

**BC Geological Survey**  
**Assessment Report**  
**39010**



Assessment Report  
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geophysical

TOTAL COST: \$54,950.00

AUTHOR(S): Laurence Sookoochoff PEng

SIGNATURE(S): Laurence Sookoochoff

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): \_\_\_\_\_

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): \_\_\_\_\_

YEAR OF WORK: 2020

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5799733, April 6, 2020

PROPERTY NAME: Bertha

CLAIM NAME(S) [on which the work was done]: 1039697, 1064715, 1073890

COMMODITIES BOUGHT: Copper, Gold, Silver

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092ISE012, 092ISE021, 092ISE155, 092ISE196

MINING DIVISION: Kamloops NTS/BCGS: 092I047, 092I048

LATITUDE: 50 ° 25 ' 57 " LONGITUDE: 120 ° 37 ' 10 " (at centre of work)

OWNER(S):

1) Kenneth Ellerbeck

2) \_\_\_\_\_

MAILING ADDRESS:

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

1) Baden Resources Inc.

2) \_\_\_\_\_

MAILING ADDRESS:

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Vancouver BC V6C 1H2

PROPERTY GEOLOGY KEYWORDS [lithology, age, stratigraphy, structure, alteration, mineralization], size and attitude:

Triassic, Central Volcanic Facies, Western Volcanic Facies

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 4042, 4057, 8032, 9854, 14959, 19140, 25405

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (Incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo Interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic	32.8 km	1039697, 1064715, 1073890	\$ 27,475.00
Electromagnetic	32.8 km	1039697, 1064715, 1073890	27,475.00
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Belt			
SIR			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgical			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Lineagrid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	\$ 54,950.00

**Kenneth Ellerbeck**

*(Owner)*

**Geophysical Assessment Report**

*(Event No 5799733)*

*on the*

**Bertha Property**

*Kamloops Mining District, British Columbia, Canada*

*BCGS: 0921.047 & 0921.048*

*for*

**Baden Resources Inc.**

*(Operator)*

*Work done on Tenures*

**1039697, 1067415, 1073890**

*Centre of Work*

**10U 669060E, 5589436N**

*Author*

**Laurence Sookochoff, PEng.**

*Sookochoff Consultants Inc.*

*Submitted*

**April 8, 2020**

Amended Report Submitted

**July 26, 2020**

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7. Plug Zone VLF-EM Quadrature Field Data

## 1.0 SUMMARY

Baden Resources Inc. holds under an option agreement the 1,543 hectare Bertha property ("Property") located 35 kilometres southwest of Kamloops, in the Province of British Columbia, Canada. The Property is within 26 kilometres of the productive New Afton (*formerly Afton*) mine and within 22 kilometres of the world-class Highland Valley Copper mine, the largest open pit copper mine in Canada and one of the largest copper mining and concentrating operations in the world.

The Bertha property is located within the Nicola Belt, a southern portion of the Quesnel Trough, bordered in part to the west by the Guichon Creek Batholith, host to the porphyry copper mines of the Highland Valley, and to the east by the Iron Mask Batholith, host to the New Afton Mine. As the likelihood of copper and or molybdenum minerals occurring nearby, small stocks within the Nicola Group are significant in the exploration for mineral deposits.

The ground covered by the claims of the Bertha property had undergone extensive exploration since 1888 when a reference to 120 sacks of copper ore had been prepared for shipment from the Bertha and Molly claims, and in the process a 75-foot shaft of unknown age had been filled in with waste rock (1888 B.C. MMAR).

Since 1958, a minimum of 40 assessment reports (*Table 2*) were filed on exploration work completed on the ground covered by the Bertha property. In evaluating the exploration results, as concuded by the author of this report, three areas which share some positive comparable exploration results were considered to warrant additional exploration for a potential concealed porphyry mineral deposit. The areas are the Bertha-Rhyolite-JHC in the northwest, the Plug Zone in the northeast, and the Des Zone in the southeast (*Figure 6*).

During February, 2020, Baden Resources Inc. completed a geophysical exploration program comprised of magnetometer and VLF-EM surveys over two of the three mineral zones; the Plug and the Des. The programs were successful in that the results reinforced the historical exploration results to the presence of a potential concealed mineral deposit at the two mineral zones.

At the Plug Zone, a compilation of the historical and the 2020 exploration results, the 2020 magnetometer survey delineated an intrusive with the VLF-EM survey revealed indicated northeasterly trending structures bordering and bisecting the 600 metre wide intrusive. With the historical copper-in-soil anomalies correlating with the indicated structures, it appears that the surficial mineralization, originating from the mineral-bearing hydrothermal solutions of a deep-seated, waning, intrusive, migrated to surface via the structures.

As the Plug Zone is at a three structure structural intersection, the fracturing would have been intensive, potentially resulting in a concealed primarily copper porphyry deposit with the mineral zone related to the density of fractures. Although the anomalous copper zone, which is up to 700 metres by 1300 metres, may distort the size of a concealed mineral deposit, as the surface mineralization may have increased from the mineral migration within the structures, the historic IP anomaly would have a more reliable reflection of a potential mineral deposit.

The U shaped 600 metre wide 1972 IP anomaly, which wraps the Intrusive and correlates in part with the structure/ copper, may be a greater indication of the size of the potential concealed mineral deposit

### Summary (cont'd)

At the Des Zone the indications to a concealed mineral deposit are comparative to the Plug Zone. With an indicated structural intersection and the indicated intrusive stocks related to the structures reveal the foundation for a copper-in-soil anomaly.

The three structures of a structural intersection at or adjacent to the geochem anomaly, is indicated as a mineral control in that the 500 x 300 metre copper anomaly is configured to the structural orientations (*Figure 19*).

A geological and geophysical exploration program is recommended on all three mineral zones of the Bertha Property. The exploration would be predominantly comprised of IP surveys on the Bertha and the Des Zones with magnetometer and VLF-EM surveys over the Plug Showing of the Plug Zone (*Figure 8*).

The geophysical surveys on the Plug Showing would be extended westward from the Meadow Showing to determine if the two Showings are connected as they are indicated from an open-ended western copper anomaly on the Meadow Showing of the Plug Zone (*Figures 7 & 18*).

*Figure 1. Location Map*



## INTRODUCTION

During February 2020, magnetometer and VLF-EM surveys were completed on the Plug and the Des Mineral Zones ("Zone") two of the three Zones on the Bertha Property. The purpose of the surveys was to provide additional information to compile with the historical exploration results which indicated a potential concealed porphyritic mineral deposit at each of the two Zones.

Information for the Bertha assessment report was obtained from reports as listed in the References section of this report and from the results of the 2020 exploration program as reported on herein.

## PROPERTY DESCRIPTION AND LOCATION

### Description

The Bertha Property is comprised of ten contiguous mineral claims covering an area of 1543.4688 hectares.

**Table 3. Tenures of the Bertha Property**  
(from Mineral Titles Online)

Tenure number	Claim name	Expire date	Area in hectare
1039697	MEADOW-PLUG	20/06/2024	123.4801
1039713	PLUG IT	20/06/2024	82.3091
1049929	PLUG NORTH	20/06/2024	61.7282
1064406	RHYOLITE HOMFRAY	20/06/2024	411.4882
1064715	DES	20/06/2024	164.6966
1064900	DES-PLUG	20/06/2024	205.7844
1066816		20/06/2024	226.3857
1067470	HELLO MOLLY	20/06/2024	61.7528
1069575	BERTHA DES	20/06/2024	123.4954
1073890	DES 2	20/06/2024	82.3483

### Location

The Bertha property is located within BCGS Maps 092I.047 / .048 of the Kamloops Mining Division, 210 kilometres northeast of Vancouver, 35 kilometres southwest of Kamloops and 22 kilometres east of the world-class Highland Valley Copper mine (*Minfile 092ISW012*), with the largest open-pit mine in Canada.

**Figure 2. Bertha property location to Highland Valley Copper mine**  
(Base map from Google Earth)



**Property Description and Location (cont'd)**

Kamloops is a city in south-central British Columbia located at the confluence of the two branches of the Thompson River near Kamloops Lake and is the largest community in the Thompson-Nicola Regional District and the location of the regional district's offices. It is ranked 7th on the list of the 100 largest metropolitan areas in Canada and represents the 44th largest census agglomeration nationwide, with 90,280 residents in 2016.

**ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY****Access**

From Logan Lake, the Bertha property can be accessed by traveling east on Highway 97D for 16 kilometres to the junction with the Desmond Lake road thence southerly for one kilometre to Tenure 1049229 of the Bertha property.

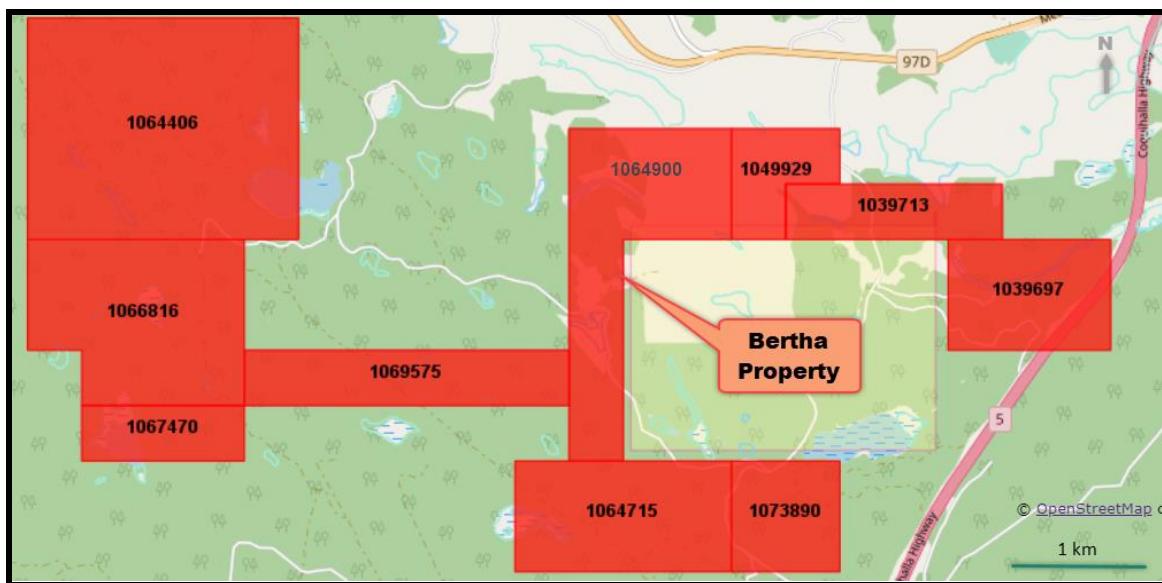
**Climate**

Kamloops' climate is a local steppe climate. There is little rainfall throughout the year with an average summer temperature of 20.8 °C. The lowest average temperatures in the year occur in January, when it is around -4.8 °C.

On the Bertha property, minimal to moderate snow cover could be from December to April and would not hamper a year-round exploration program.

Kamloops is British Columbia's second-sunniest city with over 2,000 hours of sunshine annually, making it an ideal getaway destination in any of the four seasons. The city is located in the dramatic setting of mountains, river valleys, deserts and grasslands.

*Figure 3. Claim Map  
(Base map from Google Earth)*



**Accessibility, Climate, Local Resources, Infrastructure and Physiography (cont'd)****Local Resources**

Sufficient basic resources for an initial or an advanced exploration and development program would be available at Kamloops and is serviced daily by commercial airlines from Vancouver. Kamloops is the centre for most of the provisions to the Highland Valley Copper Mine.

**Water and Power**

Power requirements for the initial exploration and development at the Bertha Property would be fuel generated. Commercial power sources may be available from a 500 Kv transmission line that crosses the Bertha Property.

Water for all phases of the exploration and development program should be available from water courses on or adjacent to the Bertha Property.

**Infrastructure**

Kamloops is the "hub" city for the Interior of B.C.

- Airport: 7 daily & 8 weekends flights to Vancouver, 4 daily & 8 weekends flights to Calgary, daily & 2 weekends flights to Edmonton and 2 weekly & 1 weekend flight to Prince George.
- Central location to all major centres in B.C.
- Located at the intersection of Western Canada's four major highways.
- One of only two cities in Canada serviced by both national railways (CN Rail and CP Rail).
- Over 52 trucking and wide transport companies servicing North America based in Kamloops.

Kamloops is the natural trade and distribution hub in the southern BC interior, a financial, travel, and cultural focus, and the administrative centre for the Thompson-Nicola regional district.

**Physiography**

The Bertha Property covers gentle to moderate forested slopes with localized logged areas. Elevations range from 1,240 m in the northeast to 1,460 m in the southwest.

**HISTORY****History: Kamloops Area**

Mineral exploration and mining is a \$6 billion industry in British Columbia and has been a regional economic strength in Kamloops for decades. There are a number of metal and mineral mines, as well as industrial mineral operations, located in the Kamloops area.

With a rich mining history going back over 100 years, Kamloops has skilled mining personnel, mining consultants, assay labs, and mining suppliers ready to facilitate mining exploration and active mining. This significant concentration has resulted in a cluster of industries that have located here to support the mining operations (<http://venturekamloops.com/why-kamloops/industries/mining>).

**History: Bertha Property**

The history of exploration within ground covered by the Bertha property is set out in the following tables. The information is taken from the referenced Assessment Reports.

**History Bertha Property (cont'd)****6.3 History on ground presently covered by the Bertha property****Table 2. Summary of exploration history and exploration results**

Year Report Author	Owner (1) Operator (2)	Exploration type, area, amount, quantity	Results	Reference Assessment Report #
1888	Meadow Creek Mines (1)	120 sacks of copper ore prepared for shipment. 75 foot shaft of unknown age,		(1888 MMAR)
1958 McBeath	Vanex Minerals Ltd.	Geophysical: 9.0 km Magnetic	No anomalies	228
1958 McBeath	Vanex Minerals Ltd.	Geophysical: 9.0 km Magnetic	No anomalies	234
1959 Hill	Vanex Minerals Ltd.	Geophysical: 120.0 km Magnetic	No significant anomalies. Road building in the Homfray Lake area	266
1959	Vanex Minerals Ltd.	Diamond Drilling: Two drill holes; 1-358 and 2-293 feet (198 metre total)	Hole No. 1: The lower portion of the hole siliceous altered grey-green rock with considerable pyrite. Hole No. 2: Altered volcanics were noted but no mineralization was reported	18048
1972 Deleen/ Nordin	Texada Mines	Geochemical: 268 samples Geological: 775 hectares Geophysical: 23.3 km Magnetic	One of four geochemical anomalies coincides with a magnetometer anomaly and an I.P. chargeability anomaly. One magnetometer anomaly	4041
1972 Scott/ Cochrane	Texada Mines	Geophysical: 14.3 km IP; 8.3 km Self Potential	Three weak to moderate chargeability anomalies greater than 8.0 ms. Two coincident anomalies with SP anomalies and one with an SP anomaly and high resistivity.	4042
1972 Lammle	Newco Ventures	Geochemical: 1128 samples	Two large soil anomalies of moderate intensity in an area of intrusive diorite. Anomalies are subjacent to, the proximity of intersections.	4057
1979 Sookochoff	Thunderbolt Resources Ltd. (1) (2)	Geophysical: 14.0 km, VLF; 14.0 km Magnetic,	Correlative magnetometer lows with VLF-EM anomalies possibly reflecting strong fault, shear zone or hydrothermal alteration	7268

*Table 2. Summary of exploration history and exploration results (cont'd)*

1980 Mark	Thunderbolt Resources Ltd. (1) (2)	Geophysical: 4.1 km, VLF; 4.1km Magnetic	Northerly and northwesterly trending VLF-EM anomalies correlating with magnetic highs.	8032
1980 Mark	Thunderbolt Resources Ltd. (1) (2)	Geochemical: 383 samples	Anomalous values in copper, zinc, and molybdenum.	8397
1981 McQuar rie	Charles Boitard	Geophysical: 2.81 km IP	Two IP anomalies	9854
1982 Cukor	Visa Resources Ltd. (1) I. Borovic (2)	Geochemical: Geophysical:	Apparent high magnetic response over the areas of trenching.	10551
1984 Cukor	V. Cukor (1) Promina Develop ments Ltd.(2)	Geophysical: Magnetic, ground Physical; 3.6 km grid	A definite northwest-southeast magnetic pattern was noted.	12287
1986 Crooker / Rockel	Western Resource Technologies Inc.(2)	Geophysical: 4.0 km VLF; 4.0 km IP; 750 Magnetic	Moderate to low VLF-EM conductance. One conductor appears coincident with a magnetic high.	14959
1986 Crooker / Rockel	Western Resource Technologies Inc. (2)	Geophysical: 4.0 km VLF;750 m IP; 4.0 km Magnetic	Anomalous geochemical concentrations. Several geophysical targets that require definition	15060
1987 Rockel	E.R. Rockel (1) Interpretex Resources Ltd. (2)	Geochemical: 17 soils; 2 rocks	No significant gold and silver anomalies over previous two VLF-EM conductors.	16189
1987 LaRue/ Boitard	C. Boitard (1) Menika Mining (2)	Geophysical: 3 km IP	The survey extended the north—north west trending previous I.P. anomaly 200 metres. Two pfe peaks of 12% and 17%.	17070
1988 Rockel	G.F. Crooker (1) Western Resource Technologies Inc. (2)	Geochemical: 536 soil; 9 silt; 13 rock samples Geological: 8.0 hectares Geophysical: 18.6 km VLF-EM; 16.8 km	One weak gold geochemical anomaly and a number of copper and zinc geochemical anomalies.	17337
1988 Rockel	E.R. Rockel (1) E.R. Rockel (2)	Geochemical: 50 samples	Two anomalous gold zones correlate with slight arsenic highs.	17849
1988 Crooker	G.F. Crooker (1) Western Resource Technologies Inc. (2)	Geochemical: 403 soil samples; 31 rock samples Geological: 200 hectares Geophysical: 6.0 km I.P.	Weakly anomalous gold, silver, copper and zinc.	18048

*Table 2. Summary of exploration history and exploration results (cont'd)*

1989 Kim	C. Boitard (1) (2)	Drilling: 7 holes; 2046.6 m Geochemical: 45 samples	Bleaching, kaolinization and argillization plus mylonitized shear zones in places present moderate sulphide mineralization, but its auriferous content would not be significant to date.	19140
1992 Crooker	G.F. Crooker (1) (2)	Geophysical: 5.8 km VLF 6.3 km magnetic 6.3 km line/grid	One prominent circular shaped magnetic high defined. A number of weak to moderate strength VLF-EM conductors outlined.	22346
1992 Crooker	G.F. Crooker (1) (2)	Geophysical: 7.1 km VLF 7.4 km magnetic	Magnetic highs are mostly narrow, linear trends which coincide with conductor systems.	22366
1996 Crooker	G.F. Crooker (1) Goldcliff Resource Corp. (1) (2)	Geochemical: 24 silt samples 2697 soil samples Geophysical: 67.3 km VLF 91.0 km magnetic	Anomalous gold values in silt samples. A number of significant magnetic and electromagnetic features. Plug showing appears to be associated with a weak magnetic high, VLF conductivity	24862
1997 Crooker	G.F. Crooker (1) L.W. Saleken (1) Goldcliff Resource Corp, (2)	Drilling: 8 rotary drill holes Geochemical: 586 samples Physical: 5 trenches	Gold values of 0.7 to 2,850 g/t in 40-foot section with C-Q-M alteration of drill-hole PL02. Moderate south dipping zone of gold and silver mineralization.	25405
2005 Sookochoff	Aurora Capital Inc. (1) (2)	Geological: 489 ha	Three cross-structural locations indicated	28671
2007 Sookochoff	L. Sookochoff (1) (2)	Geological: 370 ha	Three cross-structural locations indicated	29034
2007 Sookochoff	L. Sookochoff (1) (2)	Geophysical: 2.0 km VLF	Four northerly trending VLF-EM anomalies	29495
2008 Sookochoff	Auror Capital Inc. (1) (2)	Geological:	Rhyolite:Zone of potential mineralization discovered.	No AR Figures 17-19
2008 Crooker	G.F. Crooker (1) (2)	Geochemical: 68 samples	The results of the survey did not yield any anomalous molybdenum antimony, or lead geochemical values.	30550

**Table 2. Summary of exploration history and exploration results (cont'd)**

2015 Ellerbeck	K. Ellerbeck (1) (2)	Geochemical: 9 rock samples Prospecting: 3.0 ha	Elevated level of Au, Ag and Cu in samples 1-4-9. Elevated levels of Pb, Zn in samples 1-4-9.	35772
2016 Sookochoff	C. & G.Delorme (1) (2)	Geological: Photo: 370.4 ha Geophysical: 4.5 km magnetic	Magnetometer low correlates with a former delineated cross-structure.	35735
2018 Sookochoff	L. Sookochoff (1) (2)	Historic Analysis and Evaluation	Recommendations: IP surveys over the JHC and Rhyolite showings. Drill-hole to test the reported pyritic and altered zone below the 109 m depth of the 1959 drill-hole	36958
2017 Ellerbeck	K. Ellerbeck (1) (2)	Geochemical: 4 rock samples Prospecting: 2.0 ha	Confirmed reported geology and showed that significant mineralization is present in the host Nicola Group rocks within the PLUG property	37206
2019 Ellerbeck	K. Ellerbeck (1) (2)	Prospecting:		38178
2019 Ellerbeck	K. Ellerbeck (1) (2)	Prospecting:		38305
2019 Ellerbeck	K. Ellerbeck (1) (2)	Prospecting:		38307
2020 Sooko-choff	K. Ellerbeck (1) Baden Resources (2)	Geophysical: - 32.8 km magnetic - 32.8 km VLF-EM	In compilation with historical results, revealed the location of potentially concealed mineral deposits on the Plug and Des Zones	

