

# **BONANAZA MINING CORPORATION**

## **Summary of Exploration Work on the MC Project**



*129° 56' 18" longitude west and 53° 03' 30" latitude north*

*Submitted to:*

**Bonanza Mining Corp.**  
**28 February 2018**

*Submitted by:*

**Robert J. Morris**  
**Moose Mountain Technical Services**  
#210 1510 2<sup>nd</sup> Street North  
Cranbrook, B.C. Canada  
V1C 3L2



## **CERTIFICATE & DATE – Robert J. Morris**

### **I, Robert J. Morris, M.Sc., P.Geo., do hereby certify that:**

- 1) I am a Principal of Moose Mountain Technical Services, #210 1510 – 2nd Street North, Cranbrook, BC, Canada V1C 3L2.
- 2) I graduated with a B.Sc. from the University of British Columbia in 1973.
- 3) I graduated with a M.Sc. from Queen’s University in 1978.
- 4) I am a member of the Association of Professional Engineers and Geoscientists of B.C. (#18301).
- 5) I have worked as a geologist for over forty years since my graduation from university.
- 6) My past experience with copper/gold mineral deposits exploration and mining includes work in the Bralorne-Goldbridge area, work on Galore Creek, Kemess North, and Copper Canyon.
- 7) I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a “qualified person” for the purpose of NI 43-101.
- 8) I am responsible for the entire technical report entitled “Bonanza Mining Corporation Summary of Exploration Work on the MC Project”, dated 28 February 2018.
- 9) A site visit of the property is planned for later this year while the proposed exploration is underway. I have had no prior involvement with the MC Project.
- 10) I am independent of Bonanza Mining Corp., and work as a geological consultant to the mining industry.
- 11) I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
- 12) I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose, which makes the Technical Report misleading.
- 13) I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 14) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public.

**Date this 28<sup>th</sup> day of February 2018**

**Robert J. Morris, M.Sc., P.Geo.**

## Table of Contents

<b>1</b>	<b>Summary</b> .....	<b>6</b>
<b>2</b>	<b>Introduction</b> .....	<b>10</b>
<b>3</b>	<b>Reliance on Other Experts</b> .....	<b>11</b>
<b>4</b>	<b>Property Description and Location</b> .....	<b>12</b>
<b>5</b>	<b>Accessibility, Climate, Local Resources, Infrastructure and Physiography</b> ...	<b>15</b>
	5.1 Accessibility.....	15
	5.2 Climate and Physiography .....	15
	5.3 Local Resources and Infrastructure .....	15
<b>6</b>	<b>History</b> .....	<b>16</b>
<b>7</b>	<b>Geological Setting and Mineralization</b> .....	<b>24</b>
	7.1 Regional Geology .....	24
	7.2 Property Geology.....	26
	7.3 Mineralization.....	27
<b>8</b>	<b>Deposit Types</b> .....	<b>31</b>
<b>9</b>	<b>Exploration</b> .....	<b>33</b>
	9.1 Geophysical Surveying .....	33
	9.2 Results of the Geophysical Surveys.....	33
	9.2.1 3D IP Chargeability Results .....	34
	9.2.2 3D IP Resistivity Results .....	36
	9.2.3 Ground Magnetic Results.....	38
	9.3 Soil and Rock sampling surveys.....	54
	9.3.1 Results of the Soil Sampling Surveys .....	54
	9.3.2 Results of Prospecting and Rock Sampling.....	61
	9.4 Recommendations from Geophysical Survey.....	67
	9.5 Recommendation from Soil and Rock Sampling .....	68
<b>10</b>	<b>Drilling</b> .....	<b>69</b>
<b>11</b>	<b>Sample Preparation, Analyses and Security</b> .....	<b>70</b>
<b>12</b>	<b>Data Verification</b> .....	<b>71</b>
<b>13</b>	<b>Mineral Processing and Metallurgical Testing</b> .....	<b>71</b>
<b>14</b>	<b>Mineral Resource Estimates</b> .....	<b>71</b>
<b>15</b>	<b>Mineral Reserve Estimates</b> .....	<b>71</b>
<b>16</b>	<b>Mining Methods</b> .....	<b>71</b>
<b>17</b>	<b>Recovery Methods</b> .....	<b>71</b>
<b>18</b>	<b>Project Infrastructure</b> .....	<b>72</b>
<b>19</b>	<b>Market Studies and Contracts</b> .....	<b>72</b>
<b>20</b>	<b>Environmental Studies, Permitting and Social or Community Impact</b> .....	<b>72</b>
<b>21</b>	<b>Capital and Operating Costs</b> .....	<b>72</b>
<b>22</b>	<b>Economic Analysis</b> .....	<b>72</b>
<b>23</b>	<b>Adjacent Properties</b> .....	<b>73</b>
<b>24</b>	<b>Other Relevant Data and Information</b> .....	<b>75</b>
<b>25</b>	<b>Interpretation and Conclusions</b> .....	<b>76</b>
<b>26</b>	<b>Recommendations</b> .....	<b>78</b>
	26.1 Line Cutting .....	78



26.2	Geophysical Surveying.....	78
26.3	Soil and Rock Sampling and Prospecting.....	78
26.4	Geological Mapping.....	78
26.5	Diamond Drilling; Phase One.....	79
<b>27</b>	<b>References.....</b>	<b>81</b>

## List of Tables

Table 4-1	Claims.....	12
Table 6-1	1970 Assay Results.....	16
Table 6-2	1990 Drillhole Assay Results.....	17
Table 6-3	1992 Drillhole Assay Results.....	17
Table 6-4	1996 Assay Results.....	17
Table 6-5	1999 Stream Sediment Sample Results.....	18
Table 6-6	2000 Assay Results.....	19
Table 6-7	2000 Stream Sediment Sample Results.....	19
Table 6-8	2002 Assay Results.....	20
Table 6-9	2002 Stream Sediment Sample Results.....	21
Table 6-10	2003 Assay Results.....	22
Table 6-11	2010 Assay Results.....	23
Table 9-1	2017 Assay Results, High-Grade Samples.....	62
Table 9-2	2017 Assay Results.....	63
Table 10-1	1990 Drillhole Sample Results.....	69
Table 26-1	MC Claims Project 2018 Mineral Exploration Cost Estimate.....	80

## List of Figures

Figure 4-1	Overview Location Map .....	13
Figure 4-2	Claims Detail.....	14
Figure 7-1	Location of Mineral Showings on MC1&2 claims marked in yellow dots .....	27
Figure 9-1	Volterra – 3DIP Survey, Anomalies C1 and C2.....	35
Figure 9-2	Volterra – 3DIP Survey, Anomalies R1-R4 .....	37
Figure 9-3	Regional Gravity Data.....	40
Figure 9-4	Regional Magnetics Data .....	41
Figure 9-5	Detailed Magnetics Data .....	42
Figure 9-6	GSC Airborne Magnetics Data.....	43
Figure 9-7	Total Magnetic Intensity, A.....	44
Figure 9-8	Total Magnetic Intensity, B.....	45
Figure 9-9	3D Inversion Models at 3800N .....	46
Figure 9-10	3D Inversion Models at 4000N .....	47
Figure 9-11	3D Inversion Models at 4200N .....	48
Figure 9-12	3D Inversion Models at 4400N .....	49
Figure 9-13	3D Inversion Models at 4600N .....	50
Figure 9-14	3D Inversion Models at 4800N .....	51
Figure 9-15	3D Inversion Models at 5000N .....	52
Figure 9-16	3D Inversion Models at 5200N .....	53
Figure 9-17	Gold in Soils .....	56
Figure 9-18	Silver in Soils.....	57
Figure 9-19	Lead in Soils.....	58
Figure 9-20	Zinc in Soils.....	59
Figure 9-21	Copper in Soils.....	60
Figure 9-22	Rock Sample Location Map.....	66
Figure 23-1	Properties Adjacent to MC Property.....	74



## 1 Summary

The MC Project is an old mineral occurrence hosting gold, silver, and base metal elements that is worthy of further exploration. The project is located in the Skeena Mining District of British Columbia, approximately 14km northeast of Stewart. Moose Mountain Technical Services (MMTS) was commissioned by Bonanza Mining Corporation (Bonanza) to complete a technical report for MC reporting on the exploration results over the entire property and recommend an exploration program to follow up on promising targets.

The MC Project comprises nine mineral claims covering an aggregate area of 2131.74ha. The center of the property is located at 129° 56' 18" longitude west and 53° 03' 30" latitude north. The project is located on Bear River Ridge, between the xx River on the west and the Bear River on the east. Elevations range from 20-2000m from the Bear River to the top of Bear River Ridge. There are old camp sites on the property though recent exploration has been based out of Stewart being supported by helicopter.

Rights to the MC Project were acquired by Bonanza in March 2017 and are subject to two underlying agreements.

The first is with William Pfaffenberger of Victoria, B.C. and includes an option to earn 100% interest in his property which includes claims 567077 and 526194. The agreement sets out the following commitments, including:

- a) \$25,000 on or before the first anniversary of the date of the agreement;
- b) an additional \$35,000 on or before the second anniversary of the date of the agreement;
- c) 225,000 shares upon the execution of the agreement;
- d) an additional 100,000 shares on or before the first anniversary of the date of the agreement;
- e) an additional 100,000 shares on or before the second anniversary of the date of the agreement;
- f) an additional 200,000 shares on or before the third anniversary of the date of the agreement;

Bonanza will have the right at any time following the date of the agreement to purchase fifty percent (50%) of the Royalty, equal to one percent (1.0%) of the Net Smelter Returns, for the sum of \$1,000,000, payment to be made in cash, as provided by notice in writing from the "Optionee" to the "Optionor".

The second is with Richard Mill of Langley B.C. and includes an option to earn 100% interest in his property which includes claims 1043653, 1049356, 1045262, 1044145, 1050492, 1048807, and 1042018. The agreement sets out the following commitments, including:

- a) \$15,000 upon execution of the agreement;
- b) an additional \$25,000 on or before the first anniversary of the date of the agreement;
- c) an additional \$35,000 on or before the second anniversary of the date of the agreement;
- c) 75,000 shares upon the execution of the agreement;



- d) an additional 100,000 shares on or before the first anniversary of the date of the agreement;
- e) an additional 100,000 shares on or before the second anniversary of the date of the agreement;
- f) an additional 200,000 shares on or before the third anniversary of the date of the agreement;
- g) Bonanza shall incur \$100,000 in expenditures on the property on or before the first anniversary of the agreement;

With both agreements, Bonanza has the right at any time following the date of the agreement to purchase fifty percent (50%) of the Royalty, equal to one percent (1.0%) of the Net Smelter Returns, for the sum of \$1,000,000, payment to be made in cash.

Mineral exploration in the MC area was initiated in 1910 and has continued intermittently through to the present. During this period, the MC property has been tested by four drillholes, as well as various geophysical techniques and soil, stream, and rock sampling. In 2017 detailed 3D-IP and mag surveys were completed on portions of the property as well as two phases of soil sampling and prospecting.

The property is underlain by lithologies of the middle Jurassic Hazelton Group. These rocks host significant precious and base metals deposits elsewhere in the Stewart Camp including the Silbak Premier, Silver Coin, Sulphurets, Brucejack Lake, Big Missouri-Martha Ellen, Red Mountain and Eskay Creek deposits.

The MC property lies along the eastern edge of the Coast Crystalline Complex within the western boundary of the Bowser Basin. Rocks in the area belong to the Mesozoic Stuhini Group, Hazelton Group and Bowser Lake Group that have been intruded by apophyses of both Cenozoic and Mesozoic age. Portions of the Stewart area are underlain by Triassic age Stuhini Group. The Stuhini Group rocks are either underlying or in fault contact with the Hazelton Group. These Triassic age rocks consist of dark gray, laminated to thickly-bedded silty mudstone, and fine- to medium-grained and locally coarse-grained sandstone. Local heterolithic pebble to cobble conglomerate, massive tuffaceous mudstone and thick-bedded sedimentary breccia and conglomerate also form part of the Stuhini Group.

At the base of the Hazelton Group is the lower Lower Jurassic Marine (submergent) and nonmarine (emergent) volcanoclastic Unuk River Formation. This is overlain at steep discordant angles by a second, lithologically similar, middle Lower Jurassic volcanic cycle (Betty Creek Formation), in turn overlain by an upper Lower Jurassic tuff horizon (Mt. Dilworth Formation). Middle Jurassic non-marine sediments with minor volcanics of the Salmon River Formation unconformably overlie the above sequence.

The lower Lower Jurassic Unuk River Formation forms a north-northwesterly trending belt extending from Alice Arm to the Iskut River, BC. Grove (1971) describes this formation as being green, red and purple volcanic breccia, volcanic conglomerate, sandstone and siltstone with minor crystal and lithic tuff, limestone, chert and minor coal. Also included in the sequence are pillow lavas and volcanic flows.

Intrusive activity in the Stewart area has been marked by the Lower and Middle Jurassic Texas Creek granodiorite with which the Big Missouri, Silbak Premier, SB, Scottie Gold, Red Mountain and many other mineral deposits in the district are associated. Younger intrusions include the Hyder Quartz Monzonite, Bitter Creek granodiorite and many Eocene stocks, dykes and sills which form a large part of the Coast Mountain Plutonic Complex. Mineral deposits such as Kitsault Lime Creek Molybdenum, Porter-Idaho Silver Mine, and a host of other deposits are related to the 48-52 Ma (Eocene) plutons. These intrusives also form the regionally extensive Portland Canal Dyke Swarm.

A gold-copper bearing quartz-sulphide vein system was located in the Rock of Ages No 2 Vein Zone defined by rock chip sample MC10AR-204 and supported by Au-Cu in soil geochemical anomalies and total field magnetic anomalies located 100-200m east of the Cu-Au bearing rock sample. These showings occur at an elevation of 775-950m and appear to line up with the northwest trending faults and lineaments of Rock of Ages Creek that exposes the No 3 Vein Zone at 1,180m elevation (No 3 tunnel) where a prominent 30-80m wide gossan with quartz-sericite-pyrite-clay (phyllic alteration) cuts the northwest trend roughly north-northeast, following the contour lines. The Dalhousie zone continues south-southwest and future work should be directed towards exploring the combined 500m of strike length of the Dalhousie and Rock of Ages No 2 and No 3 Vein Zones gold-enriched copper & iron bearing mineralized zones, located at 700-1300m elevation.

MMTS has not visited the MC Project though one is planned for later this year during the proposed drill program.

Recommendations for further work on the MC Project includes a multiphase program as outlined below:

- 1.) Line cutting, at least four cut lines will be required, two on the northern part and two on the southern part of the property.
- 2.) Geophysical surveying, the cut lines will then be geophysically surveyed by 3D IP and magnetics and the new data will be added to the geophysical data obtained in 2017.
- 3.) Soil, rock sampling and prospecting, several additional soil sample lines need to be sampled at higher elevations above the main multi-element soil anomaly outlined on the southern half of the property in 2017 as this anomaly is open upslope. As well at least one new soil sample line needs to be sampled at a lower elevation below the main soil anomaly.

Rock sampling and prospecting need to be done along the main soil anomaly where the showings were sampled in 2017 as well as at both higher and lower elevations along the mineralized trend.

- 4.) Geological mapping, a compilation map needs to be created that shows all of the important previous exploration data for the property that are located in BC government assessment reports, including rock and soil sample results, locations of mineral showings and areas that have been geologically mapped. Geological mapping needs to be conducted on both the northern and southern parts of the property as there



presently is no modern government geological map or any other geological map of that covers the area.

- 5.) Diamond drilling phase one, a phase one drill program totaling 3,000m of coring is required. A phase two drill program may also be required depending on the results of the phase one program. A number of NQ size diamond drillholes need to be cored both on the north and south parts of the property.

On the northern part of the property at least four holes need to be drilled to explore the C1 chargeability anomaly and at least two holes need to be drilled to explore the C 2 chargeability anomaly. These six drillholes will have to average 350m long, for a total of at least 2,000m.

As well at least two shorter 100m drillholes need to be completed at the Dalhousie showing to explore its' potential, for a total of 200m of drilling.

On the southern part of the property at least four holes need to be drilled to explore the potential of the main soil anomaly and mineral showings. These four holes will average 200m for a total of 800m.

An estimate of the total cost of the recommended 2018 exploration work is \$899,700.



## 2 Introduction

Bonanza Mining Corporation (Bonanza) holds the rights to the MC Property in British Columbia.

Moose Mountain Technical Services (MMTS) was retained by Bonanza to complete a technical report compliant with NI 43-101 (the Instrument) and Form 43-101F1 for MC and to recommend an exploration program for the adjacent targets.

The MC gold/silver/base metal deposit is one of many old mineral occurrences on the property worthy of further exploration.

The property has been explored almost continuously since 1910 though no production has taken place. Exploration programs have been completed; including MAG, IP, soil, stream, and rock geochemistry, as well, four holes have been drilled for more than 9,000m. In 2017, detailed MAG and 3D IP surveys were completed on portions of the property as well as further soil sampling and prospecting.

Mr. Robert J. Morris of MMTS has not completed a site visit of the property though one is planned for later in the year during the proposed drill program. From a review of the existing exploration data, and based on his experience and qualifications, the author, Mr. Morris, is of the opinion that the previous exploration has been conducted in a professional manner and the quality of data and information produced from the efforts meet or exceed acceptable industry standards. All of the exploration work has been directed or supervised by individuals who are geologists.

