying currents generate a proportional secondary magnetic field, the time rate of change of which is measured by the receiver coil as induced voltage during the Off time.

The receiver coil output voltage (**$e_0$**) is proportional to the time rate of change of the secondary magnetic field and has the form,

$$e_0 \ \alpha \ (1 / \tau) \ e^{-(t / \tau)}$$

Where,
$\tau$ = L/R is the characteristic time constant of the target (TAU)
R = resistance
L = inductance

From the expression, conductive targets that have small value of resistance and hence large value of $\tau$ yield signals with small initial amplitude that decays relatively slowly with progress of time. Conversely, signals from poorly conducting targets that have large resistance value and small $\tau$, have high initial amplitude but decay rapidly with time[1] (Fig. E1).

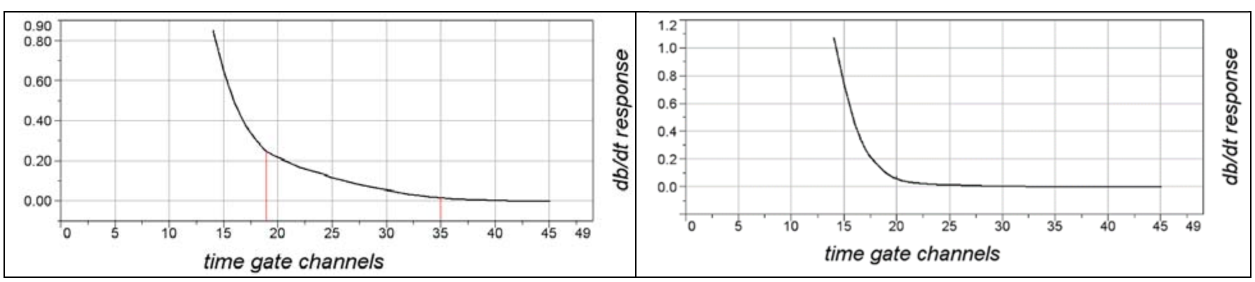



Figure E-1: Left – presence of good conductor, right – poor conductor.

[1] McNeill, JD, 1980, "Applications of Transient Electromagnetic Techniques", Technical Note TN-7 page 5, Geonics Limited, Mississauga, Ontario.

## EM Time Constant (Tau) Calculation

The EM Time-Constant (TAU) is a general measure of the speed of decay of the electromagnetic response and indicates the presence of eddy currents in conductive sources as well as reflecting the "conductance quality" of a source. Although TAU can be calculated using either the measured dB/dt decay or the calculated B-field decay, dB/dt is commonly preferred due to better stability (S/N) relating to signal noise. Generally, TAU calculated on base of early time response reflects both near surface overburden and poor conductors whereas, in the late ranges of time, deep and more conductive sources, respectively. For example early time TAU distribution in an area that indicates conductive overburden is shown in Figure 2.

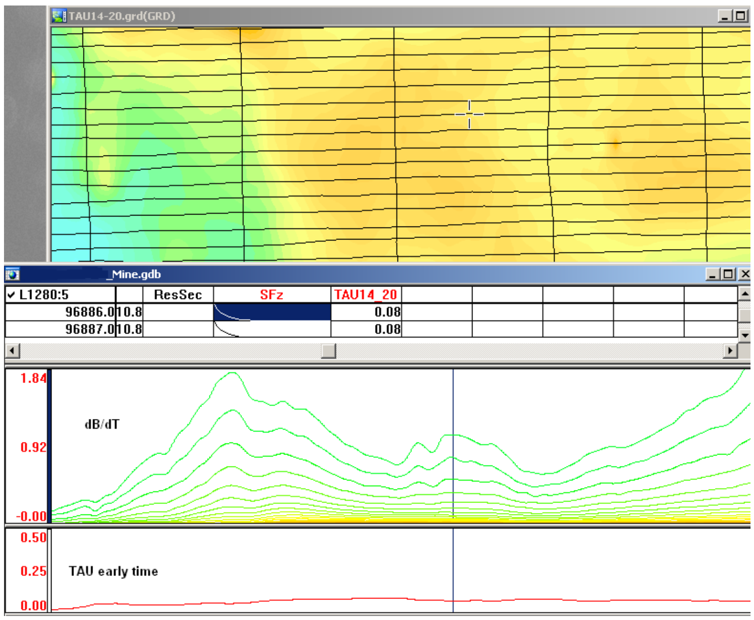



Figure E-2: Map of early time TAU. Area with overburden conductive layer and local sources.

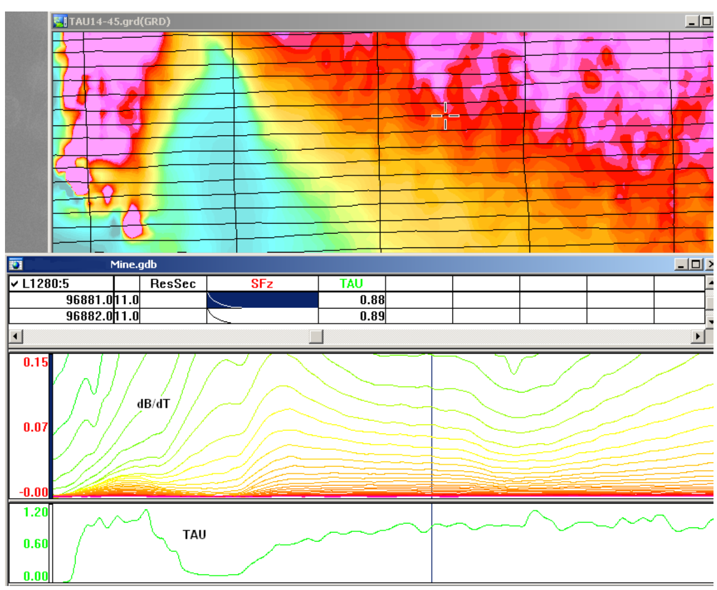



Figure E-3: Map of full time range TAU with EM anomaly due to deep highly conductive target.

There are many advantages of TAU maps:

- TAU depends only on one parameter (conductance) in contrast to response magnitude;
- TAU is integral parameter, which covers time range and all conductive zones and targets are displayed independently of their depth and conductivity on a single map.
- Very good differential resolution in complex conductive places with many sources with different conductivity.
- Signs of the presence of good conductive targets are amplified and emphasized independently of their depth and level of response accordingly.

In the example shown in Figure 4 and 5, three local targets are defined, each of them with a different depth of burial, as indicated on the resistivity depth image (RDI). All are very good conductors but the deeper target (number 2) has a relatively weak dB/dt signal yet also features the strongest total TAU (Figure 4). This example highlights the benefit of TAU analysis in terms of an additional target discrimination tool.

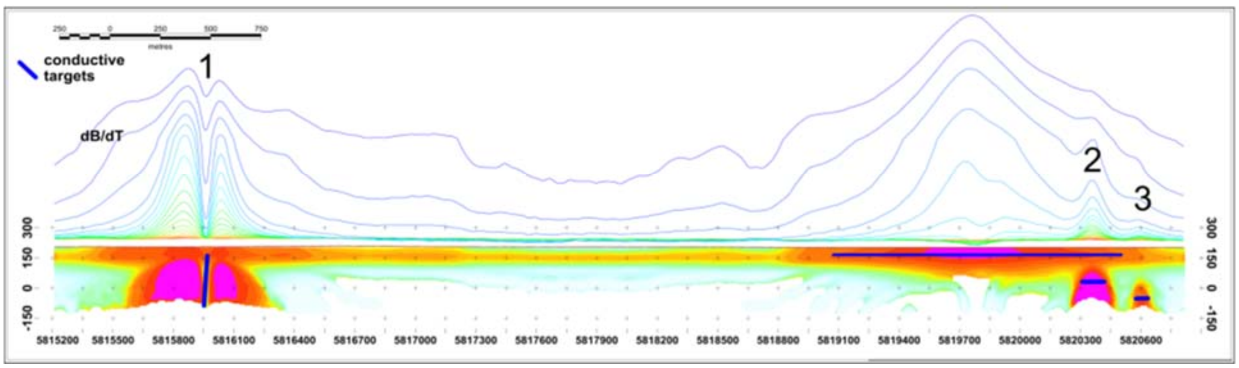



Figure E-4: dB/dt profile and RDI with different depths of targets.

