

**Ministry of Energy and Mines**  
BC Geological Survey

**Assessment Report  
Title Page and Summary**

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

**TOTAL COST:** \$ 6,581.00

**AUTHOR(S):** Laurence Sookochoff, PEng

**SIGNATURE(S):** *Laurence Sookochoff*

**NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):** \_\_\_\_\_ **YEAR OF WORK:** 2020

**STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):** 5800130, April 11, 2020

**PROPERTY NAME:** Bertha

**CLAIM NAME(S) (on which the work was done):** 1073890, 1064715

**COMMODITIES SOUGHT:** Gold, Copper

**MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:** 092ISE012, 092ISE021, 092ISE147, 092ISE155, 092ISE196

**MINING DIVISION:** Kamloops

**NTS/BCGS:** 0921.007, 0921.008

**LATITUDE:** 50 ° 25 ' 31 " **LONGITUDE:** 120 ° 38 ' 46 " (at centre of work)

**OWNER(S):**

1) Ken Ellerbeck

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

**MAILING ADDRESS:**

255 West Battle Street

Kamloops BC V2C 1G8

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

1) Baden Resources Inc.

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

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Vancouver BC V2C 1H2

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

Quaternary, Triassic, Western Volcanic Facies, Central Volcanic Facies, Eastern Volcanic Facies, Dioritic Intrusive Rocks

**REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:** 4042, 4057, 8032, 9054, 14959, 19140, 25405, 29495, 39010,

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
<b>GEOLOGICAL (scale, area)</b>			
Ground, mapping			
Photo interpretation	246 hectares	1073890, 1064715	\$ 4,500.00
<b>GEOPHYSICAL (line-kilometres)</b>			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
<b>GEOCHEMICAL (number of samples analysed for...)</b>			
Soil			
Silt			
Rock			
Other			
<b>DRILLING (total metres; number of holes, size)</b>			
Core			
Non-core			
<b>RELATED TECHNICAL</b>			
Sampling/assaying	9 rock samples	1064715	2,081.00
Petrographic			
Mineralographic			
Metallurgic			
<b>PROSPECTING (scale, area)</b>			
<b>PREPARATORY / PHYSICAL</b>			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
<b>TOTAL COST:</b>			<b>\$ 6,581.00</b>

**Kenneth Ellerbeck**

*(Owner)*

**Baden Resources Inc.**

*(Operator)*

**Geological Assessment Report**

*(Event No. 5800130)*

*on the*

**Bertha Property**

*Kamloops Mining District*

*BCGS: 0921.007 / .008*

**Work done on Tenures**

**1073890, 1064715**

**Centre of Work**

*10U 667192E, 5588577N*

*Author*

**Laurence Sookochoff, PEng.**

*Submitted*

**April 26, 2020**

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## Summary

The 10 claim, 1,543 hectare, Bertha property (“Property”) is located 22 kilometres east of the world-class Highland Valley Copper mine, the largest open-pit mine in Canada.

At Highland Valley Copper, the ore deposit is the primary mineral deposit in a cluster of nine major porphyry copper deposits that lie within a 15 square kilometer zone in the center of the Late Jurassic Guichon Creek batholith (*Figure 4.*). The limits of the ore deposit are controlled by relative fracture intensity and brecciation developed by the structural intersection of the regional north trending Lornex fault and the easterly trending Highland Valley. The original mineral zone at the cross-structural fault intersection, was bisected and laterally displaced by the Lornex Fault to isolate the Highland Valley and the Lornex ore deposits by some six kilometres (*Figure 4.*)

The Bertha property is located seven kilometres east of the Guichon Batholith within the Nicola Volcanic 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.

During April, 2020, Baden Resources Inc. completed an exploration program comprised of a structural analysis and a rock sampling program over the Des Zone, one of three mineral zones of the Property. The programs were successful in that the results reinforced the historical exploration results to the presence of a potential concealed mineral deposit.

Historical results on the Des Zone area reportedly include a structural intersection between regional aeromagnetic structures S1 and S3 (*Figure 7.*) with secondary indicated northerly trending structures (*Figure 9*) correlating with, and configuring a 500 x 300 metre 1972 copper geochem anomaly.

In the structural analysis, three cross-structures were delineated; one of which, “C”, is within the Grid Zone, a 75 hectare grid area (*Figure 8.*) which was the basis for a 2020 geophysical program reported on by the author in AR 39010. The conclusions derived from the location of cross-structure “C” are that northeasterly and northwesterly trend of cross-structure “C” (*Figure 13*) support the initial perception from the regional structural trend that these were the mineral controls and that cross-structure “C”, correlating with the 1972 copper geochem anomaly (*Figure 15.*) lends support to the all three cross-structures as primary locations to explore for surface indications of mineral bearing hydrothermal fluids from a waning magmatic chamber and ultimately a potential concealed mineral resource.

In the rock sampling program, quartz flooded fault and hydrothermally related brecciated, altered, and epithermal indicated rocks support the indicated concealed mineral-bearing intrusive as the samples were from an indicated structure. Although the rock samples did not reveal any visible mineralization, future assays could indicate pathfinder minerals which can be interpreted to the location of a potential intrusive related mineral zone. Epithermal veins generally occur above or adjacent to a mineral porphyry (*Figure 6.*).

A geological and geophysical exploration program is recommended on all three mineral zones of the Bertha Property. The exploration would be predominantly comprised of the exploration of the three cross-structural areas and an IP survey over cross-structural “C” area which should include a portion of the western portion of the adjacent 1972 copper anomaly

Figure 1. Location Map  
(Base Map: MapPlace 2)



## INTRODUCTION

During April 2020, a structural analysis in addition to a prospecting and sampling program were completed on the Bertha Property. The purpose of the structural analysis was to locate any correlative cross-structures which may be a central location for any potential Highland Valley type copper/gold porphyry deposit.

The source of information for the 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.

### Location

The Bertha property is located within BCGS Maps 0921.047 / .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 0921SW012*), the largest open-pit mine in Canada.

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.

**Table 1. Tenures of the Bertha Property**  
(from Mineral Titles Online)

Tenure number	Claim name	Expire date	Area in hectare
1039697	MEADOW-PLUG	25/10/2024	123.4801
1039713	PLUG IT	25/10/2024	82.3091
1049929	PLUG NORTH	25/10/2024	61.7282
1064406	RHYOLITE HOMFRAY	25/10/2024	411.4882
1064715	DES	25/10/2024	164.6966
1064900	DES-PLUG	25/10/2024	205.7844
1066816		25/10/2024	226.3857
1067470	HELLO MOLLY	25/10/2024	61.7528
1069575	BERTHA DES	25/10/2024	123.4954
1073890	DES 2	25/10/2024	82.3483