While actively involved in the preparation of the report, MMTS had no direct involvement or responsibility in the collection of the data and information or any role in the execution or direction of the work programs conducted for the project on the property or elsewhere. Much of the data has undergone thorough scrutiny by project staff as well as certain data verification procedures by MMTS (included in Section 12).

Sources of information are listed in the references, Section 27.



### **3 Reliance on Other Experts**

The author of this Report is a Qualified Persons (QP) for the sections of the Report as outlined in the "Certificate of Qualified Person" within this Report. The information relied upon for this report has therefore been stated by the QPs to conform to NI 43-101.

The QP has not independently reviewed parts of this report, relating to the legal aspects of the ownership of the mineral claims; rights granted by the Government of British Columbia and environmental and political issues have been prepared or arranged by Bonanza. While the contents of those parts have been generally reviewed for reasonableness by the QP of this report, the information and reports on which they are based has not been fully audited by the QP.

#### 4 Property Description and Location

The MC-Dalhousie-Rock of Ages property and adjoining claims are located in the Stewart area of northwest BC. The property is located on the east side of Bear River Ridge and along the Bear River valley, approximately 14km north of Stewart. Highway 37A runs across the property along the east side of the Bear River valley.

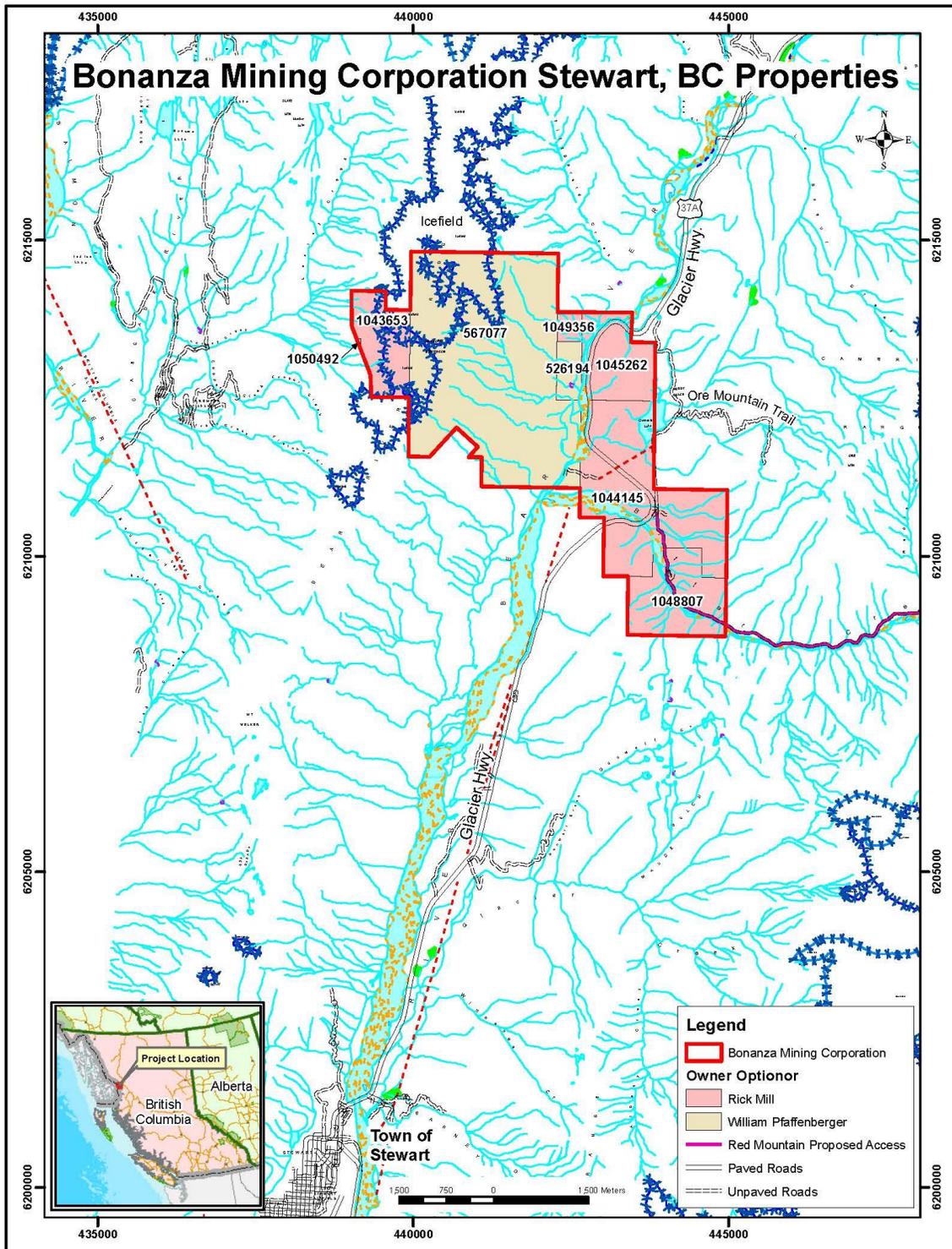
Bear River Ridge is approximately 20km long and divides the Bear River valley on the east side from the Salmon River valley on the west side. Ascot's Premier mine project is in the Salmon River valley on the west side of Bear River Ridge and Bonanza's MC/Dalhousie/Rock of Ages property is on the east side of the ridge.

**Table 4-1 Claims**

Record Number of Claim	Expiry Date	Area (ha)
1043653	15 October 2022	162.58
1049356	15 October 2022	18.06
1045262	15 October 2022	144.53
1044145	15 October 2022	415.72
1050492	15 October 2022	144.53
1048807	15 October 2022	180.81
1042018	15 October 2022	162.20
567077	15 October 2022	867.18
526194	25 January 2023	36.13
<b>Total</b>		<b>2,131.74</b>



**Figure 4-1 Overview Location Map**



**Figure 4-2** Claims Detail

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

### **5.1 Accessibility**

The MC property is in the Skeena Mining Division. Access to the property is restricted to helicopter or walking.

### **5.2 Climate and Physiography**

Vegetation varies from slide alder and brush at the lower elevations, to barren rock and ice higher up. The claims are mostly above tree line and support sparse growth of mosses and lichens in the higher portions.

The area receives heavy snowfall between the months of October and March, with sporadic but ranging to heavy rainfall in the other months. Average precipitation is in the order of 250 centimeters of rainfall and 20m of snow.

In general, due to the large snowfall, the surface exploration in the Stewart area is restricted to summer and early fall months, late August to October.

Elevations on the claim group range from 150-1950m. Slopes are moderate to gentle west of Bear River Ridge and steep to moderate on the east side of the ridge, towards Bear River. Recent recession of glacial ice has exposed extensive rock outcrop areas.

### **5.3 Local Resources and Infrastructure**

The closest community is Stewart with a population of about 500. Several mining companies, government agencies, and airlines keep offices in Stewart.

Stewart is connected to southern British Columbia by Highway 37A, which continues south as Highway 37. Stewart has an ice-free port that is used to ship mineral concentrate from several mines in northern BC.

## 6 History

Mineral claims were originally staked on the MC property in 1910. In 1925, the newly incorporated Dalhousie Mining Company combined both groups of claims into one property.

Exploration programs were conducted on the Dalhousie claims during 1920 –1922 that resulted in the discovery of two veins named the Iron vein and the Copper vein.

In 1920 an open cut was excavated on the Iron vein at an elevation of 700m which showed the vein to be 2.74m wide and composed of very heavily pyritized quartz containing a little chalcopyrite. An average sample across the vein assayed 7.4g/t Au, 24.8g/t Ag and 1.3% Cu.

The Copper vein crops out at 610m elevation and consists of a quartz breccia with iron and copper sulfides. The vein assayed 2.2g/t Au, 71.3g/t Ag, and 0.30% Cu across 0.9m. Approximately 45m farther along, the vein it is 0.76m wide and assayed 68.2g/t Ag and 3.2% Cu. At 1,175m elevation an open cut shows a vein 0.61m grading 13% Cu.

The 1927 Ministry of Mines Annual Report stated that underground work included 33.5m of drift and crosscut on the No. 1 vein. The mineralization is up to 20m wide and grading 12.4g/t Au. Just south of the No. 1 showing, a broad gossan trends northwest. At 975m elevation, a 0.9 meter wide zone of silicified greenstone is well mineralized with pyrite and chalcopyrite. A sample assayed 27.4g/t Au, 41.1g/t Ag, and 2.1% Cu across 0.9m.

From **1921 to 1924** a diamond drilling and trenching program was carried out on the northwest trending, steeply dipping quartz-carbonate veins on a ridge immediately south of Mount Shorty Stevenson. Mineralization consists of 5-50% sphalerite-galena with minor pyrite, chalcopyrite, and trace sulphosalts, native silver and/or electrum. Mineralization is spatially related to en-echelon west and northwest trending fault structures within or adjacent to quartz-sericite-pyrite (phyllitic) alteration.

Nick Benkovich discovered this showing in the **1970's** and a small shipment of several hundred pounds was sent to Trail, B.C. for custom milling. Material from the shipment was assayed giving the following results:

**Table 6-1 1970 Assay Results**

% Cu	% Pb	% Zn	Ag g/t	Au g/t
1.47	35.15	19.18	17,107.2	4.98

In **1986**, Moche Resources flew an airborne VLF-EM and magnetometer geophysical survey. This survey identified two well-defined 45-64% VLFEM field strength peaks, interpreted as conductive zones, located south and east of Mount Shorty Stevenson. Magnetometer readings varied up to 1,000 gammas, but mag anomalies had little correlation with VLF-EM anomalies.

In **1990**, Navarre Resource Corp performed diamond drilling, trenching, geological mapping and soil sampling. Work was focused on a 0.5 X 0.2km, northwest trending quartz-sericite-pyrite (phyllitic) alteration zone. This QSP alteration is pervasive some 400m south of Mount Shorty Stevenson. A trench sample of highly silicified pyritic material from the QSP altered zone

returned a value of 186g/t Ag over a width of 80cm. Twenty soil samples from a 150 X 300m area returned average values of over 20ppm Ag and 100ppb Au. A northwest trending, steeply dipping quartz-sulphide vein is located 100m south of the QSP alteration. Trenching this vein gave an assay value of 1.35% Pb, 7.56% Zn, 813.1g/t Ag and 2.67g/t Au. A diamond drill was positioned to cut the QSP zone as well as the NW extension of the quartz-sulphide vein, but it was stopped well short of its target depth due to mechanical problems. The 99 meter drillhole intersected high-grade sulphides in the final 0.2m which gave the following results:

**Table 6-2 1990 Drillhole Assay Results**

From (m)	To (m)	Width (m)	% Pb	% Zn	Ag g/t	Au g/t
98.8	99.0	0.2	0.37	9.24	311.7	1.62

In 1992, Navarre Resource Corp found two new NW trending, steeply dipping mineralized shear zones with the following assays:

**Table 6-3 1992 Drillhole Assay Results**

Width (m)	% Pb	% Zn	Ag g/t	Au g/t
0.5	3.8	9.4	373.2	3.76
0.5	23.1	30.6	398.1	1.31

In 1996, Navarre Resource Corp outlined new showings 1.3km ENE of Mount Shorty Stevenson. These showings are adjacent to crown granted claims, which are part of the Dalhousie showings. The Rock of Ages showings are currently within the MC claim and returned the following assay values:

**Table 6-4 1996 Assay Results**

Width	% Cu	% Pb	% Zn	Ag g/t	Au g/t
0.3 m	0.06	3.21	6.54	201.6	11.26
0.4 m	0.05	3.50	5.74	222.4	11.32
0.3 m	0.05	2.66	5.69	261.6	20.37

The Rock of Ages showings consist of 5-15% sphalerite-galena with minor pyrite, chalcopyrite in a gangue of quartz-carbonate. The high silver and gold are accountable by the presence of trace amounts of tetrahedrite and/or sulphosalts/electrum. The mineralization occurs in NNW trending, steeply dipping shear zones hosted in andesite/dacite tuff/flow, volcanoclastic, and volcanic breccia. A post ore, two meter wide quartz monzonite dyke cuts the andesite/dacite along the shear zone which follows the main creek bed. The Rock of Ages showings that contain the higher precious metal are located between 1,500 to 1,575m elevations. The mineralized shears can be traced for 600m to an elevation 1,200m, where a jasper-chalcopyrite-hematite-magnetite-pyrite bearing, high iron (sulphide and oxide) formation which forms a prominent bluff forming scarp features.

Quartz-sericite-pyrite (QSP) alteration is well developed across a 1.0 X 0.3km. Zone, elongated along a northwest trend. This alteration zone is located in the northeast portion of the MC claim between 1,100 to 1,400m elevations. QSP is locally abundant between in the 1,100 to 1,400m elevation. Adjacent to the QSP alteration, a northwest trending mineralized fault zone is located along Rock of Ages Creek, which contains minor jasper and chalcopyrite with 3-5% disseminated

pyrite. Sub-parallel mineralization peripheral to this fault consists of pyrite-chalcopyrite-galena-sphalerite in a gangue of quartz, carbonate, magnetite, and/or jasper. The lower jasper zone, at 1,200-1,300m elevation, contains 3-5% fracture filling pyrite and sparse chalcopyrite.

The following results were obtained from stream sediment sampling on the MC claim (1999):

**Table 6-5 1999 Stream Sediment Sample Results**

SAMPLE #	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)
54431	176	41	477	1.2	85
54432	40	29	306	0.4	70
54433	38	92	443	2.2	110
54434	75	101	557	0.6	15
54435	70	32	206	0.6	35
54436	105	51	351	0.4	29
54437	31	127	366	1.2	9
54438	42	206	483	3.5	20

Stream sediment results show that the three creeks draining the northeast portion of the claim (close to the old Rock of Ages crown grants) have higher Au values as well as the highest Cu value. The central and southern portion of the claim has relatively higher Pb and Ag values which correspond to the elevated silver values obtained from previous rock and soil geochemical analysis from the Mt. Shorty Stevenson area.

Prospecting, trenching, diamond drilling and soil geochemistry from previous work programs have outlined several veins located east and northeast of Mount Shorty Stevenson. These silver and gold bearing veins occur near a major stratigraphic break between Lower Jurassic and Middle Jurassic volcanics and sediments that are proximal to Jurassic Texas Creek granodiorite intrusive rocks. This unconformity and proximity to the Texas Creek granodiorite are important ore controls of the nearby Silbak-Premier ore which occurs in similar stratigraphy. The strong northwest trending faults east of Mount Shorty Stevenson that forms Dundee and Dalhousie Creeks cut Lower Jurassic stratigraphy and the margin of the Texas Creek granodiorite. This fault is a major air photo lineament and is related to pervasive quartz-sericite-pyrite alteration.

Geological mapping of Rock of Ages mineral zone on the MC claim, between elevations of 1,300-1,550m, confirms gold-silver bearing quartz-sulphide fissure veins which are characterized by weak chlorite-carbonate alteration with adjacent QSP alteration. The QSP alteration is widest and most intense in Dalhousie Creek, at 1,189m elevation, and an area 400m southeast of Mount Shorty Stevenson, at 1,706.8m elevation. The Dalhousie Creek QSP forms a highly visible limonite-rich gossan which hosts two distinct precious metal bearing mineral assemblages:

- 1) Pyrite-chalcopyrite-jasper in quartz-magnetite gangue
- 2) pyrite-chalcopyrite-sphalerite-galena in a gangue of quartz-carbonate

A Tertiary hornblende porphyry dyke system invades most of these mineral zones which are localized along NW trending shear zones. The dykes appear to be post-mineral and quite often split larger veins in two, as an example, 400m southeast of Mt. Shorty Stevenson.



There are two main zones on the MC claim that were defined by fieldwork carried out in **1996 and 1997** which have returned assays up to 4.98g/t Au, 15,707 to 17,107g/t Ag, 1.47% Cu, 35.15% Pb, 19.18% Zn located 200-600m southeast of Mount Shorty Stevenson:

- 1) Rock of Ages Creek at 1,300-1,550m elevation
- 2) High-grade quartz sulphide veins that resemble Silbak-Premier ore

**2000** - Geological mapping was carried out by Fundamental Resources Corp. at a scale of 1:5,000 over an area of 1 X 1.5km in the western portion of the MC claim. This area is steep and ranges from 245 to 1,065m in elevation. Geochemical stream sediment sampling was carried out in the east edge of the claim group. Modified contour grids within a 0.1 X 0.75km area were established in the east portion of MC 2 and the southeast portion of MC to take magnetometer readings.

Geological mapping identified Unuk River Formation andesitic and dacitic tuffs and flows in the west portion of the claim. Numerous quartz-sericite alteration zones occur within the Unuk River volcanic were mapped. These 50-200m wide altered zones are bleached, white-grey colored, and occur along northwest trending fault structures.