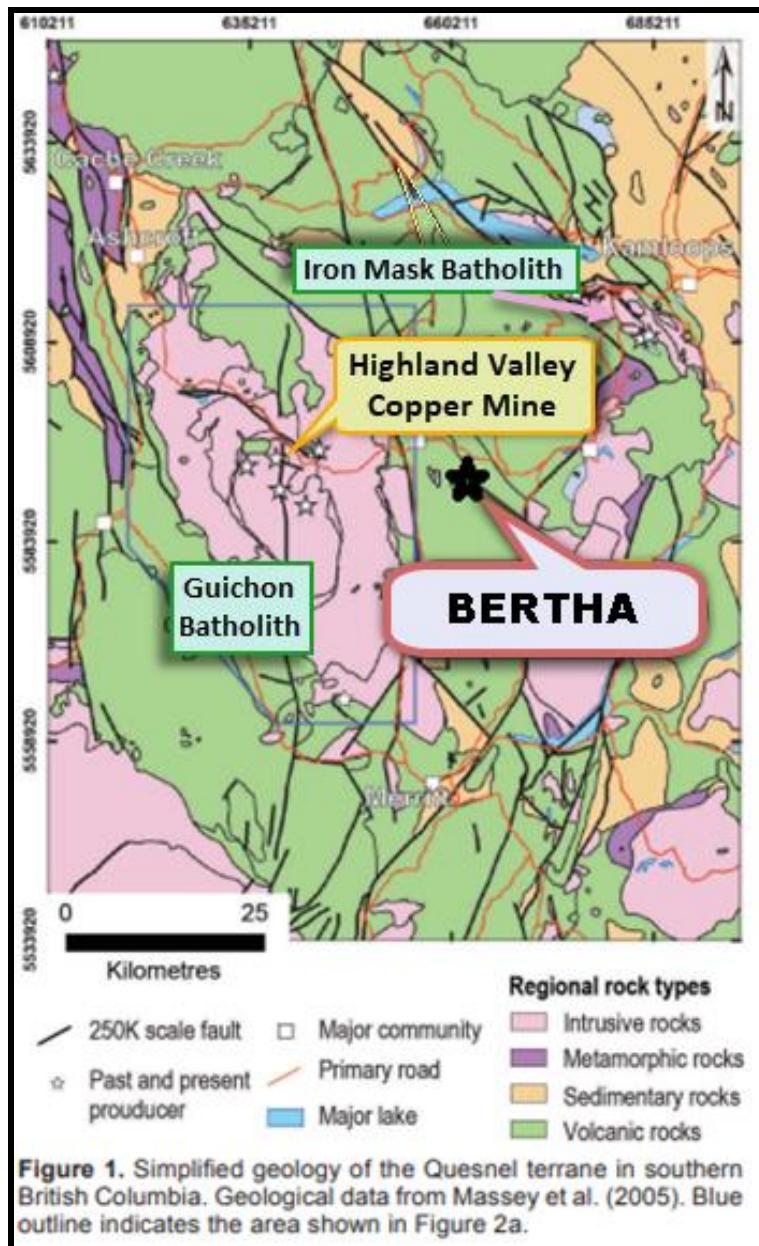
## Geological Setting and Mineralization

### Regional Geology and Mineralization

Regionally, the Bertha property is situated within the Quesnel Trough, a 30 to 60 km wide belt of Lower Mesozoic volcanic and related strata enclosed between older rocks and much invaded by batholiths and lesser intrusions (*Campbell and Tipper, 1970*).

The well-known Nicola Belt of Nicola Group rocks within the southern portion of the Quesnel Trough, comprised mostly of intermediate to basic volcanic flows and breccias with minor amounts of greywacke, argillite and limestone, continues nearly 200 km southward to its termination at the U.S. border. The Nicola Belt to the west is bordered in part by the Guichon Creek Batholith, host to the major porphyry copper mines of the Highland Valley, and in part to the northeast by the Iron Mask Batholith, host to the New Afton Mine. Principal structures, as suggested by regional aeromagnetic lineaments, trend mostly in a northwesterly direction.

**Figure 4. Regional Geology: Quesnel Terranes**  
*(Base map from Britton, 2016)*

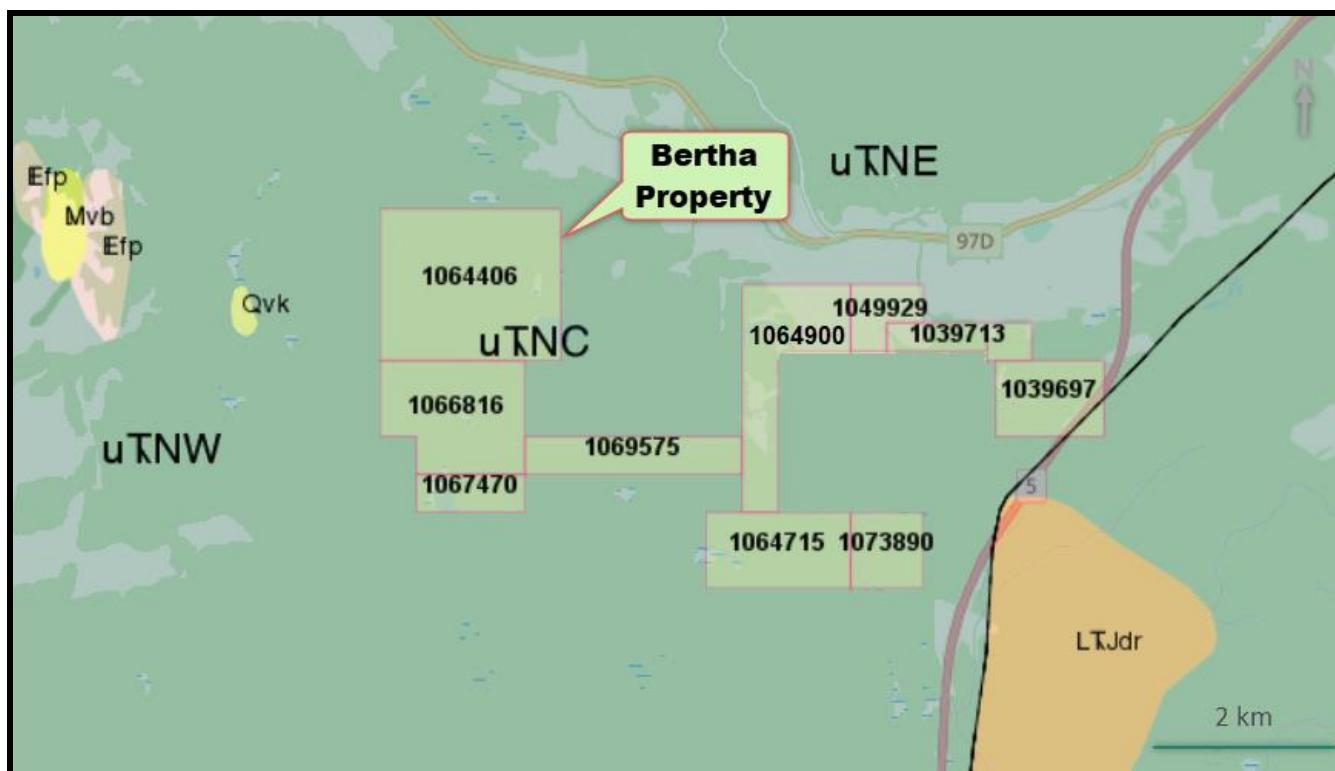


### Local Geology and Mineralization

The Guichon Creek Batholith and the Nicola Group are well known for their economic importance. Small stocks within Nicola Group, because of the likelihood of copper and or molybdenum minerals occurring nearby, are economically significant as well.

Locally, the Bertha property is predominantly underlain by the Central and the Western Volcanic Facies of the Upper Triassic Nicola Volcanics which are in a regional fault contact with the Late Triassic to Early Jurassic Guichon Batholith four kilometres to the west.

**Figure 5 . Property Geology**  
*(Base map from MapPlace 2)*



## LEGEND

**Mvb**  
 Pleistocene to Holocene-unnamed  
 alkaline volcanic rocks

**Efp**  
 Eocene-Penticton Group  
 andesitic volcanic rocks

**Upper Triassic-Nicola Group**

**uTrNW**

**Western Volcanic Facies**  
 undivided volcanic rocks

**uTrNC**  
**Central Volcanic Facies**  
 andesitic volcanic rocks

**uTrNE**  
**Eastern Volcanic Facies**  
 basaltic volcanic rocks

**uTrNva**  
 andesitic volcanic rocks

**Late Triassic to Early Jurassic**

**LTrJdr**  
 - dioritic intrusive rocks

**Geological Setting and Mineralization (cont'd)****Property Geology and Mineralization (from Minfiles,)****BERTHA MOLLY** past producer (Stockwork)

MINFILE 092ISE012

Within Tenure1066816

*The Dupont Lake area is underlain mainly by Upper Triassic Nicola Group intermediate volcanics and derivatives. Approximately 8 kilometres to the west, Nicola Group rocks are in contact with the Lower Jurassic Guichon Creek Batholith. Quartz diorite outcrops southwest of Dupont Lake.*

*The Bertha-Molly showing is hosted by purplish amygdaloidal andesites with intercalated reddish tuffs. These rocks are strongly fractured and chloritized.*

*Recent development has exposed malachite, azurite, chalcopyrite, cuprite and pyrite hosted by shears and fracture-fillings in vesicular volcanics and red tuffs. Mineralization is structurally controlled with an apparent north trend. A common alteration is calcite and epidote, with silicification becoming stronger at depth.*

**RHYOLITE** showing (Hydrothermal, Epigenetic)

MINFILE 092ISE021

Within Tenure1064406

*The area straddles a northwest trending contact between two volcanic sequences of the Upper Triassic Nicola Group. To the west are plagioclase, plagioclase-augite intermediate pyroclastic and epiclastic breccia, conglomerate, tuff, sandstone, local shale and augite porphyry bodies. The central portion to the east is underlain by aphanitic pillow mafic flows. The contact between these two sequences hosts the Rhyolite occurrence.*

*The Rhyolite showing is underlain by grey, green or black amygdaloidal basalt of the Upper Triassic Nicola Group. Varicoloured calcite amygdules occur within an aphanitic groundmass. Several beds of maroon to green volcaniclastic breccia occur within the basalt and contain maroon, subrounded to subangular clasts ranging up to 30 by 15 centimetres. Two northwest trending, light grey-green, aphanitic, siliceous and pyritic felsic dykes, 3 to 4 metres wide, also occur.*

*Mineralization occurs in amygdaloidal basalt near the flow-volcaniclastic contact and is related to narrow quartz-carbonate veinlets within shears. Several old trenches indicate the shear zone strikes approximately 335 to 345 degrees and dips steeply west. Pyrite is present with minor chalcopyrite, azurite, malachite and sphalerite. Rock samples from this zone assayed up to 0.377 per cent copper, 0.218 per cent zinc and are weakly anomalous in gold and silver values (Assessment Report 18048).*

*Additional information on the mineralization within the Bertha property is provided in a report by Western Resource Technology wherein:*

*"During the 1985 exploration program a showing of "rhyolite" with up to 5% pyrite was found along the main road. A sample taken from the outcrop assayed 0.78 oz/ton Ag, 1.76% Cu and 1.52% zinc. Outcrop is generally sparse over the eastern section of the grid although several old trenches were found in the immediate vicinity of the showing. Weakly silicified andesite and rhyodacite were exposed in the trenches with up to 5% pyrite. Sample 87-005 gave weakly anomalous values of 5.5 ppm Ag and 55 ppb Au.*

*The proximity of these showings to the flow-pyroclastic contact makes the area a good target for stratabound massive sulphide mineralization."*

**JHC showing (Volcanic redbed Cu)**

MINFILE 092ISE147

Within Tenure 1064406

*The property lies west of Homfray Lake and is underlain by volcanic rocks of the Upper Triassic Nicola Group. The area straddles a northwest trending contact between two volcanic sequences. East of the contact zone are very fine-grained red flows with occasional feldspar (plagioclase?) phenocrysts. The matrix contains moderate amounts of hematite disseminations. To the west are grey volcanics with an aphanitic to fine-grained matrix and associated feldspar and/or augite phenocrysts. Alteration consists of epidote, chlorite and carbonate. The contact zone parallels the main northwest structural trend. Northeast and north trends are also evident.*

*Drilling (1971) intersected disseminated chalcocite in porphyritic and amygdaloidal basalt. Fracturing and narrow shears in amygdaloidal andesite contain epidote, carbonate, quartz, malachite and chalcopyrite. A chip sample assayed 4.27 per cent copper and 14.2 grams per tonne silver (Assessment Report 17337).*

**MEADOW CREEK showing**

MINFILE 092ISE155

Within Tenure 1039697

*The area is underlain by volcanic rocks of the Upper Triassic Nicola Group which are cut by small granitic plugs and sills. Sparse outcroppings of Nicola Group rocks along Meadow Creek consist of altered andesite, lapilli tuff, amygdaloidal basalt and minor lenses of limy sediments which strike east to southeast and dip steeply to the north. Alteration minerals include chlorite, epidote, carbonate and hematite. A quartz-mariposite-carbonate rock outcrops along Meadow Creek and is in contact with a chlorite-mica-feldspar(?) schist that strikes 020 degrees and dips 65 to 90 degrees to the east. The schist and mafic dioritic to hornblende andesite sills form a southeastward plunging asymmetrical syncline.*

*Locally, an alteration zone contains gold and silver mineralization and is exposed over a surface area of 32 metres long by 2 metres wide. The alteration zone consists of chlorite-mica (fuchsite) feldspar schist containing a quartz vein stockwork that is accompanied by pyrite, galena, sphalerite and chalcopyrite.*

**PLUG showing (Volcanogenic)**

MINFILE 092ISE196

Within Tenure 1066816

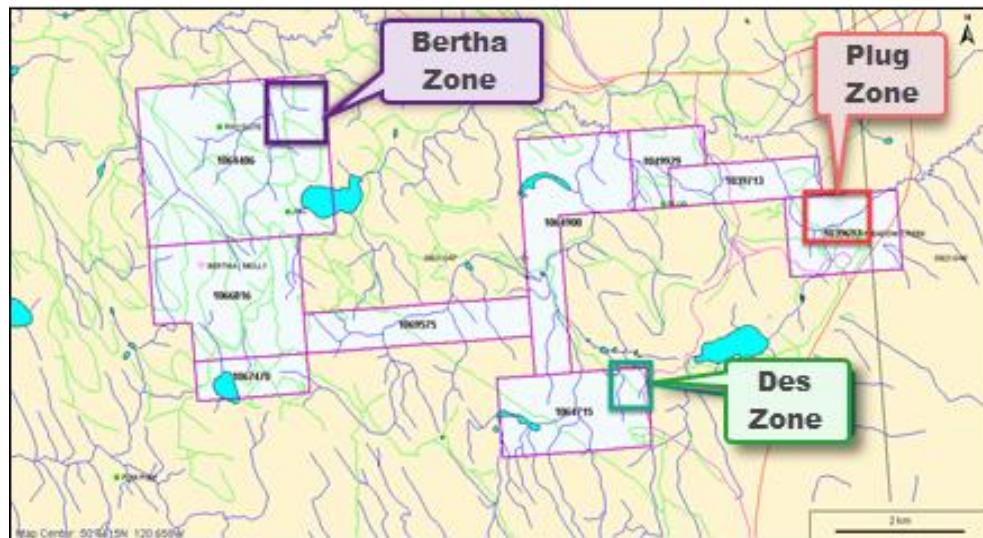
*The area is underlain by volcanic rocks of the Upper Triassic Nicola Group that are cut by small granitic plugs and sills. Sparse outcroppings of Nicola Group rocks along Meadow Creek consist of altered andesite, lapilli tuff, amygdaloidal basalt and minor lenses of limy sediments that strike east to southeast and dip steeply to the north. Alteration minerals include chlorite, epidote, carbonate and hematite. A quartz-mariposite-carbonate rock outcrops along Meadow Creek and is in contact with a chlorite-mica-feldspar schist that strikes 20 degrees and dips 65 to 90 degrees to the east. The schist and mafic dioritic to hornblende andesite sills form a southeastward plunging asymmetrical syncline.*

*The quartz mariposite carbonate rock contains minor amounts of silver-bearing galena, sphalerite and chalcopyrite. An outcrop of highly pyritic quartz feldspar porphyry contains minor amounts of chalcopyrite.*

## Exploration

The Bertha property includes three prime mineral zones, Bertha, Plug, and Des, on which historical exploration results were sufficiently encouraging to warrant an advanced exploration program.

**Figure 6. Index Map showing the Location of the three Mineral Zones on the Bertha Property**  
(Base claim map from MapPlace)



## 2020 Exploration Program

During February, 2020 Baden Resources Inc. completed a geophysical program on the Plug and the Des Zones. The program encompassed 32.8 line kilometres of ground magnetic and VLF-EM surveys on each of the two Zones

The initiation of the program was based on encouraging historical exploration results and from previous exploration work the writer has done on ground covered by the Bertha property.

The selected areas for exploration were based on the conclusions by the author.

## MAGNETIC THEORY

Magnetometry measures perturbations in the ambient magnetic field caused by contrasts in magnetic susceptibility – the ability of a substance to take on an induced magnetism caused by its immersion in the Earth's magnetic field. The magnetic susceptibility of a rock or soil is directly proportional to its iron content, usually in the form of the minerals Hematite ( $Fe_2O_3$ ) or Magnetite ( $Fe_3O_4$ ). Hence it is only sensitive to ferrous metals. However, iron is often present in accumulations of non-ferrous ores, making magnetometry a staple in mining exploration.

The physics of magnetometry is complex, for three main reasons:

Magnetic fields are vectors, having a direction and a magnitude.

The direction and magnitude of the Earth's field changes with location, latitude in particular

There is often a certain amount of permanent magnetism (independent of the induced magnetism), especially when magnetite is present.

**Magnetic Theory (cont'd)**

As such, the amplitude and shape of the magnetic anomaly for any given object depends not only on the shape of the object, but on its location and (in the case of magnetite) the orientation of the permanent magnetic moment of the object relative to the Earth's field.

Magnetometry detects only ferrous materials.

The amplitude of the magnetic anomaly for an object decreases as the inverse cube with distance. In other words, as we double the distance to the object, we only have 1/8th of field intensity. For example, if an object one meter deep has an 8 nT anomaly, that same object two meters deep would have a 1 nT anomaly. In magnetics, depth of investigation is driven more by the object's depth and magnetic moment rather than field methods or technology used.

Cultural noise, such as fences, passing cars, buildings, and other ferrous metals can interfere with the signals from the object you are attempting to detect.

**BERTHA GEOPHYSICAL SURVEY****MAGNETIC**

A GSM-19 Overhauser magneometer was used in the magnetic survey on the Plug and the Des Zones.

The GSM-19 Overhauser measures directly in nano-Teslas (nT) to a resolution of 0.01nT, with a sensitivity of 0.022nT @ 1Hz, over a dynamic range of 20,000 – 120,000 nT and has a gradient tolerance of > 10,000nT/m. The operating temperature range is -40° to +50° C. The instrument is time synchronized with the base station, allowing for diurnal corrections of positioning and magnetic readings for highly accurate data. The internal memory stores more than 30,000 readings in survey mode keeping track of time, date, magnetic field reading, and quality of the magnetic field reading. In base station mode the magnetometer stores up to 12,000 readings.

Two Base Stations were used during the survey one for each grid.

The base for the Desmond Grid was set at 54400 NT. The Base station sensor was placed in a location where it would not be affected by vehicles or field personnel interference and remained in the same location for the duration of the DES survey.

The base for the PLUG Grid was set at 55000 NT. The Base station sensor was placed in a location where it would not be affected by vehicles or field personnel interference and remained in the same location for the duration of the PLUG survey.

Positioning data for the survey was provided by handheld Garmin GPSMAP 62st and a Garmin 78 GPS unit. NAD 83 Zone 10 N.

The primary data processing was performed using GEM Link software to download the raw data (ASCII) from the base and magnetometer each evening to a laptop computer in the hotel. GPS positioning (GPX) was also downloaded and plotted using basecamp each evening to track the crew progress in completing the survey. A GSM-19T magnetometer was operated at the survey base to record diurnal variations of the earth's magnetic field. The clock of the base station was synchronized with that of the walk magnetometers to permit subsequent removal of diurnal drift.

**Bertha Geophysical Survey (cont'd)****Magnetic (cont'd)**

Following the field program, all magnetometer data was diurnally corrected using GEM Link software and subjected to quality control. Diurnal correction was made using the GEM Link interpolation algorithm. Any measurements with a low SQ (Signal Quality < 79) were eliminated from the data set. Data levelling was completed using Microsoft excel in order to ensure consistent collection standards throughout the length of the survey.