**Figure 2. Bertha property location to Producing Mines in the General Area**  
(Base map from Google Earth)



## 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 kilometres to Tenure 1049229 of the Bertha property.



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

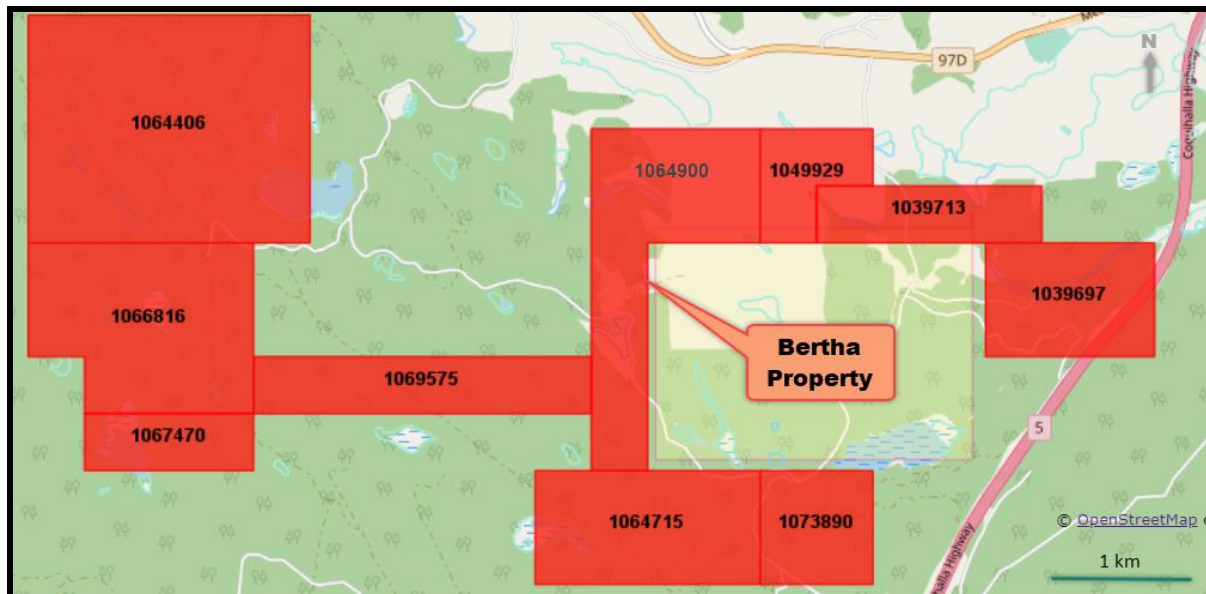
### Climate

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)*



### 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.

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

### 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.
- 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.

As to surface rights for a mining operation at the Plug and Des Zones which are on Crown land, there are no other surface rights.

### 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.

**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)

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

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: 2 drill holes; 198 metres 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	One of four geochemical anomalies coincides with a magnetometer anomaly and an I.P. chargeability anomaly.	4041
1972 Scott/ Cochrane	Texada Mines	Geophysical: 14.3 km IP: 8.3 km	Three weak to moderate chargeability anomalies greater than 8.0 ms. Two coincident anomalies with SP anomalies	4042
1972 Lammler	Newco Ventures	Geochemical: 1128 samples	Two large soil anomalies of moderate intensity in an area of intrusive diorite. Anomalies are subjacent to, or in the immediate proximity of intersections.	4057
1979 Sookochoff	Thunderbolt Resources Ltd.	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
1980 Mark	Thunderbolt Resources Ltd.	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.	Geochemical: 383 samples	Anomalous values in copper, zinc, and molybdenum.	8397
1981 McQuarrie	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 Developments Ltd.(2)	Geophysical: Magnetic, ground Physical; 3.6 km Line Grid	A definite northwest-southeast magnetic pattern was noted.	12287

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

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-- northwest trending previous I.P. anomaly 200 metres. Two pfe peaks of 12% and 17% were the greatest to date.	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; 16.8 km ground magnetic	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
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	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

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

1996 Crooker	G.F. Crooker (1) Goldcliff Resource Corporation (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 Corporation (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.	Geological: 489 hectares	Three cross-structural locations indicated	28671
2007 Sookochoff	L. Sookochoff (1) (2)	Geological: 370 hectares	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.	Geological:	Rhyolite:Zone of potential mineralization discovered.	No AR Figure s 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
2015 Ellerbeck	K. Ellerbeck (1) (2)	Geochemical: 9 rock samples Prospecting: 3.0 hectares	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
2017 Sookochoff	L. Sookochoff (1) (2)	Historic analysis and evaluation	Recommended IP surveys and drill-hole to test the reported pyritic altered zone of the 1959 drill-hole	36958
2017 Ellerbeck	K. Ellerbeck (1) (2)	Geochemical: 4 rock samples Prospecting: 2.0 hectares	Confirmed significant mineralization is present in the host Nicola Group rocks within the PLUG property	37206
2019 Ellerbeck	K. Ellerbeck (1) (2)	Prospecting:	Confirmed significant mineralization is present in the host Nicola Group rocks within the Rhyolite property	38178
2019 Ellerbeck	K. Ellerbeck (1) (2)	Prospecting:	Confidential until May 26, 2020	38305

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

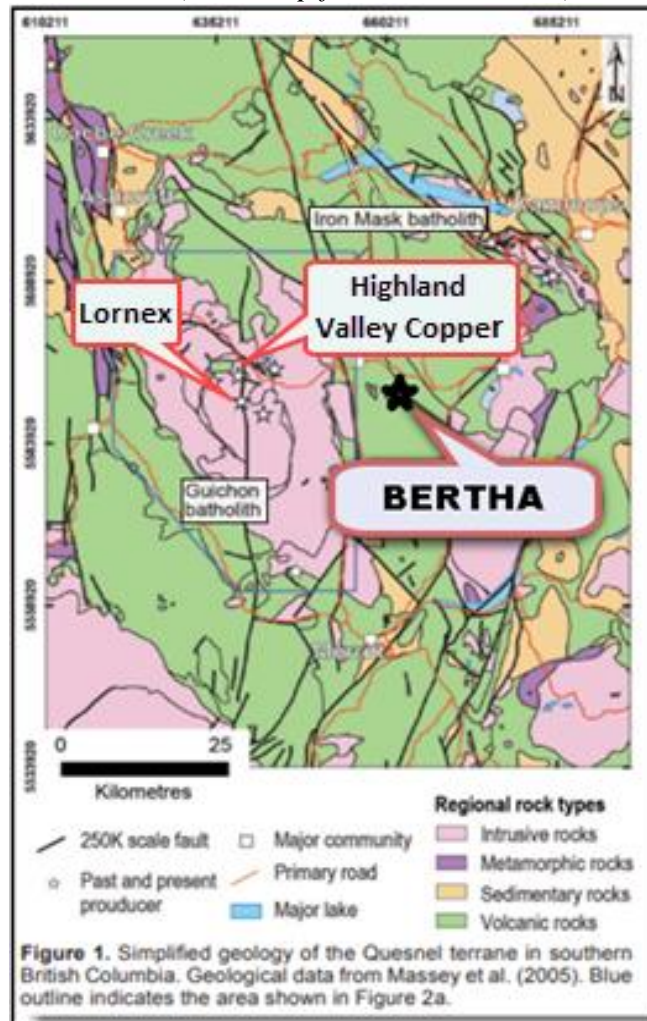
2019 Ellerbeck	K. Ellerbeck (1) (2)	Prospecting:	Confidential until April 25, 2020	38307
2019 Ellerbeck	K. Ellerbeck (1) (2)	Prospecting	Elevated copper values in rock samples	38811
2020 Sookochoff	K. Ellerbeck (1) Baden Resources (2)	Geophysical: - 32.8 km magnetic - 32.8 km VLF-EM	In compilation with historical results, revealed the location of a potential concealed mineral deposit	39010