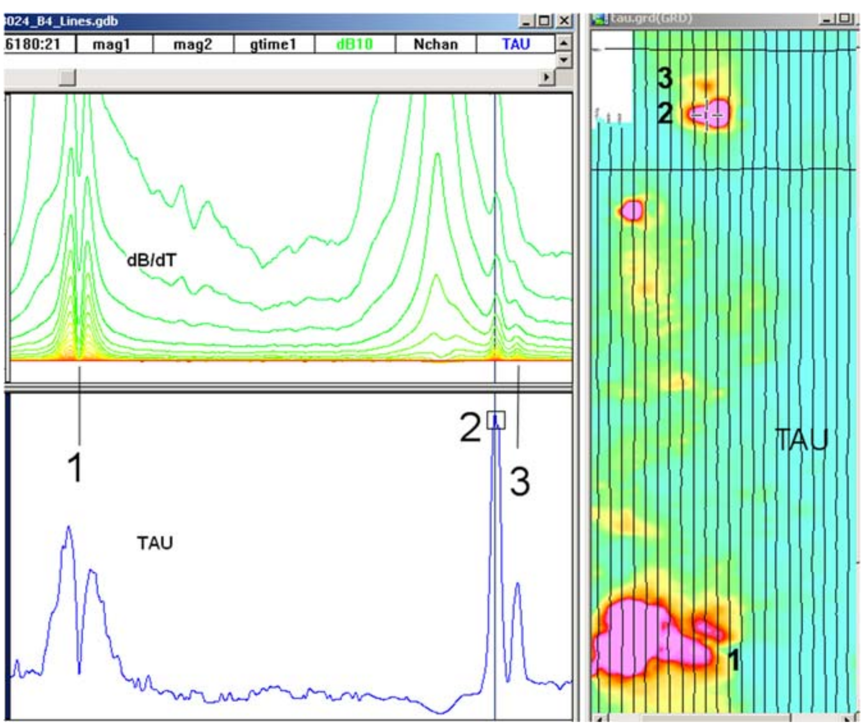



Figure E-5: Map of total TAU and dB/dt profile.

The EM Time Constants for dB/dt and B-field were calculated using the "sliding Tau" in-house program developed at Geotech[2]. The principle of the calculation is based on using of time window (4 time channels) which is sliding along the curve decay and looking for latest time channels which have a response above the level of noise and decay. The EM decays are obtained from all available decay channels, starting at the latest channel. Time constants are taken from a least square fit of a straight-line (log/linear space) over the last 4 gates above a pre-set signal threshold level (Figure F6). Threshold settings are pointed in the "label" property of TAU database channels. The sliding Tau method determines that, as the amplitudes increase, the time-constant is taken at progressively later times in the EM decay. Conversely, as the amplitudes decrease, Tau is taken at progressively earlier times in the decay. If the maximum signal amplitude falls below the threshold, or becomes negative for any of the 4 time gates, then Tau is not calculated and is assigned a value of "dummy" by default.

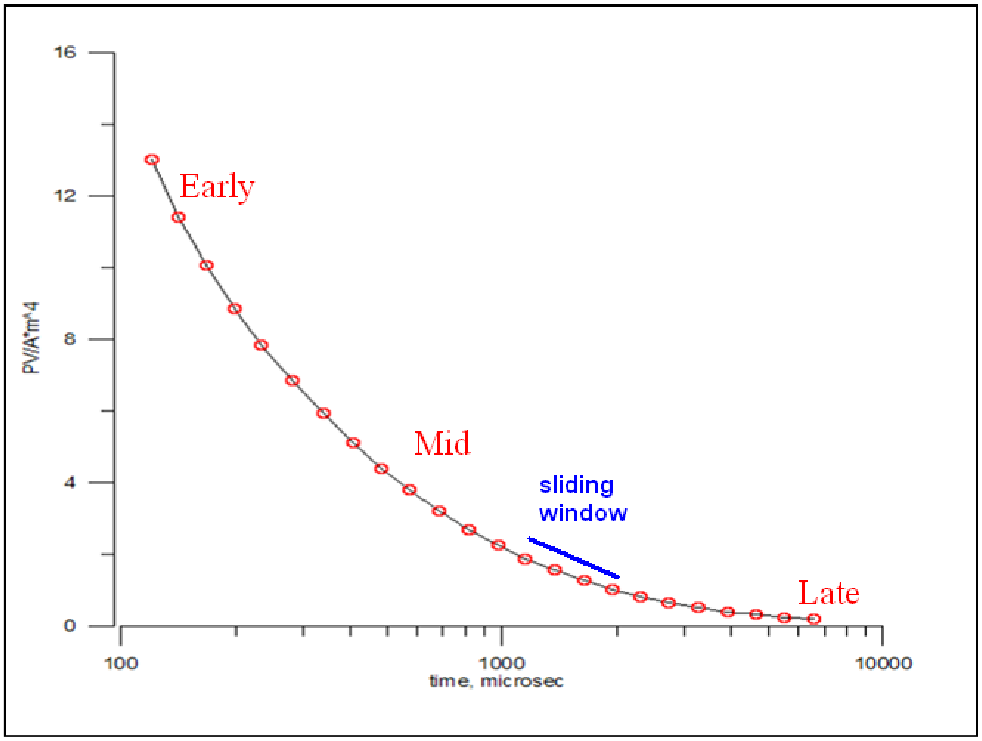



Figure E-6: Typical dB/dt decays of VTEM data

Alexander Prikhodko, PhD, P.Geo
**Geotech Ltd.**

September 2010

[2] by A.Prikhodko

# APPENDIX F

## TEM RESISTIVITY DEPTH IMAGING (RDI)

Resistivity depth imaging (RDI) is technique used to rapidly convert EM profile decay data into an equivalent resistivity versus depth cross-section, by deconvolving the measured TEM data.
The used RDI algorithm of Resistivity-Depth transformation is based on scheme of the apparent resistivity transform of Maxwell A.Meju (1998)[1] and TEM response from conductive half-space. The program is developed by Alexander Prikhodko and depth calibrated based on forward plate modeling for VTEM system configuration (Fig. 1-10).

RDIs provide reasonable indications of conductor relative depth and vertical extent, as well as accurate 1D layered-earth apparent conductivity/resistivity structure across VTEM flight lines. Approximate depth of investigation of a TEM system, image of secondary field distribution in half space, effective resistivity, initial geometry and position of conductive targets is the information obtained on base of the RDIs.

Maxwell forward modeling with RDI sections from the synthetic responses (VTEM system).

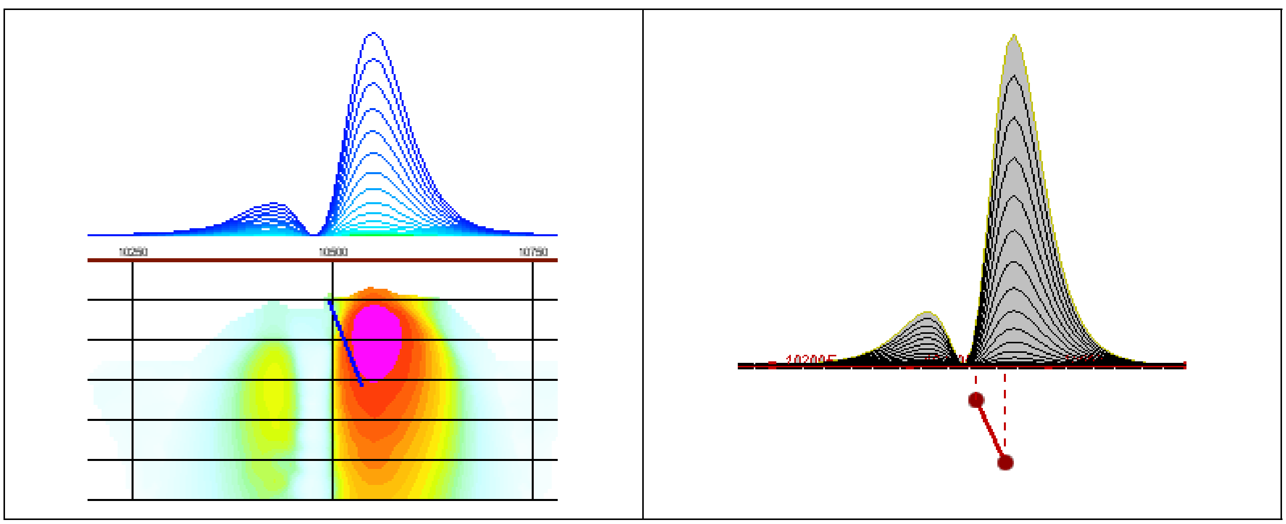


Figure F-1: Maxwell plate model and RDI from the calculated response for conductive "thin" plate (depth 50 m, dip 65 degree, depth extend 100 m).