The program used was Surfer 17.1 to grid the Maps Minimum Curvature was used to grid the data

## Minimum Curvature Math

The Surfer code fully implements the concepts of tension as described and detailed in Smith and Wessel (1990). Also, as recommended by Smith and Wessel, this routine first fits a simple planar model using least squares regression:

$$AX + BY + C = Z(X, Y)$$

Thus, there are four steps to generate the final grid using the minimum curvature method.

The least squares regression model is fit to the data.

The values of the planar regression model at the data locations are subtracted from the data values; this yields a set of residual data values.

The minimum curvature algorithm is used to interpolate the residuals at the grid nodes.

The values of the planar regression model at the grid nodes are added to the interpolated residuals, yielding a final interpolated surface.

Unlike Smith and Wessel (1990), the fixed nodes are defined as the average of the neighboring observed values. That is, consider a rectangle the size and shape of a grid cell. The neighborhood of a grid node is defined by this rectangle centered on the grid node. If there are any observed data within the neighborhood of a grid node, the value of that grid node is fixed equal to the arithmetic average of contained data.

The *Minimum Curvature* algorithm generates the surface that interpolates the available data and solves the modified biharmonic differential equation with tension:

$$(1 - T_i) \nabla^2 (\nabla^2 Z) - (T_i) \nabla^2 Z = 0$$

There are three sets of associated boundary conditions:

$$\text{On the edges: } (1 - T_b) \frac{\partial^2 Z}{\partial n^2} + (T_b) \frac{\partial Z}{\partial n} = 0 \quad ; \text{ On the edges: } \frac{\partial(\nabla^2 Z)}{\partial n} = 0 \quad , \text{ At the corners: } \frac{\partial^2 Z}{\partial x \partial y} = 0$$

where:

$\nabla^2$  is the Laplacian operator;  $n$  is the boundary normal;  $T_i$  is the internal tension;  $T_b$  is the boundary tension.

Magnetic intensity was plotted using a traditional color scheme, consistent with industry standards.

## VLF-EM

### Instrumentation

The survey was conducted with a Geonics VLF-EM16R instrument which is a VLF-EM receiver using submarine communication stations as a transmitter source. This instrument is designed to measure the electromagnetic component of the very low frequency field (VLF), which for this survey was transmitted at 24.8 kHz from Seattle (Jim Creek), Washington.

### Theory

In all electromagnetic prospecting, a transmitter induces an alternating magnetic field (called the primary field) by having a strong alternating current move through a coil of wire. This primary field travels through any medium and if a conductive mass such as a sulphide body is present, the primary field induces a secondary alternating current in the conductor, and this current in turn induces a secondary magnetic field. The receiver picks up the primary field and, if a conductor is present, the secondary field distorts the primary field. The fields are expressed as a vector, which has two components, the "in-phase" (or real) component and the "out-of-phase" (or quadrature) component.

For the VLF-EM receiver, the tilt angle in degrees of the distorted electromagnetic field with a conductor is measured from that which it would have been if the field was not distorted with a conductor. Since the fields lose strength proportionally with the distance they travel, a distant conductor has less of an effect than a close conductor. Also, the lower the frequency of the primary field, the further the field can travel and therefore the greater the depth penetration.

The VLF-EM uses a frequency range from 13 to 30 kHz, whereas most EM instruments use frequencies ranging from a few hundred to a few thousand Hz. Because of its relatively high frequency, the VLF-EM can pick up bodies of a much lower conductivity and therefore is more susceptible to clay beds, electrolyte-filled fault or shear zones and porous horizons, graphite, carbonaceous sediments, lithological contacts as well as sulphide bodies of too low a conductivity for other EM methods to pick up.

Consequently, the VLF-EM has additional uses in mapping structure and in picking up sulphide bodies of too low a conductivity for conventional EM methods and too small for induced polarization. (In places it can be used instead of IP). However, its susceptibility to lower conductive bodies result in a number of anomalies, many of them difficult to explain and thus, VLF-EM preferably should not be interpreted without a good geological knowledge of the property and/or other geophysical and geochemical surveys.

### Survey Procedure

A total of 1340 readings were taken with station locations ascertained using a hand-held Garmin GPSMAP 64ST hand-held device. 28 survey lines were oriented east-west and spaced 40m apart; readings were taken at 25m intervals facing east. The resulting data was filtered and contoured using the Fraser (1969) method. A total of 32.8 line-km of VLF survey was completed in February, 2020 with a total of 1340 stations. An Interpex program was used to grid and filter the data.

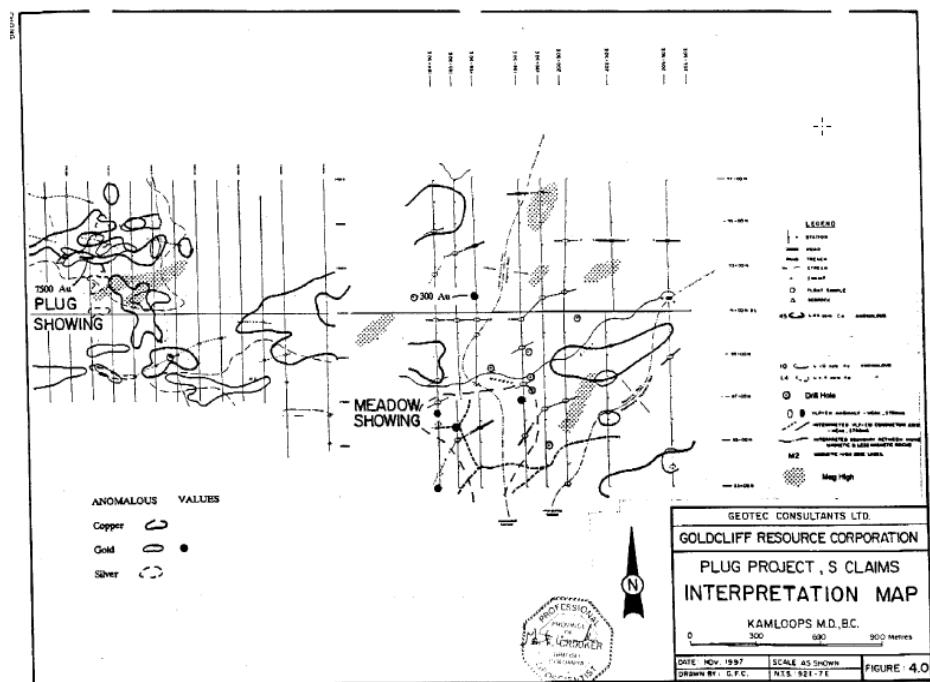
### Bertha Geophysical Survey (cont'd)

#### PURPOSE OF THE MAGNETOMETER AND THE VLF-EM SURVEYS ON THE PLUG AND DES ZONES

The purpose of the 2020 geophysical survey was to add information to historical exploration results as compilation maps in order to observe all the geological, and/or geochemical, and/or the geophysical results on a map in order to determine the location for additional exploration work to the location of a potential mineral deposit.

#### PLUG ZONE

*Figure 7. Compilation Map Showing the Plug and Meadow Showings of the Plug Zone  
(Map from AR 25405; Crooker 1997; Figure 4.0; page 15)*



#### Plug Zone Area

#### Historical Results with summary interpretations

- Exploration results in this specific area are indicative of a potential mineralized porphyry. As the area contains locations of carbonate-quartz-mariposite (C-Q-M) altered rock which contains minor amounts of silver-bearing galena, sphalerite, and chalcopyrite, the mariposite alteration is significant as it is often associated with precious metal mineralization. A grab sample of carbonate altered rock reportedly assayed 7.5 grams per tonne (g/t) gold and 67.5 g/t silver (Crooker, 1998).
- As the mineralization appears to be directly related with the alteration, the association is assumed to be derived from hydrothermal fluids which would be sourced from a buried crystallizing magmatic chamber. This is indicated from trench samples which gave an assay average of 4.35 g/t gold and 522 g/t silver over a strike length of 11.98 metres including 20.78 g/t gold and 113 g/t silver over a width of 0.56 metres (Crooker, 1998). In testing the trench mineralization to depth, percussion drill (PDH-02) assays returned an average of 1.30 g/t gold and 1.72 g/t silver over a length of 9.92 metres (Crooker, 1997).

## Plug Zone Area (cont'd)

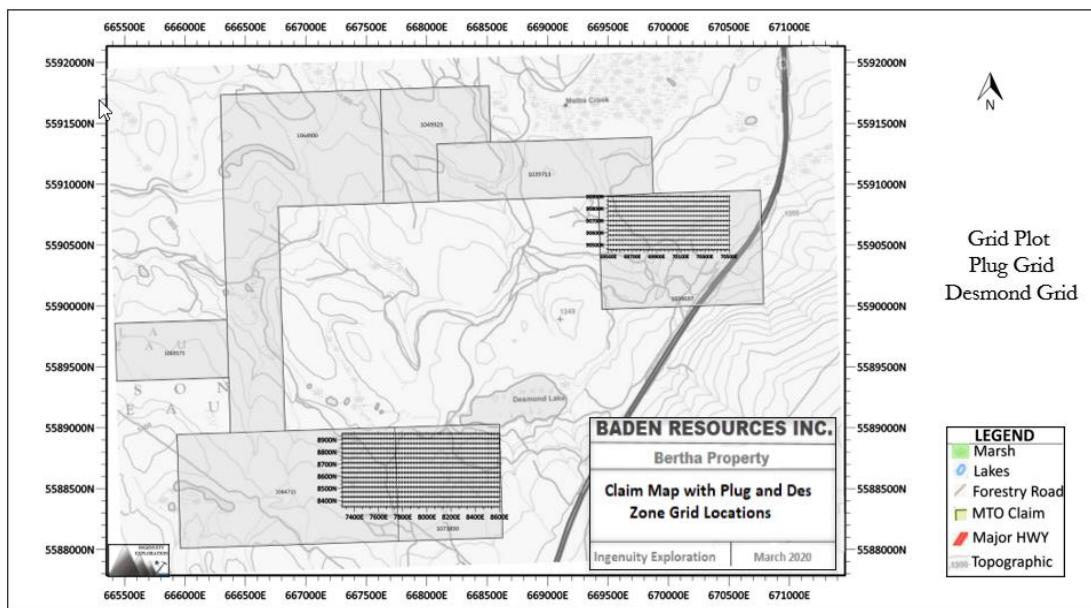
### Historical Results with summary interpretations (cont'd)

- An indication for a potential concealed mineral resource at the Meadow Creek showing is the reported anomalous chargeability anomaly peaking at 15 m.s. which may be due to an increase in volume percent sulphides or other polarizing material (Cochrane, 1972.) and at the Plug showing, a large area of C-Q-M alteration, a weak magnetic high, VLF conductivity, and an interpreted fault intersection at the centre of the detail grid area.

### 2020 Bertha exploration program.

The exploration on the Plug Zone was over the Meadow Showing (Figure 6).

*Figure 8. Index Map Showing the Plug and the Des Zone Exploration Grid*



### Method

The geophysical crew consisted of two field technicians. Daily operations included transportation to the grid, initialization of the base station, data levelling collection, and collection of geophysical grid data

The survey was completed without any significant interruptions except for the snow and windfall conditions. Several semi-frozen swamps and creeks were also encountered throughout the survey area which slowed down the survey.

The magnetic and electromagnetic readings were taken at 40 metre interval along five 1000 metre grid lines spaced at 100 metres and designated as 90500N to 90900N. The north (N) map designation is the NAD 83 UTM coordinate missing the initial two digits; 55. Thus, the actual 90500N map coordinate would be 5590500N whereas the actual map coordinate 69500E, of coordinates ranging from 69500E to 70500E, would be 669500E with the missing initial digit 6.

The total line kilometres (km) completed was 32.8 Km VLF and 32.8 Km Mag with 20.8 km on the Des grig and 12 km on the Plug grid. There was a total of 1,312 VLF-EM station readings and 2,624 magnetometer station readings.

**Plug Zone Area (cont'd)****Historical Results with summary interpretations (cont'd)****Results**

The results are addressed in the Conclusions and Recommendation section of this report and shown on the following Figures.

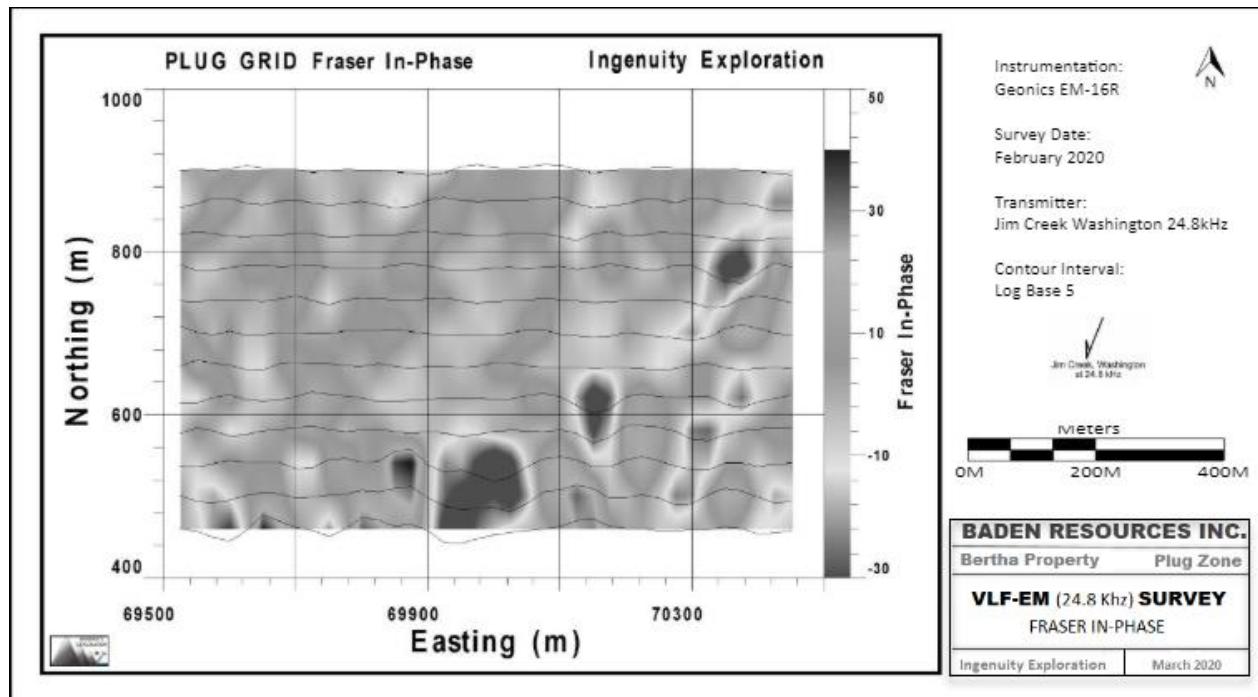
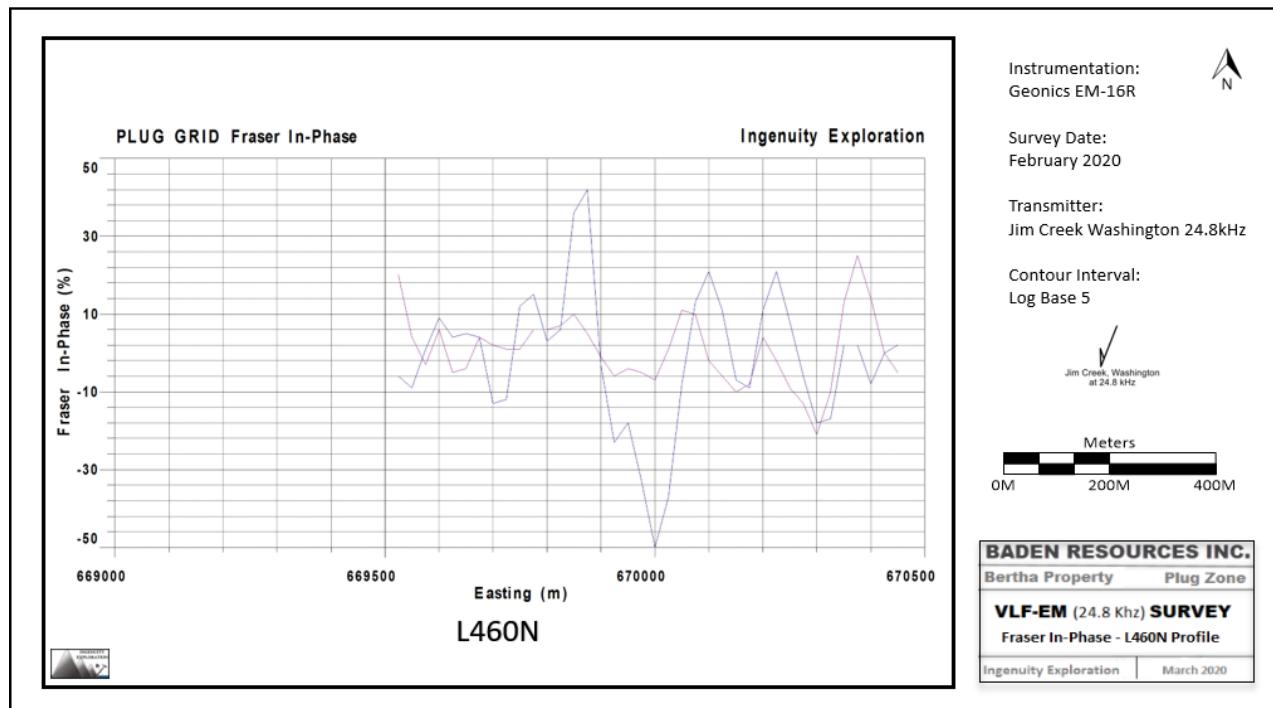
**Figure 9. Plug Zone: VLF-EM Fraser In-Phase****Figure 10. Plug Zone: Fraser In-Phase Profile**