## 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).

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



**Regional Geology and Mineralization (cont'd)**

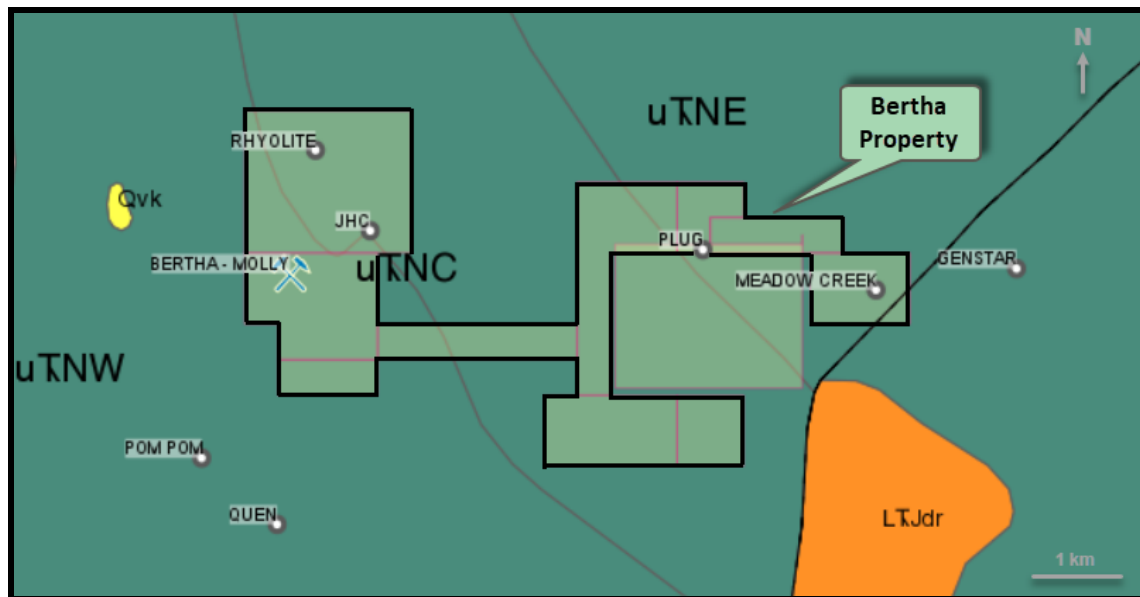
The well-known Nicola Belt of Nicola Group rocks within the southern portion of the Quesnel Trough, comprised mostly of intermediate to basic volcanic flows and breccias with minor amounts of greywacke, argillite and limestone, continues nearly 200 km southward to its termination at the U.S. border.

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 northwesterly and northeasterly directions.

**Local Geology and Mineralization**

Locally, the Bertha property is predominantly underlain by the Eastern, Central and 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, Claims, and Minfiles  
(Base map from MapPlace 2)*



**LEGEND**

**Quaternary**

**Qvk**  
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

**Late Triassic to Early Jurassic**

**LTJdr**  
dioritic intrusive rocks

**Property Geology and Mineralization** (from Minfiles)

(see Figure 5 for Minfile locations on the Bertha property)

**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 pillowed 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 volcanoclastic 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-volcanoclastic 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."*



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**Property Geology and Mineralization (cont'd)****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)

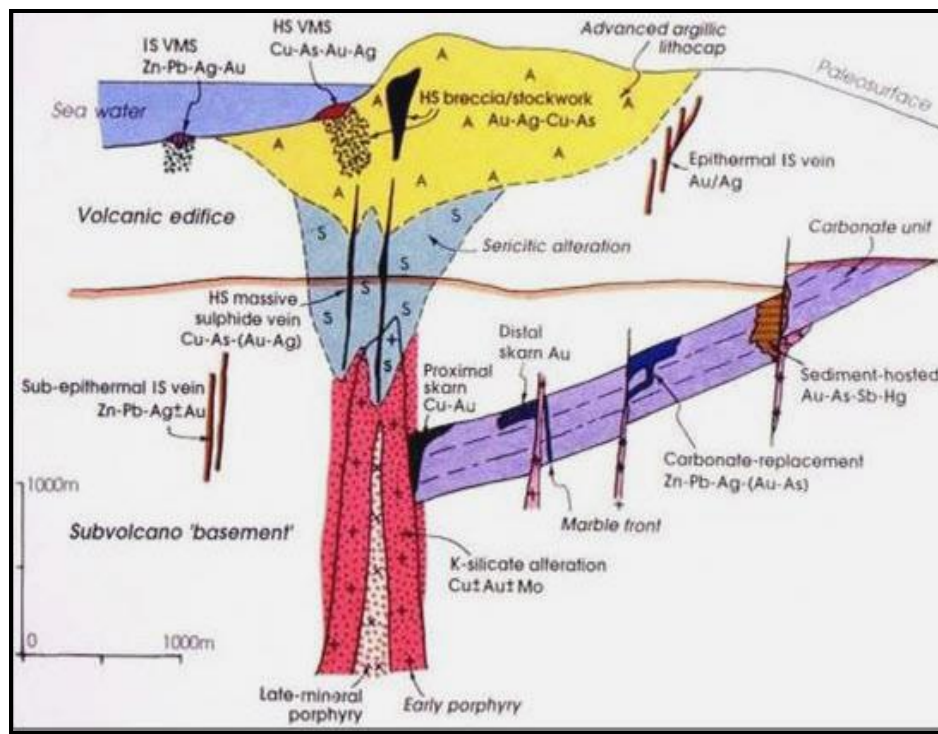
MINFILE 092ISE196

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.*

**Figure 6. Geological model of types of mineral occurrences that may occur in a volcanic environment**

(Map from: <http://earthsci.org/mineral/mindep/skarn/skarn.html>)



## 2020 EXPLORATION PROGRAM

During April 2020 Baden Resources Inc. completed a geological program comprised of a structural analysis and rock sampling on the Des Zone of the Bertha property (Figure 8.). The program was based on much of results from the historical and the February 2020 geophysical program completed by Baden Resources Inc. (AR 39010) with pertinent results to the report shown in Figures 9 to 12.