Quartz-sericite-pyrite-clay (QSP) phyllic alteration is well developed across a 1.0 X 0.3km zone, located in the northeast portion of the MC claim. QSP is locally abundant between 1,300 to 1,400m elevations. Adjacent to the QSP alteration, a northwest trending mineralized fault zone is located along Rock of Ages Creek, which contains minor jasper and chalcopyrite with 3-5% disseminated pyrite. Sub-parallel mineralization peripheral to this fault consists of pyrite-chalcopyrite-galena-sphalerite in a gangue of quartz, carbonate, magnetite, and/or jasper. The lower jasper zone, at 1,200-1,300m elevation, contains 3-5% fracture filling pyrite and sparse chalcopyrite. The southeast extension of the northwest trending mineralized fault system outcrops in a series of cliffs at a lower elevation, 200-800m, on the cliffs above the Bear River, situated in the east portion of MC 2. A northwest trending quartz-sulphide fissure vein that was located about 500m west of the Bear River on the southeast edge of MC gave the following results:

**Table 6-6 2000 Assay Results**

Claim	Width	% Cu	% Pb	% Zn	Ag g/t	Au g/t
MC	1.0 m	0.63	1.79	9.99	293.8	58.9

This high-grade Zn-Ag-Au showing has an old seven meter long by 1.5 meter wide adit, which was driven at a bearing of 310° into the hillside to trace the quartz-sulphide vein.

A total of four stream sediments were taken in the southeast corner of the MC claim group. Average values of the four samples are listed as follows:

**Table 6-7 2000 Stream Sediment Sample Results**

Sample #'s	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
MC 21-24	85	57	298	1.1	53



These samples demonstrate relatively average values of base and precious metals. There does not appear to be any specific follow up targets developed from this survey.

A total of 82 magnetometer readings were taken along two 500m long, 020 trending grid lines. The grid is located at 600-650m elevation near the north end of the claims about 850m west of Bear River. Magnetometer readings range from 56,346 to 58,377 gammas total field. There were several sharp increase and decrease in readings at the north end of both L 1W and L 2W. There is also an increase in steepness of terrain near the north end of both lines suggesting the anomalies may be enhanced by topography. There is also a NW trend of Tertiary, Portland Canal/Bitter Creek Pluton, related dykes that cut the north end of the magnetometer survey, suggesting that the intrusive, tabular shape, magnetite-enriched bedrock feature would produce bell-shaped or inverted bell-shaped anomalies . The sharp 1,100 gamma increase on the north end of L 1W occurs on the crest of a cliff, suggesting the presence of magnetite in a relatively restricted area, for example, a tabular shaped body of magnetite enriched bedrock.

Dacitic tuff/flow and breccia hosted silicification (quartz, minor jasper) and ubiquitous pyrite, phyllic altered, outcrops which occur in the northeast portion of the MC claim. This gossan cliff area is clearly visible from highway 37A. This gossan zone is the where the Dalhousie and Rock of Ages mineral showings occur. Quartz fissure veins consisting of polymetallic (Cu-Pb-Zn-Ag-Au bearing sulphides in a gangue of quartz are emplaced along steeply dipping NW trending fault/fracture zones. Quartz-sulphide veins occur above and below treeline at elevations ranging from 610-1,373m. In the area of the gossan cliffs in the northeast portion of the MC claim, the treeline dips to its lowest elevation, 915m, relative to the Bear River Ridge treeline which typically varies from 915 to 1,525m elevation. The east portion of the MC 2 claim follows the southeast extension of the Dalhousie/Rock of Ages mineral zone.

**2002** - Fundamental Resources carried out a program of geological mapping, rock chip and stream sediment sampling. Geological mapping traced a well-developed quartz-sericite-pyrite-clay (QSP) phyllic alteration across a 0.5 X 0.3km zone, located in the northeast portion of the MC claim. QSP is locally abundant between 900 to 1,400m elevations. Adjacent to the QSP alteration, a northwest trending mineralized fault zone is located along Rock of Ages Creek, which contains minor jasper, chert, and chalcopyrite, with 3-5% disseminated pyrite. Sub-parallel mineralization peripheral to this fault consists of pyrite-chalcopyrite-galena-sphalerite in a gangue of quartz, carbonate, magnetite, and/or jasper. The Rock of Ages adit is characterized by a jasper, chert, pyrite, chalcopyrite mineralization zone located at 1,200-1,300m elevation. The Rock of Ages adit features a northwest trending steeply southwest dipping quartz fissure vein network with 3-5% fracture filling pyrite and sparse chalcopyrite. The upper portion of the Rock of Ages mineral zone contains lenses and bands of sphalerite and galena with minor chalcopyrite. The southeast extension of the NW trending mineralized fault system outcrops in series of cliffs at a lower elevation, approximately 800m, on the cliffs above the Bear River situated in the northeast portion of the MC claim. This area, referred to as the Dalhousie showings, yielded the following significant mineralized rock chip samples as follows:

**Table 6-8 2002 Assay Results**

Sample #	Width	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
23653	1.0	2079	71	195	15.6	31,800
23654	0.8	1575	126	946	7.3	50,400
23657	1.0	6201	17	211	5.5	4,580

This showing is located near the north edge of the Dalhousie fraction claim and features several localized magnetometer survey anomalies and trench cuts. The high-grade gold-bearing mineral zone is located at 800m elevation, and occurs along the axis of a cross-structure and appears to be the southeast extension of the northwest trending Rock of Ages mineralization located at 1,200-1,300m elevation. Parallel northwest trending mineral zones are well exposed as massive cliffs above the Dalhousie showings and this area corresponds to buff and green schists which contain quartz-sericite-pyrite phyllic alteration. The southeast extension of this extensive QSP alteration zone carries through to the Bear River valley and onto the Dundee claim further southeast.

A total of six stream sediments were taken in the east portion of the MC claim. A table listing geochemical analysis of the six stream sediment samples is as follows:

**Table 6-9 2002 Stream Sediment Sample Results**

Sample #	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
KS-1	83	360	641	1.8	115
KS-2	22	37	211	0.4	35
KS-3	121	41	380	1.0	110
KS-4	1214	62	94	6.8	10,490
KS-5	321	81	599	1.2	180
KS-6	140	218	3130	2.4	240

These samples demonstrate relatively elevated values of base and precious metals. Stream sediment sample KS-4 contains 10.49g/t Au and 0.12% Cu. These anomalous values are likely due to the presence of an adit and trenches located on the Dalhousie fraction claim situated directed above the small creek from where sample KS-4 was taken. Stream sediment samples KS-1 and KS-6 were both taken from large creeks and both samples contain relatively elevated lead and zinc values. It is possible that these anomalous lead and zinc values are derived from the higher elevation areas of the claim where sphalerite and galena mineralization occurs in quartz-sulphide vein networks. In addition to the presence of lead and zinc bearing mineralization occurring in higher elevation zones of quartz-sulphide, there is 1.2m quartz, sulphide vein located at 600m elevation in Dundee Creek which returned a value of 322ppm Pb and 3,045ppm Zn.

**2003-** Fundamental Res Corp completed rock chip sampling from the southeast extension of the NW trending Rock of Ages Creek mineralized fault system, which crops out in series of cliffs at a lower elevation, approximately 800m on the cliffs above the Bear River situated in the SE portion of the MC1 claim. This area, referred to as the Dalhousie showings, yielded the following significant mineralized rock chip samples, as follows:

**Table 6-10 2003 Assay Results**

Sample #	Width (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
Dalhousie						
20572	0.5	3,309	27	314	48.6	1,580
20573	0.6	31,397	158	1,712	254.0	1,980
20574	0.3	5,525	30	76	73.3	48,580
Glacier Zone						
20579	0.9	202	315	193	5.1	4,120
20580	0.9	5,555	456	1,052	27.3	1,580
Southeast Zone						
20582	1.0	254	350	50	126.4	810

**2010** - Geophysical and geochemical fieldwork was carried out on mineral tenure ID # 567077 (Skeena Mining Division) between July 16-22, and Sept 4-10, 2010 by Fundamental Resources for REC Minerals Corp., name changed to Reliant Gold Inc. Fieldwork included geochemical analysis (95 soil, 22 rock samples, 30 element ICP & Au geochemistry), as well as total field magnetometer along a 1.9km north-south oriented grid, for a total of 152 readings at 12.5m spacing. The 1.9km of grid lines were surveyed using GPS and marked with flagging at soil sample stations.

Geological mapping, geophysical magnetometer surveys and geochemical rock and soil sampling was carried out over a 1.6 X 1.2km area in the east-central portion of the MC1 claim. This area is steep and ranges from 750-1,500m in elevation. The upper portion of the fieldwork area is above tree line which is generally at 1,065m elevation. Rock chip sampling, a total of 22 samples, was carried out in six areas:

- 1) Dalhousie, No 1 vein zone, rock sample MC10AR-1, elev 758m
- 2) Rock of Ages, No 3 vein zone, rock samples MC10AR-51 to 60, elev 1102-1295m
- 3) Aztec, rock samples MC10AR-101 and 102, elev 1140-1149m
- 4) Ice 3B, rock sample MC10AR-103, elev 1495m
- 5) Cairn, AKA Carrin, rock sample MC10AR-151, elev 1505m
- 6) Rock of Ages, No 2 vein zone, rock samples MC10AR-201 to 207, elev 822-946m

Quartz-sericite-pyrite-clay, QSP, phyllic alteration, is well developed across a 0.5 X 0.3km zone, located in the east-central portion of the MC1 claim. QSP is locally abundant between 900 to 1,400m elevations. Adjacent to the QSP alteration, a northwest trending mineralized fault zone is located along Rock of Ages Creek, which contains minor jasper, chert and chalcopyrite with 3-5% disseminated pyrite. Sub-parallel mineralization peripheral to this fault consists of pyrite-chalcopyrite-galena-sphalerite-tetrahedrite in a gangue of quartz, carbonate, magnetite, specularite, barite and/or jasper. The mineralization and alteration appear to be localized near the contact of rhyolite flows, overlain by andesitic tuffs. The classification of deposit type includes concordant and stratiform Noranda/Kuroko massive sulphide type (Cu-Pb-Zn-Ag-Au), polymetallic veins and breccia (Ag-Au-Pb-Zn-Cu), and polymetallic manto (Ag-Au-Pb-Zn). The following tables show Cu-Pb-Zn-Ag-Au geochemical analysis results from Eco-tech Labs:

**Table 6-11 2010 Assay Results**

Area / Sample	Sample Width	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
Dalhousie L4924 No 1 Vein Zone						
MC10AR-1	18cm	20030	3	20	26.5	235
Rock of Ages L4940 No 2 Vein Zone						
MC10AR-201	sub-crop	30	27	138	0.7	45
MC10AR-202	85cm	10,800	432	738	12.8	570
MC10AR-203	55cm	24	9	34	0.2	40
MC10AR-204	38cm	13,100	3	42	82.3	19,560
MC10AR-205	sub-crop	438	183	30	15.4	860
MC10AR-206	85cm	18,600	12	122	36.7	1,540
MC10AR-207	20cm	326	54	34	20.1	1,200
Rock of Ages L4940, L4938 No 3 Vein Zone						
MC10AR-51	sub-crop	50	36	244	1	15
MC10AR-52	22cm	464	33900	151000	66.5	85
MC10AR-53	55cm	410	936	4696	6.2	40
MC10AR-54	20cm	268	4776	6888	4.7	10
MC10AR-55	15cm	14	150	248	3.1	80
MC10AR-56	55cm	114	2695	7188	9	65
MC10AR-57	sub-crop	74	75	5300	2.1	15
MC10AR-58	sub-crop	110	11700	8276	24	30
MC10AR-59	32cm	990	30	5362	3.3	55
MC10AR-60	sub-crop	160	36	460	2.6	20
Cairn (AKA Carrin)						
MC10AR-151	20cm	68	208000	94700	228	10800
Aztec (SE Zone)						
MC10AR-101	20cm	28900	3	226	39.4	120
MC10AR-102	38cm	12800	3	192	36.8	130
Ice 3B (AKA Mt Shorty Ag gossan)						
MC10AR-103	sub-crop	10	27	262	1.9	150

The best gold values were obtained from the Rock of Ages No 2 Vein Zone, sample MC10AR-204. There was also a strong magnetometer and coincident Au-Cu soil anomaly that coincides with this zone and represents a high order follow-up exploration drill target. Silver values in rock chip samples are highest with elevated Pb-Zn, example MC10AR-151, 52, and 58, or elevated Cu values, example MC10AR-204, 206, 101, and 102.

A gold-copper bearing quartz-sulphide vein system was located in the Rock of Ages No 2 Vein Zone defined by rock chip sample MC10AR-204, and supported by Au-Cu in soil geochemical anomalies and total field magnetic anomalies located 100-200m east of the Cu-Au bearing rock sample. These showings occur at an elevation of 775-950m and appear to line up with the northwest trending faults and lineaments of Rock of Ages Creek that exposes the No 3 Vein Zone at 1,180m elevation, the No 3 tunnel, where a prominent 30-80m wide gossan with quartz-sericite-pyrite-clay, phyllic alteration, cuts the northwest trend roughly north-northeast, generally following the elevation contours. The Dalhousie zone continues south-southwest and future work should be directed towards exploring the combined 500m of strike length of the Dalhousie and Rock of Ages No 2 and No 3 Vein Zones gold-enriched copper and iron-bearing mineralized zones, located at 700-1300m elevation.

## 7 Geological Setting and Mineralization

### 7.1 Regional Geology

The MC project lies along the eastern edge of the Coast Crystalline Complex within the western boundary of the Bowser Basin. Rocks in the area belong to the Mesozoic Stuhini Group, Hazelton Group and Bowser Lake Group that have been intruded by apophyses of both Cenozoic and Mesozoic age. Portions of the Stewart area are underlain by Triassic age Stuhini Group. The Stuhini Group rocks are either underlying or in fault contact with the Hazelton Group. These Triassic age rocks consist of dark gray, laminated to thickly-bedded silty mudstone, and fine- to medium-grained and locally coarse-grained sandstone. Local heterolithic pebble to cobble conglomerate, massive tuffaceous mudstone and thick-bedded sedimentary breccia and conglomerate also form part of the Stuhini Group.

At the base of the Hazelton Group is the lower Lower Jurassic Marine (submergent) and nonmarine (emergent) volcanoclastic Unuk River Formation. This is overlain at steep discordant angles by a second, lithologically similar, middle Lower Jurassic volcanic cycle (Betty Creek Formation), in turn overlain by an upper Lower Jurassic tuff horizon (Mt. Dilworth Formation). Middle Jurassic non-marine sediments with minor volcanics of the Salmon River Formation unconformably overlie the above sequence.

The lower portion of the Jurassic Unuk River Formation forms a north-northwesterly trending belt extending from Alice Arm to the Iskut River, BC. Grove (1971) describes this formation as being green, red and purple volcanic breccia, volcanic conglomerate, sandstone and siltstone with minor crystal and lithic tuff, limestone, chert and minor coal. Also included in the sequence are pillow lavas and volcanic flows.

The Texas Creek Plutonic Suite in the Stewart-Unuk-Iskut area is comprised of a group of Early Jurassic granodioritic stocks, dykes, sills and a batholith. Alldrick (1993) believed the suite to be emplaced in a shallow volcanic setting below and within coeval andesitic stratovolcanos. The Premier Porphyry Dykes, dated at  $194.8 \pm 2$  Ma, are characterized by potassium feldspar megacrysts and plagioclase and hornblende phenocrysts in a fine-grained to aphanitic groundmass (Alldrick, 1993). Only the lower members of the Unuk River Formation are cut by the dykes, which are thought to be subvolcanic feeders to the extrusive Premier Porphyry Member. The dykes are generally altered to a sericite±carbonate±chlorite±pyrite assemblage and are spatially associated with district mineralization.

In the Stewart area, the Early to Middle Eocene Hyder Plutonic Suite consists of a batholith and satellite stocks and dykes lying east of the main Coast Plutonic Complex. The Hyder plutonic rocks are thought to be genetically related to the Coast Plutonic intrusives having similar mineralogy and textures. The Hyder Dykes form prominent swarms of regional extent and are randomly distributed, isolated dykes, particularly along the Portland Canal dyke swarm. Four dyke phases were recognized by Alldrick (1993): granodiorite porphyry, aplite, microdiorite, and lamprophyre dykes.

The Hazelton Group has been folded into north-northwest trending, doubly-plunging syncline/anticline pairs with sub-vertical axial planes. Clastics of the Salmon River Formation



occupy the cores of the synclines and display disharmonic tight to isoclinal folds at many scales (Alldrick, 1993).

Faults are abundant at both local and regional scales in the Stewart area. Alldrick (1993) described five groups of major faults:

- regional-scale: north-striking, subvertical, ductile to brittle faults;
- northerly-striking: moderately west-dipping normal and reverse faults;
- southeast to northeast-striking brittle, subvertical "cross" faults with strong but narrow foliation envelopes and up to a kilometer of lateral offset;
- decollement surfaces or bedding plane slips near the base of the Salmon River Formation, due to ductility contrast with underlying dacitic volcanics during folding;
- mylonite bands at various orientations, a few meters wide at most.

This belt of Hazelton Group rocks is host to numerous precious and base metal deposits in a variety of geological settings including past producers such as Anyox; Snip; Scotty Gold; Granduc; and Premier-Big Missouri mines, as well as the recently closed Eskay Creek Mine. In addition, resources or reserves have been reported from a number of other properties including Silver Coin, Big Missouri-Martha Ellen, Red Mountain, and Brucejack Lake–Sulphurets Creek-Mitchell Creek. Also included are the Homestake Ridge area and Georgia River.