Figure 11. Plug Zone: VLF-EM Fraser In-Phase Coloured

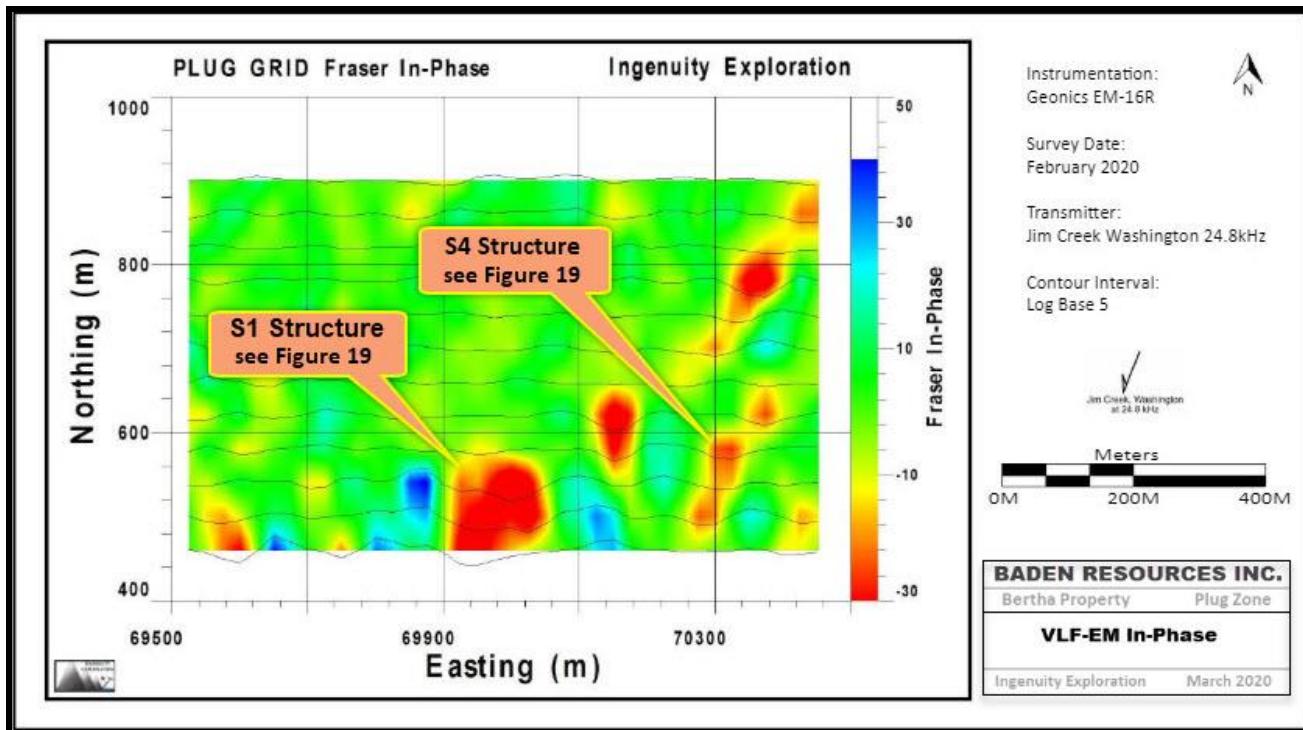
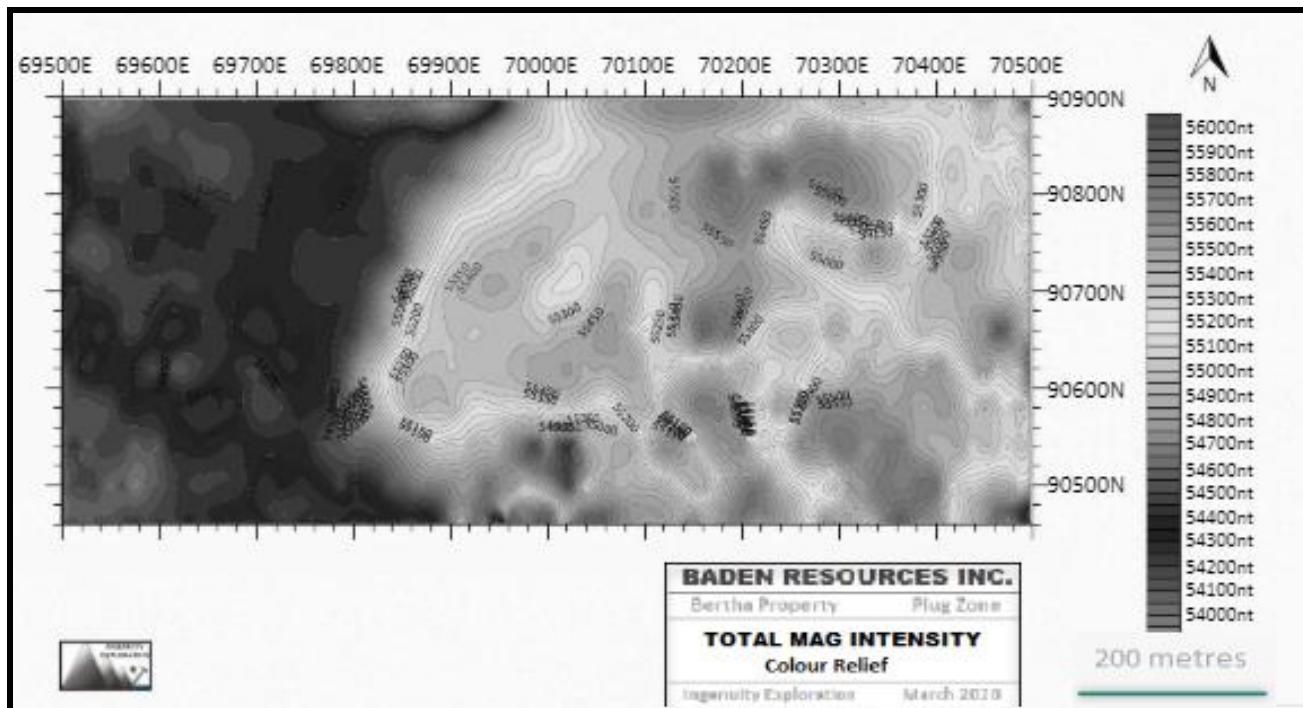
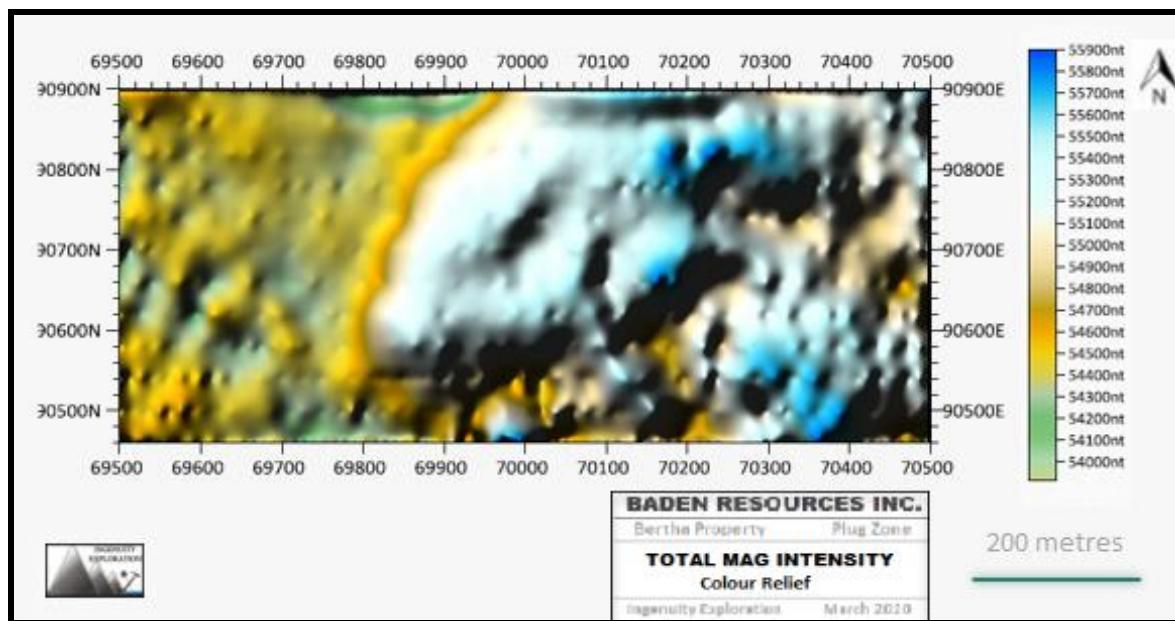


Figure 12. Plug Zone: Total Magnetic Intensity



**Figure 13. Plug Zone: Total Magnetic Intensity Colour Relief**  
*Credits: Ingenuity Exploration)*



**Figure 14. Plug Zone: Total Magnetic Intensity 3D View**  
*(Base Map: Ingenuity Exploration)*

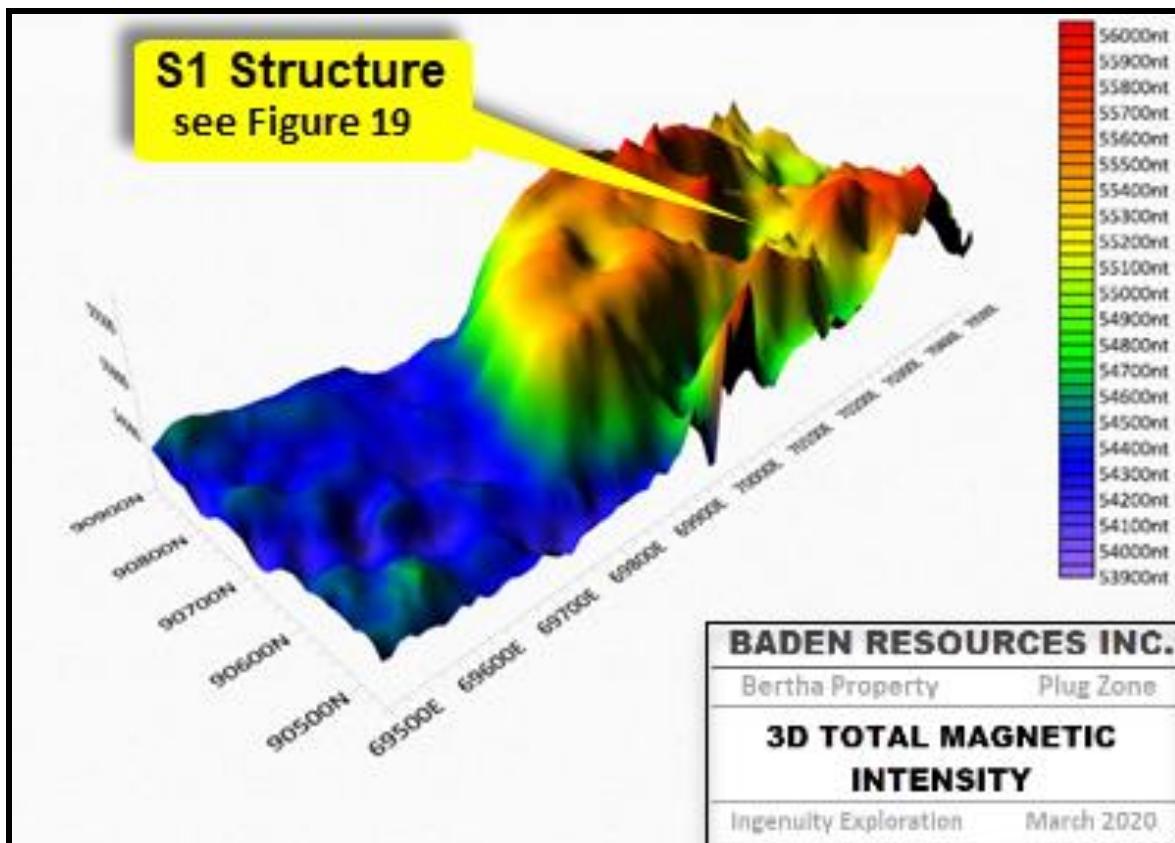


Figure 15. Plug Zone: Compilation Map 2020 Magnetic Map and Contoured IP

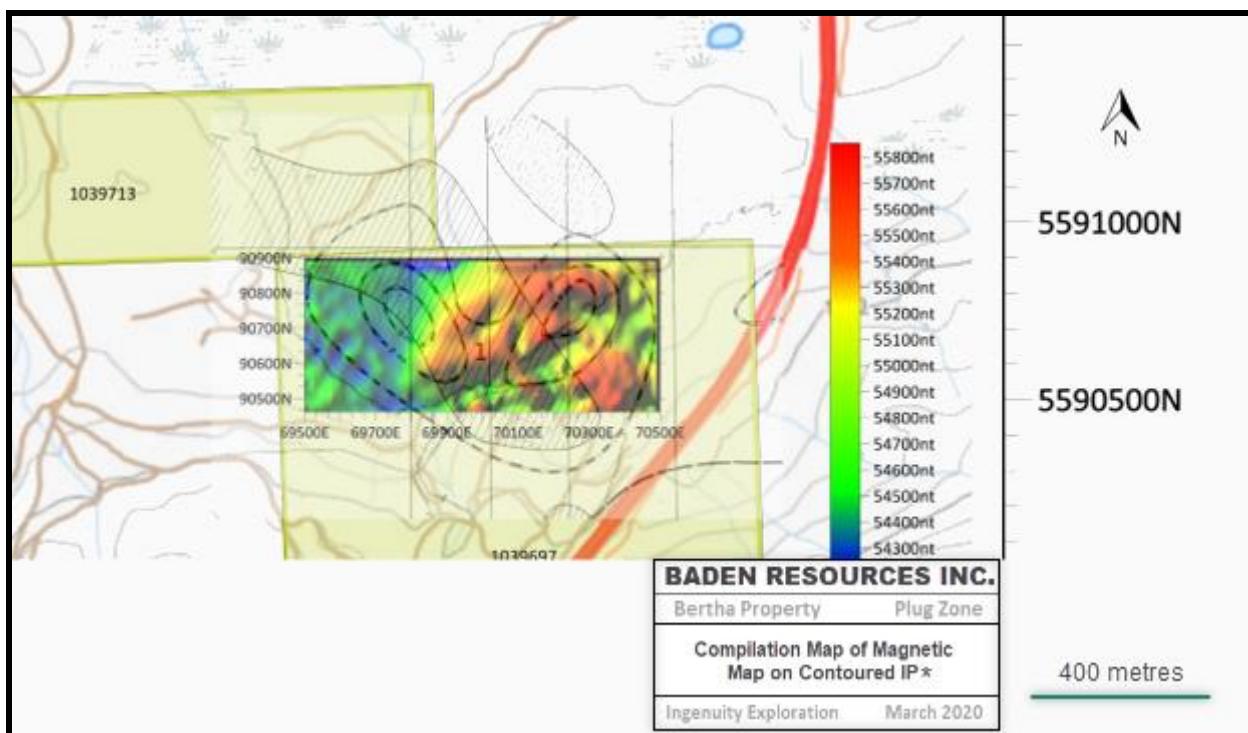
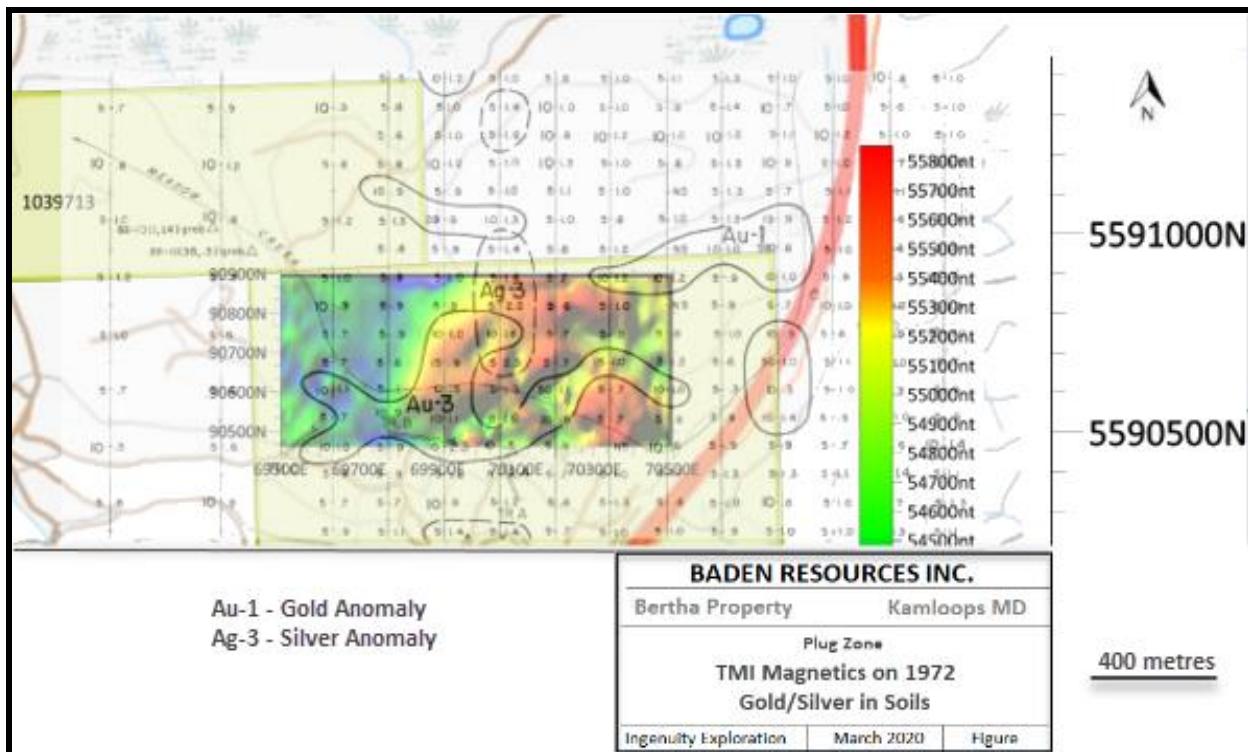
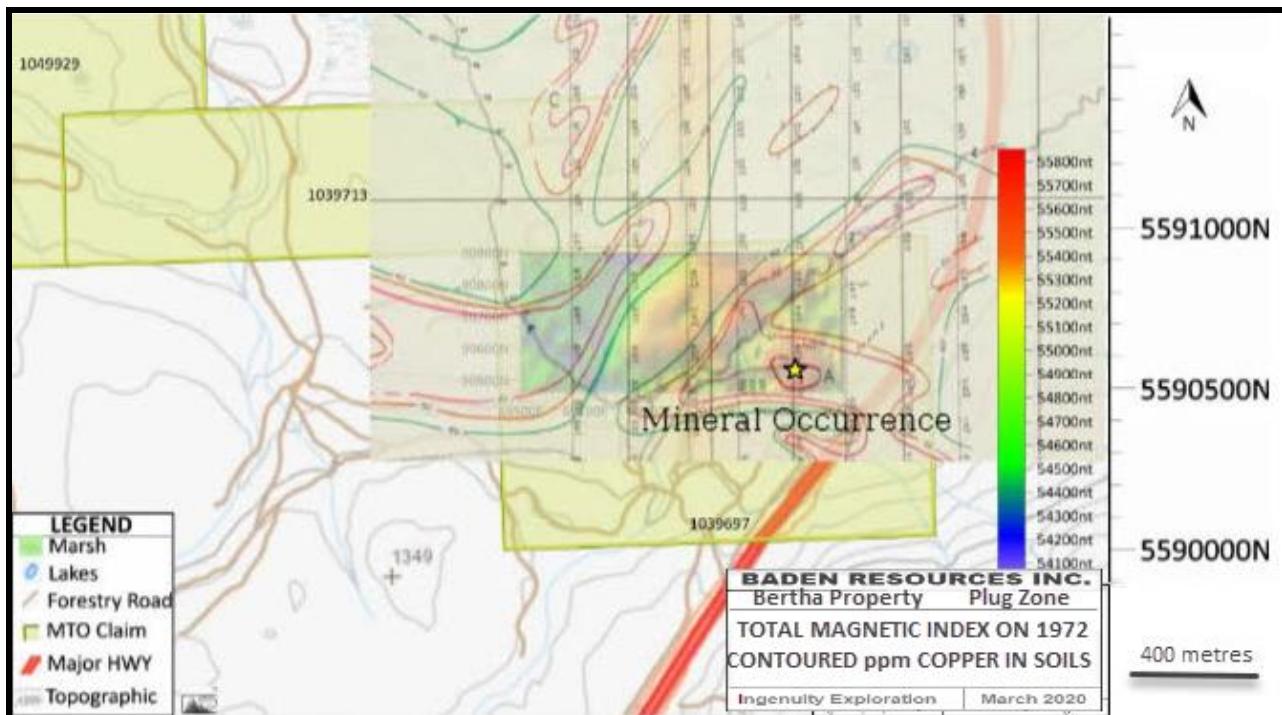


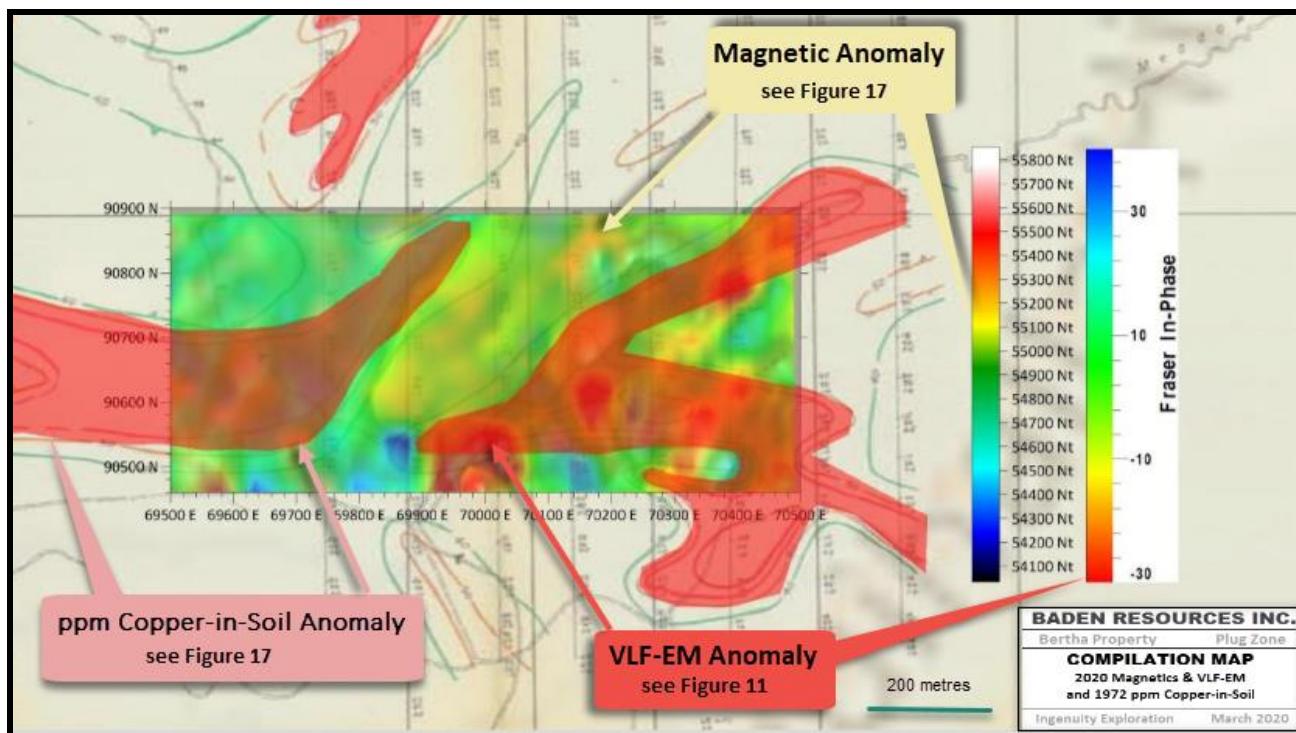
Figure 16. Plug Zone: Compilation Map of 2020 Magnetometer Survey and 1972 ppm gold/silver geochem anomalies