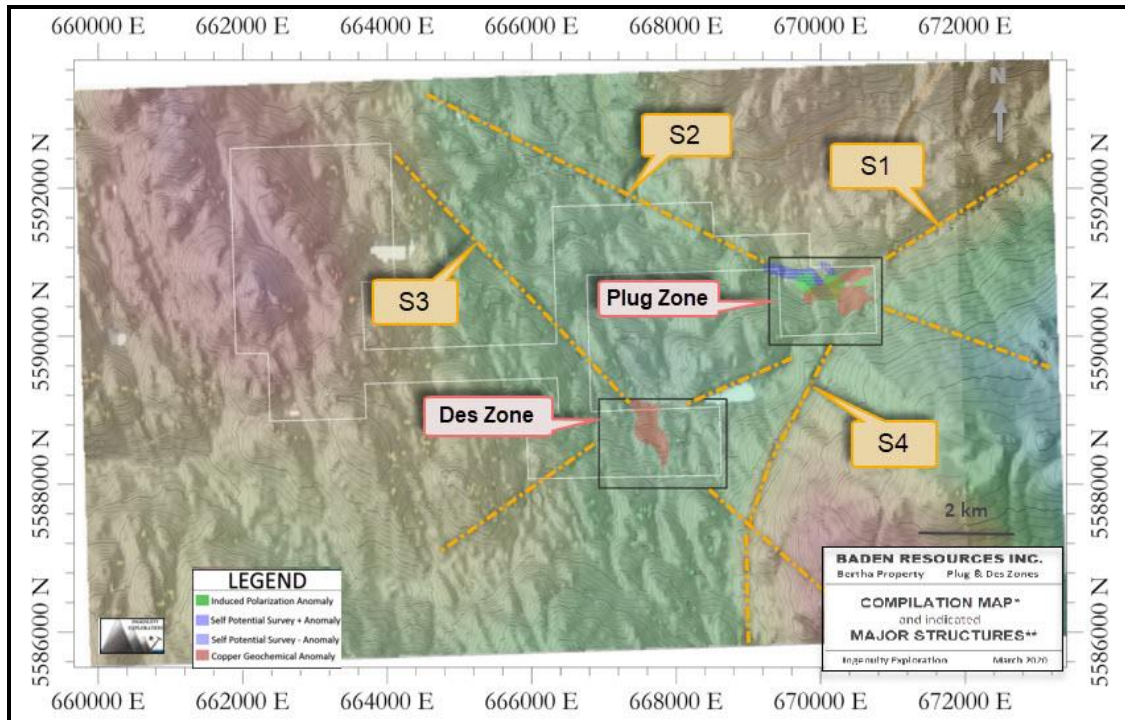
## Des Zone

### Preamble

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 provided many indications of a potential concealed 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 (Lammler, 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 (Lammler, 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 section of noted native copper flakes).

**Figure 7. Index Map: Plug and Des Zones with Compilation Map of Coloured Copper-in-Soil and IP/Self Potential Anomalies and Indicated Regional Aeromagnetic Structures**  
(Base Map: Ingenuity Exploration)



***Des Zone (cont'd)***  
***Preamble (cont'd)***

- 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.
- The highest copper assay of 965 ppm, where no mineralization was logged, was from a section of serpentinite.
- 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 a breccia pipe prepared by the cross-structural intersections. The surficial geological and mineralogical indications at the breccia pipe location would be the prime location where the signatures of the indicated intrusive may be interpreted.

The following Figures 9 to 12 are from a 2020 assessment report (AR 39010), prepared by the author of on a 2020 geophysical exploration program completed by Baden Resources Inc. The Figures presented include historical and 2020 geophysical exploration results to support the Interpretation and Conclusions of the structural analysis and rock sampling results as reported on herein.

Figure 8. Des Zone: 2020 Grid  
(Map from AR 39010)

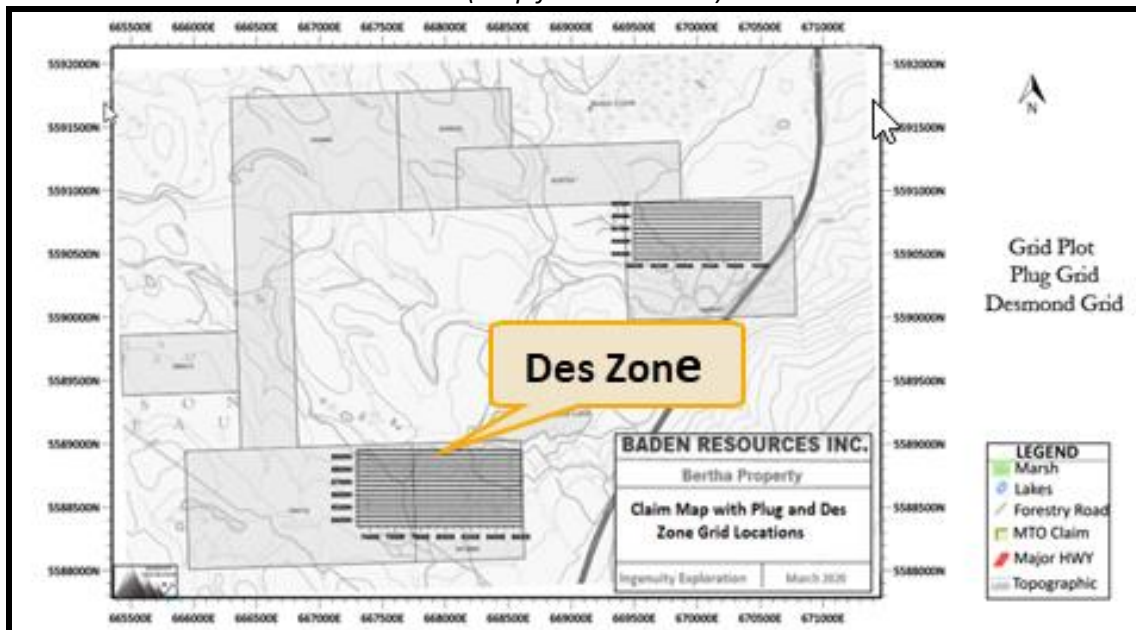


Figure 9. Des Zone: VLF-EM Fraser In Phase  
(Map from AR 39010)