[1] Maxwell A.Meju, 1998, Short Note: A simple method of transient electromagnetic data analysis, Geophysics, **63**, 405–410.

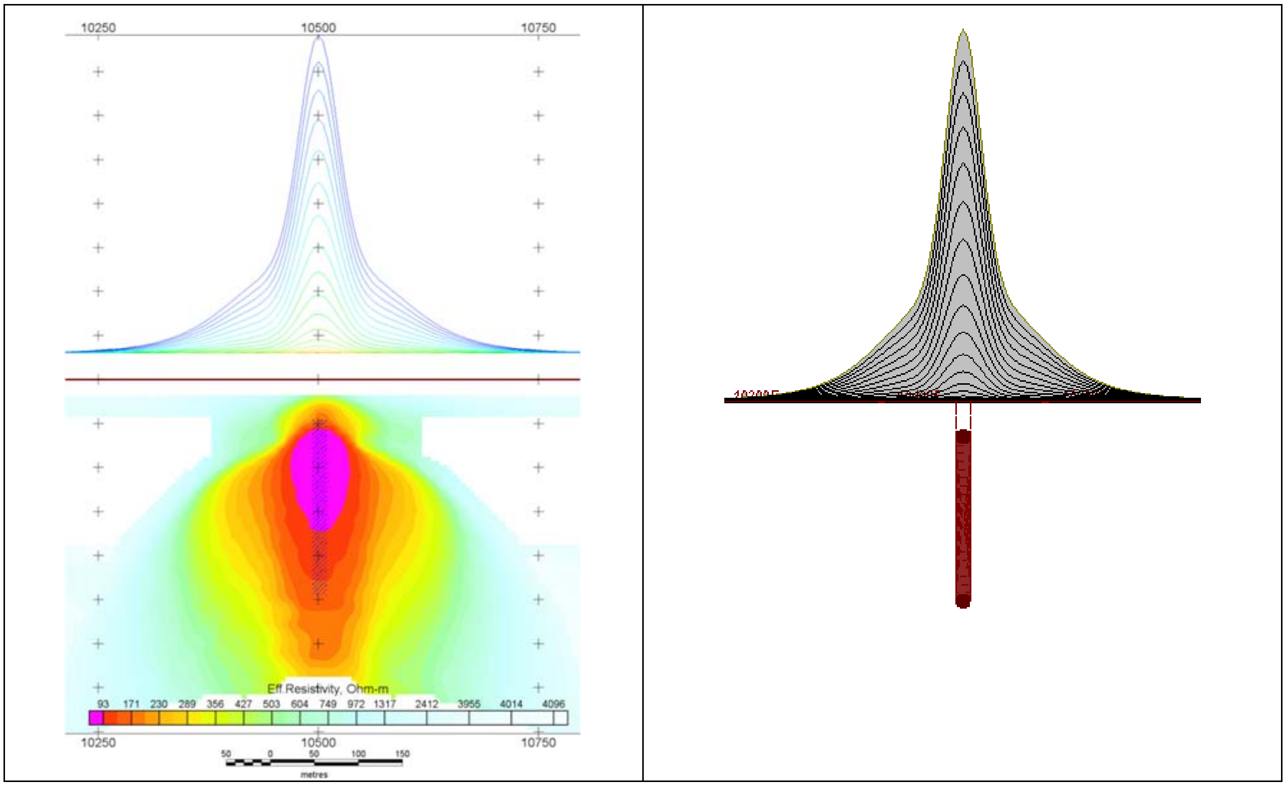



Figure F-2: Maxwell plate model and RDI from the calculated response for "thick" plate 18 m thickness, depth 50 m, depth extend 200 m).

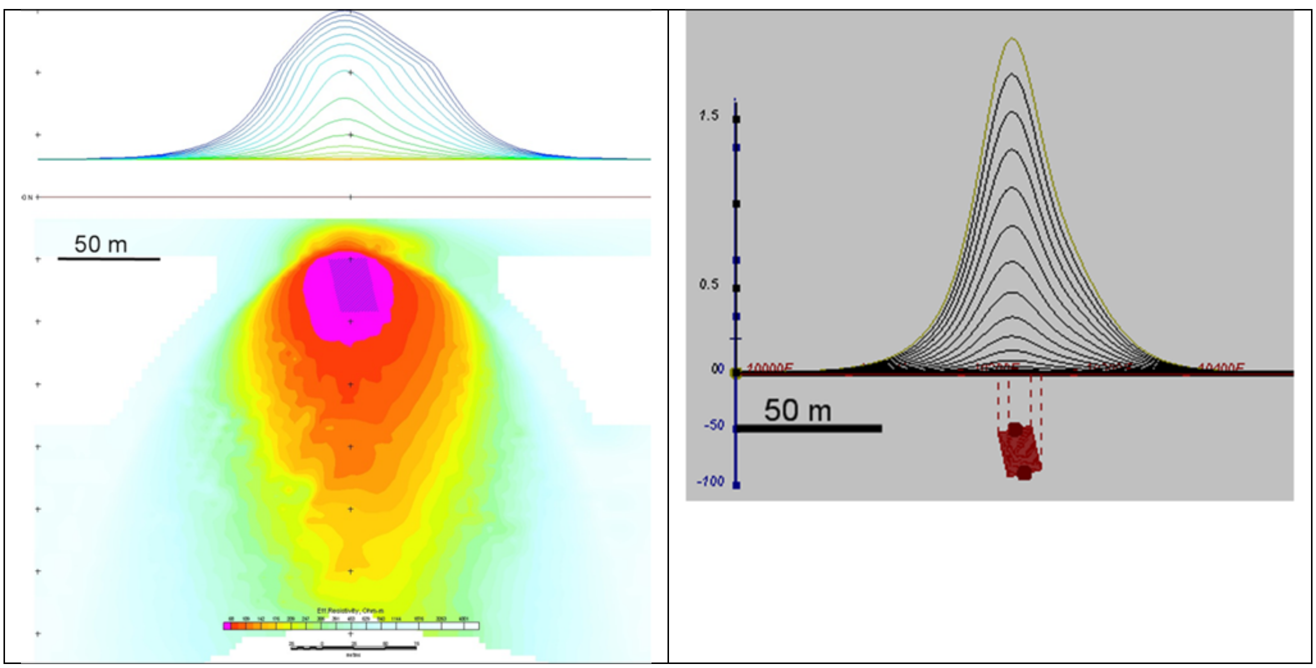



Figure F-3: Maxwell plate model and RDI from the calculated response  for bulk ("thick") 100 m length, 40 m depth extend, 30 m thickness