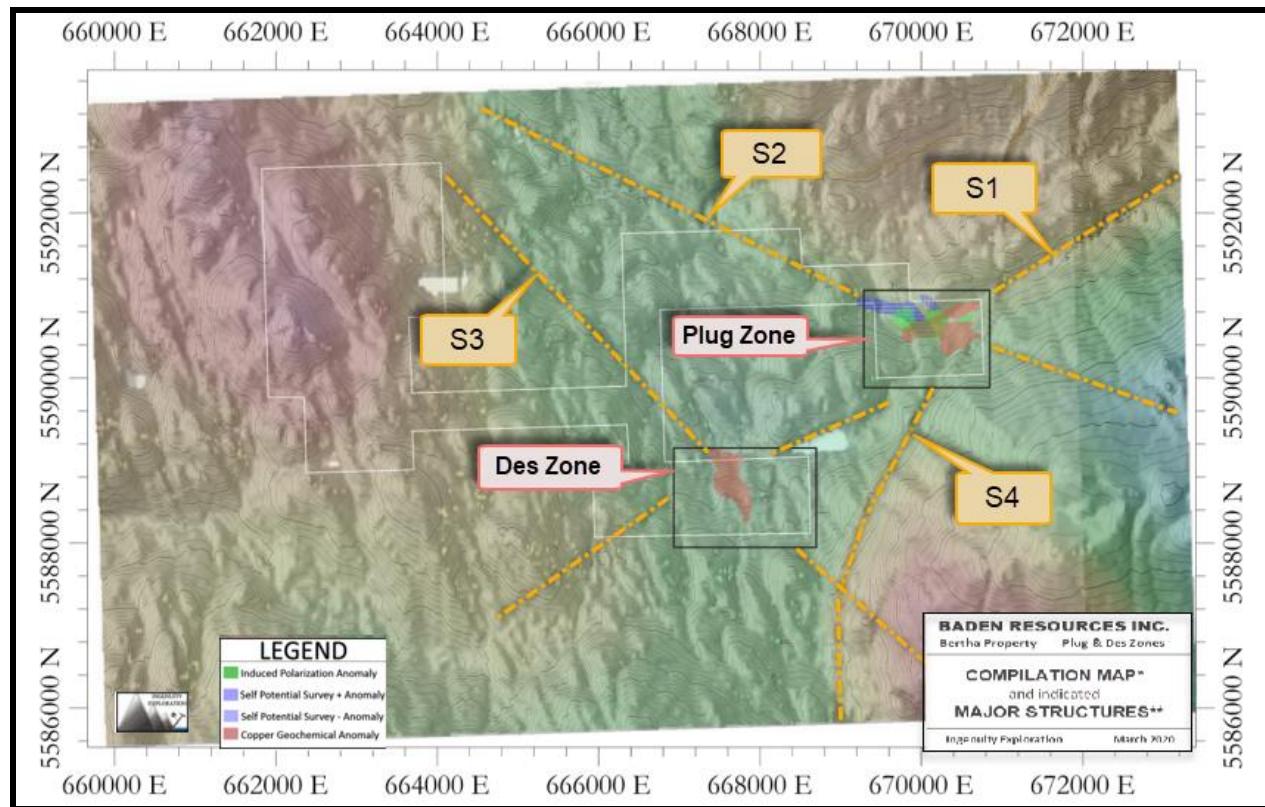
**Figure 17. Plug Zone: Compilation of 2020 TMI Magnetics and 1972 Copper-in-Soil Anomalies**  
(\*Copper geochem map from a selected area of Map M-4 in AR 4057; Lammle, 1972)



**Figure 18. Plug Zone: Compilation Map 2020 Magnetic and VLF-EM Anomalies on 1972 Copper-in-Soil with Anomalies Shaded Red**  
(Base Map: Ingenuity Exploration)



**Figure 19. Plug and Des Zones: Compilation Map of Coloured Copper-in-Soil and IP/Self Potential Anomalies on a Shaded Relief Map with Indicated Structures  
(Base Map: Ingenuity Exploration)**



## DES ZONE AREA

### Historical Results with summary interpretations

From 1972, when a 640 metre north-northwesterly trending copper in soil anomaly was delineated (Hogan, 1972) to 1989 when exploration consisted of seven diamond-drill holes and 45 soil samples (Kim, 1989), the results of the progressive exploration on the ground covered by the Des Zone area, provided many indications of a potential concealed mineral mineral zone. These include:

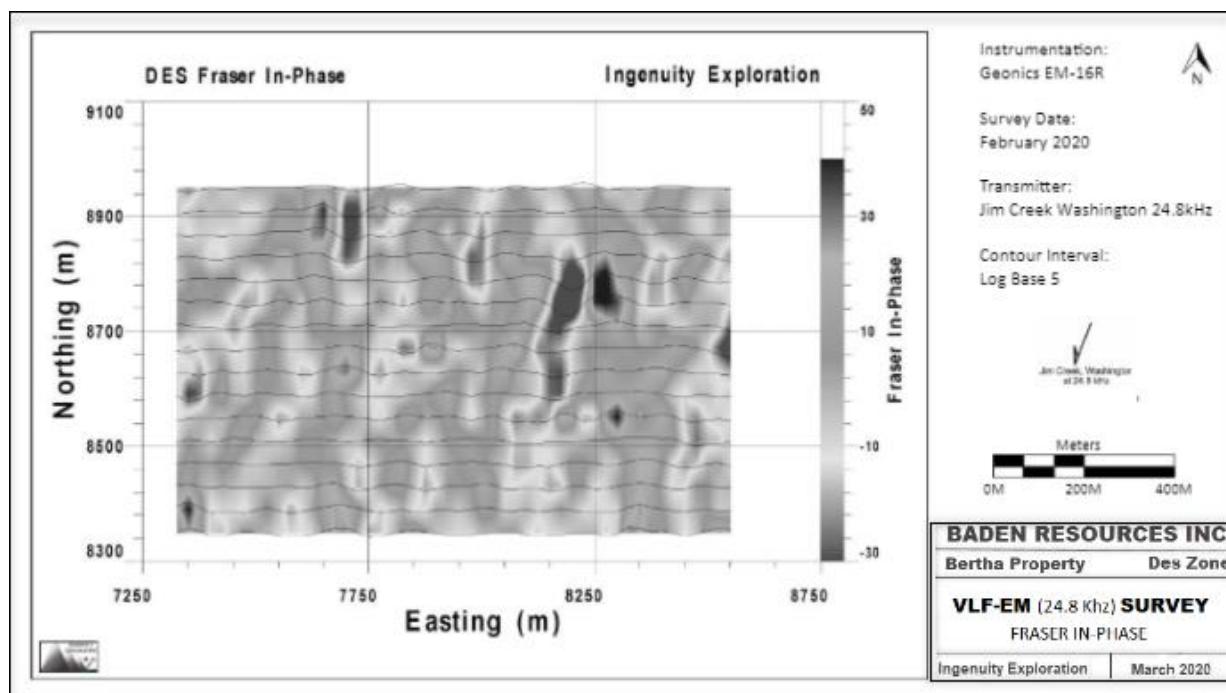
- Five intersecting regional aeromagnetic lineaments. The possible economic significance of these several lineaments is readily apparent as is the area of their intersections (Lammle, 1972).
- Two large soil anomalies of moderate intensity in an area of intrusive diorite. Anomalies are subjacent to, or in the immediate proximity of, the intersections (Lammle, 1972);
- Although no significant mineralization resulted from the 1989 drilling program, localized disseminations of native copper in a basalt/trachyandesite was logged (Assay of 503 ppm copper in a drill-core section of noted native copper flakes).
- A 68 metre section at the bottom of Hole No. Des 89-5 included quartz-carbonate alteration with pyritic disseminations. In addition, localized sections of kaolinized and argillized core is indicated as proximal to an intrusive with a moderate amount of epidote occurring in places.

**Des Zone Area (cont'd)****Historical Results with summary interpretations (cont'd)**

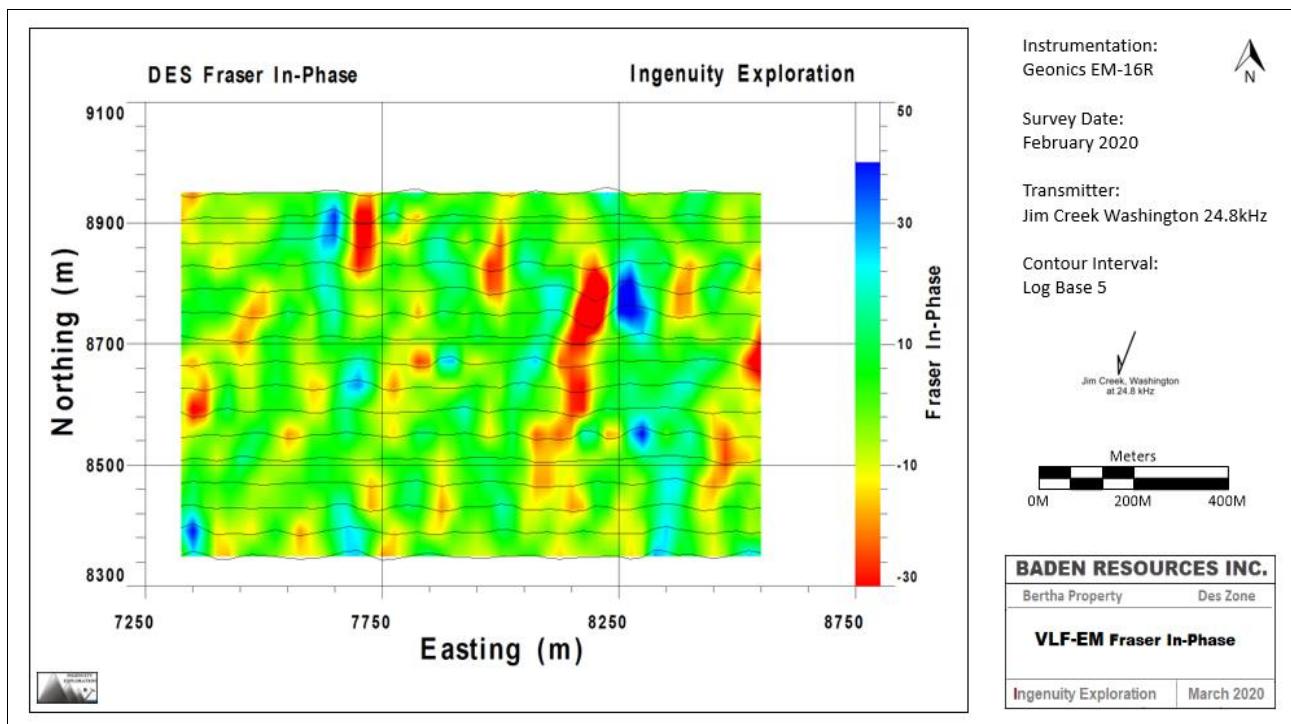
- The highest copper assay of 965 ppm, where no mineralization was logged, was from a section of serpentinite which could be a favourable rock type causing the deposition of stray minerals in an ideal chemical environment.
- All the drill core assays revealed a very high carbonate content indicating a general area of alteration with noted carbonate and disseminated pyrite, possibly in zones of increased fracturing and/or brecciation, although there was no obvious increase in carbonate or iron content in the logged carbonate/pyrite sections.
- The interpretation of the exploration results is that the signatures of a deep-seated porphyritic intrusive are migrating to surface via the fractures caused by, or associated with, the regional structures. The intersection of the five structures would be the prime location for surficial indication of the intrusive content, as the location should be the zone of maximum brecciation and the ideal zone for migration of hydrothermal fluids to surface.

**Figure 20. Des Zone: VLF-EM Fraser In-Phase**

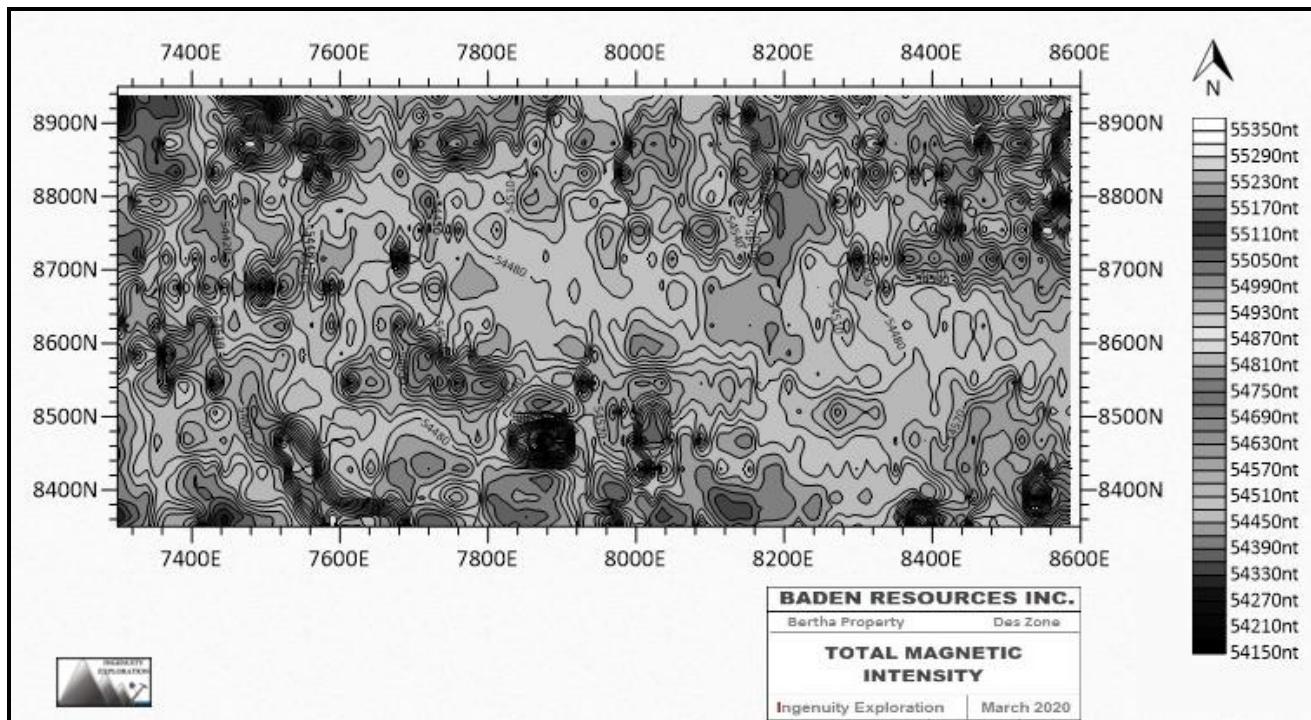
(Credits: Ingenuity Exploration)



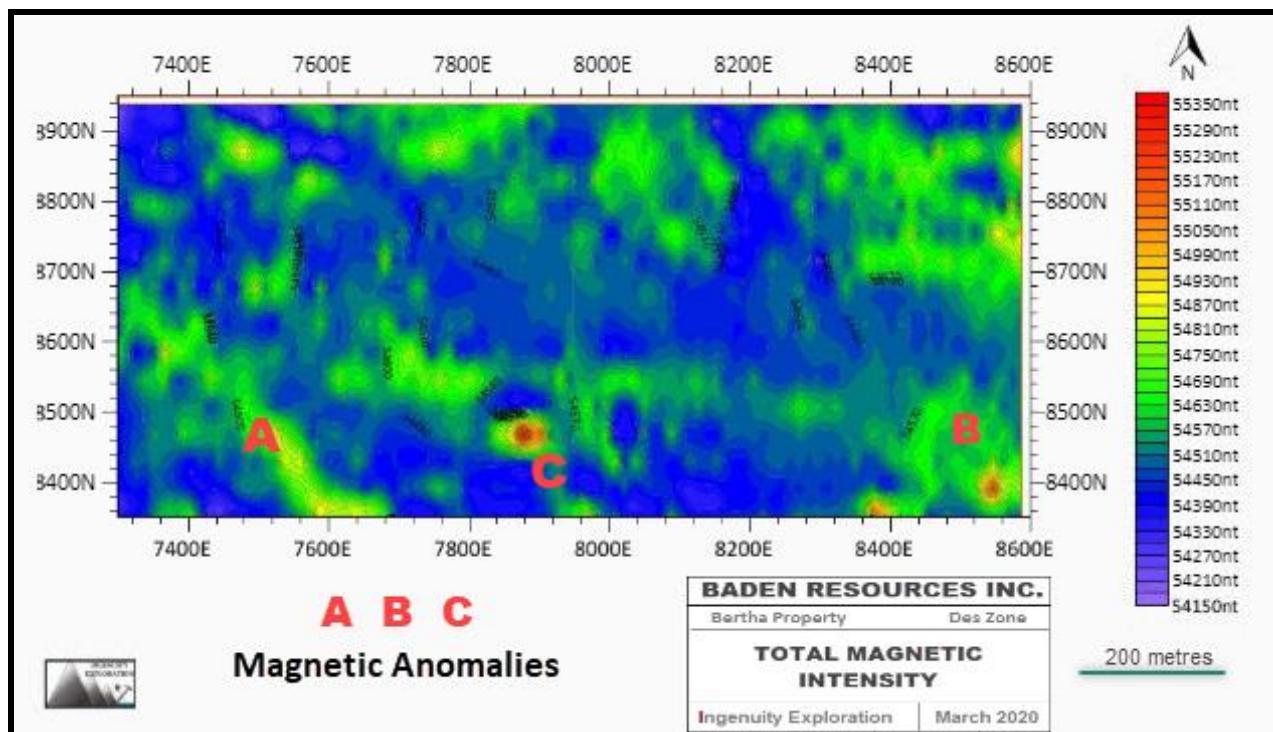
**Figure 21. Des Zone: VLF-EM Fraser In Phase**  
*(Credits: Ingenuity Exploration)*



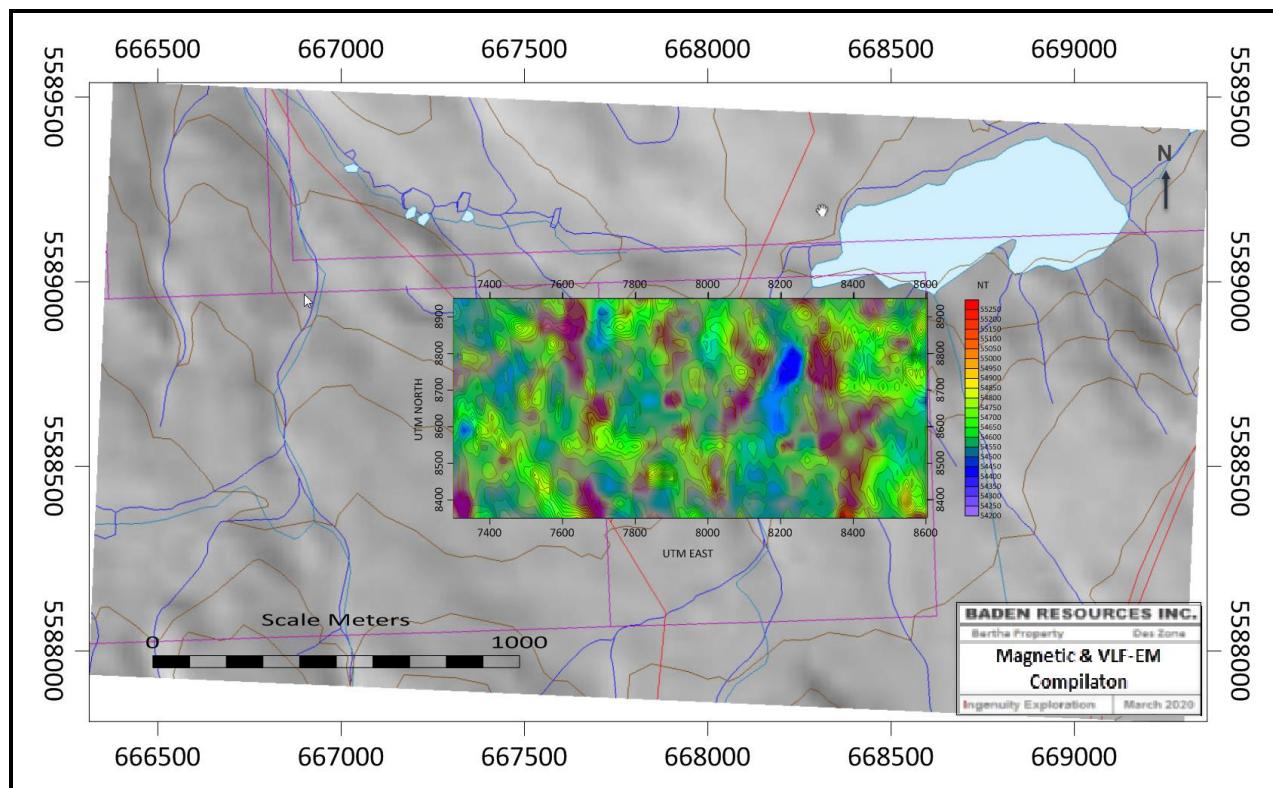
**Figure 22. Des Zone: Total Magnetic Intensity**  
*(Credits: Ingenuity Exploration)*