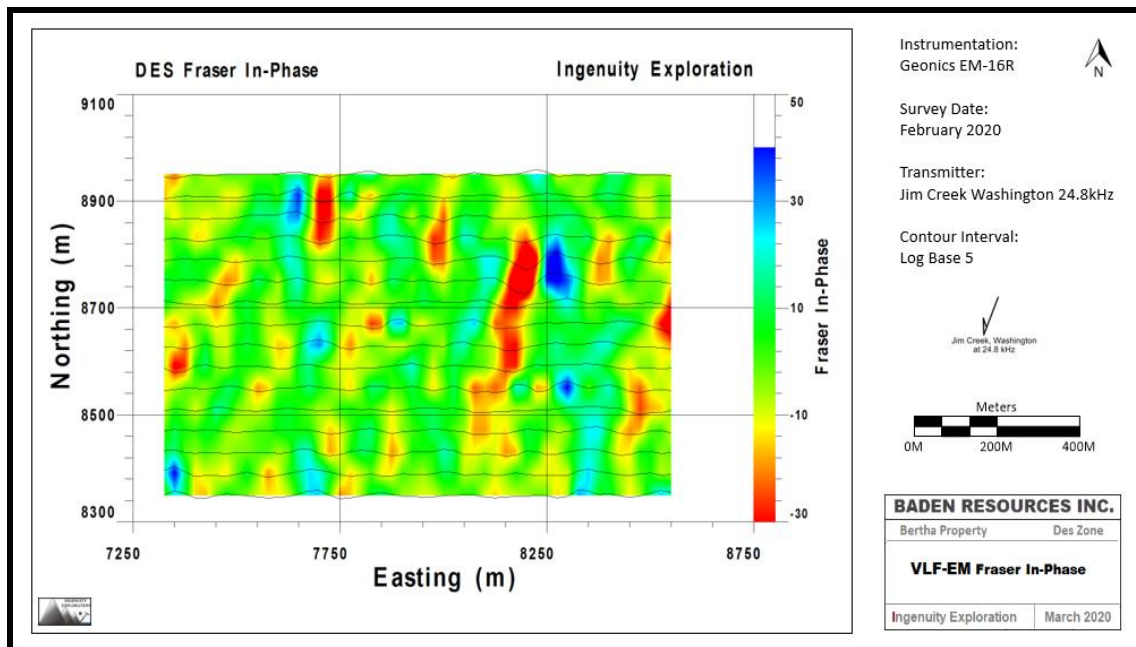
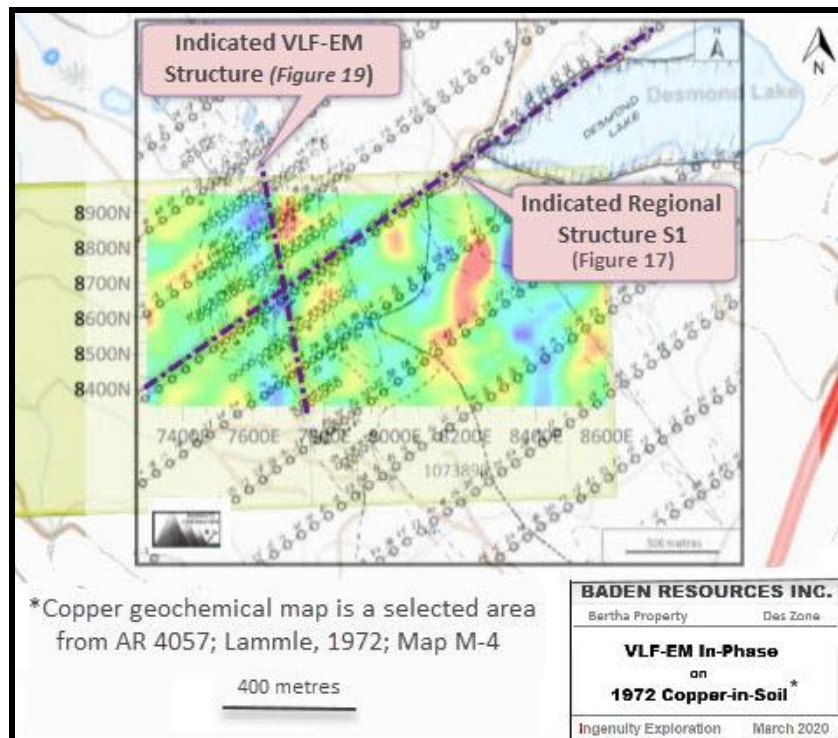
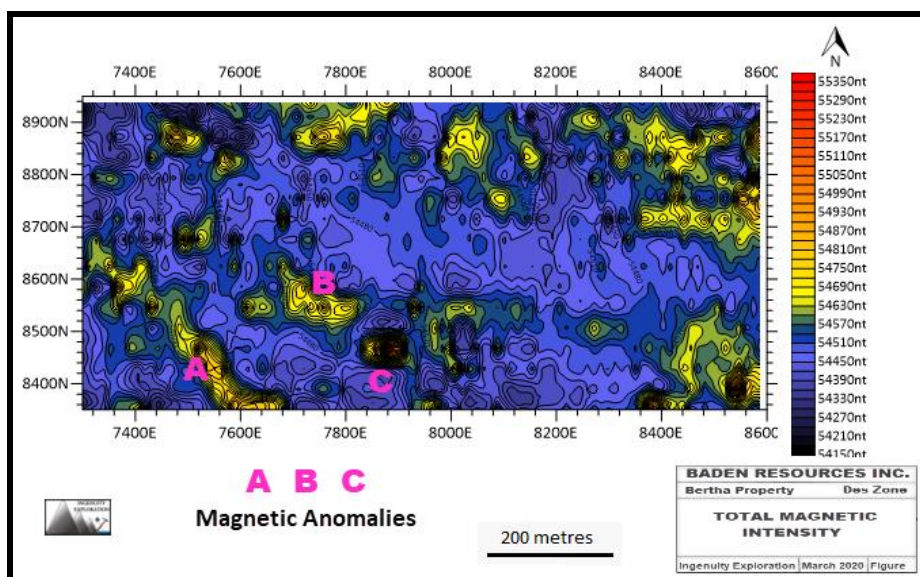


Figure 10. Des Zone: Compilation Map\* of 2020 VLF-EM (AR 3090) and 1972 ppm Copper in-Soil (AR 4057) (Map from AR 39010)

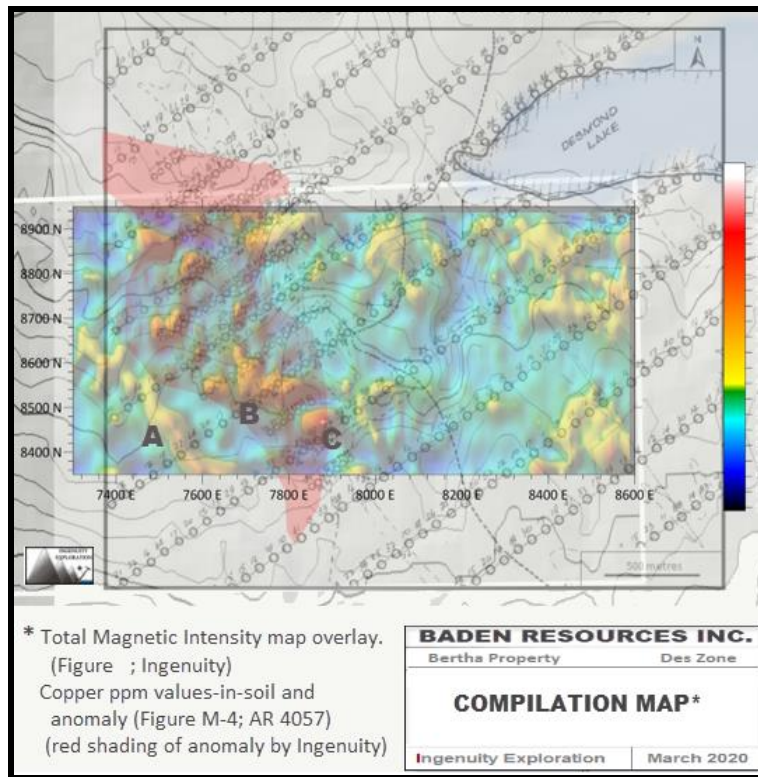


\*The reference to Figures in the map are the reference to Figures in AR 39010

Figure 11. Des Zone: Total Magnetic Intensity (Map from AR 39010)



**Figure 12. Des Zone: Compilation Map of 2020 Total Magnetic Intensity (AR 39010) and 1972 ppm Copper in Soil (AR 4057)**  
(Map from AR 39010)



**Figure 13. Des Zone: Indicated Cross-Structures**  
(Base Map: MapPlace 2)



## STATISTICS

Axial (non-polar) data

No. of Data = 68

Sector angle = 10°

Scale: tick interval = 3% [2.0 data]

Maximum = 19.1% [13 data]

Mean Resultant dir'n = 158-338

[Approx. 95% Confidence interval = ±28.1°]

(valid only for unimodal data)

Mean Resultant dir'n = 158.3 - 338.3

Circ.Median = not calculated

Circ.Mean Dev.about median = not calculated

(Not calculated if too many data, or data are axial (non-polar), and too coarsely grouped)

Circ. Variance = 0.27

Circular Std.Dev. = 45.66°

Circ. Dispersion = 3.93

Circ.Std Error = 0.2405

Circ.Skewness = -0.22

### **Structural Analysis (cont'd)**

#### **Des Zone**

#### **Structural Analysis**

##### **a) Purpose**

The purpose of the structural analysis was to delineate any area of relative major fault intersections that may provide surface indications of the components of a potential deep-seated, intrusive related mineral resource.