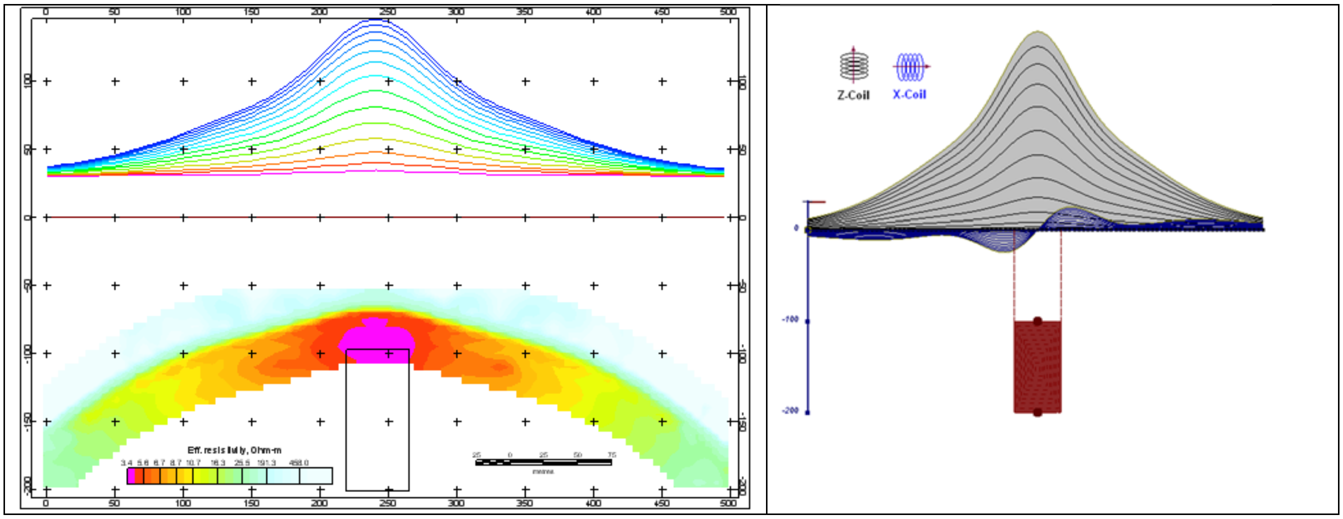



Figure F-4: Maxwell plate model and RDI from the calculated response for "thick" vertical target (depth 100 m, depth extend 100 m). 19-44 chan.

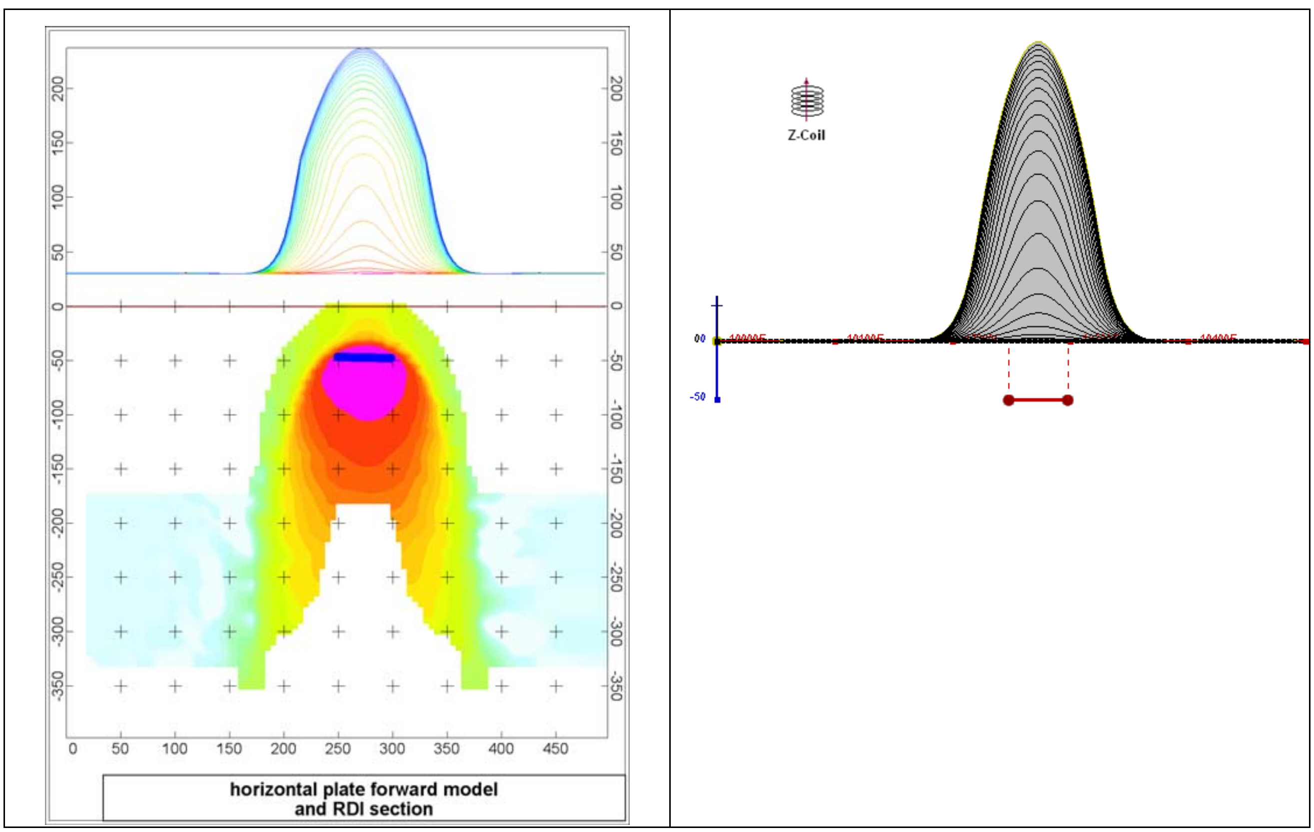



Figure F-5: Maxwell plate model and RDI from the calculated response for horizontal thin plate (depth 50 m, dim 50x100 m). 15-44 chan.

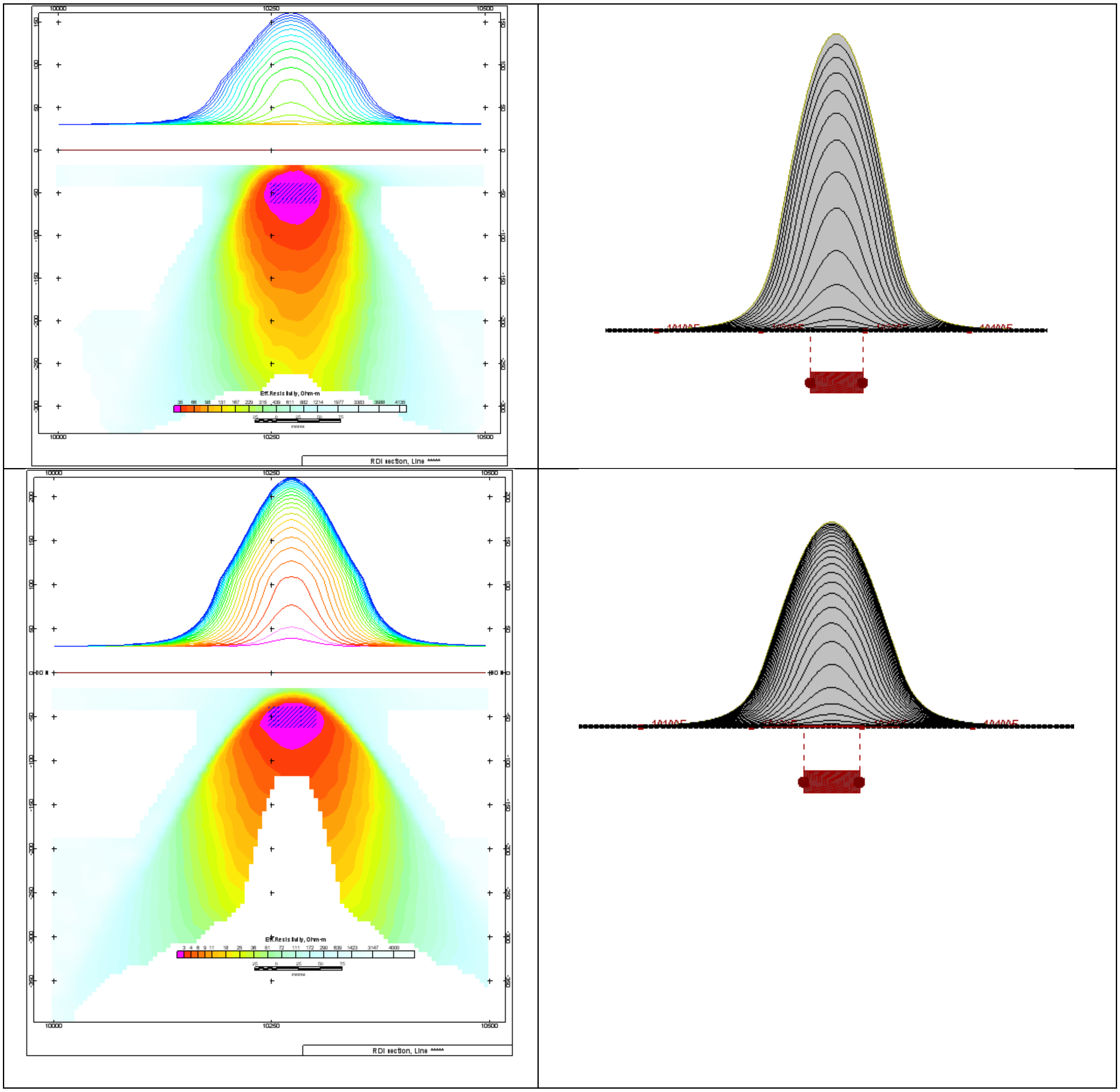


Figure F-6: Maxwell plate model and RDI from the calculated response for horizontal thick (20m) plate – less conductive (on the top), more conductive (below).