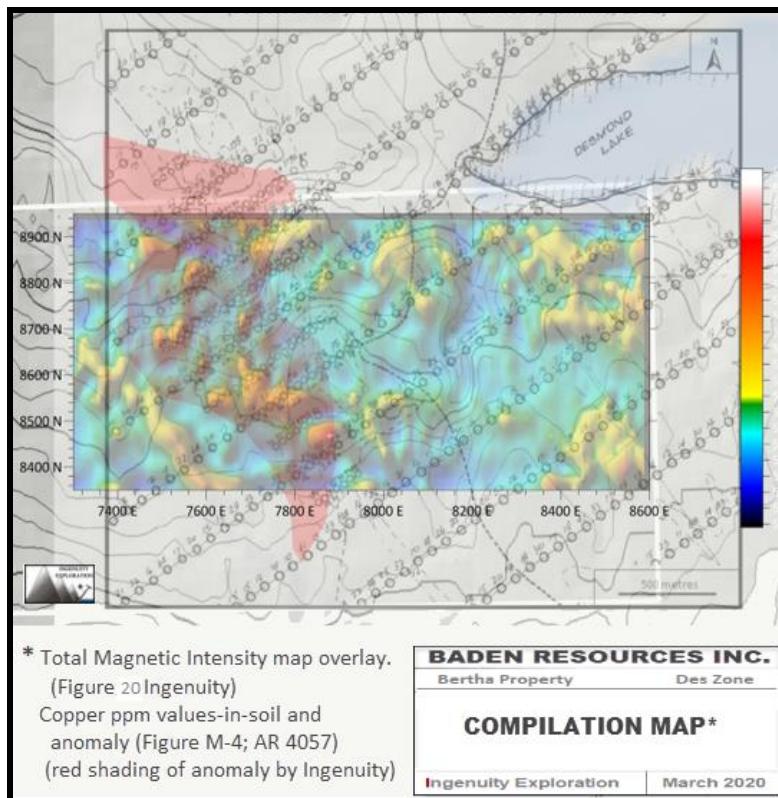
**Figure 23. Des Zone: Total Magnetic Intensity  
(Base Map: Ingenuity Exploration)**



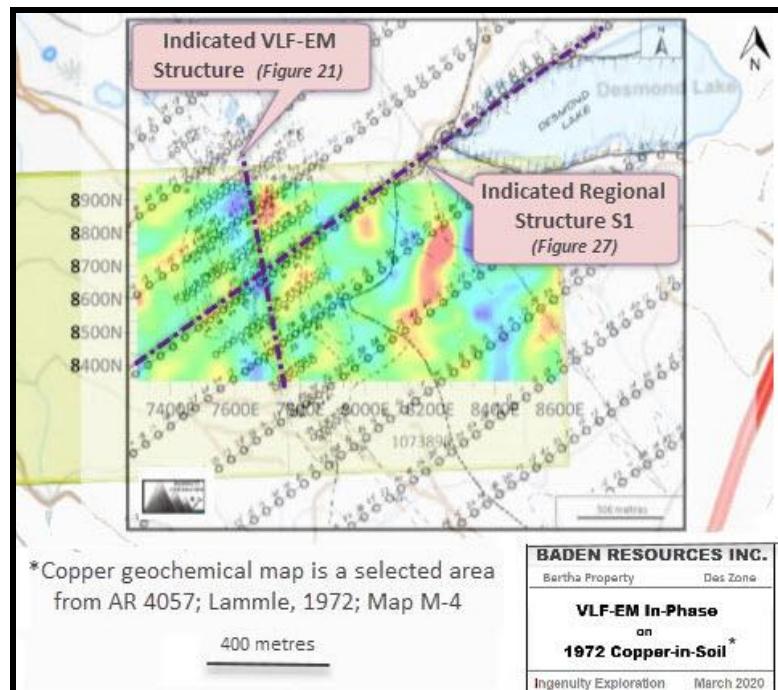
**Figure 24. Des Zone: Magnetic and VLF-EM Compilation  
(Credits: Ingenuity Exploration)**



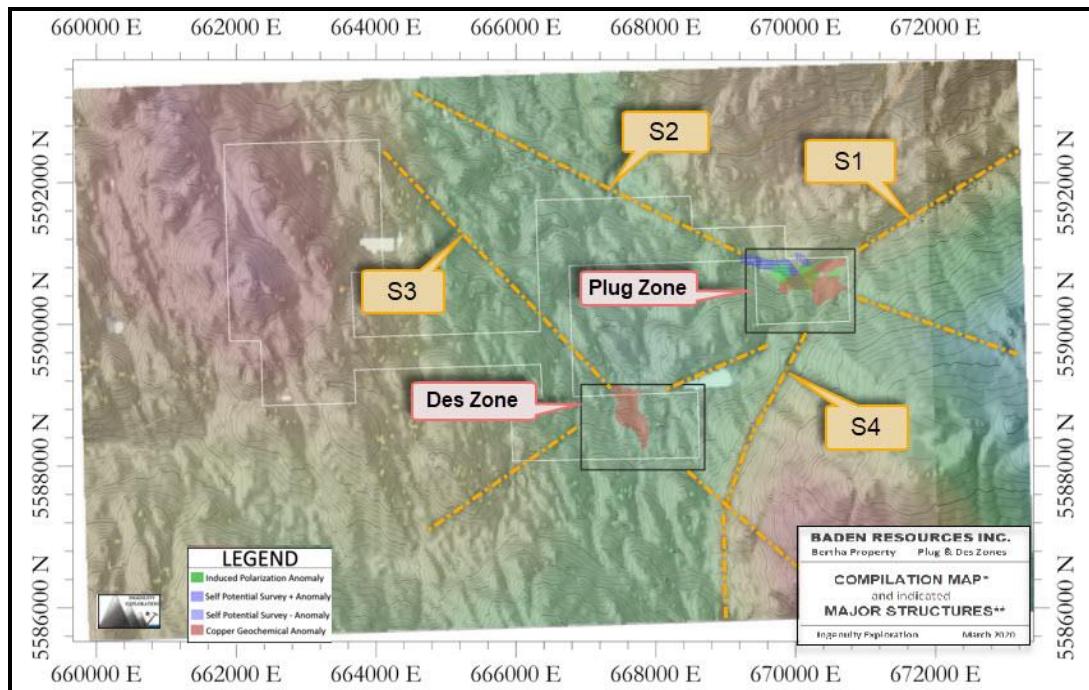
**Figure 25. Des Zone: Compilation of 2020 Total Magnetic Intensity and 1972 ppm Copper in Soil**  
*(Credits: Ingenuity Exploration)*



**Figure 26. Des Zone: Compilation Map of 2020 VLF-EM and 1972 ppm Copper in-Soil**  
*(Credits: Ingenuity Exploration)*



**Figure 27. Plug and Des Zones: Compilation Map of Coloured Copper-in-Soil and/or IP, and Self Potential Anomalies on a Shaded Relief Hillside Shade Map with Indicated Structures  
(Base Map: Ingenuity Exploration)**



## INTERPRETATION AND CONCLUSIONS

The 2020 exploration program results provided the information that, in compilation with the historic exploration results, indicated specific areas as to potential concealed mineral zone and specifically, an intrusive related porphyry deposit

With the compilation of the 2020 magnetometer and the VLF-EM survey results and the historic exploration results, the compilation provided considerable supportive geological evidence to the location of, and the potential for a concealed copper/gold porphyry deposit.

### Plug Zone

- The magnetometer survey results indicated the configuration of a concealed intrusive (Figure 11) whereas the VLF-EM survey results indicated two northeasterly trending structures; one bordering the intrusive to the east, with another 400 metres east. The two indicated structures correlate with the regional S1 and S4 structures (Figure 19).
- Also correlating with the two structures is a 1972 copper anomaly "A", which correlates with 400 metres of the S4 structure and with 800 metres of the S1 structure; both of which are connected by a 400 metre east-west copper anomaly (Figure 18). The copper anomaly does not show for 400 metres below the southern end of the intrusive to the western copper anomaly "B" which extends 500 metres and is open to the west. The eastern end of the "B" anomaly, extending for 400 metres northeasterly, may indicate a structure along the western border of the intrusive.

**Interpretation and Conclusions (cont'd)****Plug Zone (cont'd)**

- Linking copper anomalies "A" and "B", which are associated with the intrusive, and the copper anomaly, a result of migrating seepage of mineral-bearing hydrothermal fluids from a buried intrusive via the structures, the plan view of the mineral deposit could be indicated by the size of the integrated 700 metre x 1300 metre copper anomaly.
- The IP anomaly with a configuration of the indicated intrusive and generally correlating with the copper anomaly quite likely reveal the sulphide mineralization.
- The copper anomaly at the intersection of three major faults; the faults being the mineral controls, which is apparent as the copper anomaly is configured to a pattern related to the fault directions. The pattern also indicates east-west and north-south mineral controlling structures which are discontinuous secondary stuctures and are obvious on the DEM map of Figure 19.

**Des Zone**

- The copper-in-soil geochemical anomaly shown in shaded red on Figure 18 is at a srtuctural intersection between regional structures S1 and S3 (*Figure 23*) with secondary northerly structures (*Figure 27*) all of which configure the geochem anomaly (*Figures 25 & 27*) and are likely the mineral controls to a concealed mineral deposit.
- The magnetic moderately high anomalies A, B, & C shown on Figure 20 are interpeted as:
  1. Anomaly A, bordering the southwest trend of the copper geochem anomaly, may be an intrusive dyke within the northwest trending regional structure S3 or en echelon structure, which controlled the southwest extension of the mineralization.
  2. Within the 120 x 120 metre Anomaly B, a possible reflection of a concealed intrusive, two spotty magnetic highs (*Figure 23*) may indicate portions of the intrusive that migrated higher within an appropriate location of an indicated northwest trending structure and another within a northeast trending structure.
  3. Anomaly C , located at the southeastern extent of the copper geochem anomaly (Figure 25), with a spotty magnetic high, may an indication of a near surface portion of a larger intrusive that is associated, and possibly the source of the 1,000 metre x 500 metre copper anomaly.
- The northerly trending VLF-EM indicated structure through the heart of the copper geochem anomaly (*Figure 27*) is the third of the three structures that provided the mineral controlling open space brecciation and fractures for the deposition of mineral-bearing hydrothermal solutions.

**RECOMMENDATIONS**

An IP survey should be completed on each of the three mineral zones of the Bertha Property with magnetometer and VLF-EM surveys on the Plug Showing of the Plug Zone to determine the westward extension from the Meadow Showing and if the two Showings are connected as indicated that they may be from an open-ended western copper anomaly on the Meadow Showing (*Figure 7*).

**STATEMENT OF COSTS**

The geophysical exploration on the Bertha Property was done from February 1, 2020 to February 25, 2020, to the value as follows:

**Geophysical Survey**

32.8 line kilometres of a magnetometer survey

32.8 line kilometres of a VLF-EM survey

Completed by Ingenuity Exploration for Baden Resources Inc.

under a contract dated January 26, 2020 \$ 44,950.00

**Engineering and Supervision**

Laurence Sookochoff, PEng

February 1, 2020 to February 25, 2020

6 days (accumulated) @ \$1,000 per day

6,000.00

**Reporting**

4,000.00

\$ 54,950.00

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**REFERENCES**

- Anderson, R.G. et al.** (2012): The search for surficial expressions of buried Cordilleran porphyry deposits: background and progress in a new Targeted Geoscience Initiative 4 activity in the southern Canadian Cordillera, British Columbia. Geological Survey of Canada. Current Research 2012-7.  
[http://publications.gc.ca/collections/collection\\_2012/rncan-nrcan/M44-2012-7-eng.pdf](http://publications.gc.ca/collections/collection_2012/rncan-nrcan/M44-2012-7-eng.pdf)
- Bergen, R.D.** et al.(2015): Technical Report on the New Afton Mine for New Gold Minerals. March 23, 2015.  
[https://www.sec.gov/Archives/edgar/data/800166/000127956915000568/v405529\\_ex99-1.htm](https://www.sec.gov/Archives/edgar/data/800166/000127956915000568/v405529_ex99-1.htm)
- Bouzari, F.**(2011): Porphyry Indicator Minerals (PIMS): New Exploration Tool for Concealed Deposits in south-central British Columbia. Geoscience BC Report 2011-17.  
[http://cdn.geosciencebc.com/project\\_data/GBC\\_Report2011-17/GBCReport2011-17\\_report.pdf](http://cdn.geosciencebc.com/project_data/GBC_Report2011-17/GBCReport2011-17_report.pdf)
- Buchanan, L.J.** Precious metal deposits associated with volcanic environments in the southwest, in Dickenson, W.R. and Payne, W.D. editors. Relations of tectonics to ore deposits in the southern Cordillera: Arizona Geological Society, Digest, v. XIV. p. 237-252.
- Britton, J.** (2016): Exploration and mining in the Thompson-Okanagan-Cariboo Region, British Columbia. In: Provincial Overview of Exploration and Mining in British Columbia, 2015. British Columbia Ministry of Energy and Mines, British Columbia Geological Survey, Information Circular 2016-1, pp. 89-105.  
<http://www.empr.gov.bc.ca/mining/geoscience/publicationscatalogue/informationcirculars/documents/2016/04%20britton.pdf>
- Byrne, K., Lesage, G., Gleeson, S.A. and Lee, R.G.** (2017): Large-scale sodic-calcic alteration around porphyry copper systems: examples from the Highland Valley Copper district, Guichon batholith, south-central British Columbia; in Geoscience BC Summary of Activities 2016, Geoscience BC, Report 2017-1, p. 213–222.  
[http://cdn.geosciencebc.com/pdf/SummaryofActivities2016/SoA2016\\_Byrne.pdf](http://cdn.geosciencebc.com/pdf/SummaryofActivities2016/SoA2016_Byrne.pdf)
- Crooker, G.F.** (2009): Geochemical Report on the Hom Claim for Grant F. Crooker. October 2008. AR 30550.
- Crooker, G.F.** (1997): Geological, Trenching and Reverse Circulation on the Plug Property for Goldcliff Resource Corporation. December 1997. AR 25405.
- Crooker, G.F.** (1992): Geophysical Report on the LC-1 and HOM 1-6 Claims for Grant F. Crooker. May, 1992. AR 22366.
- Crooker, G.F.** (1992): Geophysical Report on the JB 1-12 Claims for Grant F. Crooker. May, 1992. AR 22346.
- Crooker, G.F., Rockel, E.R.** (1988): Geological, Geochemical and Geophysical Report on the WRT 1-6 and 9-15 Claims for Western Resource Technologies Inc. November 1988. AR 18048.
- Crooker, G.F.** (1988): Geological, Geochemical and Geophysical Report on the WRT 1 15 Claims for Western Resource Technologies Inc. March, 1988. AR 17337.

**References** (cont'd)

- Crooker, G.F.** (1986): Geological, Geochemical and Geophysical Report on the WRT 1 15 Claims for Western Resource Technologies Inc. June, 1986. AR 15060.
- Crooker, G.F., Rockel, E.R.** (1988): Geochemical and Geophysical Report on the WRT 1-15 Claims for Western Resource Technologies Inc. June 1986. AR 14959.
- del Real, I., Hart, C.J.R., Bouzari, F., Blackwell, J.L., Rainbow, A., Sherlock, R. and Skinner, T.** (2013): Paragenesis and alteration of the Southeast Zone and Deerhorn porphyry deposits, Woodjam property, central British Columbia (parts of 093A); *in* Geoscience BC Summary of Activities 2012, Geoscience BC, Report 2013-1, p. 79–90.
- Cukor, V.** (1983): Geophysical Report on the Nada Property for Visa Resources Ltd. June, 1983. AR 11296.
- Ellerbeck, K.** (2019): Technical Exploration Report on the Rhyolite Claim Group. June 06, 2019. AR 38305.
- Ellerbeck, K.** (2019): Technical Exploration Report on Tenure 1064715 of the DES-Plug Claim Group. June 07 2019. AR 38307
- Ellerbeck, K.** (2017): Technical Exploration Report on Tenure 1039713 of the Plug Claim Group. December 11, 2017. AR 37206.
- Ellerbeck, K.** (2015): Technical Exploration Report on Tenures 1039697 1039713 of the Plug Claim Group. December 7, 2015. AR 35772.
- Ellerbeck, K.** (2017): Technical Exploration Report on Tenure 1039713 of the Plug Claim Group. December 7, 2015. AR 35772.
- Guilbert, J.M., Park, C.F.** (2007): The Geology of Ore Deposits. Waveland Press Inc.
- Giroux, G.H., Holbek, P.** (2009): Resource Estimate Report Copper Mountain Project for Copper Mountain Mining Corporation. April 1, 2009
- Hill, H.** (1958): Report covering Geophysical and Physical Work done on 71 Claims of Vanex Minerals Ltd. August 1958. AR 266.
- Hogan, J.W.** (1972). Geochemical Report Jig & G.J. Claims for Consolidated Standard Mines and Highhawk Mines Ltd. July 27, 1972. AR 03763.
- John, D.A.** (2010): Porphyry Copper Deposit Model. Scientific Investigations Report 2010-5070-B. U.S. Department of the Interior. U.S. Geological Survey, Reston, Virginia: 2010.
- Kim, H.** (1989): Assessment Report on a Diamond Drilling Program on the DES Claim Group for Charles Boitard. September 12, 1989. AR 19140.
- LaRue, J.P.** (1987): Assessment Report on Geophysical Survey on the Des Claims for Mr. Charles Boitard. November 15, 1987. AR 17070.
- Lammle, C.A.R.** (1972). Geochemical Report on Des 1-98 Mineral Claims for Newco Ventures Ltd. Oct.15, 1972. AR 4057.

**References (cont'd)**

**Logan, J.M., Mihalynuk, M.G.** (2005): Porphyry Cu-Au Deposits of the Iron Mask Batholith, Southeastern British Columbia. BC Geological Survey. Geological Fieldwork, Paper 2005-1.

**MapPlace** – Map Data downloads.

**MacQuarrie, D.R.** (1981): Geophysical Report on a Induced Polarization Survey Des Claims for Mr. Charles Boitard. December 15, 1981. AR 09854.

**Mark, D. G.** (1980): Geophysical Report on VLF-EM and Magnetometer Survey Des Claim for Charles Boitard. April 29, 1980. AR 08032.

**Mark, D. G.** (1980): Geochemical Report on a Soil Geochemistry Survey for Thunderbolt Resources Limited. July 14, 1980. AR 08397.

**McBeath, S.** (1958): Report on the Geophysical Survey of Sunshine Nos. 10, 11, 15, and 16 Mineral Claims for Vanex Minerals Ltd. November 25th, 1958. AR 234

**McBeath, S.** (1958): Report of Geophysical Survey of Lucky Jim Nos. 1 to 4 Mineral Claim for Vanex Minerals. Ltd. October 29, 1958. AR 00228.

**McMillan, W.J.** - Geology and Genesis of the Highland Valley Ore Deposits and the Guichon Creek Batholith. Department of Mines and Petroleum Resources, Victoria, B.C. in Porphyry Deposits of the Canadian Cordillera.

**MtOnline** - MINFILE downloads.

**Norden, G., DeLeen, J.** (1972): Magnetometer and Geochemical Report on the Plug Claims for Texada Mines Ltd. December 8, 1972. AR 4041.

**Rockel, E.R.** (1987) Geochemistry Test Survey Oly #1 to #6 Claims Homfray Lake Area for Interpretex Resources Ltd. August, 1987. AR 16189.

**Rockel, E.R.** (1988) Geochemical Survey Oly #1 to #6 Claims Homfray Lake Area for Interpretex Resources Ltd. September 26, 1988. AR 17849.

**Scott, A., Cochrane , D.R.** (1972): Geophysical Report on an Induced Polarization Survey of the Plug Claims for Texada Mines Ltd. .October 24, 1972. AR 4042.

**Sookochoff, L.** (1976): Geological Report on the Desmond Lake Property, Nicola M.D., B.C. October 12, 1976

**Sookochoff, L.** (1979): VLF-EM and Magnetometer Report on the Homfray Property for Thunderbolt Resources Ltd. May 4, 1979. AR 07268.

**Sookochoff, L.** (2018): Historical Analysis & Evaluation on Tenure 679143. dated May 6, 2018 AR 36958.

**Sookochoff, L.** (2016): Geological and Geophysical Assessment Report on Tenure 1036474 for G. Delorme/L. Sookochoff dated November 7, 2016. AR 36279.

**Sookochoff, L.** (2016): Assessment Report on Geological and Geophysical Surveys on Tenures 58105 & 679243 for Guy and Christopher Delorme. January 13, 2016. AR 35735

**References (cont'd)**

**Sookochoff, L.** (2015): Geophysical Assessment Report on the Sed Mineral Claim. March 23, 2005. AR 27725.

**Sookochoff, L.** (2007): Geophysical Assessment Report on the Mike Claim. December 10, 2007. AR 29495.

**Sookochoff, L.** (2007): Geological Assessment Report on the Mike Claim. March 1, 2007. AR 29034.

**Sookochoff, L.** (2006): Geological Assessment Report (Lineament Array Analysis) on the Katrina Mineral Claim for Auror Capital Corp. dated December 1, 2006. AR 28671

**Sookochoff, L.** (2006): Geological Evaluation Report on the Katrina Mineral Claim for Auror Capital Corp. April 24, 2006. (Private Report).

**Sookochoff, L.** (2006): Report on the Phase I Program on the Katrina Mineral Claim for Auror Capital Corp. dated September 8, 2006. (Private Report).

**Sookochoff, L.** (2007): Report on the Phase IIa Program on the Katrina Mineral Claim for Auror Capital Corp. dated December 4, 2007. (Private Report).

**Sookochoff, L.** (2004): Geochemical Assessment Report on the SED Mineral Claim for Dancing Star Resources Ltd. January 22, 2004. AR 27329.

**Tolman, J., Lipske J.** (2016): Geology & Mineralization of the New Afton Porphyry Cu-Au Deposit +C Zone Project Update. TGDG February, 2016.