##### **b) Method**

A shaded relief image for two Tenures of the Bertha property **1064715 and 1073890**, was obtained from MapPlace2. The shaded relief image provided by MapPlace2 uses a single direction of light oriented at 325°N to create its shading and does not represent a composite image composed of multiple light directions. The DEM image was examined and lineaments were delineated manually. The manually defined lineaments defined from a shaded relief image can represent joints, faults or shear zones. Professional experience was used to define all lineaments, primary structures and prospective areas shown in Figure 13.

The indicated major structures were determined from the 68 lineaments of indicated structures in utilizing a Georient32v9 program to create a Rose Diagram displaying the major structural trends (Figure 14.). The cross-structures were then determined from these structural trends..

##### **c) Results**

Three cross-structural locations, A, B, & C were delineated from indicated major northeasterly and northwesterly trending structures. Discussion of the results are in the Interpretation section of this report.

Circ.Kurtosis = -8.91

kappa = 0.59

(von Mises concentration param. estimate)

Resultant length = 19.09

Mean Resultant length = 0.2808

'Mean' Moments: Cbar = 0.2042; Sbar = -0.1927

'Full' trig. sums: SumCos = 13.8876; Sbar = -13.1042

Mean resultant of doubled angles = 0.38

Mean direction of doubled angles = 049

(Usage references: Mardia & Jupp,

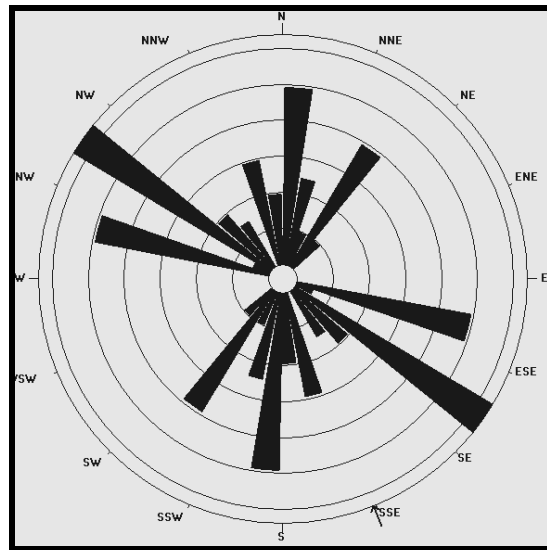
'Directional Statistics', 1999, Wiley;

Fisher, 'Statistical Analysis of Circular Data', 1993, Cambridge University Press)

Note: The 95% confidence calculation uses

Fisher's (1993) 'large-sample method'

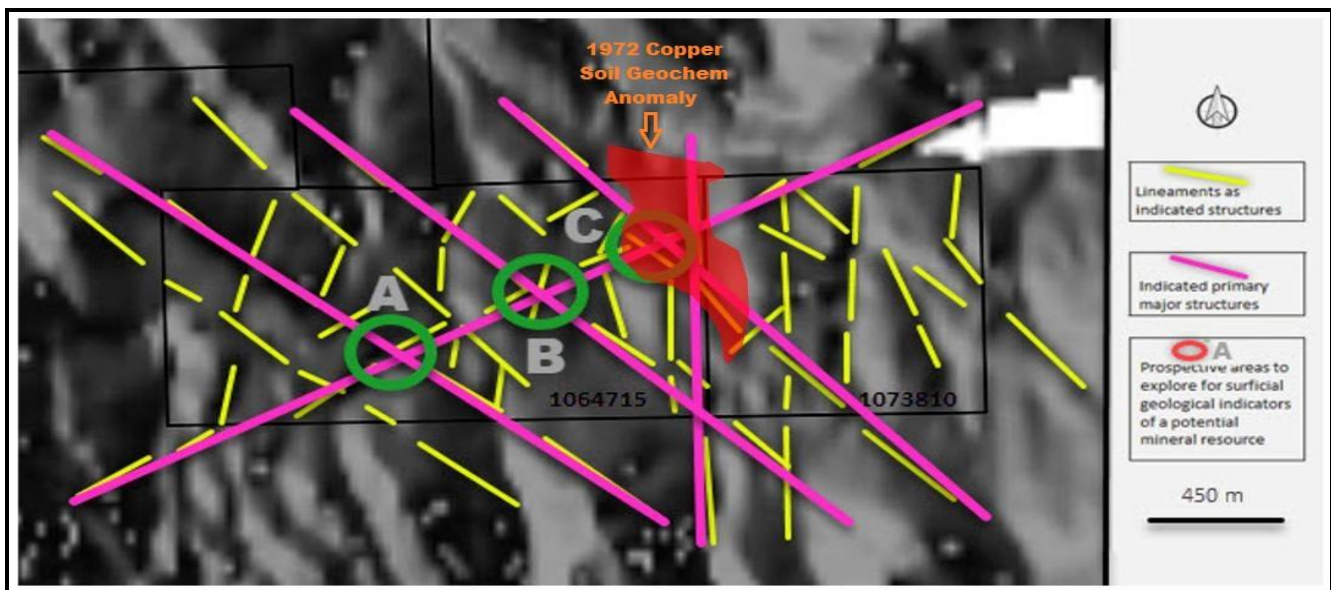
**Figure 14. Rose Diagram from Indicated lineaments of Tenures 1064715 and 1073890**



**Table 3. Approximate location of cross-structures(UTM-10NAD 83)**

Cross-structure	UTM East	UTM North	Elevation (m)
A	666555	5588259	1372
B	667004	5588490	1358
C	667382	5588690	1374

**Figure 15. Compilation of Indicated Cross-Structures and 1972 Copper Soil Geochemical Anomaly**  
(Base Map: MapPlace 2)

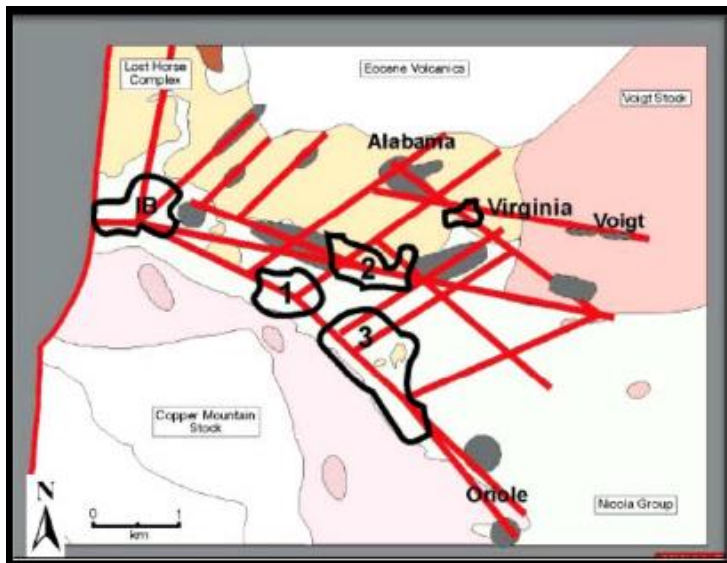




**Figure 16. Geology and Ore Deposits: Similco (Copper Mountain) Camp\***

(Note the ore deposit locations controlled by cross-structures)

(Map from Giroux & Holbek, Figure 9.4)