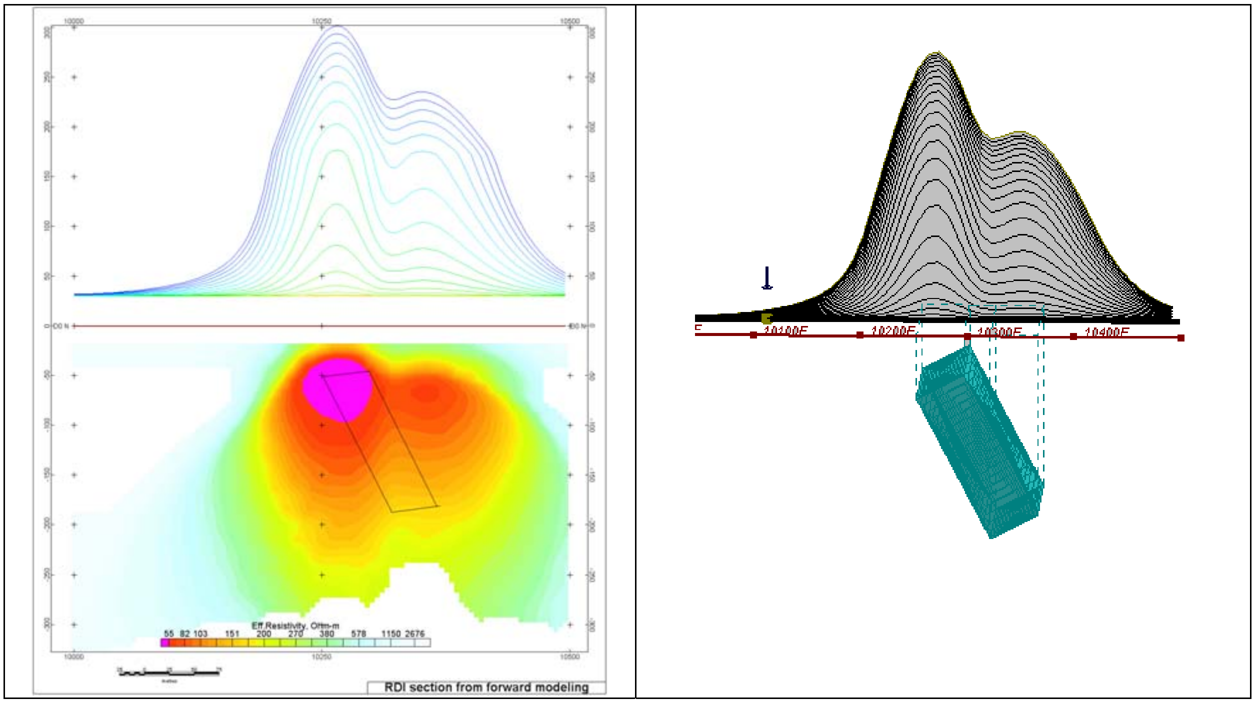



Figure F-7: Maxwell plate model and RDI from the calculated response for inclined thick (50m) plate. Depth extends 150 m, depth to the target 50 m.

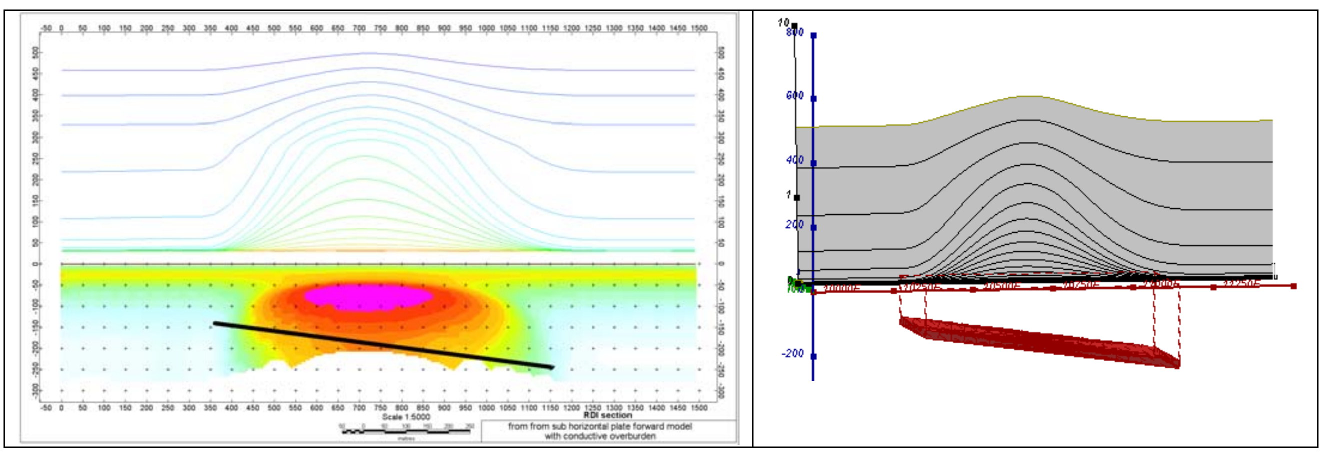



Figure F-8: Maxwell plate model and RDI from the calculated response for the long, wide and deep subhorizontal plate (depth 140 m, dim 25x500x800 m) with conductive overburden.

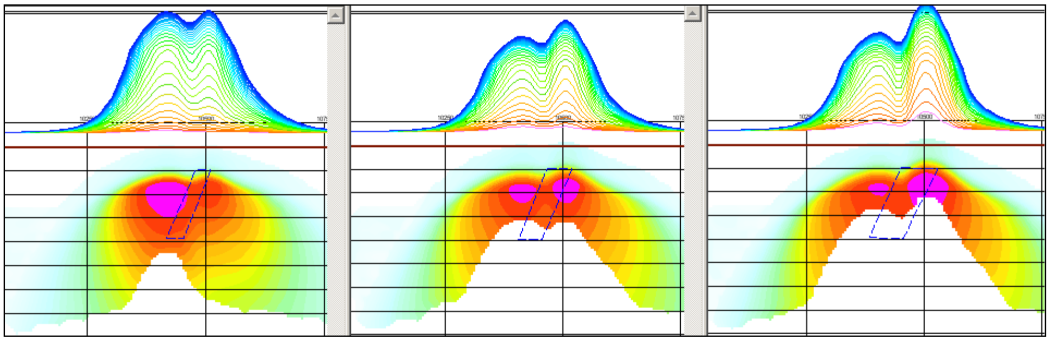


Figure F-9: Maxwell plate models and RDIs from the calculated response for “thick” dipping plates (35, 50, 75 m thickness), depth 50 m, conductivity 2.5 S/m.