Deposits within the belt have been divided into two main, distinct groups on the basis of metal suites and age. The first group includes the numerous Au-Ag±Cu vein and porphyry deposits that are associated with 193-198 Ma porphyritic intrusives of the Texas Plutonic Suite. The second includes Ag-rich, galena-sphalerite vein systems related to biotite-granodiorite intrusions of Middle Eocene age. Massive sulphide deposits are also present in different ages of the Jurassic volcanic rocks including the Anyox and Granduc deposits which are considered to be Besshi type VMS deposits in the Unuk River Formation.

The Eskay Creek Mine is a VMS deposit with epithermal gold-silver over-printing in the Salmon River Formation just at the contact with the Mount Dilworth Formation. The BA project is a Kuroko-type VMS deposit that has been explored in the Salmon River Formation just above felsic rocks analogous with the Mount Dilworth Formation.

Figure 4 shows the location of the MC Property relative to the deposits at Premier, Silver Coin, Sulphurets and Brucejack Lake within the Stewart area.



## 7.2 Property Geology

The majority of the property is underlain by Lower Jurassic Unuk River Formation green, red, and purple volcanic breccia, conglomerate, crystal and lithic tuffs, sandstone, and siltstone. Early Jurassic Texas Creek granodiorite cuts the Unuk River Formation on the southeast portion of the claim group. The Middle Jurassic Betty Creek Formation green, red, purple, and black volcanic breccia, hematitic volcanoclastics, andesitic to dacitic tuffs and flows, Mount Dillworth Formation rhyolite, and Salmon River Formation siltstone-sandstone sequence unconformably overlies the Unuk River Formation near the summit of Mount Shorty Stevenson. Well preserved primary volcanic textures such as devitrified glass, pumice conglomerates, crystals of feldspar, and broken quartz-jasper fragments with feathery and wispy edges occur within dacitic volcanics located on Bear River Ridge north of Mount Shorty Stevenson. This sequence is cut by several northwest trending Tertiary andesite-dacite dykes 1-10 meters in width. Bedrock mapped on the MC consists mainly of Unuk River Fm. volcanoclastics cut by northwest trending mineralized and silicified shear zones.

Geological mapping identified Lower Jurassic Unuk River Formation andesitic tuffs and flows in the east portion of the claim in the 600-1,300 meter elevation range. Abundant hematite occurs as 1-20 meter wide bands and lenses intercalated in the volcanic sequence. This hematite occurs with disseminated pyrite and minor chalcopyrite adjacent to northwest trending and southwest dipping quartz-sericite-pyrite (phyllic) alteration. Numerous quartz-sericite alteration zones occur as bands and lenses within the Unuk River volcanics. These 50-200m wide altered zones are bleached white-grey colored and occur along northwest trending fault structure.





There are at least **7 separate areas of mineralization** on the MC 1 & 2 claims.

The **Palmey showings** are located on the southern portion of the property near the northern edge of the Texas Creek intrusive body. The showings occur along a fault zone approximately 150m south of Dundee creek that contains a significant amount of quartz-sulfide mineralization in places.

The mineralization consists of three main quartz replacement zones from 0.6 -4.6m wide that strike northwesterly and dip southwesterly. The two most northerly zones converge towards each other and possibly junction at 1,463m elevation.

Associated with the quartz and pyrite, are galena, sphalerite and a minor amount of chalcopyrite that is best exposed over a width of 2.5m in a trench at 1,200m elevation. The lead and zinc mineralization in the trench is fairly high-grade but the zone is cut off by a fault immediately below it and the faulted extension has not been located.

The **Southeast Zone showings** are also located in the southern area of the property along the east side of the Texas Creek granodiorite intrusive body, at a lower elevation and to the east of the Palmey showings. The showings occur along and near the west side of the major shear zone that trends northwesterly across the property. Several showings are located at the 800m elevation, one of which returned an analysis of 126.4ppm Ag and 810 ppb Au across 1.0m, but the highest gold values are from a polymetallic quartz-sulfide vein that is exposed in a 7m long adit at the 336m elevation. A chip sample from the vein in the adit assayed 53.50g/t Au, 270.60g/t Ag, 0.63% Cu, 1.78% Pb and 9.99% Zn across 1m.

The **Ice 3A & 3B and Glacier-PRE showings** occur towards the western side of the property at high elevations along the upper slope of Bear River Ridge. The showings consist of several silver and gold bearing quartz-sulfide veins that are spatially related to an echelon west and northwest trending fault structures within or adjacent to quartz-sericite-pyrite altered areas. Significantly the **Ice 3B** showing is on the same fault structure as the **Palmey** showings.

Two samples taken from the Ice 3B showings assayed 3.8% Pb, 9.4% Zn, 373.25g/t Ag, 3.76g/t Au across 0.5m and 23.1% Pb, 30.6% Zn, 398.13g/t Ag, 1.31g/t Au across 0.5m. A sample weighing approximately 100kg returned an assay of 1.47% Cu, 35.15% Pb, 17,107.2g/t Ag and 4.98g/t Au.

The **Ice 3B** showing is located 300m southeast of Mt. Shorty Stevenson and hosts significant silver-gold mineralization associated with galena and sphalerite in quartz-carbonate veins and silicified replacement zones. A drillhole was cored into this mineralized zone in 1990 but failed to reach its target depth due to mechanical difficulties.

The **Alpine and Aztec showings** are in the west-central part of the property below the Ice showings.

The **Cairn, Rock of Ages No. 2 & No.3 and Dalhousie No. 1 showings** occur in the north-central portion of the property along the Rock of Ages fault zone.

The **Dalhousie No. 1 and No. 2 showings** occur in the central area of the property.



The **A&T showings** are located along the northeastern boundary of the property.

Many of these mineral occurrences are shear zone and fault controlled quartz and quartz carbonate veins and breccia zones that contain sulfide minerals, predominantly pyrite, with lesser amounts of chalcopyrite, sphalerite, galena and tetrahedrite. A number of these showings are also associated with larger areas of quartz-sericite-pyrite alteration.

There are several distinct styles of sulfide-quartz mineralization on the property. Some are structurally controlled quartz-sulfide veins occurring along shear zones across widths up to 2m while others are quartz-sulfide replacement zones where silicification and pyrite are developed across widths of 100m - 300m. Many of the showings are associated with areas of bleached country rock with secondary sericite, quartz and pyrite adjacent to zones of structural cataclasis.

As well, there are at least two gold enriched massive pyrite, pyrrhotite, chalcopyrite, magnetite and jasper horizons that occur along or near the contact between andesite and rhyolite flows and have been interpreted to be volcanogenic in origin.

Alternatively these horizons may have been favourable beds for replacement or skarn mineralization that could have originated from an underlying intrusive source related to the Texas Creek granodiorite or the Bitter Creek diorite. The structurally controlled quartz sulfide vein mineralization may have been remobilized along structures that intersected the previously mineralized horizons.

If this hypothesis is correct it raises the possibility for porphyry copper-gold mineralization to occur in an underlying intrusive body.

The **A & T showings** lie between 700m and 1,000m elevation about 200m north of the Rock of Ages showings. Assays reported from these showings include 5.60g/t Au, 40.44g/t Ag and 2.7% Cu over 0.91m 0.62g/t Au, 267.49g/t Ag and 4.6% Cu over 1.68m. A showing at 900m elevation is an irregular area of chalcopyrite mineralization that occurs in several places over a zone width of about 21.3m.

The **Glacier Zone** contains numerous northwest trending lenticular quartz-sulfide fissure veins that are from 0.1 - 1.0m wide and are located at the 1,100 - 1,200m elevations along the west side of the major shear zone and on strike with the Southeast zone showings.

Two samples taken from Glacier zone veins returned analyses of 5.1ppm Ag, 4.12ppm Au across 0.9m and 27.3ppm Ag, 1.58ppm Au across 0.9m.

The **Rock of Ages showings** are located at the same elevation as the Glacier showings but along the east side of the major shear zone and in a parallel structure called the forms the Rock of Ages Creek fault zone. The showings consist of 5-15% sphalerite-galena with minor pyrite-chalcopyrite in a gangue of quartz-carbonate. The high silver values are due to tetrahedrite and sulphosalts/electrum. This mineralization is located at the 1,200 - 1,300m elevation and occurs in NNW trending, steeply dipping shear zones located adjacent to the Rock of Ages fault zone.

Two samples taken from these showings assayed 0.06% Cu, 3.21% Pb, 6.54% Zn, 201.6g/t Ag, and 10.14g/t Au across 0.3m and 0.05% Cu, 2.66% Pb, 5.69% Zn, 261.58g/t Ag, 20.37g/t Au across 0.3m.



The **Dalhousie No. 1 showing** is located on one of the volcanogenic, replacement horizons and is 37m long by 7m wide. A blast trench across this zone of the mineralization assayed 13.69g/t Au over 6m.

Three rock chip samples were taken from the **Dalhousie showings** that are located between elevations of 750m to 850m along the southeast extension of the Rock of Ages fault zone. These samples returned assays of 31,800 ppb Au over 1m, 50,400 ppb Au over 0.8m and 4,580 ppb Au over 1.0m.

## 8 Deposit Types

The project area is considered prospective for a number of deposit types. The possible deposit types for the MC Property are as follows:

### “Intrusion-Related Thermal Aureole Gold-Copper Veins and Stockworks”

These intrusion-related deposits are characterized by shear-hosted, quartz-pyrite veins and stockworks within, and marginal to, the Texas Creek intrusions. These intrusions also include pyritic breccias along the intrusive contacts. Mineralization deposition appears to be syn-intrusive in timing and forms along the thermal, brittle-ductile transition envelope surrounding the subvolcanic intrusions. Late magma movement may have generated the locally-observed shearing and fracturing. Convecting hydrothermal fluids may have then precipitated gold-rich iron sulphides and gangue as en-echelon vein sets and stockworks. Metal and alteration patterns are consistent with the distal portions of a porphyry Cu-Au system.

Alteration consists of an inner potassic zone of sericite-pyrite-quartz and an outer potassic zone where pyrite is replaced by pyrrhotite. Anomalous (>0.3g/t Au) gold-silver mineralization develops at the transition from the pyrite to the pyrrhotite-dominant alteration zones. Other local examples of this type of precious minerals depositing environments include the Snip Gold Mine (960,000 t @ 28.5g/t Au) and Johnny Mountain (207,000 t @ 14.1g/t Au).

### “Low Sulphidation Epithermal Gold-Silver Veins and Breccia Veins”

Epithermal gold-silver base metal veins and breccia veins are closely linked to structures and intrusions of the Early Jurassic Texas Creek plutonic suite. These deposits are formed from many pulses of mineralizing fluids thought to emanate from the cupola zone above a local dome in the underlying Texas Creek batholith. Mixing of cool, meteoric groundwater with hot, sulphur, chlorine and metal-bearing magmatic fluids is the most likely mechanism for base metal and gold-silver deposition. The deposits form shear hosted, en-echelon sets of quartz-carbonate-chlorite-K-Feldspar+/-sulphide veins developed at the faulted margin of intrusions, as vein stockworks peripheral to breccia zones, and as complex quartz-carbonate+/-sulphide cemented breccia veins. Alteration is characterized by an inner siliceous zone, followed by an outer potassic (sericite) zone and more distal carbonate and chlorite zones. Examples of this deposit style include the Silbak Premier deposit and historic mine (5.88 Mt with an average grade of 10.6g/t Au and 227g/t Ag) and Big Missouri 768,943 t with an average grade of 2.37g/t Au and 2.13g/t Ag ([www.sedar.com](http://www.sedar.com) – Ascot Resources Ltd.). In the Stewart area, the newly defined Silver Coin deposit is another example of a deposit hosted in low sulphidation epithermal gold-silver veins and breccia veins. It has a measured and indicated resource of 24.1 Mt at a grade of 1.08g/t Au and 5.74g/t Ag and an inferred resource of 32.4 Mt grading 0.78g/t gold and 6.41g/t Ag. ([www.sedar.com](http://www.sedar.com) – Jayden Resources Inc.). The Brucejack Lake deposits also are examples of this type of mineralization. These host a Measured and Indicated 107Mt, grading an average of 2.86g/t Au and 25.8g/t Ag, and an Inferred resource of 600Mt grading an average of 1.09g/t Au and 10.2g/t Ag ([www.sedar.com](http://www.sedar.com) – Pretium Resources Ltd).

“Polymetallic Silver-Base Metal Epithermal Veins Plus or Minus Gold” Sulphide-rich veins containing sphalerite, galena, silver and sulphosalt minerals occur in carbonate and quartz



gangue on the property. These veins can be subdivided into those hosted by meta-sediments and those hosted by volcanic or intrusive rocks. Veins are emplaced along faults and fractures in sedimentary basins dominated by clastic rocks that have been deformed, metamorphosed and intruded by igneous rocks. Galena, sphalerite, tetrahedrite-tennantite, as well as other sulphosalts, native silver, chalcocopyrite, pyrite, arsenopyrite, and stibnite are typical minerals within the veins. Some veins contain more chalcocopyrite and gold at depth. Principal gangue minerals include quartz, calcite, ankerite, chlorite, and subordinate sericite, rhodochrosite, barite and fluorite. The Porter-Idaho property in the Stewart area is an example of this type of mineralization. In 1989, non-compliant 43-101 resources at Porter-Idaho were 826,400 tonnes grading 668.5g/t silver, 5% lead and 5% zinc (BC Minfile). Between 1922 and 1950, 27,268 tonnes of ore were periodically mined from the underground workings of the Prosperity and Porter-Idaho mines. The production came from the D, Prosperity and Blind veins, and averaged 0.986g/t gold, 2692.1g/t silver, 5.08% lead, 3,853% zinc and 0.101% copper (BC Minfile).

#### “Intrusion Related Gold-Silver-Copper Skarns”

Skarn and vein-style mineralization occurs along faults within brittle, calcareous rocks adjacent to Eocene biotite granodiorite to biotite-quartz monzonite. High gold and silver ratios and pyrrhotite dominated sulphide assemblages appear to be characteristic of early Jurassic, intrusive-related, Au-pyrrhotite deposits. The Snippaker Creek skarns are examples of this deposit style.

## **9 Exploration**

Exploration fieldwork in 2017 consisted of geophysical surveying as well as collecting soil and rock samples and prospecting. Daily access to the property for all of the fieldwork was by helicopter based in Stewart, BC and the crews were accommodated at the King Edward hotel in Stewart.

The total cost of all the 2017 exploration work programs was \$303,000.

### **9.1 Geophysical Surveying**

SJ Geophysics Ltd., located in Vancouver, BC, was contracted by Bonanza Mining Corporation to conduct a program of Volterra 3D Induced Polarization chargeability and resistivity surveying as well as ground magnetic surveying on the MC 1 claim.

Sixteen Minfile occurrences have been identified on the MC 1 mineral claim. Fourteen are associated with metallic or polymetallic quartz-sulfide veins containing gold-silver-zinc which are hosted within volcanic-sedimentary rocks, and two are recorded as occurrences of Kuroko style massive sulfides. The mineralization is associated with increased quantities of sulfides.

The objective of the geophysical IP and magnetic surveys was to map the electrical and magnetic properties of the area and investigate whether the near surface mineralized showings are related to each other by a deeper mineralized system.

IP surveys provide measurements for two parameters: resistivity and chargeability. Resistivity data can delineate both electrically resistive and conductive trends and is often helpful in mapping general geology, both lithology and structures, whereas chargeability data maps polarizable rocks, hopefully disseminated sulfides.

A five man field crew carried out the survey from July 6, 2017 to July 29, 2017, which consisted of 11.3 line km of 3DIP surveying and 9.3 line km of ground magnetic surveying on 5 survey lines oriented approximately north 20 degrees east along the east slopes of Mount Shorty Stevenson.

The steep slopes and dense vegetation on the property as well as foggy and cloudy weather caused the survey work to progress much slower than was planned; this resulted in more field days being required and consequently higher costs to complete the survey.

A major creek gully runs northwesterly across the MC property that cannot be crossed on foot and separated the area surveyed into a northern portion and a southern portion. When the north side of the grid was surveyed four dipoles were laid out on the south side of the gully and similarly when the south side of the grid was surveyed four dipoles were laid out on the north side of the gully, this ensured that data was collected across the gully leaving no gaps in the data between the north and south sides.

### **9.2 Results of the Geophysical Surveys**

The following descriptions and discussion of the results of the geophysical surveys are taken directly from the Report on the survey work written by SJ Geophysics for Bonanza Mining.

### 9.2.1 3D IP Chargeability Results

The chargeability models reflect a shift in the background amplitudes between the northern and southern parts of the grid. The contact between the two separate areas follows the main drainage in the vicinity of station 3600N which is a major fault/shear zone structure that strikes northwesterly across the entire MC 1 claim.

There are two small, near surface and low amplitude chargeability pods immediately southwest of this contact. Both are mapped at the ends of the survey line segments and therefore are poorly constrained.

One, located at 2000E/4000N coincides with the Aztec (79918) Minfile occurrence and the second, located near 2600E/3300N, coincides with the Ben Lamond occurrence. There does not appear to be any other chargeability anomalies mapped on the southern section of the survey grid.

The 3D chargeability inversion model maps two main chargeability anomalies (C1 and C2) below the northern section of the survey grid that could represent disseminated sulfide bodies.

Two of the nearby Minfile showings (Rock of Ages Fr. N (80789) and Dalhousie (80734) are flagged as Kuroko style massive sulfides and a third (Rock of Ages Fr. S(80287) as a mineralized vein system. All three of these Minfile occurrences appear to correlate with narrow pipe-like apophyses that extend up from the large buried chargeability masses.