[http://s1.q4cdn.com/240714812/files/documents\\_presentations/2016/Mar/NewAfton-C-Zone-Presentation\\_TGDG-Feb16.pdf](http://s1.q4cdn.com/240714812/files/documents_presentations/2016/Mar/NewAfton-C-Zone-Presentation_TGDG-Feb16.pdf)

**Walker R.** (2017): Assessment Report VLF-EM Survey Tenure 392163 for Balto Resources Ltd. June 24, 2017. AR 36877.

**White, G.E.** (1972): Geophysical Report on an Induced Polarization Survey on behalf of Highhawk Mines Ltd. and Consolidated Standard Mines. dated July 21, 1972. AR 3764.

**Internet Downloads**

[https://www.researchgate.net/publication/268001819\\_Paragenesis\\_and\\_Alteration\\_of\\_the\\_Southeast\\_Zone\\_and\\_Deerhorn\\_Porphyry\\_Deposits\\_Woodjam\\_Property\\_Central\\_British\\_Columbia\\_Parts\\_of\\_093\\_A](https://www.researchgate.net/publication/268001819_Paragenesis_and_Alteration_of_the_Southeast_Zone_and_Deerhorn_Porphyry_Deposits_Woodjam_Property_Central_British_Columbia_Parts_of_093_A).

[https://www.google.com.ph/search?rlz=1C1ASUT\\_enCA720CA720&tbo=isch&q=Nicola+Porphyry+copper+Belt&chips=q:nicola+porphyry+copper+belt,online\\_chips:british+columbia,online\\_chips:quesnel+trough&sa=X&ved=0ahUKEwji8OXRx9LaAhWJilQKHbFmC9EQ4lYILCgG&biw=1600&bih=794&dpr=1#imgrc=ajT4L3-o38szM](https://www.google.com.ph/search?rlz=1C1ASUT_enCA720CA720&tbo=isch&q=Nicola+Porphyry+copper+Belt&chips=q:nicola+porphyry+copper+belt,online_chips:british+columbia,online_chips:quesnel+trough&sa=X&ved=0ahUKEwji8OXRx9LaAhWJilQKHbFmC9EQ4lYILCgG&biw=1600&bih=794&dpr=1#imgrc=ajT4L3-o38szM):

[\(https://miningdataonline.com/property/50/Highland-Valley-Mine.aspx\),](http://cdn.geosciencebc.com/project_data/GBC_Report2011-17/GBCReport2011-17_report.pdf)

**CERTIFICATE**

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:  
That I am a Consulting Geologist with an address at 120 125A-1030 Denman Street, Vancouver, BC V6G 2M6.

I, Laurence Sookochoff, further certify that:

- 1) I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.
- 2) I have been practicing my profession for the past fifty-four years.
- 3) I am registered and in good standing with the Engineers and Geoscientists BC.
- 4) The information for this report is based on information as itemized in the Selected Reference section of this report, from exploration work done on ground covered by, and in the area of, the Bertha Property and from the results of the 2020 exploration program.
- 5) I have no interest in the Bertha property as described herein.



Laurence Sookochoff, P. Eng.

Appendix 1

**Plug Zone Magnetometer Field Data**

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Appendix 2

**Des Zone Magnetometer Field Data**

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8950 7575.00 54636.84  
8950 7587.50 54530.43  
8950 7600.00 54544.77  
8950 7612.50 54314.23  
8950 7625.00 54451.34  
8950 7637.50 54556.07  
8950 7650.00 54585.29  
8950 7662.50 54561.42  
8950 7675.00 54581.29  
8950 7687.50 54602.85  
8950 7700.00 54621.28  
8950 7712.50 54597.64  
8950 7725.00 54620.59  
8950 7737.50 54754.24  
8950 7750.00 54593.91  
8950 7762.50 54578.94  
8950 7775.00 54621.86  
8950 7787.50 54558.34  
8950 7800.00 54552.82  
8950 7812.50 54444.33  
8950 7825.00 54548.82

8950 7837.50 54707.48  
8950 7850.00 54547.29  
8950 7862.50 54674.93  
8950 7875.00 54724.43  
8950 7887.50 54736.48  
8950 7900.00 54573.46  
8950 7912.50 54459.01  
8950 7925.00 54449.09  
8950 7937.50 54450.60  
8950 7950.00 54555.05  
8950 7962.50 54499.61  
8950 7975.00 54509.67  
8950 7987.50 54502.68  
8950 8000.00 54502.30  
8950 8012.50 54469.13  
8950 8025.00 54497.27  
8950 8037.50 54527.35  
8950 8050.00 54549.86  
8950 8062.50 54539.21  
8950 8075.00 54537.05  
8950 8087.50 54507.90  
8950 8100.00 54505.17  
8950 8100.00 54505.95  
8950 8112.50 54468.63  
8950 8112.50 54505.14  
8950 8125.00 54483.55  
8950 8137.50 54458.36  
8950 8150.00 54477.13  
8950 8162.50 54512.73  
8950 8175.00 54544.21  
8950 8187.50 54595.72  
8950 8200.00 54472.66  
8950 8212.50 54406.78  
8950 8225.00 54303.36  
8950 8237.50 54447.85  
8950 8250.00 54581.55  
8950 8262.50 54455.11  
8950 8275.00 54452.70  
8950 8287.50 54468.72  
8950 8300.00 54352.65  
8950 8312.50 54371.46  
8950 8325.00 54593.29  
8950 8337.50 54504.85  
8950 8350.00 54508.15  
8950 8362.50 54491.54  
8950 8375.00 54505.71  
8950 8387.50 54554.89  
8950 8400.00 54519.85  
8950 8412.50 54515.58  
8950 8425.00 54404.89  
8950 8437.50 54401.39  
8950 8450.00 54392.91  
8950 8462.50 54417.31  
8950 8475.00 54449.39

8950 8487.50 54490.39  
8950 8500.00 54647.16  
8950 8512.50 54540.44  
8950 8525.00 54456.70  
8950 8537.50 54460.00  
8950 8537.50 54463.21  
8950 8550.00 54537.43  
8950 8562.50 54720.05  
8950 8575.00 54472.98  
8950 8587.50 54366.16  
8950 8600.00 54556.81

Appendix 3

**Des Zone VLF-EM In-Phase Field Data**

Jim Creek Washington 24.8KHZ																
IN PHASE Readings DESMOND GRID																
North	8350	8390	8430	8470	8510	8550	8590	8630	8670	8710	8750	8790	8830	8870N	8910	8950
East																
7300	0	12	5	5	0	0	4	-5	-8	3	12	10	6	5	-5	0
7325	5	17	10	9	5	5	-4	-4	-4	-5	5	14	10	0	-2	-6
7350	10	15	6	10	9	9	-3	4	-4	-4	4	15	9	3	4	0
7375	-4	-5	0	4	4	10	9	-3	5	-7	3	15	10	8	6	7
7400	-4	-5	2	5	6	11	18	12	5	-3	0	10	7	8	4	11
7425	0	2	4	5	8	9	15	10	5	0	0	11	15	10	8	7
7450	7	2	2	2	12	13	8	5	5	2	-5	10	17	14	7	12
7475	6	4	3	0	3	11	12	8	10	9	2	5	18	15	8	13
7500	4	10	6	2	2	9	14	14	13	14	5	9	17	18	12	12
7525	3	10	5	5	2	4	12	9	12	10	13	14	15	20	15	12
7550	5	6	7	5	5	6	10	8	10	7	12	15	11	17	17	12
7575	5	5	7	6	6	12	12	6	7	8	10	14	12	14	14	12
7600	12	15	5	4	10	18	7	7	12	7	2	17	14	9	9	12
7625	12	16	8	6	5	15	15	13	14	14	14	15	9	9	14	12
7650	18	15	10	-2	5	15	17	16	12	7	5	8	5	0	8	9
7675	14	14	5	4	2	17	15	18	15	5	0	2	0	-10	-7	4
7700	10	4	-5	-4	4	8	8	7	10	5	-2	5	4	-12	-10	5
7725	-2	0	0	2	4	10	10	2	5	7	4	5	14	0	5	5
7750	0	-3	4	4	8	9	10	-8	-1	7	5	7	20	12	14	14
7775	8	-2	10	10	5	10	14	0	4	2	10	4	20	5	14	12
7800	10	3	6	7	4	17	17	5	5	7	4	7	14	12	-2	12
7825	14	7	4	7	4	17	17	8	8	10	4	7	17	18	8	12
7850	10	2	0	0	4	13	22	6	10	9	13	10	18	15	14	0
7875	6	8	0	0	2	8	20	8	30	10	14	12	12	14	10	5
7900	4	14	8	8	10	10	20	10	10	12	8	10	7	5	14	5
7925	7	9	12	6	8	10	18	14	5	9	5	5	4	5	4	8
7950	8	12	8	6	8	5	10	14	7	12	10	4	0	12	7	8
7975	10	13	7	7	4	5	8	12	14	5	4	0	2	6	2	8
8000	15	14	9	0	2	10	15	10	10	5	3	12	10	4	5	5
8025	12	10	2	0	0	15	12	18	15	5	12	17	20	20	8	8
8050	15	6	-4	0	0	3	8	10	8	2	5	17	17	15	12	15
8075	13	10	4	0	-5	10	9	4	10	4	6	15	11	10	8	15
8100	11	14	5	5	15	7	5	-5	0	8	17	5	15	10	10	10
8125	14	8	7	14	6	22	8	7	-4	-7	0	5	8	3	8	10
8150	20	17	10	10	10	21	10	5	5	-4	-6	4	10	14	5	14
8175	20	15	12	20	12	40	15	15	10	4	-5	-4	4	12	12	15

8200	24	14	25	18	13	20	30	25	15	15	10	5	12	15	13	14
8225	24	13	14	15	15	20	24	25	18	18	40	18	18	18	15	15
8250	25	18	16	14	17	24	22	24	15	17	36	40	20	15	12	2
8275	25	20	18	12	13	35	20	25	14	20	25	16	15	15	8	0
8300	27	22	25	15	18	24	18	15	12	15	12	4	5	12	7	5
8325	38	27	18	18	10	10	12	18	12	7	6	4	4	8	5	8
8350	21	24	22	14	9	7	12	14	7	4	-4	-2	7	5	8	5
8375	15	11	10	9	5	11	4	14	7	8	5	0	-7	5	10	9
8400	21	14	10	0	-2	7	2	8	8	8	6	5	4	10	6	10
8425	10	8	7	-1	0	0	2	0	4	3	14	14	6	6	2	6
8450	16	12	13	3	-8	-2	2	2	0	10	14	10	10	5	1	2
8475	18	15	18	8	-3	4	10	0	-5	9	10	4	10	5	0	1
8500	21	15	15	14	7	10	8	4	-5	12	12	5	5	5	4	2
8525	18	12	11	14	8	15	8	7	-6	8	14	4	0	12	8	3
8550	9	14	16	9	14	10	14	7	5	12	10	14	4	8	5	5
8575	4	20	14	17	17	22	14	17	14	12	18	12	12	10	5	5
8600	5	11	15	15	10	15	15	17	30	35	17	17	15	14	10	10

Appendix 4

**Des Zone VLF-EM Quadrature Field Data**

Jim Creek Washington 24.8KHZ																
Quadratrure Readings DESMOND GRID																
North	8350	8390	8430	8470	8510	8550	8590	8630	8670	8710	8750	8790	8830	8870	8910	8950
East																
7300	-2	-2	0	-4	-4	-1	0	4	5	4	-1	-2	0	-2	0	-2
7325	0	4	0	-2	0	-2	2	2	-2	2	0	-2	-2	0	-2	-4
7350	2	0	0	0	0	-2	0	10	7	5	3	0	-2	-3	0	-5
7375	-4	-4	-4	0	2	-3	5	2	5	3	3	0	-4	-2	3	0
7400	-2	-4	-4	0	0	-3	7	8	4	5	4	-1	-5	2	-2	0
7425	-2	-2	0	-1	0	-3	3	4	4	4	0	-1	0	0	2	-4
7450	0	-4	0	0	2	-1	0	0	2	2	0	4	2	1	0	0
7475	-1	-2	0	-2	-4	-1	0	0	4	5	2	-3	0	0	-2	1
7500	0	3	0	-4	-3	-4	0	2	4	2	5	0	0	0	-2	0
7525	-3	-2	-2	-2	-3	-6	0	0	2	4	0	2	0	2	0	-1
7550	-6	-1	-2	-3	-3	-6	0	-4	0	0	0	1	0	0	0	-3
7575	-4	-2	-3	-2	-2	-6	-4	-3	-3	-2	-2	0	0	-2	0	-4
7600	-2	-5	-2	-2	-2	-4	-5	-4	0	-2	0	0	2	0	0	-4
7625	-4	-4	-2	0	-2	-5	-2	0	2	0	-2	0	0	5	4	0
7650	-4	-6	2	-2	-2	-5	-2	-2	2	-2	0	0	2	4	8	4
7675	-2	-2	2	2	-1	-6	2	-2	-2	-2	-4	0	2	3	8	8
7700	-4	-2	-3	-4	-4	-8	-5	-2	0	2	2	0	2	6	4	4
7725	-3	0	0	-4	-2	-4	0	0	2	2	6	0	6	4	8	4
7750	-2	-1	0	0	-2	-2	2	-2	-2	2	6	0	4	6	10	8
7775	-2	-4	4	0	0	0	0	-2	2	2	5	-4	2	-2	2	8
7800	-2	0	2	-2	-2	-2	2	2	4	4	0	-4	0	4	-4	8
7825	2	0	2	2	-5	0	3	2	2	5	2	-7	-8	0	-4	0
7850	0	-5	-2	-2	-4	-4	2	-6	2	2	0	-9	-2	2	-5	-4
7875	-2	-10	0	-2	-4	-2	0	-7	-7	-1	1	-8	-6	-2	-2	-8
7900	-4	-6	2	2	-2	-2	0	-6	-4	0	0	-7	-6	-4	-2	-6
7925	-4	-4	2	0	0	-2	2	-10	-8	-4	-4	-5	-8	-10	-2	-2
7950	-2	-4	2	2	-5	-4	-2	-14	-4	2	0	-8	-8	-4	0	0
7975	0	-2	2	2	-8	-8	-5	-9	-2	-4	0	-10	-2	2	2	-2
8000	0	-2	2	-4	-4	-8	-2	-7	0	-2	-2	-4	2	0	5	2
8025	-2	-2	0	-2	-2	-12	-5	-5	-2	-2	2	-2	4	-10	2	0
8050	0	-4	-2	0	-3	-10	-2	-4	-4	-2	-2	-2	2	0	5	0
8075	-1	-5	-4	-2	-6	-8	-2	-4	-6	-4	0	-4	-4	-2	-2	-2
8100	-4	-3	-3	-2	-4	-2	-4	-7	-10	-4	0	-10	-8	-4	2	-4
8125	-4	-4	-2	3	0	-5	-2	-8	-10	-12	-2	-4	-5	-10	-5	-6
8150	-4	0	-2	3	2	-5	-2	-8	0	-8	-8	-8	-8	-4	4	-4
8175	-4	-1	-2	4	2	0	-2	0	2	-2	-12	-12	-8	-8	-2	-4
8200	-4	-2	-2	3	0	0	-10	2	0	-2	-6	-8	-2	-2	-4	0
8225	-2	-3	-4	-1	-2	-4	-2	-2	-4	0	2	0	2	4	0	2
8250	-2	-6	-8	-5	-4	-2	-3	0	-4	-4	-2	0	0	0	-2	4
8275	-5	-6	-10	-5	-5	0	-4	-5	-5	-6	-5	-8	-2	2	0	-2
8300	-11	-10	-10	-5	-8	-4	-3	-7	-4	-4	-5	-8	0	0	0	2
8325	-10	-9	-10	-6	-5	-7	-3	-4	0	-2	-2	-2	1	2	2	4
8350	-8	-8	-8	-5	-6	-5	-2	-2	-2	-2	-2	-4	1	2	4	2
8375	-10	-7	-8	-4	-2	-2	0	0	-2	0	2	0	-4	8	4	2
8400	-8	-5	-6	-3	-2	0	-2	0	-2	-4	-7	-2	-2	2	-4	4

8425	-6	-4	-4	-1	2	2	-2	-2	-2	-8	-2	0	0	2	-2	4
8450	-6	-3	-2	0	-2	0	0	2	0	0	0	-2	0	-8	-1	0
8475	0	-4	-1	0	-2	2	2	-2	-4	-2	-4	-4	-8	-8	-2	0
8500	2	-3	-7	-2	0	2	2	-2	-8	2	0	-6	-6	-6	-4	-2
8525	0	-5	-8	-6	-4	0	2	-2	-8	-4	-2	-6	-6	-6	-1	-2
8550	-2	-3	-8	-6	-2	-4	0	0	-4	-4	-2	0	-4	-5	-2	-2
8575	-5	2	-4	-4	-2	0	0	4	-4	-4	-8	0	-2	-6	-4	-2
8600	-2	-4	-4	-4	-4	-2	-2	0	-4	-2	0	2	0	-4	-2	-2

## Appendix 5

**Des Zone Complete In-Phase & Quadrature Field Data**

"Line"	"Station"	"Easting"	"Northing"	"In Phase"	"Quadrature"
8350	7300	667300	5588350	0	-2
8350	7325	667325	5588350	5	0
8350	7350	667350	5588350	10	2
8350	7375	667375	5588350	-4	-4
8350	7400	667400	5588350	-4	-2
8350	7425	667425	5588350	0	-2
8350	7450	667450	5588350	7	0
8350	7475	667475	5588350	6	-1
8350	7500	667500	5588350	4	0
8350	7525	667525	5588350	3	-3
8350	7550	667550	5588350	5	-6
8350	7575	667575	5588350	5	-4
8350	7600	667600	5588350	12	-2
8350	7625	667625	5588350	12	-4
8350	7650	667650	5588350	18	-4
8350	7675	667675	5588350	14	-2
8350	7700	667700	5588350	10	-4
8350	7725	667725	5588350	-2	-3
8350	7750	667750	5588350	0	-2
8350	7775	667775	5588350	8	-2
8350	7800	667800	5588350	10	-2
8350	7825	667825	5588350	14	2
8350	7850	667850	5588350	10	0
8350	7875	667875	5588350	6	-2
8350	7900	667900	5588350	4	-4
8350	7925	667925	5588350	7	-4
8350	7950	667950	5588350	8	-2
8350	7975	667975	5588350	10	0
8350	8000	668000	5588350	15	0
8350	8025	668025	5588350	12	-2
8350	8050	668050	5588350	15	0
8350	8075	668075	5588350	13	-1
8350	8100	668100	5588350	11	-4
8350	8125	668125	5588350	14	-4
8350	8150	668150	5588350	20	-4
8350	8175	668175	5588350	20	-4
8350	8200	668200	5588350	24	-4
8350	8225	668225	5588350	24	-2
8350	8250	668250	5588350	25	-2

8350	8275	668275	5588350	25	-5
8350	8300	668300	5588350	27	-11
8350	8325	668325	5588350	38	-10
8350	8350	668350	5588350	21	-8
8350	8375	668375	5588350	15	-10
8350	8400	668400	5588350	21	-8
8350	8425	668425	5588350	10	-6
8350	8450	668450	5588350	16	-6
8350	8475	668475	5588350	18	0
8350	8500	668500	5588350	21	2
8350	8525	668525	5588350	18	0
8350	8550	668550	5588350	9	-2
8350	8575	668575	5588350	4	-5
8350	8600	668600	5588350	5	-2
8390	7300	667300	5588390	12	-2
8390	7325	667325	5588390	17	4
8390	7350	667350	5588390	15	0
8390	7375	667375	5588390	-5	-4
8390	7400	667400	5588390	-5	-4
8390	7425	667425	5588390	2	-2
8390	7450	667450	5588390	2	-4
8390	7475	667475	5588390	4	-2
8390	7500	667500	5588390	10	3
8390	7525	667525	5588390	10	-2
8390	7550	667550	5588390	6	-1
8390	7575	667575	5588390	5	-2
8390	7600	667600	5588390	15	-5
8390	7625	667625	5588390	16	-4
8390	7650	667650	5588390	15	-6
8390	7675	667675	5588390	14	-2
8390	7700	667700	5588390	4	-2
8390	7725	667725	5588390	0	0
8390	7750	667750	5588390	-3	-1
8390	7775	667775	5588390	-2	-4
8390	7800	667800	5588390	3	0
8390	7825	667825	5588390	7	0
8390	7850	667850	5588390	2	-5
8390	7875	667875	5588390	8	-10
8390	7900	667900	5588390	14	-6
8390	7925	667925	5588390	9	-4
8390	7950	667950	5588390	12	-4