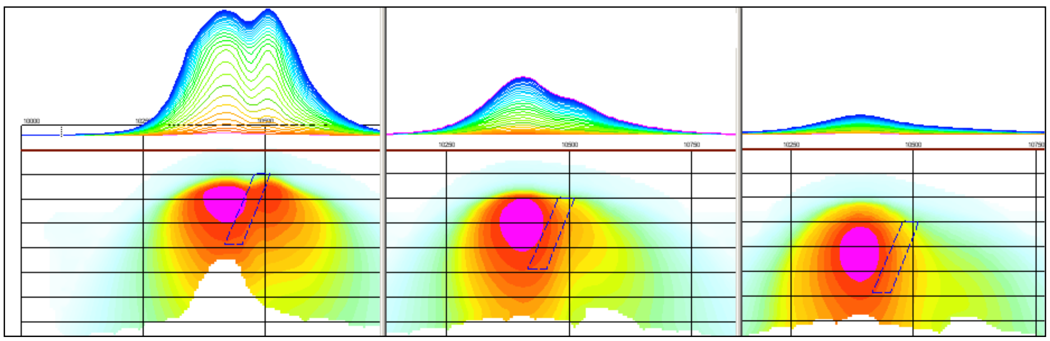


Figure F-10: Maxwell plate models and RDIs from the calculated response for “thick” (35 m thickness) dipping plate on different depth (50, 100, 150 m), conductivity 2.5 S/m.

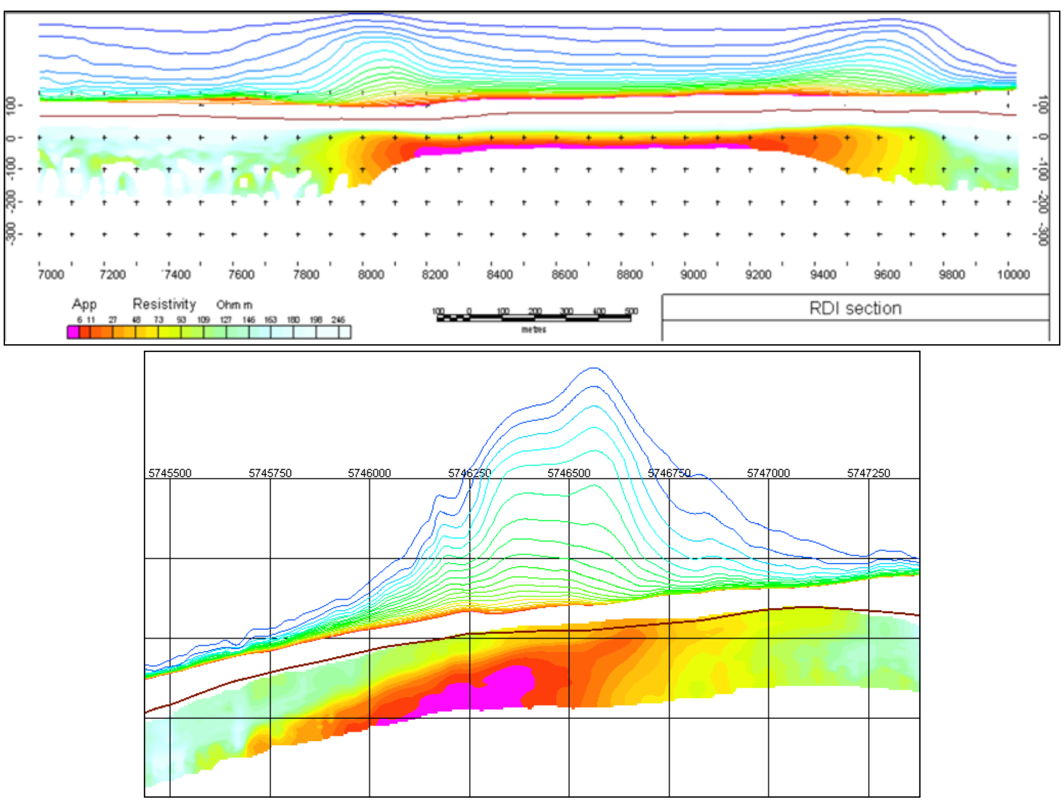
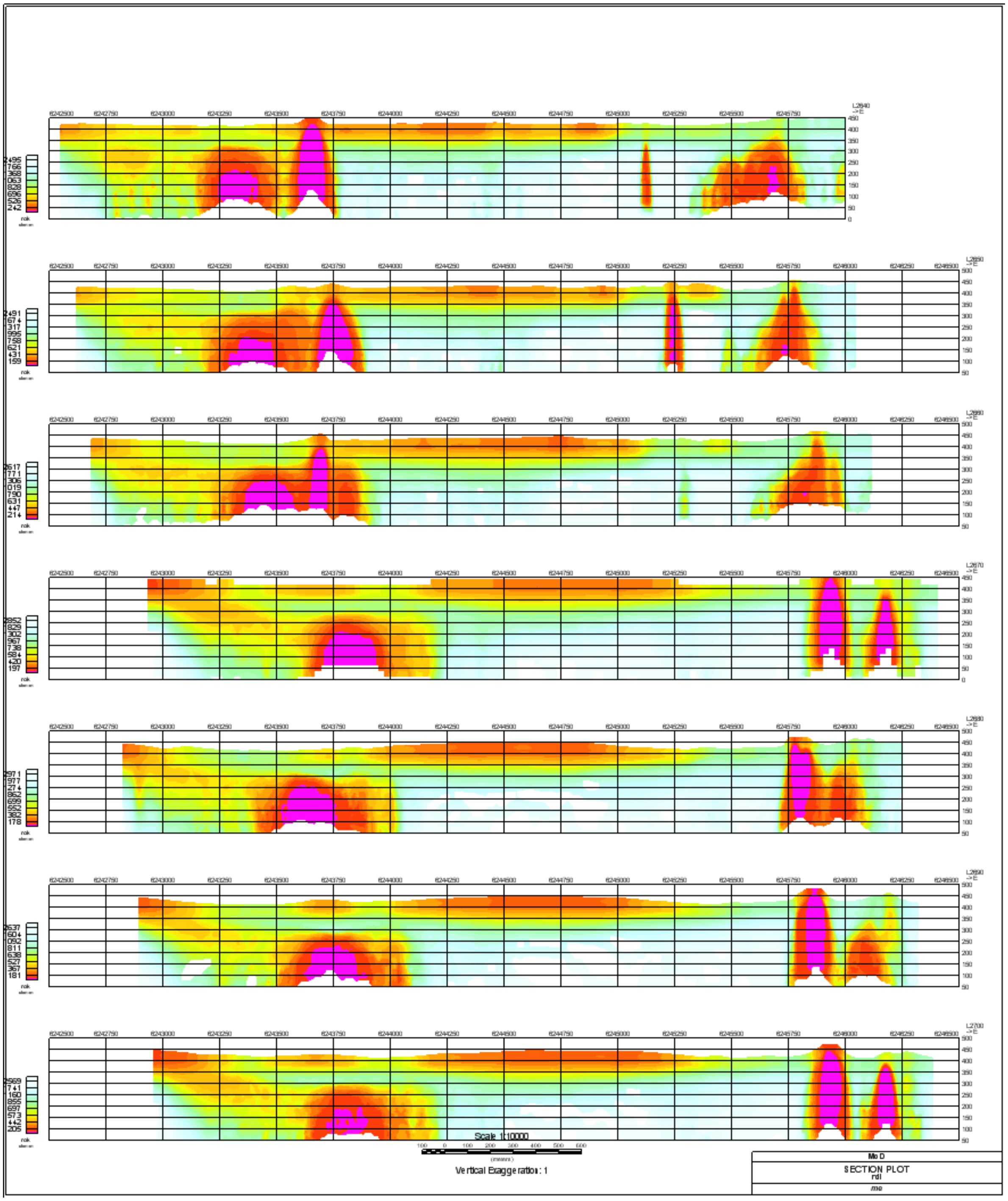