The **C1** anomaly lies at the southern end of the north section of the survey grid and coincides with very high amplitude magnetic spikes. It appears to be comprised of two buried, possibly connected, lobes.

The southern lobe is smaller and closer to surface. It is located near the Dalhousie mineral showing and immediately south of the Rock of Ages #2 copper-gold bearing quartz sulfide vein system.

The northern lobe is larger and could be a north-northwesterly down dip extension of the southern lobe. It appears to be centered some 500m below ground surface.

At a depth of 400m the **C1** anomaly measures 400m by 700m in size.

The **C2** anomaly is located to the north of C1 and appears to be closer to the ground surface. The anomaly appears to be spread out for about 900m along line 2300E and includes four near surface pods.

The southernmost pod lies directly below the Rock of Ages. N Minfile showing. The next pod to the north is notably larger and deeper than the others. This anomaly lies some 300m southeast and downslope from Minfile showing Rock of Ages 6 (80740) and appears to be centered approximately 300m below ground surface.

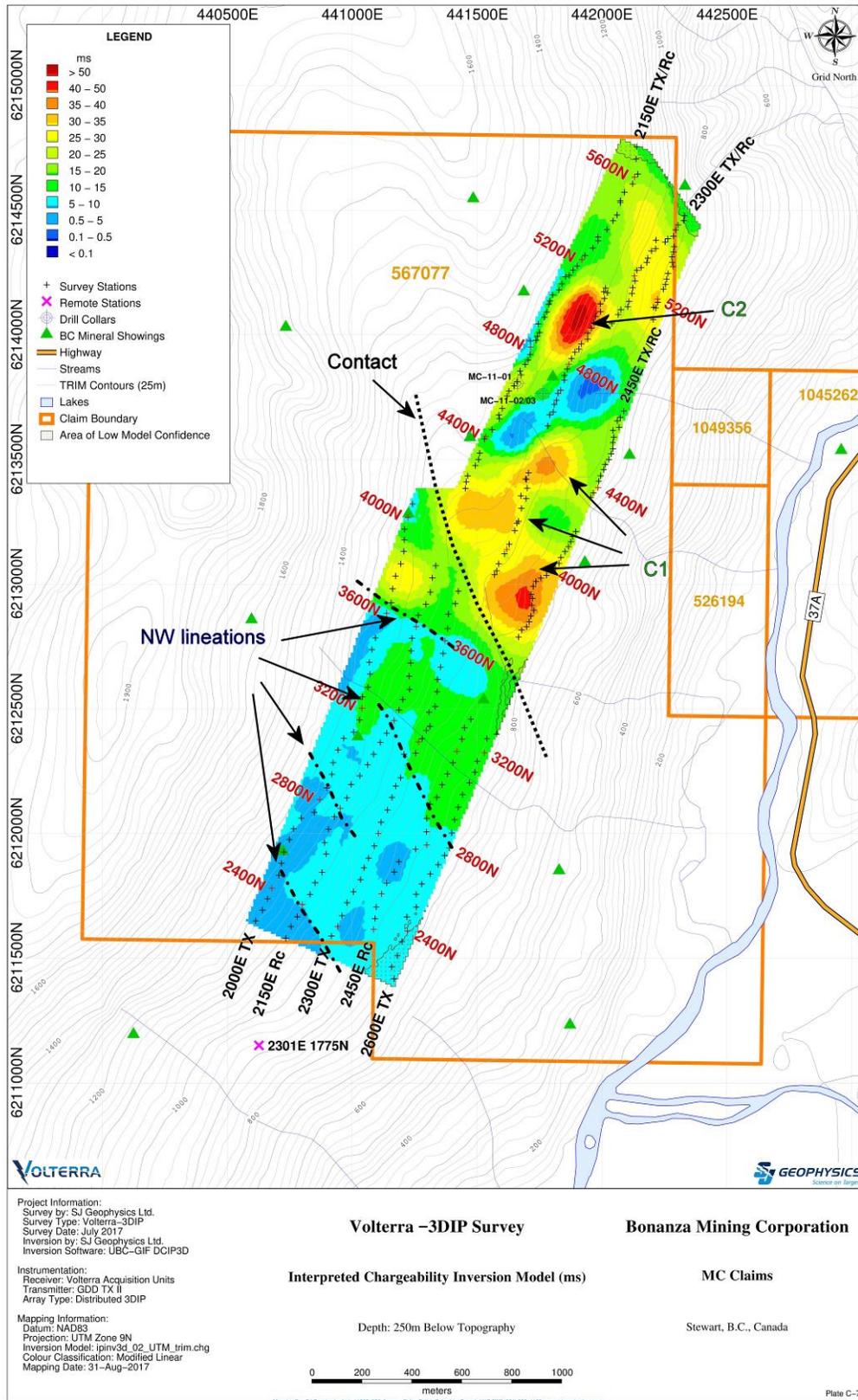


Figure 9-1 Volterra – 3DIP Survey, Anomalies C1 and C2

### 9.2.2 3D IP Resistivity Results

Four separate resistivity zones, **R1**, **R2**, **R3** & **R4**, were outlined by the survey.

**R1** is a high resistivity zone located at the southern end of the south section of the grid. It is different from other features in the area in that it appears to be dipping at a shallow angle to the northeast.

**R2** is a broad zone of moderate resistivity immediately north of R1. It is approximately 1.6km wide and internally appears to be comprised of northwesterly striking bands.

**R3** is a narrow (200m wide) zone of low resistivity that strikes approximately N35W and follows a steep sided drainage named Rock of Ages creek. It is associated with a gap in the IP survey due to inaccessible terrain so it is possible this resistivity response is somewhat questionable. However several of the Minfile showings and localized magnetic spikes are located near the edges of this zone. This zone could represent a fault zone.

**R4** is a very high resistivity zone that covers the northern ends of the survey lines on the north section of the grid.

The R4 zone can be further divided and the inversion model suggests it is comprised of three relatively horizontal or shallow westerly dipping high resistivity (12000 ohm-m) layers **R4a**, **R4b** and **R4c**, which outcrop at three distinct elevations.

**R4a** is located along line 2300E, north of station 5400N at elevation 850m. This layer appears to lie directly above the northern lobe of the C2 chargeability anomaly. There are two or more localized resistive zones mapped along this same elevation to the south near grid coordinate 2450E/4500N and 2600E/2400N.

**R4b** is mapped along line 2150E from station 5200N to the north end of the grid at elevation 1150m. It likely outcrops at surface and extends into the hillside. This zone appears to lie above and to the south of the C2 chargeability anomaly.

**R4c** is mapped from 2300E/4500N to 2150E/5200N at elevation 1250m. This trend appears to plunge shallowly down to the south and may be comprised of two zones. From 2300E/4500N to 2150E/4900N it appears as a 200m wide zone striking close to north where it abruptly changes strike to N20E. It appears to lie directly above the large C1 chargeability pod.

Examination of the conductivity isosurfaces suggests one significant conductive lineation that roughly parallels a 600m section of the line 2300E from 2500N to 3100N. There are no similar responses observed on the adjacent lines and it is unclear whether this feature is real or an inversion artifact.

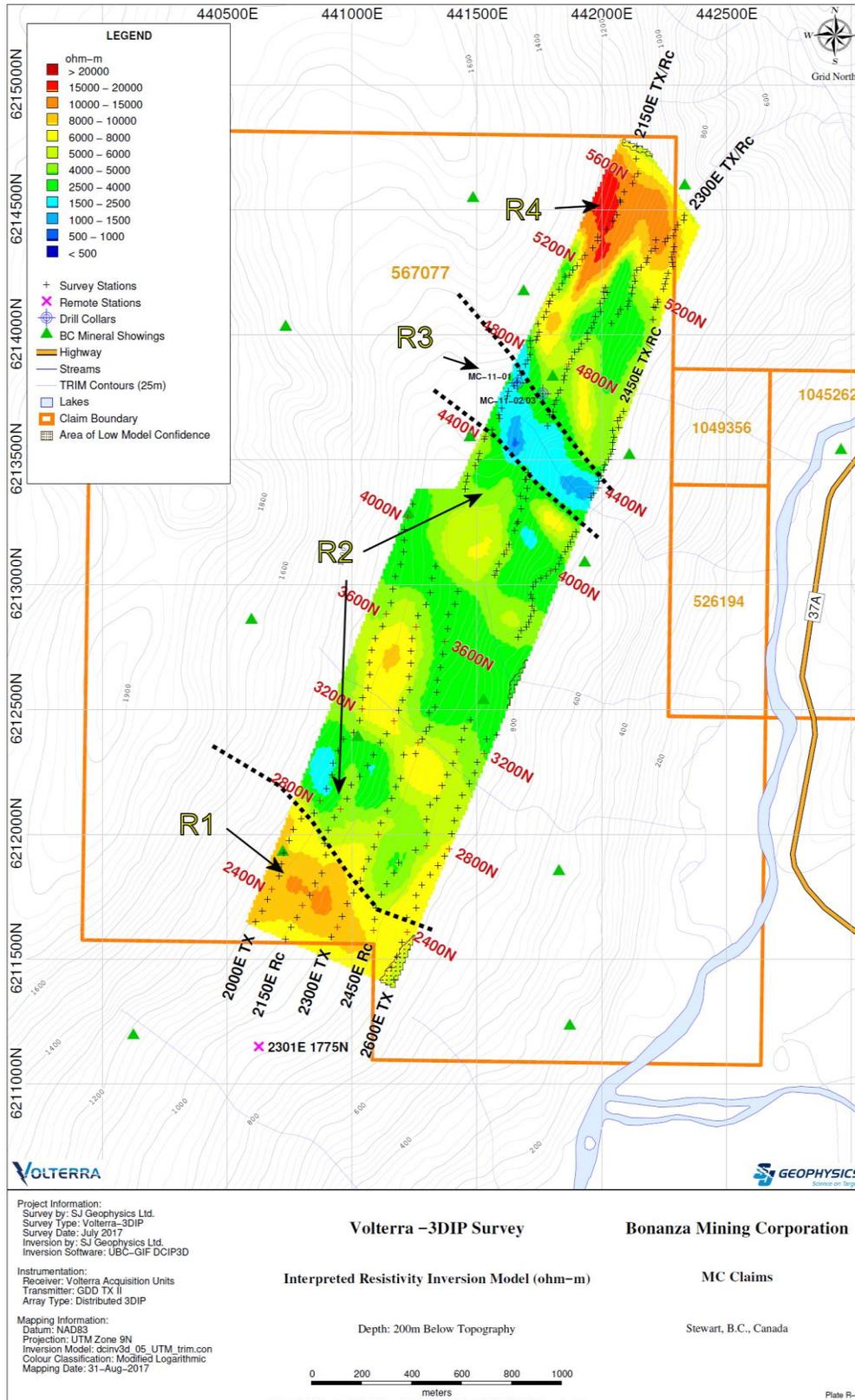


Figure 9-2 Volterra – 3DIP Survey, Anomalies R1-R4

### 9.2.3 Ground Magnetic Results

Total field magnetic intensity data (TFM) was gathered at 10m and 12.5m station intervals along most of the IP survey lines. The limited size of the survey and gaps due to inaccessible terrain, particularly on the north section of the survey grid, did not provide a large or consistent enough set of magnetic data to analyze with the 3D inversion technique.

The magnetic data is relatively noisy, with high frequency variations mapped along the lines. This response is typical of the volcanoclastic rocks underlying the property. This volatility is more pronounced across the northern section of the survey grid.

Although there are numerous high and low amplitude, single station magnetic spikes the data appears to be reliable and of high quality. Unfortunately the survey lines are too far apart to confidently correlate these high amplitude magnetic spikes across the lines.

However the general appearance of the responses suggests that in the southern half of the survey grid, narrow magnetic trends primarily delineate northwest striking features and a couple of east-west trends. In the northern half of the survey grid, small magnetic lows appear to delineate isolated pods.

The magnetic results on the north half of the survey grid support the conclusions from previous work that high magnetic susceptibility rocks are exposed or lie directly below the ground surface. The previous work discovered that the extreme magnetic highs may be related to cross cutting dikes. More detailed magnetic surveying will be required to properly map these anomalies in order to determine whether they occur as isolated pods or comprise larger structures.

There is a distinct shift in the magnetic intensity from lows of (<55750nT) in the southern half of the survey grid to highs of (>55850nT) on the northern half. The precise location of this contact is not clearly delineated, but it appears to run roughly east-west in the vicinity of station 3600N (UTM northing 6,213,000N).

This implies there may be a lithological contact in this area, which is also the location of the large fault zone, marked by a deeply incised glacier filled gully, which runs across the entire MC 1 claim and separates the survey grid into southern and northern halves.

The southern ends of the survey lines 2600E and 2450E skirt the edge of a mapped occurrence of the Texas Creek intrusion that straddles the southern edge of the MC 1 claim. While there are a couple of small magnetic highs that appear to correlate with this feature, one at the south end of line 2600E and another that crosses three lines (2600E, 2450E and 2300E near station 3200N) insufficient data was acquired in this area to confidently associate these responses with the known intrusion.

The interpretation of the magnetic data is that there are small, localized magnetic highs scattered across the area delineate narrow northwesterly and easterly oriented surface trends.

A 3D inversion of the magnetic data was subsequently run on the southern half of the survey grid. This was done because soil sampling in the area had outlined a significant lead, zinc,



copper, silver +/- gold anomaly that coincides with the main magnetic anomaly, centered at station 3200N on lines 2300E and 2450E.

The main magnetic anomaly, a 200m diameter 500nT high centered at 445350E/6212375N (Line 2450E, station 3220), models as a small plug of high susceptibility material. The modeling suggests this plug outcrops and has a limited depth extent, on the order of 35-40m. However the magnetic survey coverage there is limited and the anomaly is not fully delineated. Additional surveying, most critically to the south and east, is required to define the edges of this anomaly.

This information is critical to determining whether the anomaly reflects the northern edge of the large Texas Creek intrusion that occurs there, or is an isolated feature. If it represents an isolated body, the additional data will also help determine the geometry, attitude and depth extent of the source.

A close examination of the magnetic profiles across this anomaly show it is comprised of a number of closely spaced, high amplitude peaks as opposed to a single broad anomaly. This could be indicating the anomaly is due to a concentration of the narrow surface linears seen in the area, and not a separate body as inferred by the inversion model.

From a regional perspective the survey grid is positioned within a northeast elongated magnetic high approximately 15km long and 5km wide.

A regional gravity map of the Stewart area is shown next but its' significance is unclear as the data points are quite widespread and the contours are an inexact extrapolation.