*\*(see Figure 2 for location of Similco Mine south of Bertha Property)*

**Rock Sampling**

The information on the Des-2020-1-6 (DS 1-6) South (East) rock samples shown on Figure 21 & 22 or in any other section of this report is reported on in a 2020 assessment report filed by Ken Ellerbeck

**Figure 17. Index Map Northwest Rock Sampling Area**

(Ellerbeck Photo)



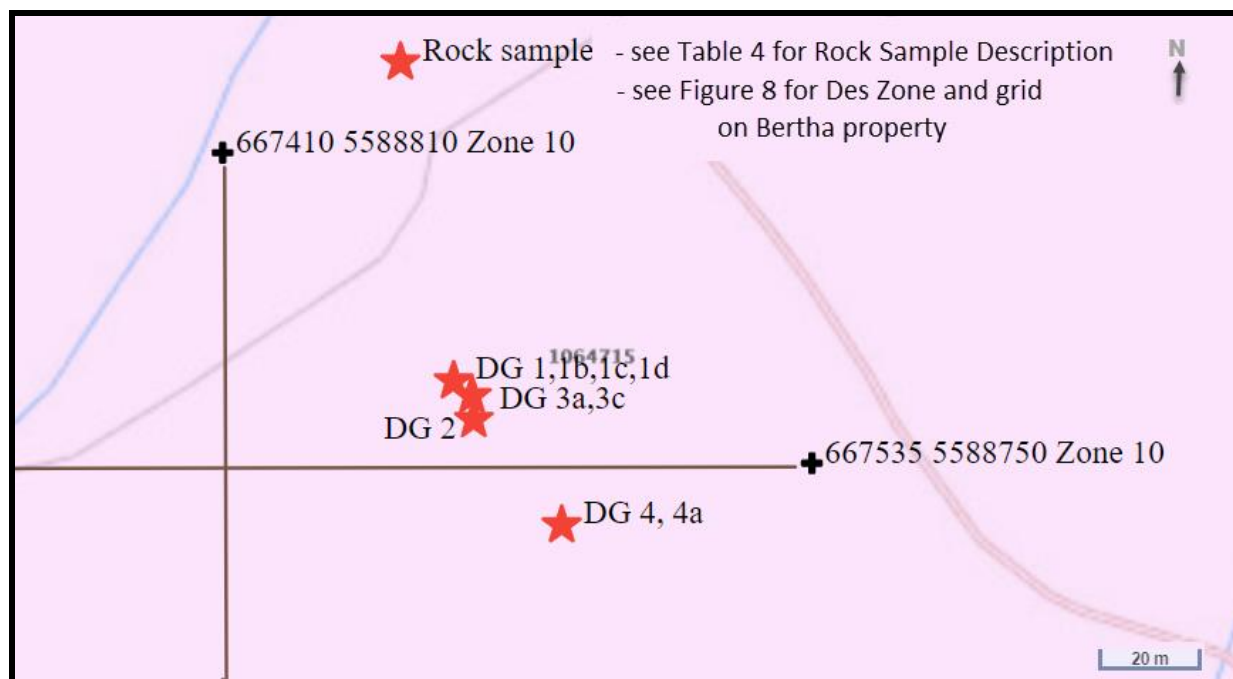
### Rock Sampling (cont'd)

Due to snow cover, the rock sampling was restricted to a 30 metre road cut/trench (?) located at UTM 667470E 5588750N (Figure 17). The entire 30 metre exposed section was all brecciated with nine grab samples selected from various breccia types. (Table 4 and Appendix 1).

**Table 4. Des Zone: Rock Sample UTM Locations and Descriptions**  
(UTM-10NAD 83)

Sample No	UTM East	UTM North	Description
<b>Des Gully 1 (DG 1)</b>	667460	5588765	Heterolithic breccia;< 2 cm sub-angular frags in a light brown altered fine-grained volcanic groundmass
<b>Des Gully 1b</b>	667460	5588763	Same as Des Gully 1
<b>Des Gully 1c</b>	667460	5588763	Same as Des Gully 1; qtz-carb < 1cm quartz veinlet; no alteration;
<b>Des Gully 1d</b>	667460	5588763	Same as Des Gully 1c; qtz-carb stringers; very light alteration; splashes quartz on fracture surfaces
<b>Des Gully 2</b>	667463	5588754	Same as Des gully 1d
<b>Des Gully 3a</b>	667963	5588764	Heavily altered/oxidized brown to whitish-brown breccia
<b>Des Gully 3c</b>	667963	5588764	Same as Des Gully 3a
<b>Des Gully 4</b>	667483	5588735	Breccia: light gray from quartz flooding
<b>Des Gully 4a</b>	667483	5588735	Breccia: unaltered

**Figure 18. Des Zone: Rock Sample Locations**  
(Base Map: MapPlace 2)



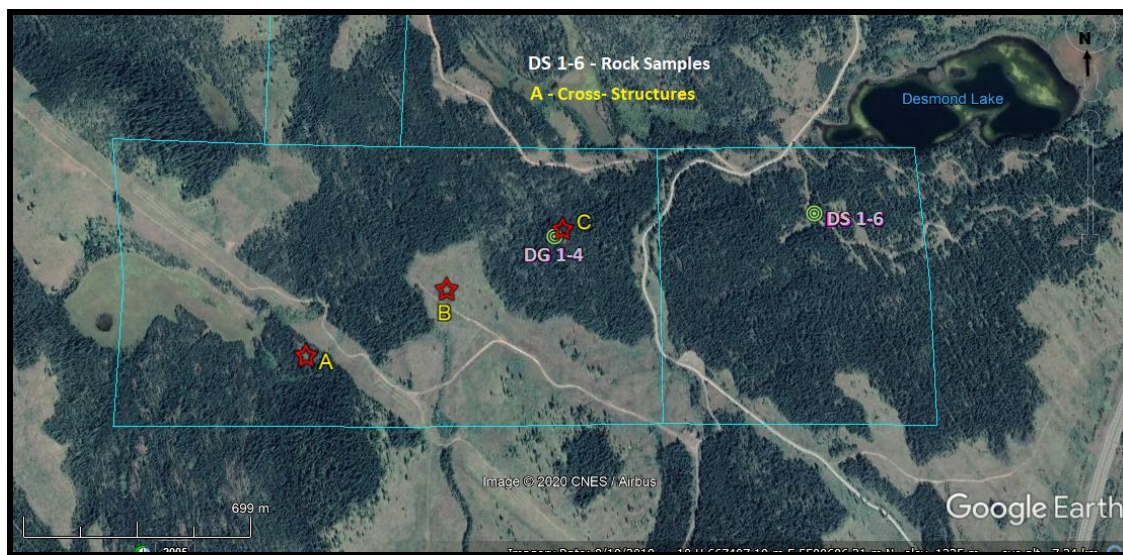
**Figure 19. Des Zone: Sample DG 1b**  
(Base Map: MapPlace 2)



**Figure 20. Des Zone: Sample DG-1 (Des Gully-1)**  
(Note the variable quartz flooding and the variable alteration of the variable minerals of the heterolithic breccia fragments)