8390	7975	667975	5588390	13	-2
8390	8000	668000	5588390	14	-2
8390	8025	668025	5588390	10	-2
8390	8050	668050	5588390	6	-4
8390	8075	668075	5588390	10	-5
8390	8100	668100	5588390	14	-3
8390	8125	668125	5588390	8	-4
8390	8150	668150	5588390	17	0
8390	8175	668175	5588390	15	-1
8390	8200	668200	5588390	14	-2
8390	8225	668225	5588390	13	-3
8390	8250	668250	5588390	18	-6
8390	8275	668275	5588390	20	-6
8390	8300	668300	5588390	22	-10
8390	8325	668325	5588390	27	-9
8390	8350	668350	5588390	24	-8
8390	8375	668375	5588390	11	-7
8390	8400	668400	5588390	14	-5
8390	8425	668425	5588390	8	-4
8390	8450	668450	5588390	12	-3
8390	8475	668475	5588390	15	-4
8390	8500	668500	5588390	15	-3
8390	8525	668525	5588390	12	-5
8390	8550	668550	5588390	14	-3
8390	8575	668575	5588390	20	2
8390	8600	668600	5588390	11	-4
8430	7300	667300	5588430	5	0
8430	7325	667325	5588430	10	0
8430	7350	667350	5588430	6	0
8430	7375	667375	5588430	0	-4
8430	7400	667400	5588430	2	-4
8430	7425	667425	5588430	4	0
8430	7450	667450	5588430	2	0
8430	7475	667475	5588430	3	0
8430	7500	667500	5588430	6	0
8430	7525	667525	5588430	5	-2
8430	7550	667550	5588430	7	-2
8430	7575	667575	5588430	7	-3
8430	7600	667600	5588430	5	-2
8430	7625	667625	5588430	8	-2
8430	7650	667650	5588430	10	2

8430	7675	667675	5588430	5	2
8430	7700	667700	5588430	-5	-3
8430	7725	667725	5588430	0	0
8430	7750	667750	5588430	4	0
8430	7775	667775	5588430	10	4
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8430	8225	668225	5588430	14	-4
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8750	7800	667800	5588750	4	0
8750	7825	667825	5588750	4	2
8750	7850	667850	5588750	13	0
8750	7875	667875	5588750	14	1
8750	7900	667900	5588750	8	0
8750	7925	667925	5588750	5	-4
8750	7950	667950	5588750	10	0
8750	7975	667975	5588750	4	0
8750	8000	668000	5588750	3	-2
8750	8025	668025	5588750	12	2
8750	8050	668050	5588750	5	-2
8750	8075	668075	5588750	6	0
8750	8100	668100	5588750	8	0
8750	8125	668125	5588750	0	-2
8750	8150	668150	5588750	-6	-8
8750	8175	668175	5588750	-5	-12
8750	8200	668200	5588750	10	-6
8750	8225	668225	5588750	40	2
8750	8250	668250	5588750	36	-2
8750	8275	668275	5588750	25	-5
8750	8300	668300	5588750	12	-5
8750	8325	668325	5588750	6	-2

8750	8350	668350	5588750	-4	-2
8750	8375	668375	5588750	5	2
8750	8400	668400	5588750	6	-7
8750	8425	668425	5588750	14	-2
8750	8450	668450	5588750	14	0
8750	8475	668475	5588750	10	-4
8750	8500	668500	5588750	12	0
8750	8525	668525	5588750	14	-2
8750	8550	668550	5588750	10	-2
8750	8575	668575	5588750	18	-8
8750	8600	668600	5588750	17	0
8790	7300	667300	5588790	10	-2
8790	7325	667325	5588790	14	-2
8790	7350	667350	5588790	15	0
8790	7375	667375	5588790	15	0
8790	7400	667400	5588790	10	-1
8790	7425	667425	5588790	11	-1
8790	7450	667450	5588790	10	4
8790	7475	667475	5588790	5	-3
8790	7500	667500	5588790	9	0
8790	7525	667525	5588790	14	2
8790	7550	667550	5588790	15	1
8790	7575	667575	5588790	14	0
8790	7600	667600	5588790	17	0
8790	7625	667625	5588790	15	0
8790	7650	667650	5588790	8	0
8790	7675	667675	5588790	2	0
8790	7700	667700	5588790	5	0
8790	7725	667725	5588790	5	0
8790	7750	667750	5588790	7	0
8790	7775	667775	5588790	4	-4
8790	7800	667800	5588790	7	-4
8790	7825	667825	5588790	7	-7
8790	7850	667850	5588790	10	-9
8790	7875	667875	5588790	12	-8
8790	7900	667900	5588790	10	-7
8790	7925	667925	5588790	5	-5
8790	7950	667950	5588790	4	-8
8790	7975	667975	5588790	0	-10
8790	8000	668000	5588790	12	-4
8790	8025	668025	5588790	17	-2

8790	8050	668050	5588790	17	-2
8790	8075	668075	5588790	15	-4
8790	8100	668100	5588790	17	-10
8790	8125	668125	5588790	5	-4
8790	8150	668150	5588790	4	-8
8790	8175	668175	5588790	-4	-12
8790	8200	668200	5588790	5	-8
8790	8225	668225	5588790	18	0
8790	8250	668250	5588790	40	0
8790	8275	668275	5588790	16	-8
8790	8300	668300	5588790	4	-8
8790	8325	668325	5588790	4	-2
8790	8350	668350	5588790	-2	-4
8790	8375	668375	5588790	0	0
8790	8400	668400	5588790	5	-2
8790	8425	668425	5588790	14	0
8790	8450	668450	5588790	10	-2
8790	8475	668475	5588790	4	-4
8790	8500	668500	5588790	5	-6
8790	8525	668525	5588790	4	-6
8790	8550	668550	5588790	14	0
8790	8575	668575	5588790	12	0
8790	8600	668600	5588790	17	2
8830	7300	667300	5588830	6	0
8830	7325	667325	5588830	10	-2
8830	7350	667350	5588830	9	-2
8830	7375	667375	5588830	10	-4
8830	7400	667400	5588830	7	-5
8830	7425	667425	5588830	15	0
8830	7450	667450	5588830	17	2
8830	7475	667475	5588830	18	0
8830	7500	667500	5588830	17	0
8830	7525	667525	5588830	15	0
8830	7550	667550	5588830	11	0
8830	7575	667575	5588830	12	0
8830	7600	667600	5588830	14	2
8830	7625	667625	5588830	9	0
8830	7650	667650	5588830	5	2
8830	7675	667675	5588830	0	2
8830	7700	667700	5588830	4	2
8830	7725	667725	5588830	14	6

8830	7750	667750	5588830	20	4
8830	7775	667775	5588830	20	2
8830	7800	667800	5588830	14	0
8830	7825	667825	5588830	17	-8
8830	7850	667850	5588830	18	-2
8830	7875	667875	5588830	12	-6
8830	7900	667900	5588830	7	-6
8830	7925	667925	5588830	4	-8
8830	7950	667950	5588830	0	-8
8830	7975	667975	5588830	2	-2
8830	8000	668000	5588830	10	2
8830	8025	668025	5588830	20	4
8830	8050	668050	5588830	17	2
8830	8075	668075	5588830	11	-4
8830	8100	668100	5588830	5	-8
8830	8125	668125	5588830	8	-5
8830	8150	668150	5588830	10	-8
8830	8175	668175	5588830	4	-8
8830	8200	668200	5588830	12	-2
8830	8225	668225	5588830	18	2
8830	8250	668250	5588830	20	0
8830	8275	668275	5588830	15	-2
8830	8300	668300	5588830	5	0
8830	8325	668325	5588830	4	1
8830	8350	668350	5588830	7	1
8830	8375	668375	5588830	-7	-4
8830	8400	668400	5588830	4	-2
8830	8425	668425	5588830	6	0
8830	8450	668450	5588830	10	0
8830	8475	668475	5588830	10	-8
8830	8500	668500	5588830	5	-6
8830	8525	668525	5588830	0	-6
8830	8550	668550	5588830	4	-4
8830	8575	668575	5588830	12	-2
8830	8600	668600	5588830	15	0
8870	7300	667300	5588870	5	-2
8870	7325	667325	5588870	0	0
8870	7350	667350	5588870	3	-3
8870	7375	667375	5588870	8	-2
8870	7400	667400	5588870	8	2
8870	7425	667425	5588870	10	0

8870	7450	667450	5588870	14	1
8870	7475	667475	5588870	15	0
8870	7500	667500	5588870	18	0
8870	7525	667525	5588870	20	2
8870	7550	667550	5588870	17	0
8870	7575	667575	5588870	14	-2
8870	7600	667600	5588870	9	0
8870	7625	667625	5588870	9	5
8870	7650	667650	5588870	0	4
8870	7675	667675	5588870	-10	3
8870	7700	667700	5588870	-12	6
8870	7725	667725	5588870	0	4
8870	7750	667750	5588870	12	6
8870	7775	667775	5588870	5	-2
8870	7800	667800	5588870	12	4
8870	7825	667825	5588870	18	0
8870	7850	667850	5588870	15	2
8870	7875	667875	5588870	14	-2
8870	7900	667900	5588870	5	-4
8870	7925	667925	5588870	5	-10
8870	7950	667950	5588870	12	-4
8870	7975	667975	5588870	6	2
8870	8000	668000	5588870	4	0
8870	8025	668025	5588870	20	-10
8870	8050	668050	5588870	15	0
8870	8075	668075	5588870	10	-2
8870	8100	668100	5588870	15	-4
8870	8125	668125	5588870	3	-10
8870	8150	668150	5588870	14	-4
8870	8175	668175	5588870	12	-8
8870	8200	668200	5588870	15	-2
8870	8225	668225	5588870	18	4
8870	8250	668250	5588870	15	0
8870	8275	668275	5588870	15	2
8870	8300	668300	5588870	12	0
8870	8325	668325	5588870	8	2
8870	8350	668350	5588870	5	2
8870	8375	668375	5588870	5	8
8870	8400	668400	5588870	10	2
8870	8425	668425	5588870	6	2
8870	8450	668450	5588870	5	-8

8870	8475	668475	5588870	5	-8
8870	8500	668500	5588870	5	-6
8870	8525	668525	5588870	12	-6
8870	8550	668550	5588870	8	-5
8870	8575	668575	5588870	10	-6
8870	8600	668600	5588870	14	-4
8910	7300	667300	5588910	-5	0
8910	7325	667325	5588910	-2	-2
8910	7350	667350	5588910	4	0
8910	7375	667375	5588910	6	3
8910	7400	667400	5588910	4	-2
8910	7425	667425	5588910	8	2
8910	7450	667450	5588910	7	0
8910	7475	667475	5588910	8	-2
8910	7500	667500	5588910	12	-2
8910	7525	667525	5588910	15	0
8910	7550	667550	5588910	17	0
8910	7575	667575	5588910	14	0
8910	7600	667600	5588910	9	0
8910	7625	667625	5588910	14	4
8910	7650	667650	5588910	8	8
8910	7675	667675	5588910	-7	8
8910	7700	667700	5588910	-10	4
8910	7725	667725	5588910	5	8
8910	7750	667750	5588910	14	10
8910	7775	667775	5588910	14	2
8910	7800	667800	5588910	-2	-4
8910	7825	667825	5588910	8	-4
8910	7850	667850	5588910	14	-5
8910	7875	667875	5588910	10	-2
8910	7900	667900	5588910	14	-2
8910	7925	667925	5588910	4	-2
8910	7950	667950	5588910	7	0
8910	7975	667975	5588910	2	2
8910	8000	668000	5588910	5	5
8910	8025	668025	5588910	8	2
8910	8050	668050	5588910	12	5
8910	8075	668075	5588910	8	-2
8910	8100	668100	5588910	10	2
8910	8125	668125	5588910	8	-5
8910	8150	668150	5588910	5	4

8910	8175	668175	5588910	12	-2
8910	8200	668200	5588910	13	-4
8910	8225	668225	5588910	15	0
8910	8250	668250	5588910	12	-2
8910	8275	668275	5588910	8	0
8910	8300	668300	5588910	7	0
8910	8325	668325	5588910	5	2
8910	8350	668350	5588910	8	4
8910	8375	668375	5588910	10	4
8910	8400	668400	5588910	6	-4
8910	8425	668425	5588910	2	-2
8910	8450	668450	5588910	1	-1
8910	8475	668475	5588910	0	-2
8910	8500	668500	5588910	4	-4
8910	8525	668525	5588910	8	-1
8910	8550	668550	5588910	5	-2
8910	8575	668575	5588910	5	-4
8910	8600	668600	5588910	10	-2
8950	7300	667300	5588950	0	-2
8950	7325	667325	5588950	-6	-4
8950	7350	667350	5588950	0	-5
8950	7375	667375	5588950	7	0
8950	7400	667400	5588950	11	0
8950	7425	667425	5588950	7	-4
8950	7450	667450	5588950	12	0
8950	7475	667475	5588950	13	1
8950	7500	667500	5588950	12	0
8950	7525	667525	5588950	12	-1
8950	7550	667550	5588950	12	-3
8950	7575	667575	5588950	12	-4
8950	7600	667600	5588950	12	-4
8950	7625	667625	5588950	12	0
8950	7650	667650	5588950	9	4
8950	7675	667675	5588950	4	8
8950	7700	667700	5588950	5	4
8950	7725	667725	5588950	5	4
8950	7750	667750	5588950	14	8
8950	7775	667775	5588950	12	8
8950	7800	667800	5588950	12	8
8950	7825	667825	5588950	12	0
8950	7850	667850	5588950	0	-4

8950	7875	667875	5588950	5	-8
8950	7900	667900	5588950	5	-6
8950	7925	667925	5588950	8	-2
8950	7950	667950	5588950	8	0
8950	7975	667975	5588950	8	-2
8950	8000	668000	5588950	5	2
8950	8025	668025	5588950	8	0
8950	8050	668050	5588950	15	0
8950	8075	668075	5588950	15	-2
8950	8100	668100	5588950	10	-4
8950	8125	668125	5588950	10	-6
8950	8150	668150	5588950	14	-4
8950	8175	668175	5588950	15	-4
8950	8200	668200	5588950	14	0
8950	8225	668225	5588950	15	2
8950	8250	668250	5588950	2	4
8950	8275	668275	5588950	0	-2
8950	8300	668300	5588950	5	2
8950	8325	668325	5588950	8	4
8950	8350	668350	5588950	5	2
8950	8375	668375	5588950	9	2
8950	8400	668400	5588950	10	4
8950	8425	668425	5588950	6	4
8950	8450	668450	5588950	2	0
8950	8475	668475	5588950	1	0
8950	8500	668500	5588950	2	-2
8950	8525	668525	5588950	3	-2
8950	8550	668550	5588950	5	-2
8950	8575	668575	5588950	5	-2
8950	8600	668600	5588950	10	-2

## **Appendix 6**

### **Plug Zone In-Phase Field Data**

	In Phase														
	Jim Creek	Washington	24.8KHZ	5590460	5590500	5590540	5590580	5590620	5590660	5590700	5590740	5590780	5590820	5590860	5590900
669500	4	10	4	-3	0	0	0	14	14	22	14	12	12	12	12
669525	9	0	4	5	0	14	17	5	10	15	12	15	12	15	15
669550	4	2	5	6	5	12	5	10	12	14	18	15	18	15	15
669575	7	5	9	2	8	2	6	10	12	10	18	13	18	13	13
669600	13	11	9	0	10	7	12	9	17	8	14	14	14	14	14
669625	20	15	4	7	0	-1	2	10	14	10	9	9	10	15	15
669650	33	11	5	8	7	7	10	8	14	10	10	10	10	8	8
669675	4	11	4	8	7	9	9	10	9	11	14	8	8	8	8
669700	9	4	0	7	7	8	7	10	9	10	10	10	10	9	9
669725	5	9	5	5	11	2	8	3	10	10	9	5	5	5	5
669750	3	10	12	-1	-2	4	6	3	3	5	8	10	10	10	10
669775	15	5	5	-1	0	-1	8	10	7	9	11	9	9	9	9
669800	14	10	0	0	-4	0	5	7	5	10	12	9	12	9	9
669825	4	-2	2	0	-5	2	3	5	4	9	8	8	8	9	9
669850	-7	0	0	-4	-1	-2	4	5	7	8	10	9	10	9	9
669875	0	-5	-4	-2	0	-2	-3	3	2	10	15	15	15	10	10
669900	-12	-20	-30	0	2	3	0	4	0	6	18	12	12	12	12
669925	-9	-13	-16	0	3	0	-4	3	-4	2	16	15	16	15	15
669950	2	-8	-15	0	2	2	2	-1	0	2	10	20	10	20	20
669975	15	2	-8	5	2	2	0	0	0	0	9	15	15	15	15
670000	18	13	-5	8	2	5	2	3	2	0	9	10	9	10	10
670025	25	15	15	7	2	0	5	3	2	4	7	10	7	10	10
670050	25	30	22	7	3	-2	4	3	0	-2	5	8	5	8	8
670075	28	40	25	6	2	-3	2	4	2	0	4	8	4	8	8
670100	26	25	20	7	-5	0	-4	0	3	-4	1	1	1	1	1
670125	27	32	14	8	-5	0	0	1	-3	-4	-5	0	0	0	0
670150	20	15	10	2	-3	0	0	0	2	4	-4	-5	-5	-5	-5
670175	9	10	13	20	12	3	2	2	2	2	2	2	2	2	3
670200	10	14	18	24	22	3	8	4	-5	-5	3	0	0	0	0
670225	10	15	14	14	16	5	2	2	-3	-1	5	0	0	0	0
670250	8	12	6	14	12	5	4	4	-4	-2	3	0	0	0	0
670275	10	12	5	8	12	10	8	0	2	-5	-4	-4	-4	-4	-4
670300	14	20	7	8	10	13	7	3	-5	-7	3	3	3	3	4
670325	10	28	10	15	11	10	18	0	-6	-8	-4	-5	-5	-5	-5
670350	15	25	20	25	6	8	18	8	-5	-6	-8	-8	-8	-8	-8
670375	10	16	14	25	10	9	17	14	10	-5	-5	-5	-8	-8	-8
670400	9	15	14	25	22	14	6	11	17	0	-7	-7	-7	-7	-7
670425	15	10	18	24	20	14	4	5	30	5	-5	-6	-6	-6	-6
670450	18	22	18	20	22	15	5	5	10	5	2	2	2	2	2
670475	17	22	14	20	20	18	5	5	20	8	9	0	0	0	0
670500	22	24	20	17	12	17	9	10	18	10	10	10	10	10	2

## **Appendix 7**

### **Plug Zone VLF-EM Quadrature Field Data**

	Jim Creek Washington 24.8KHZ				Quadrature							
	5590460	5590500	5590540	5590580	5590620	5590660	5590700	5590740	5590780	5590820	5590860	5590900
669500	-4	-2	-4	-3	-2	-4	2	4	6	3	2	1
669525	-1	-4	-2	-2	-3	-2	0	4	0	2	4	1
669550	-6	-6	-4	-2	3	2	0	0	0	0	2	0
669575	-4	-4	-3	2	2	0	0	0	4	-2	0	0
669600	-5	-4	-2	4	4	0	0	2	2	0	0	0
669625	-6	-4	2	0	0	-1	2	0	0	0	2	4
669650	-9	-6	0	-4	-1	0	2	2	4	0	2	2
669675	-6	-4	0	-2	-1	0	2	2	4	0	2	2
669700	0	-2	2	3	1	0	2	4	2	0	0	0
669725	0	4	2	0	2	2	6	5	2	0	3	4
669750	0	6	2	0	3	4	6	8	6	5	6	6
669775	2	2	2	0	6	7	8	8	6	5	4	4
669800	0	0	8	6	6	6	7	8	6	5	3	4
669825	3	10	10	6	7	2	4	4	5	5	4	4
669850	-5	10	8	6	4	4	3	3	2	0	3	3
669875	5	5	9	2	0	0	0	0	0	0	0	2
669900	12	8	-2	0	0	0	-3	-2	-1	-2	-4	-2
669925	15	10	6	0	-2	-2	-2	-2	0	-1	-3	-5
669950	10	13	0	4	-4	-3	-4	-1	0	0	-2	-4
669975	15	12	5	6	-4	-2	-2	0	0	2	-1	-2
670000	14	10	10	4	-2	-2	-2	0	2	2	4	0
670025	0	12	22	4	-2	-2	-2	-2	2	4	2	2
670050	-2	8	12	4	-2	-2	-2	-2	0	4	4	2
670075	-6	8	-3	0	-2	-3	-2	-2	-2	0	4	2
670100	-12	-4	-2	0	0	-2	-2	-4	-3	0	1	3
670125	-14	-4	-4	2	-4	-2	-2	-2	-2	-4	-1	2
670150	-10	-4	-8	-2	-6	-3	-1	-2	-2	-2	-1	-2
670175	-4	-2	-4	6	6	-4	-2	-2	-2	-3	0	-3
670200	-2	-4	-6	2	4	-2	-2	-2	-2	-5	-1	-2
670225	-2	-5	-6	-4	4	2	-2	-2	3	-1	0	-3
670250	0	-4	-6	-4	0	-3	-8	-2	2	2	0	-1
670275	2	0	-6	-3	-2	0	-4	-2	2	2	-1	-2
670300	2	2	-7	-4	-4	0	-4	-6	-2	2	0	-4
670325	-4	5	-8	-4	-4	0	0	-8	-4	-1	-1	-4
670350	0	-2	-3	4	-4	0	-3	-2	-9	-4	-2	-3
670375	0	-2	-4	2	2	-2	-18	0	0	-8	-2	-2
670400	-2	-4	0	5	5	2	-4	-3	2	-2	-4	-2
670425	2	2	5	2	4	2	-10	-4	-2	1	-1	-4
670450	0	4	4	2	4	4	-10	-4	-4	0	2	-3
670475	-8	0	-2	2	-1	3	-8	-4	-10	-2	2	-2
670500	-12	-4	0	-4	-2	0	-2	-2	-10	-2	4	2