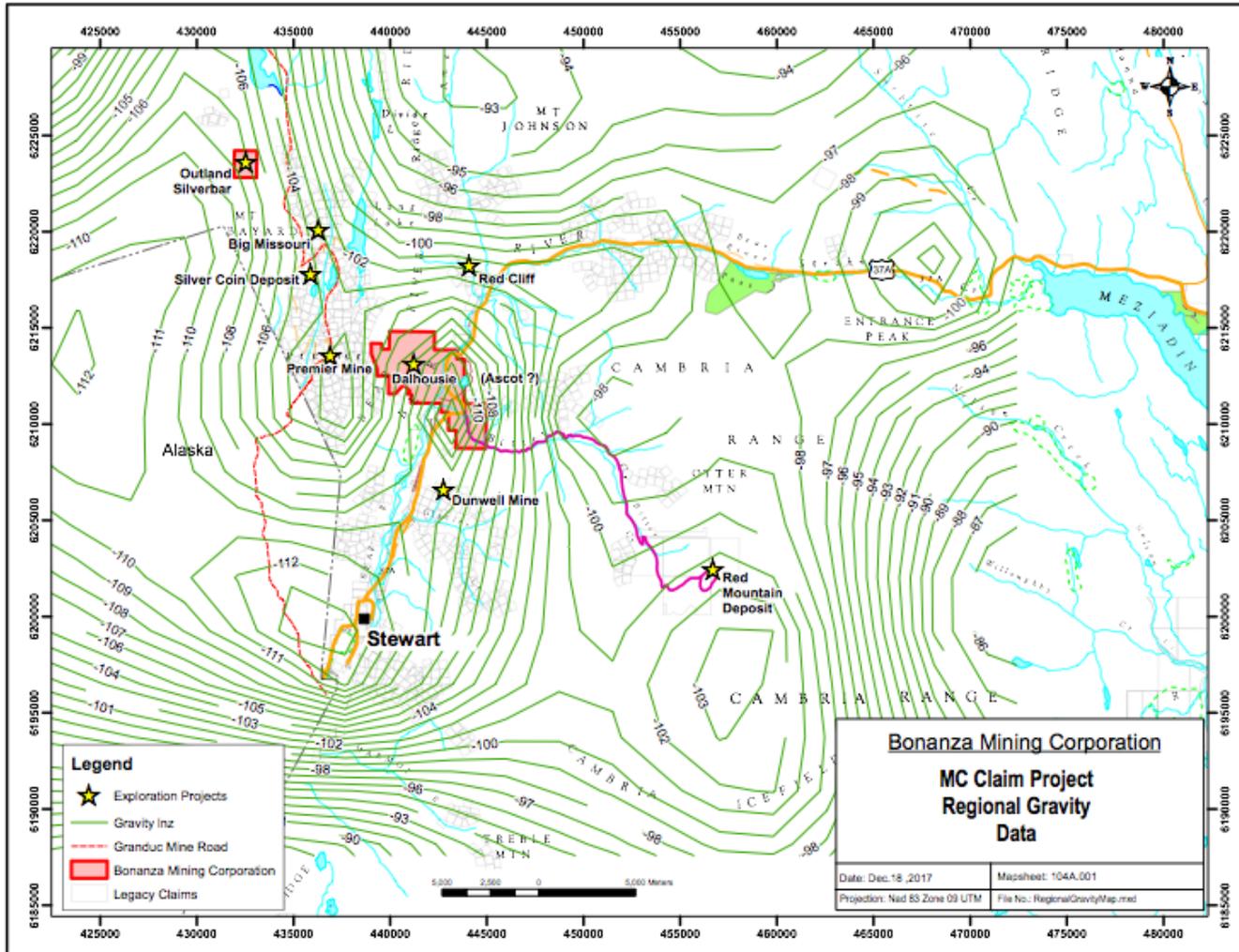


Figure 9-3      Reginal Gravity Data

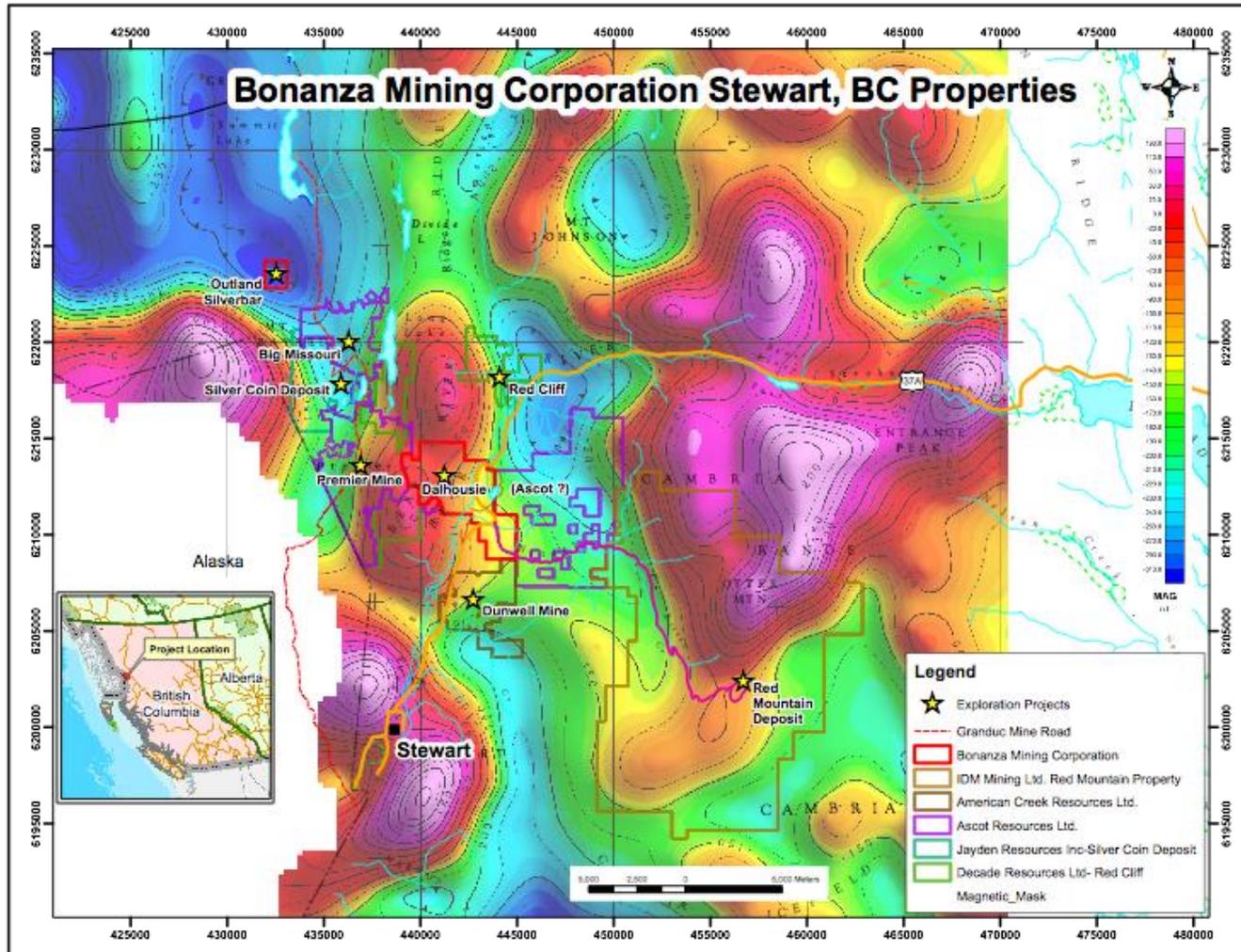


Figure 9-4 Regional Magnetics Data

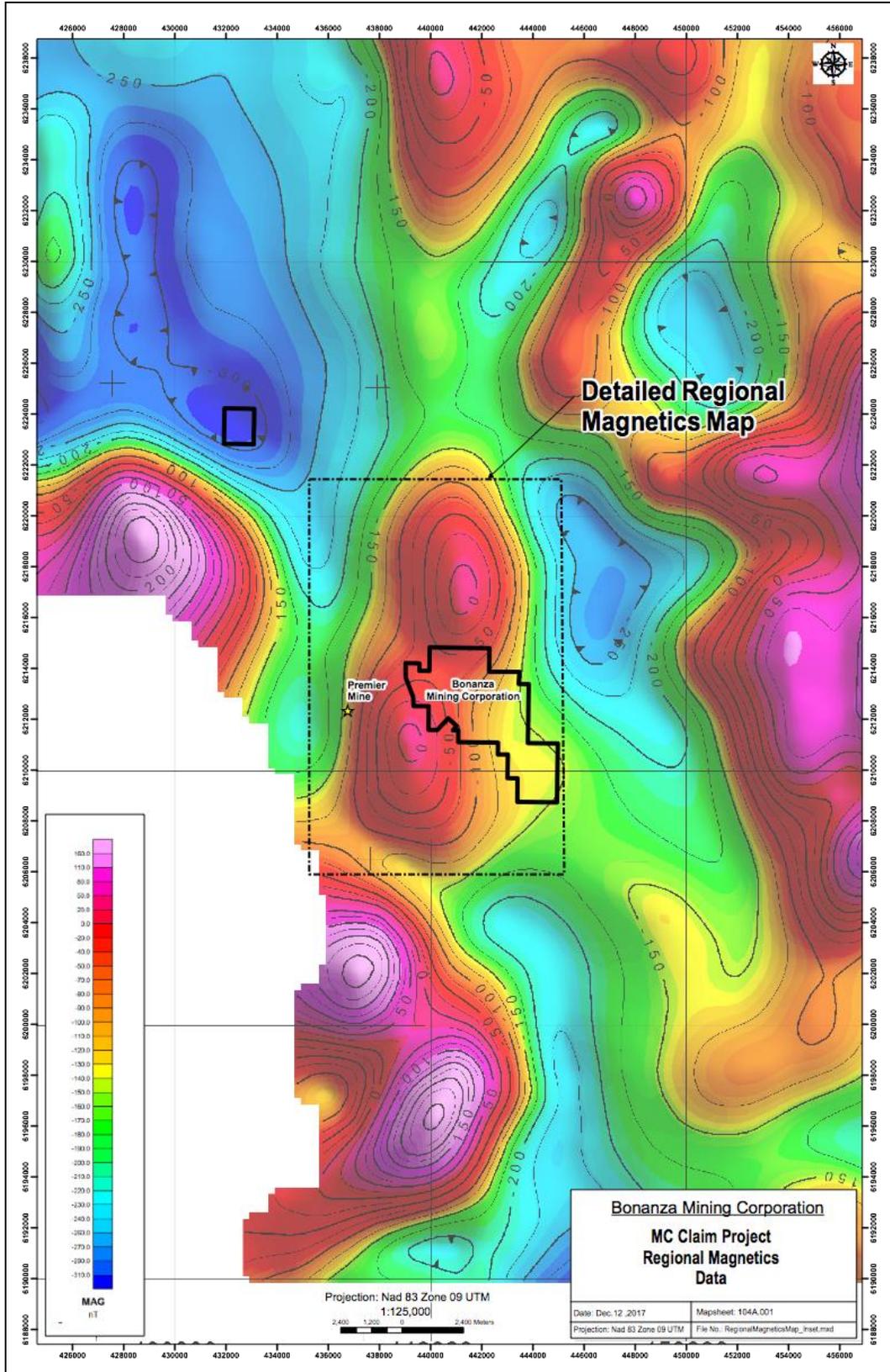


Figure 9-5 Detailed Magnetics Data

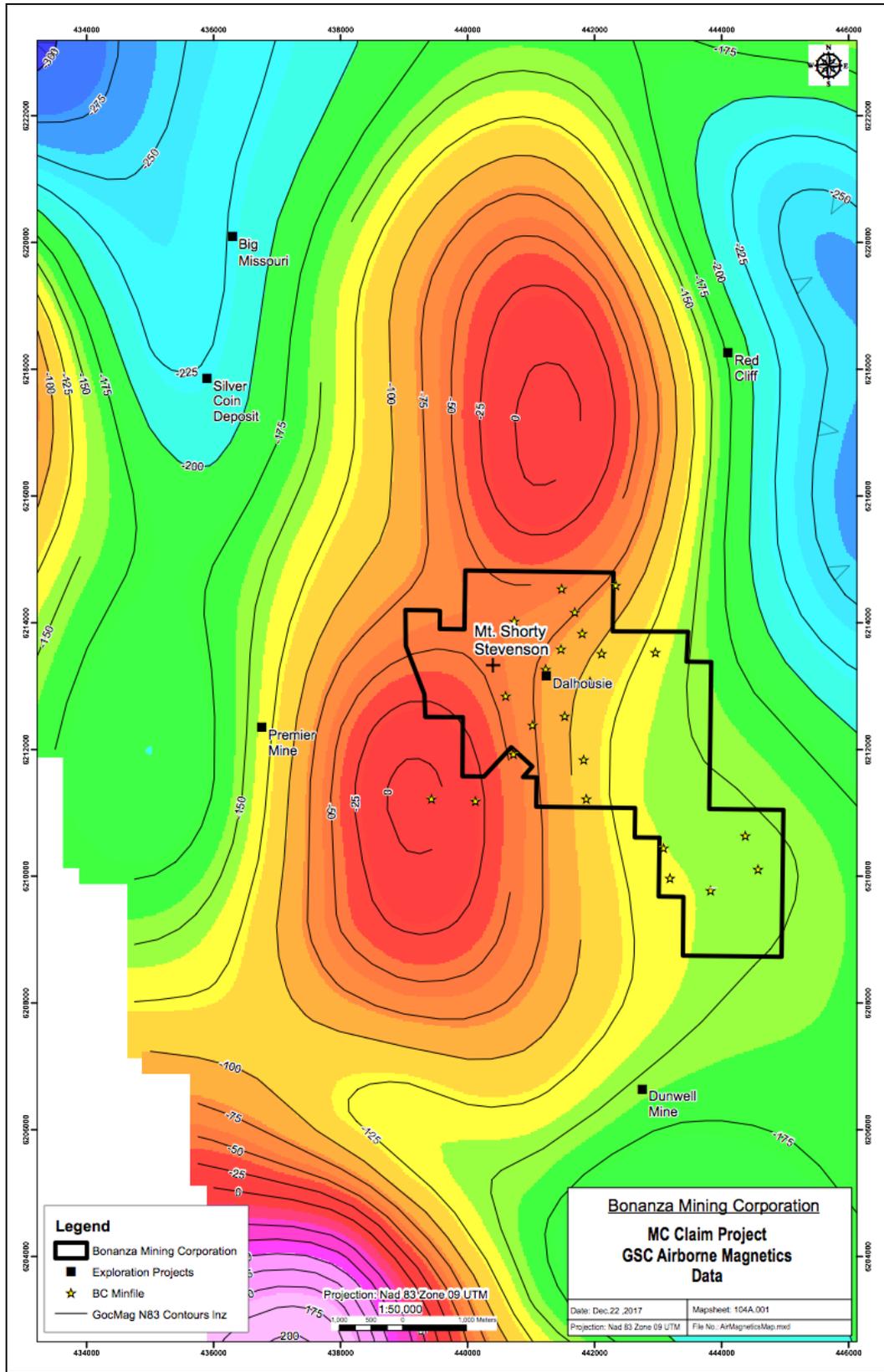


Figure 9-6 GSC Airborne Magnetics Data

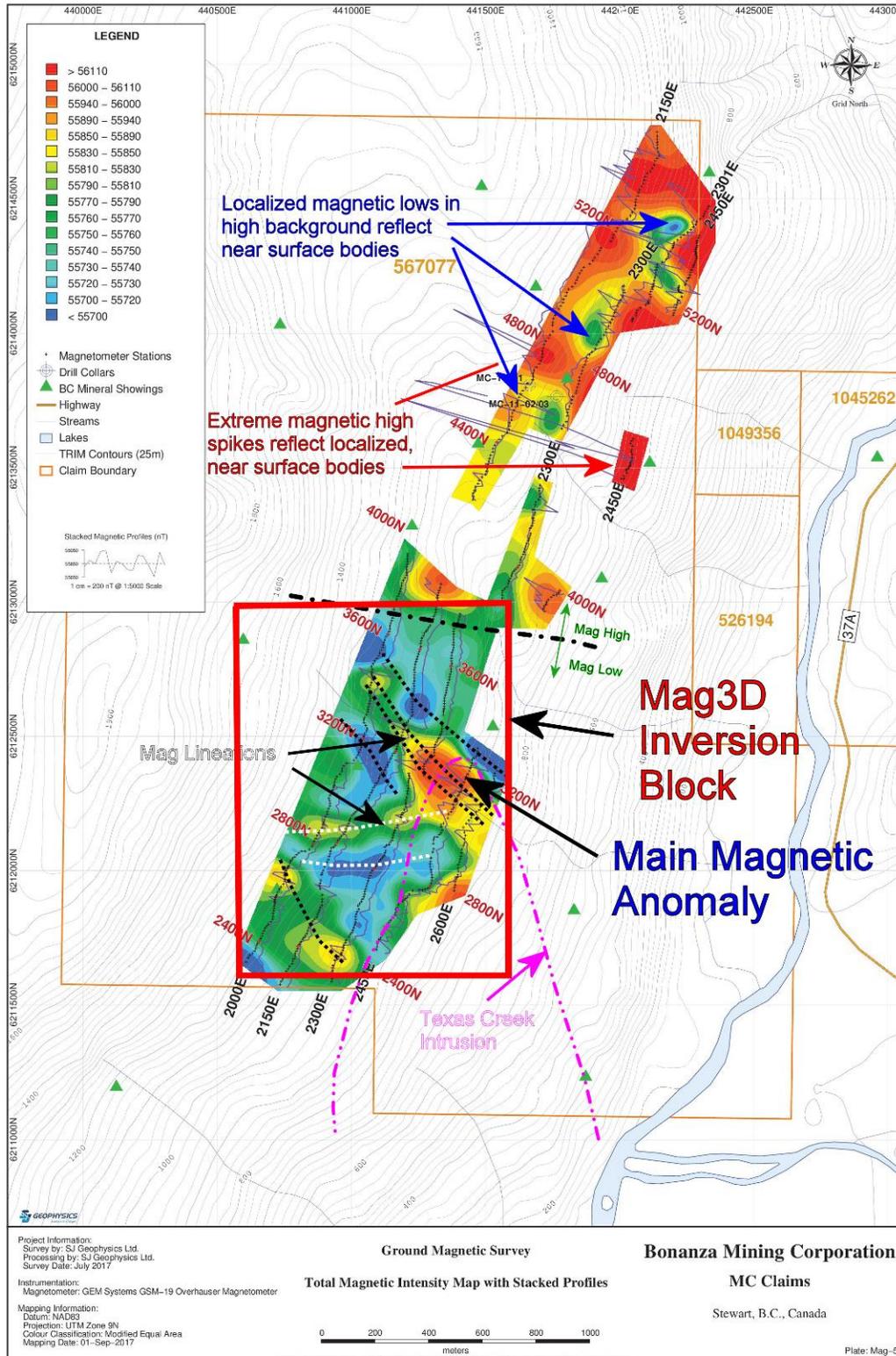


Figure 9-7 Total Magnetic Intensity, A

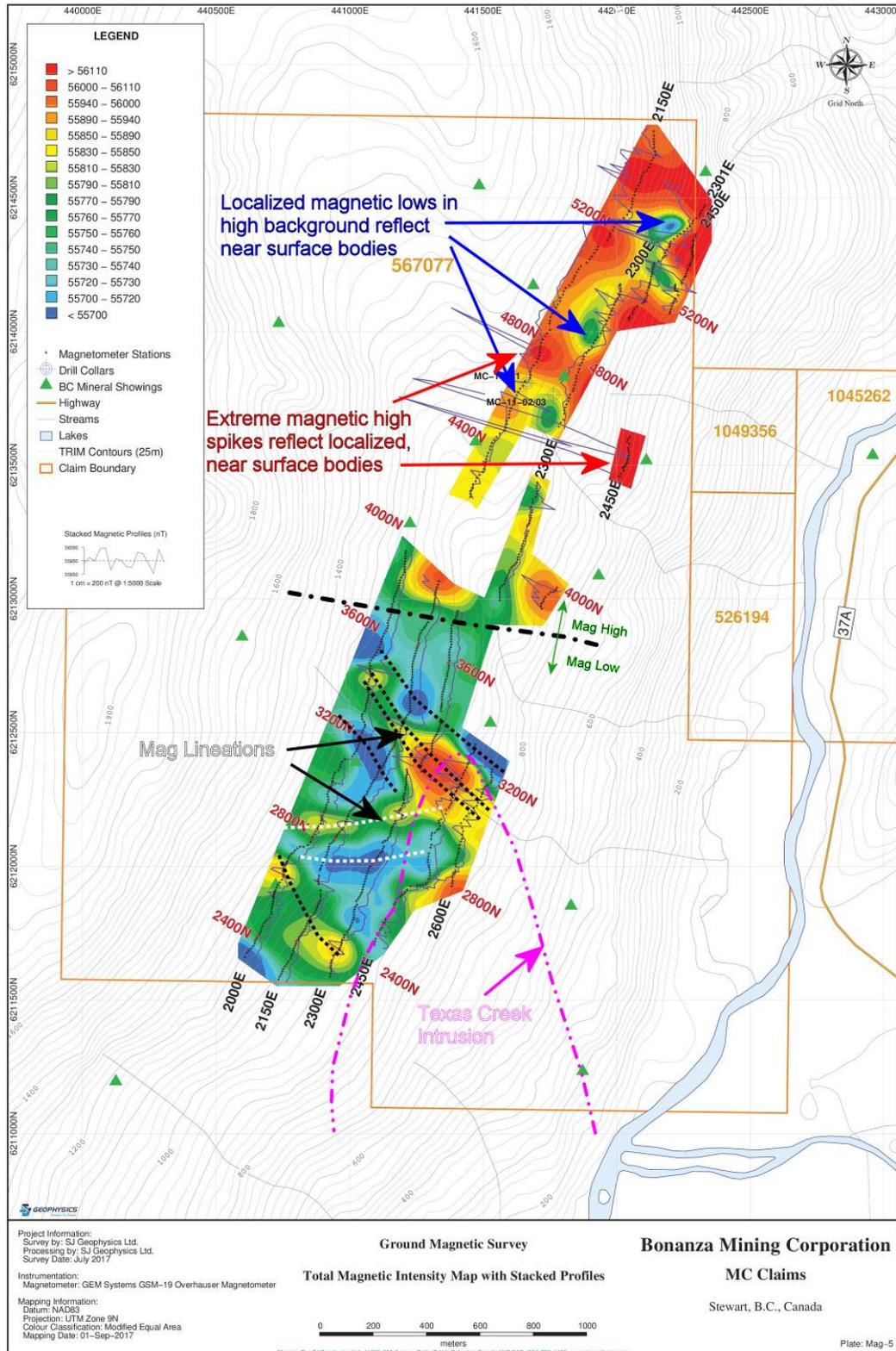


Figure 9-8 Total Magnetic Intensity, B

The following eight drawings are east-west cross-sections through the chargeability and resistivity data and anomalies at 200m intervals from section lines 3800N to 5200N.