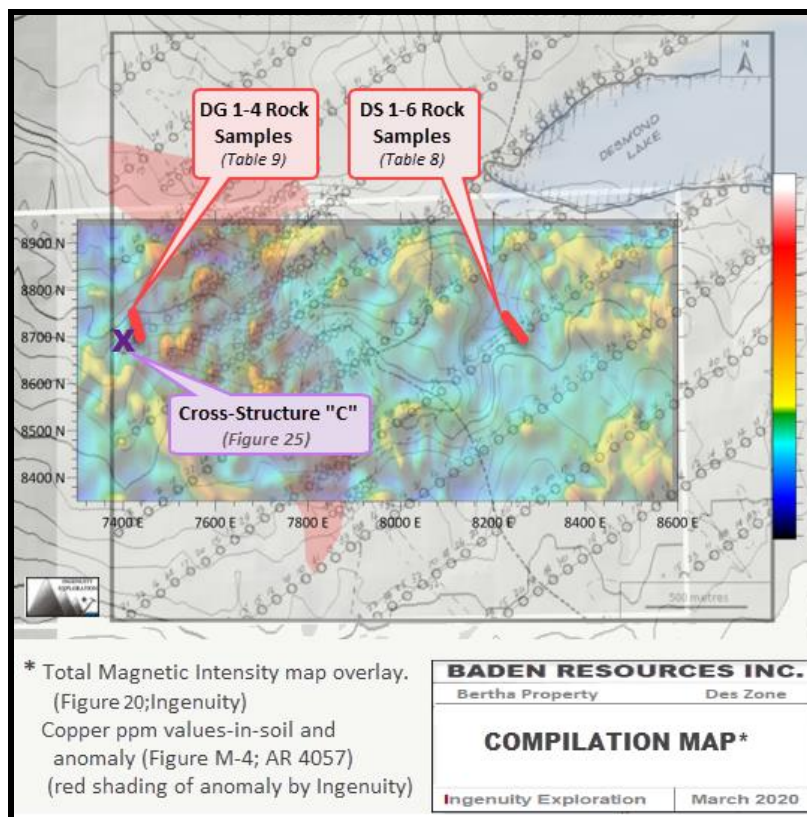


Figure 21. **Des Zone: Cross-Structures and DG 1-4 Rock Sample Locations\***  
(Base Map: Google Earth)



\*The DS 1-6 rock samples were reported on in a 2020 assessment report authored by Ken Ellerbeck

Figure 22. **Des Zone: Compilation\*** of 2020 Total Magnetic Intensity, Rock Sample Locations, and Cross-Structure "C" and 1972 Copper in Soil Anomaly



\*The reference to Figueres included in the map are referenced to the Figures in AR 39010

## INTERPRETATION AND CONCLUSIONS

The 2020 exploration program results provided the information that, in compliance with the historic exploration results, indicated specific areas for additional exploration to locate indicated concealed mineral zones and specifically, an intrusive related porphyry deposit at the Des Zone of the Bertha property

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

### Des Zone

- The copper-in-soil geochemical anomaly shown in shaded red on Figure 7 is at a structural intersection between regional structures S1 and S3 (*Figure 7*) with secondary indicated northerly trending structures (*Figure 10*) all of which configure the geochem anomaly (*Figure 15*) and are likely the mineral controls to a concealed mineral zone;
- The magnetic moderately high anomalies A, B, & C shown on Figure 11 are interpreted 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 an 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 within the copper anomaly may indicate portions of the intrusive that migrated higher within an appropriate location of an indicated structure;
  3. Anomaly C, located at the southeastern extent of the copper geochem anomaly with a spotty magnetic high, may be 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 is the third of the three structures that may have provided the mineral controlling open space brecciation and fractures for the deposition of mineral-bearing hydrothermal solutions.

### Structural Analysis

- All three indicated cross structures determined from the structural analysis are common to the indicated major aeromagnetic indicated structure trending through the Des and the Plug Zones (*S1 on Figure 7*) which supports the initial concept that the S1 structure is a primary mineral controlling structure;
- The northeasterly and the northwesterly trend of cross-structure "C" (*Figure 13*) supported the initial perception from the regional structural trend that these were the mineral controls;
- Cross-structure "C" correlating with the 1972 copper geochem anomaly (*Figure 15*) lends support to the cross-structures as primary locations to explore for surface indications of mineral bearing hydrothermal fluids from a waning magmatic chamber and ultimately a potential concealed mineral resource.

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**Interpretation and Conclusions (cont'd)****Des Zone (cont'd)****Rock Sampling**

- The rock sampling indicated that the area was at a structural/fault zones in that the samples were all of a fault and related hydrothermally altered breccia. The rock sample location correlates with a northwesterly trending structure which appears to control the limit of the 1972 copper anomaly;
- The concealed hydrothermal system, potentially an indication of a mineral-bearing porphyry, is indicated by the general quartz flooding of the breccia. The quartz flooding is the result of the cementing of breccia fragments and veins or veinlets (*Appendix Pic 4.\-*), and the obscure random quartz stringers and quartz enveloping certain minerals with related variable alteration which is only revealed in an enlarged rock sample photo (*Figure 20*);
- The epithermal vein of sample DS 3/Des-2020-3 (*Appendix Pic 5.*);is an additional indication of a concealed mineralized porphyritic zone in that epithermal veins relate to a mineral porphyry in located above or adjacent to a mineral porphyry (*Figure 6*).

The author is confident that the results of the historical and the 2020 exploration information is sufficiently reliable to warrant the continuing exploration program recommendations.

**RECOMMENDATIONS**

Cross-structural area "C" should be the primary exploration area for a continuing exploration program at the Des Zone. The purpose of the exploration would be to search for geological and/or mineralogical clues to an concealed mineral resource. An IP survey should be completed over the area which should include some of the western portion of the adjacent 1972 copper anomaly (*Figure 22.*).

Respectfully submitted



**Laurence Sookochoff, PEng**

Consulting Geologist

**STATEMENT OF COSTS**

Field work was performed on Tenures 1064715 and 1073890 of the Bertha Property between April 9-11, 2020 to the value as follows:

**Structural Analysis**

Laurence . Sookochoff PEng.: 3 days @ \$ 1,100.00 \$ 3,300.00

**Prospecting***Labour*

Ken Ellerbeck: April 10, 2020

1 day @ \$500.00/day ----- \$ 500.00

*Expenses*

Kamloops to Property return

149 km @ \$0.95/km ----- 141.55

Meals: 1 day @ \$40.00 40.00

*Exploration Equipment*

**100.00** **781.55**

**Report**

Laurence Sookochoff, PEng ----- 2,500.00

\$ 6,581.00

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## **CERTIFICATE OF AUTHOR**

1. I certify that I am a Consulting Geologist. with an address at Suite 120 125A-1030 Denman Street, Vancouver BC Canada V6G 2M6
2. I graduated with a degree in Bachelor of Science, Geology major from the University of British Columbia in 1966.
3. I am a member in good standing of the Professional Engineers and Geoscientists British Columbia.
4. I have worked as a geologist for 54 years since my graduation from university.
5. I hold no interest in the Bertha property nor in the securities of Baden Resources Inc.



Laurence Sookochoff, P.Eng.

Appendix 1

**Photos**

1. Highly silicified breccia



2. Altered macro breccia with inclusive sub-angular breccia fragments hosted by a volcanic with local boudinlike textures



**3. Heterolithic Breccia**



**4. Crackle Breccia**



**5. Epithermal Quartz Vein in a Breccia**

*(Sample Des-2020-3 (DS-6): East Rock Sampling Zone (Figure 21) & AR 39010)*



**6 Example of Crackle Breccia**

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