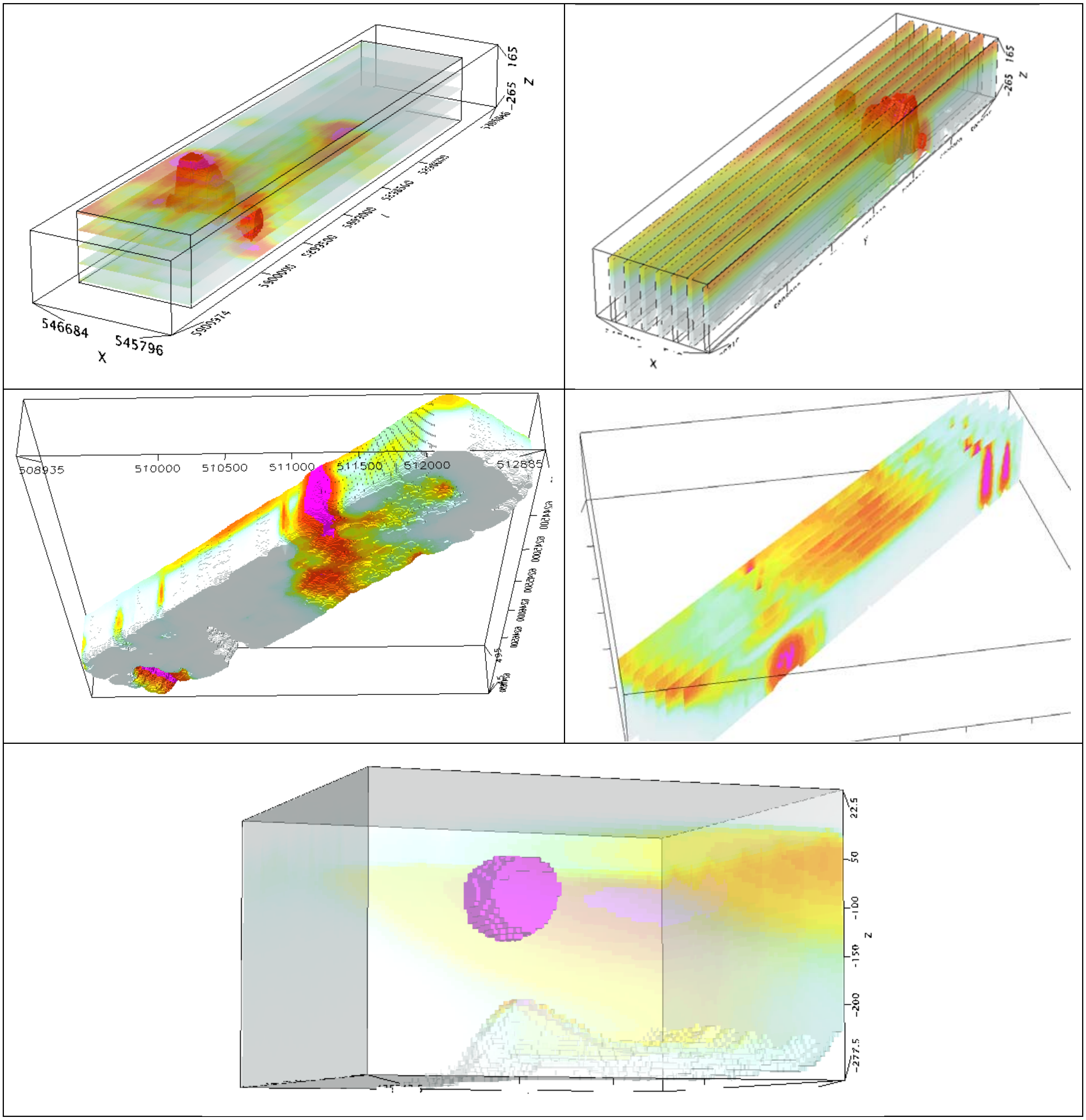

Figure F-11: RDI section for the real horizontal and slightly dipping conductive layers

# FORMS OF RDI PRESENTATION

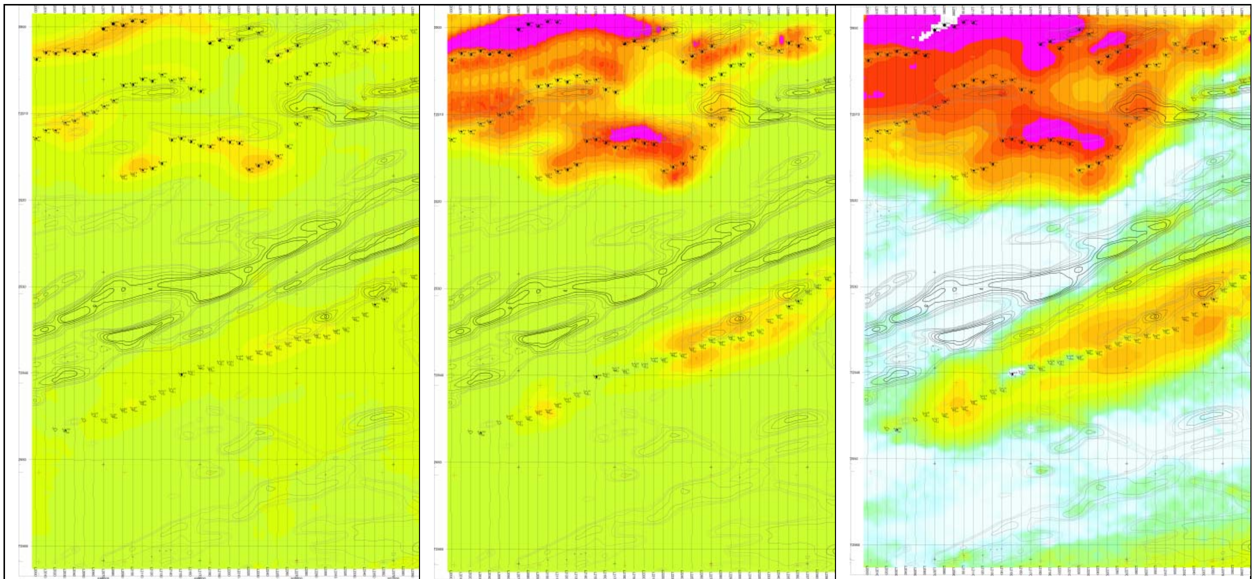
## PRESENTATION OF SERIES OF LINES



# 3D PRESENTATION OF RDIS

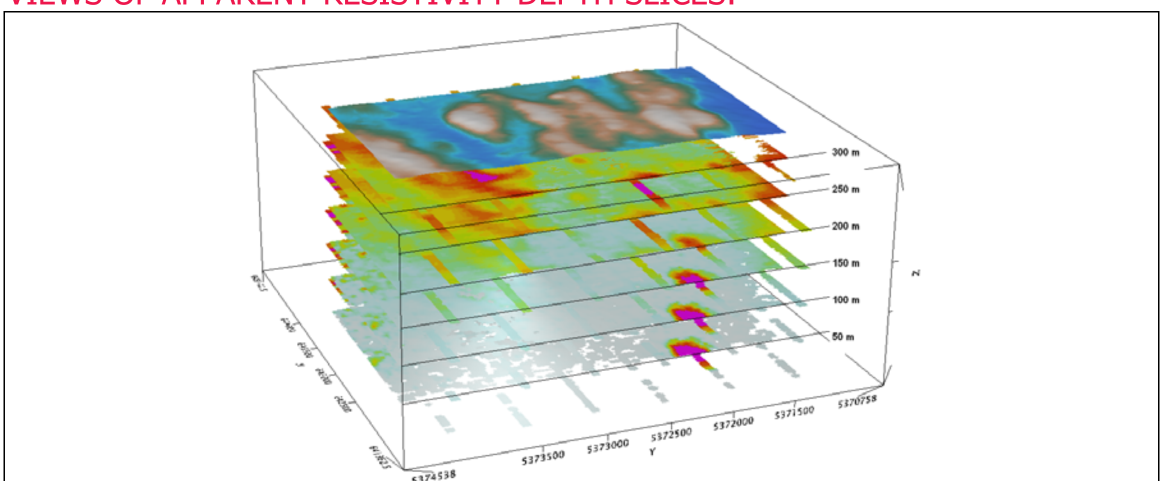


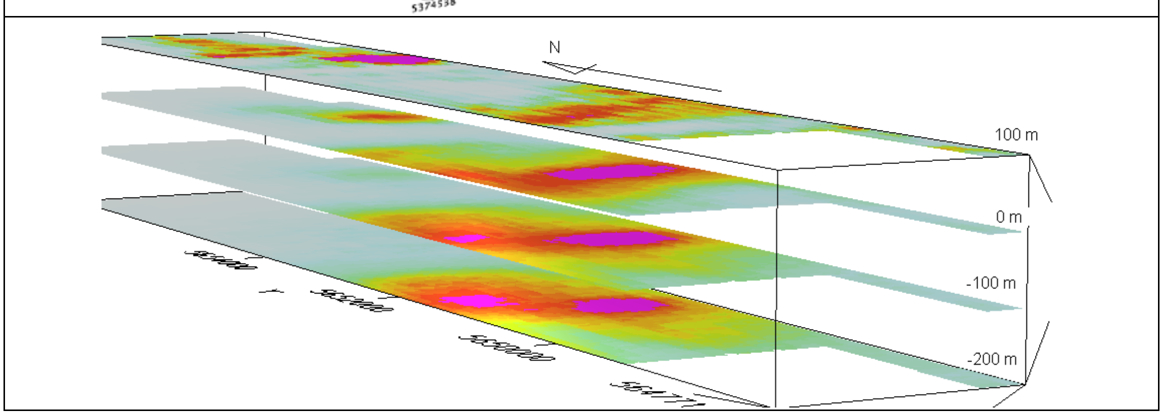
## APPARENT RESISTIVITY DEPTH SLICES PLANS:



| 0 m (surface) | -100 m | -200 m |
|---|---|---|

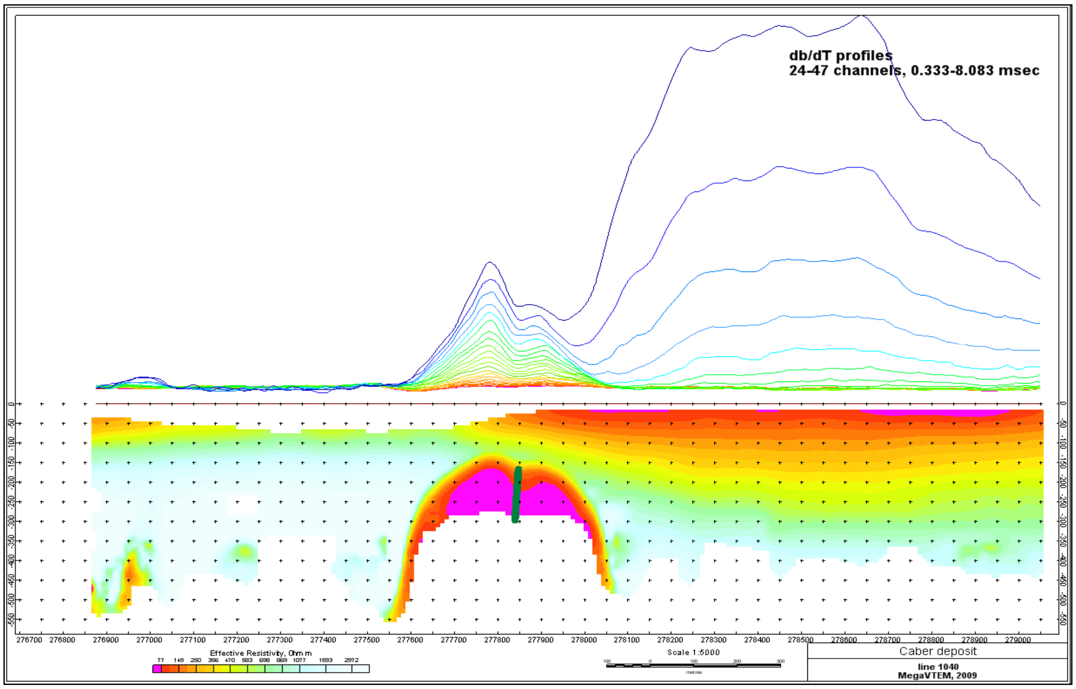
## 3D VIEWS OF APPARENT RESISTIVITY DEPTH SLICES:



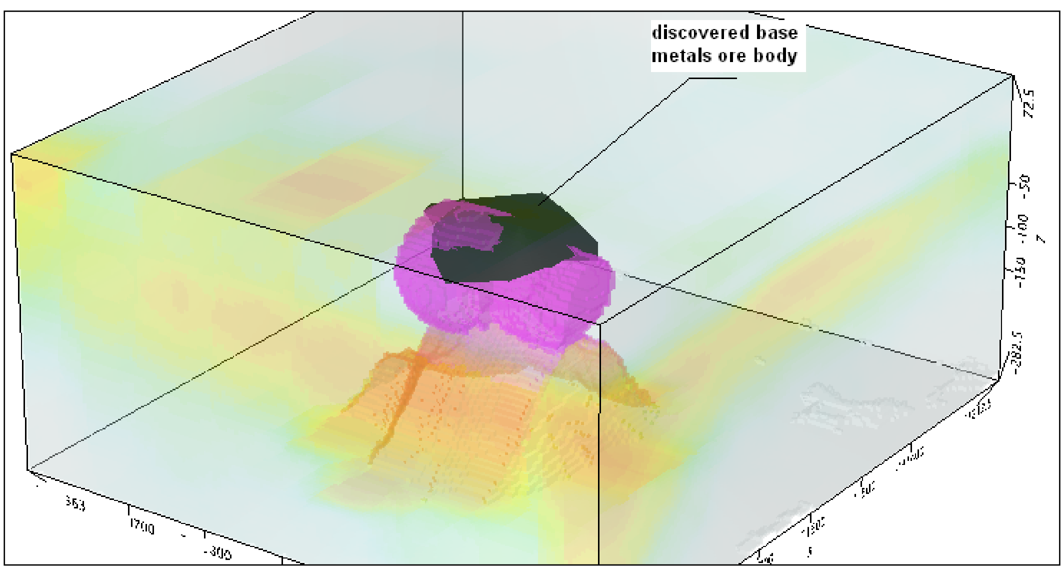



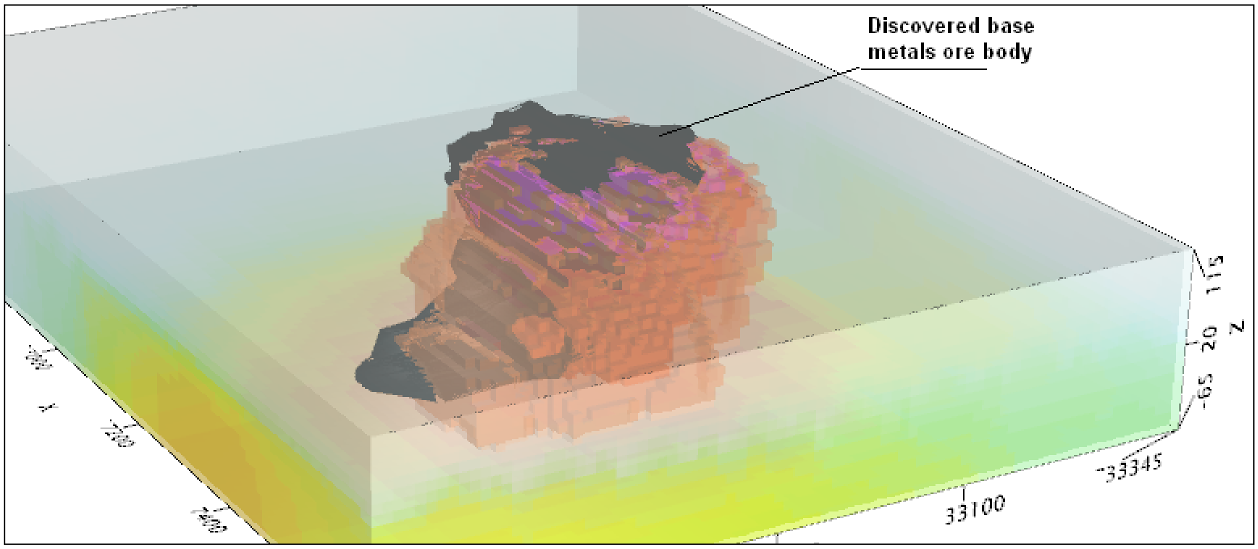
## REAL BASE METAL TARGETS IN COMPARISON WITH RDIS:

RDI section of the line over Caber deposit ("thin" subvertical plate target and conductive overburden.




## 3D RDI VOXELS WITH BASE METALS ORE BODIES (MIDDLE EAST):






Alexander Prikhodko, PhD, P.Geo
**Geotech Ltd.**
April 2011

# APPENDIX G

## RESISTIVITY DEPTH IMAGES (RDI)

Please see RDI Folder on DVD for the PDF's