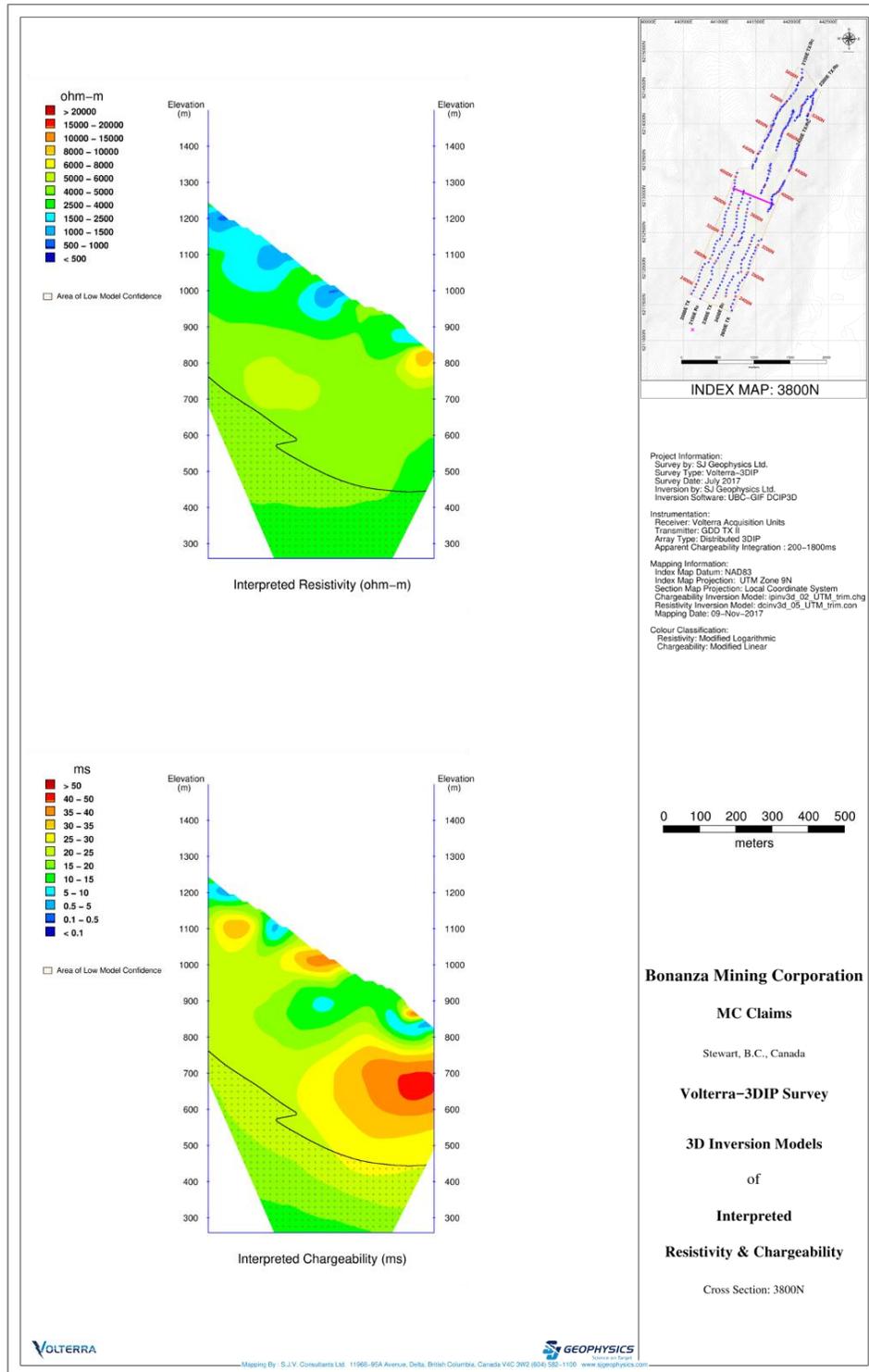


Figure 9-9 3D Inversion Models at 3800N

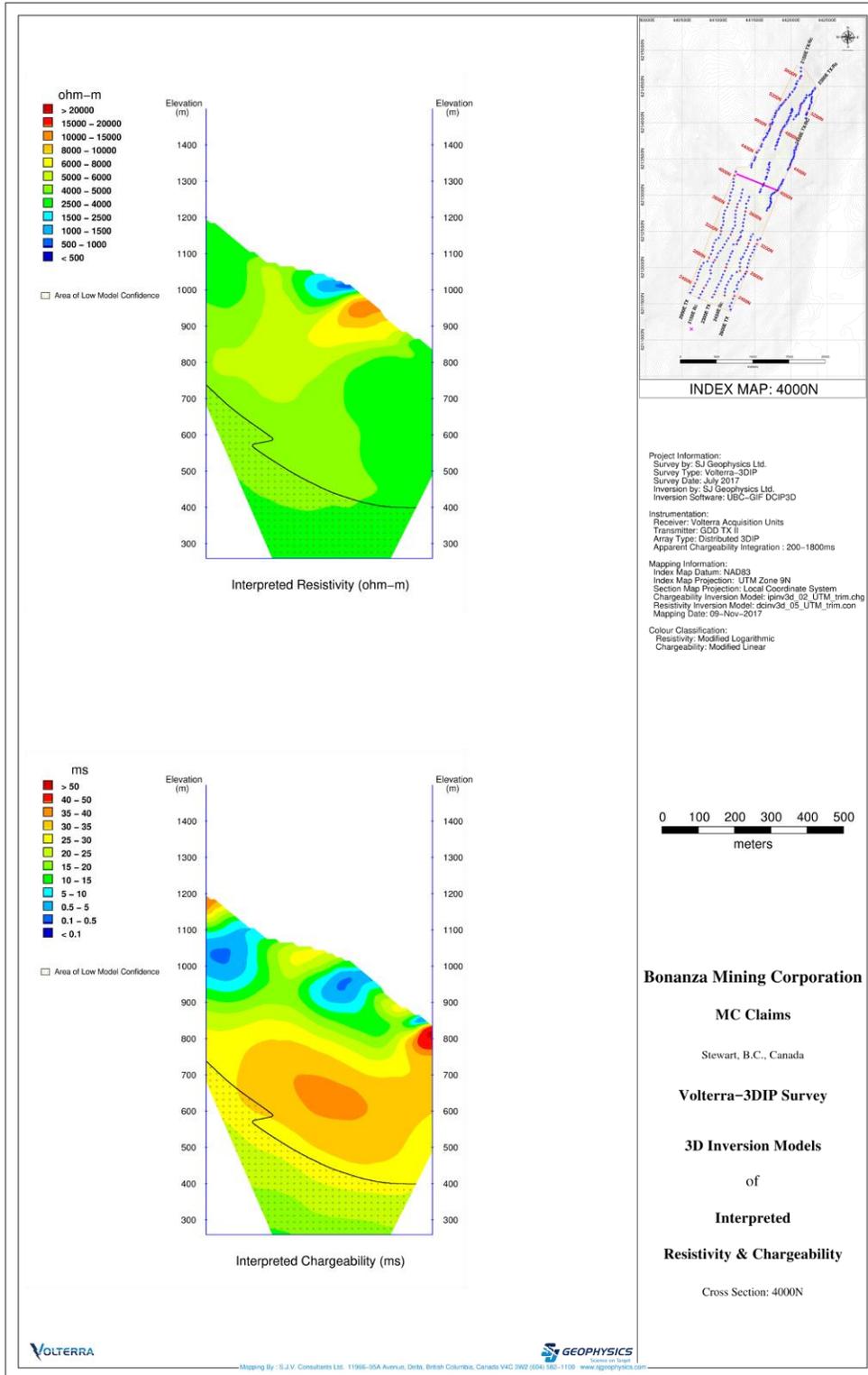


Figure 9-10 3D Inversion Models at 4000N

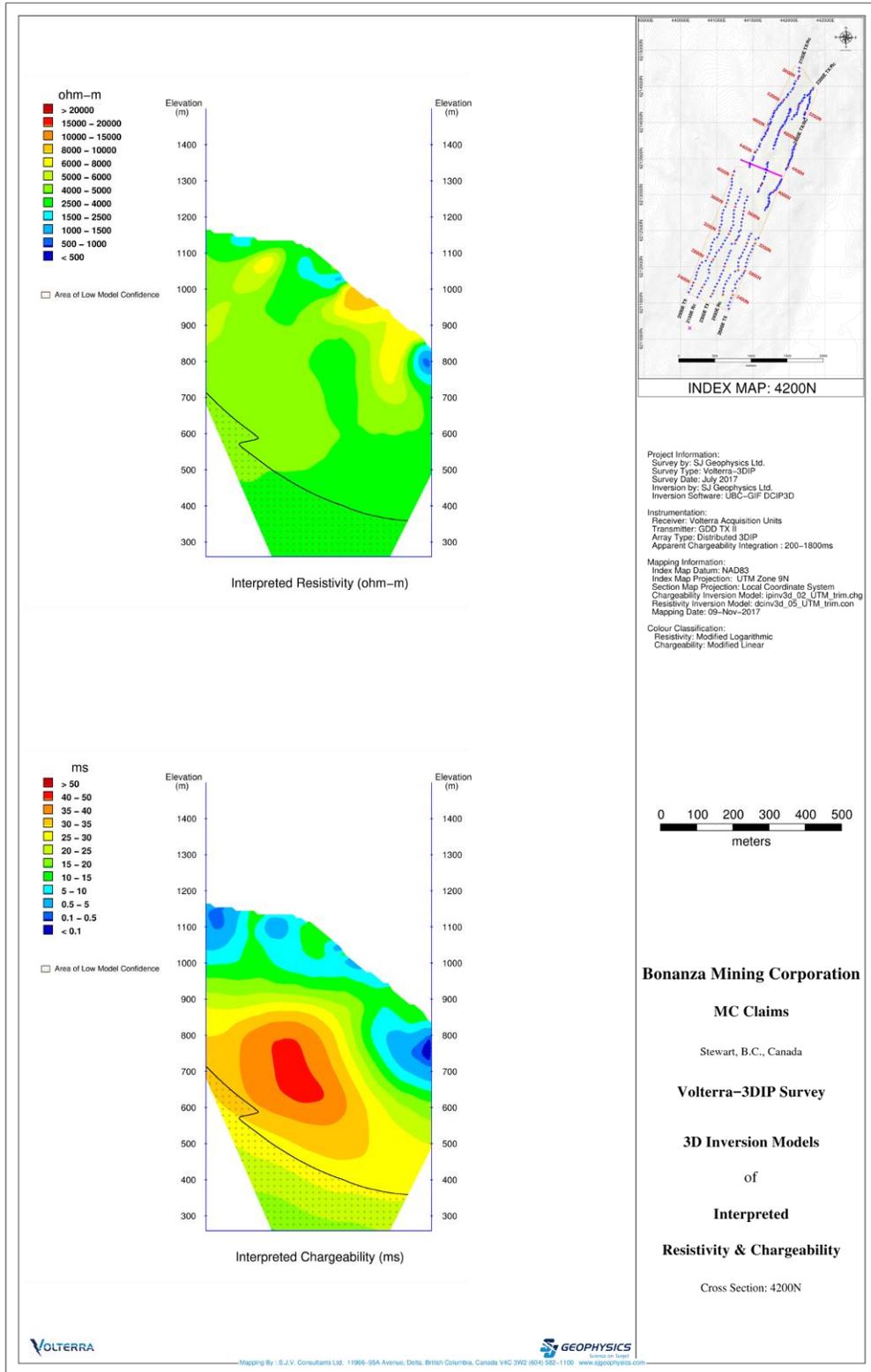


Figure 9-11 3D Inversion Models at 4200N

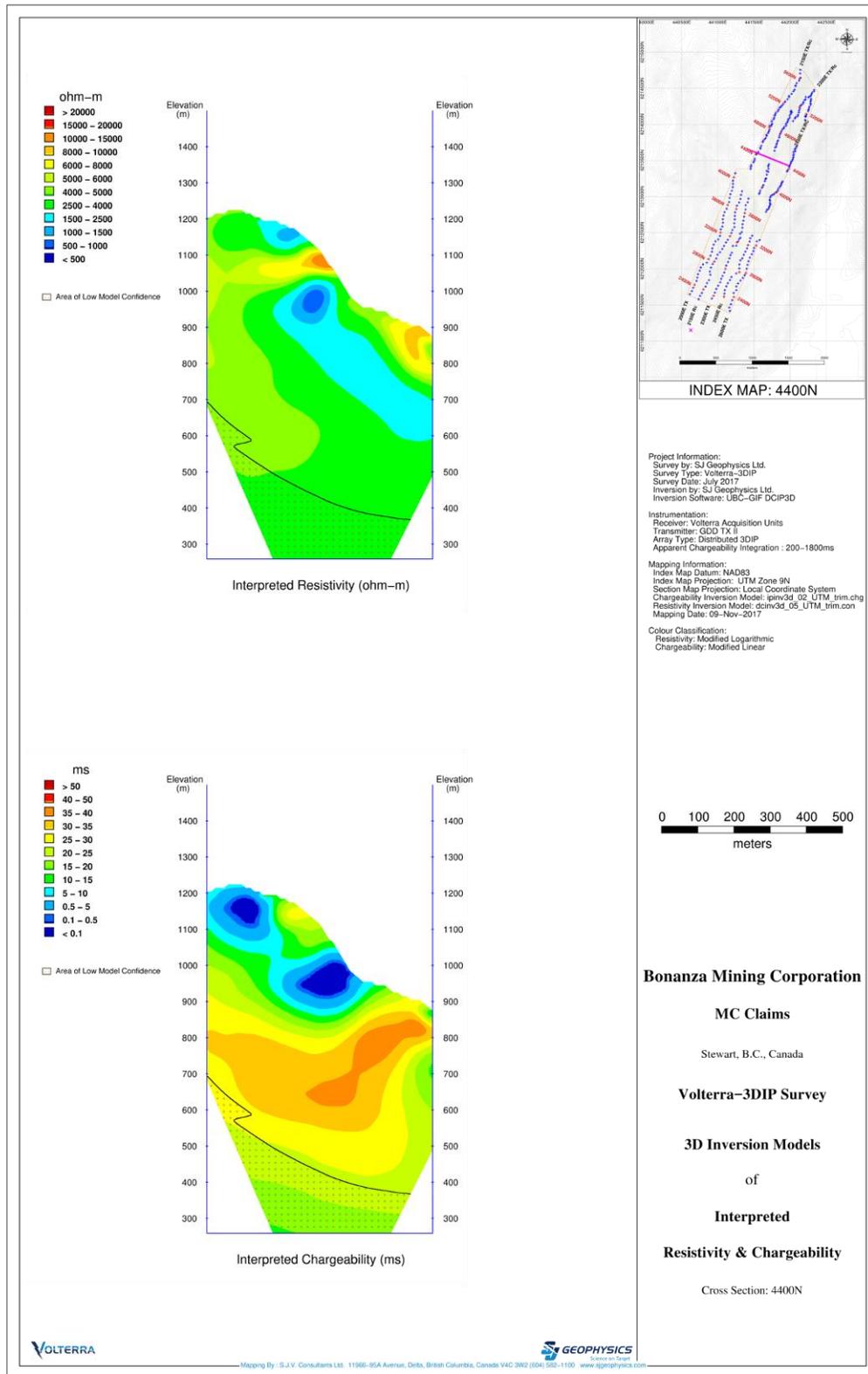


Figure 9-12 3D Inversion Models at 4400N

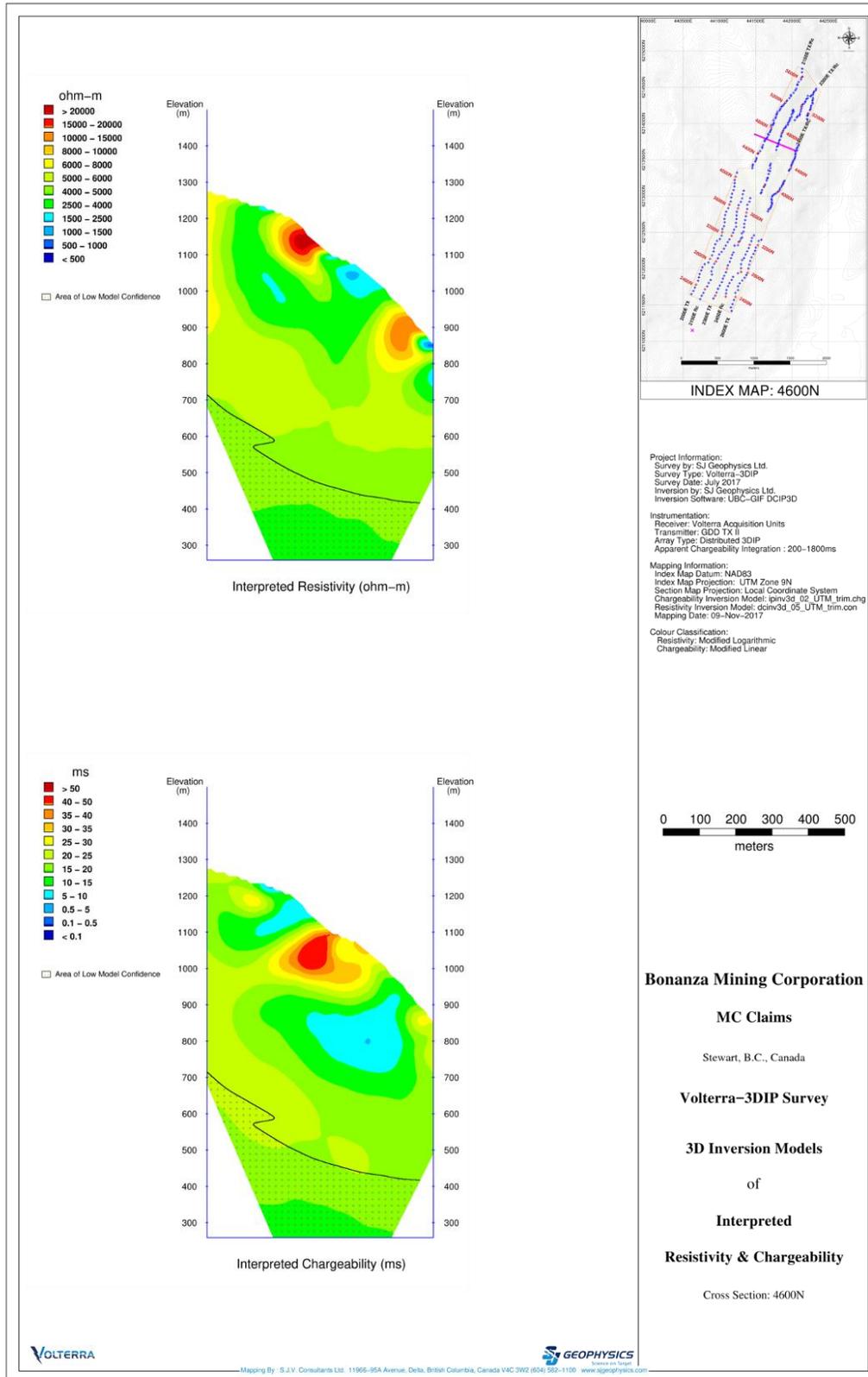


Figure 9-13 3D Inversion Models at 4600N

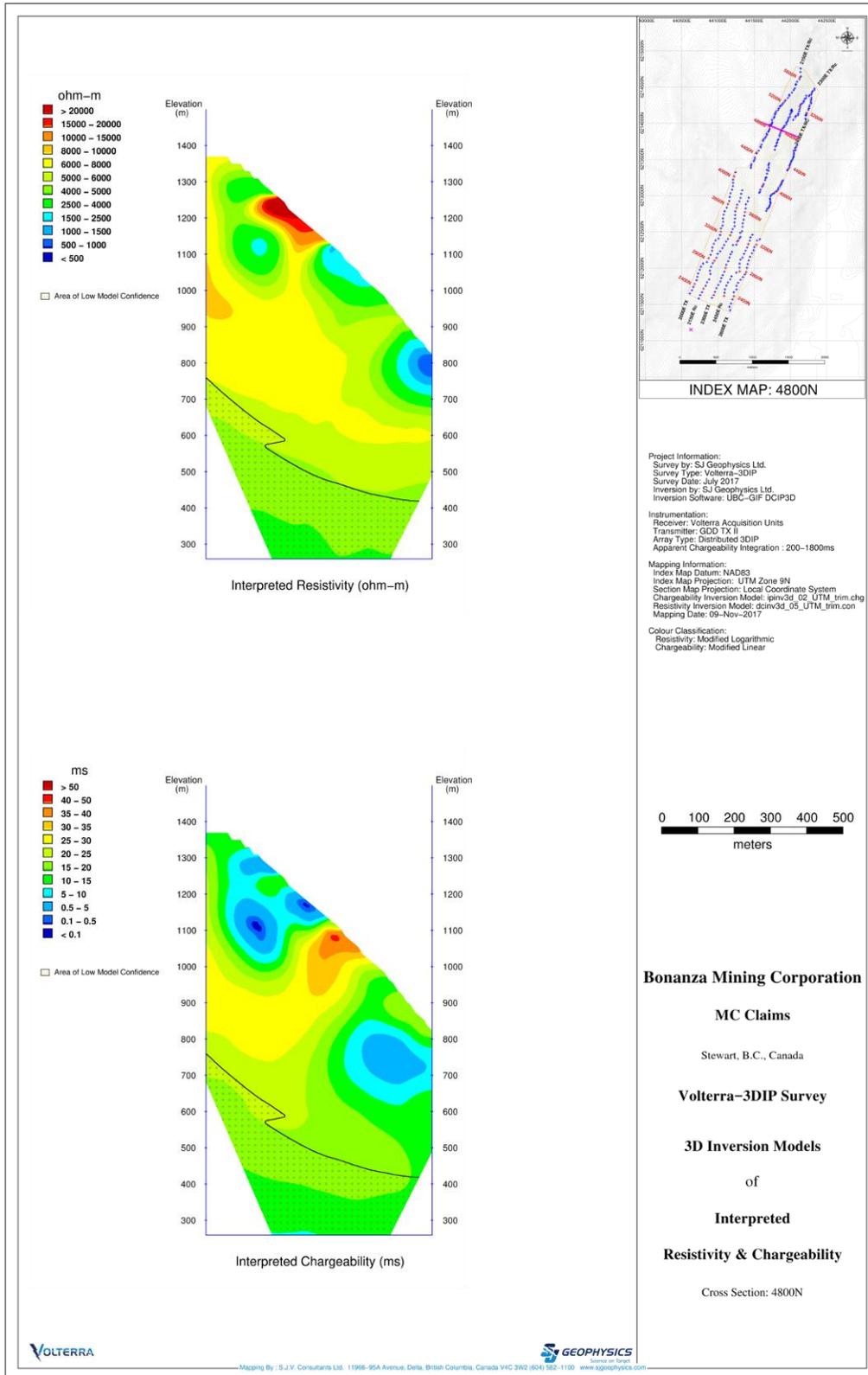


Figure 9-14 3D Inversion Models at 4800N

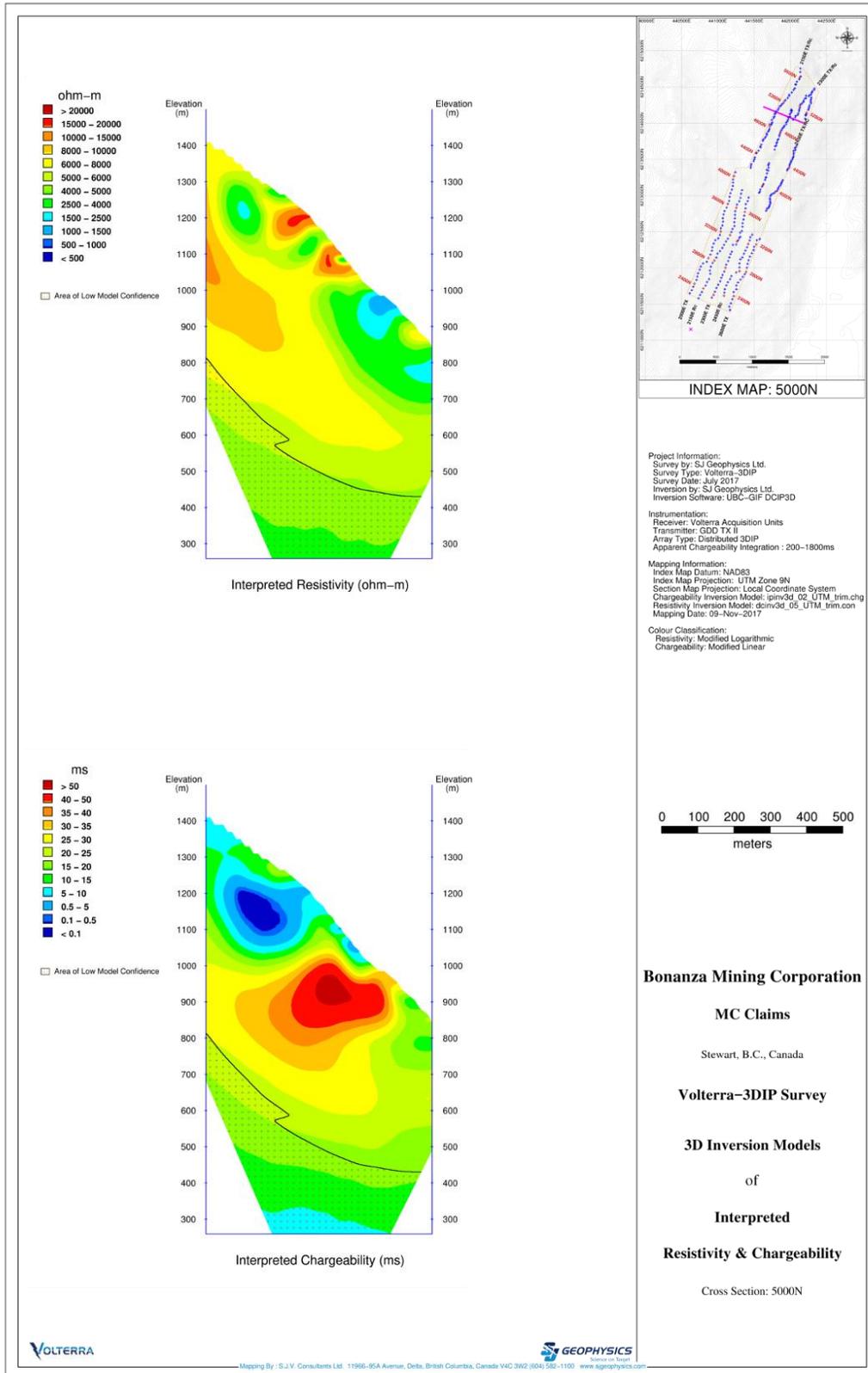


Figure 9-15 3D Inversion Models at 5000N

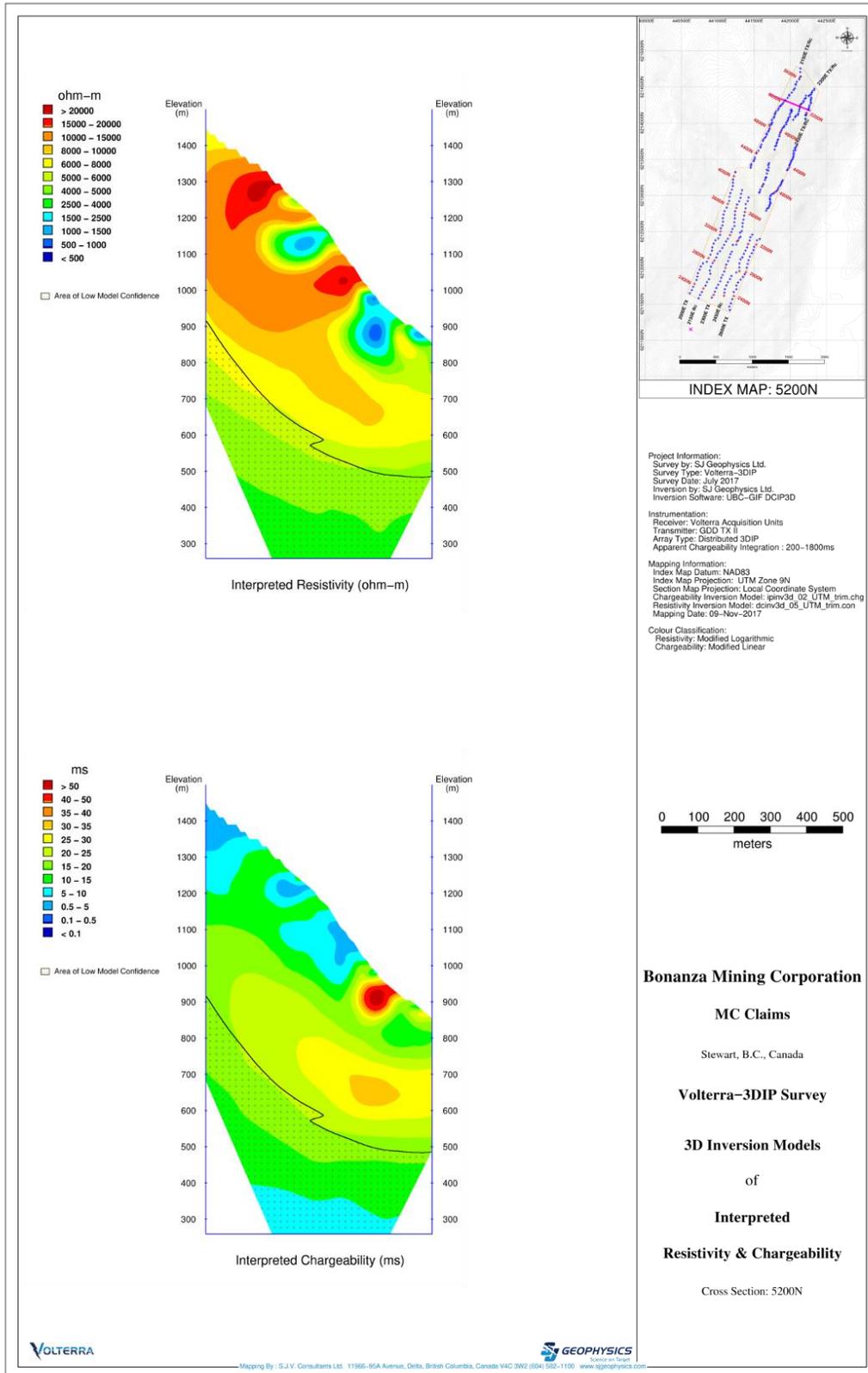


Figure 9-16 3D Inversion Models at 5200N

### **9.3 Soil and Rock sampling surveys**

Hendex Exploration Services Ltd, located in Prince George, BC was contracted by Bonanza Mining Corporation to conduct a soil sampling program on the southern half of the survey grid, roughly along the geophysical survey lines. No soil sampling was conducted on the northern half of the geophysical survey grid due to the very steep slopes and consequently little soil development.

A three man crew carried out this work from July 18-21, 2017 and collected a total of 126 soil samples but no rock samples. All of the soil samples had their GPS coordinates recorded but were not flagged.

Subsequently a second soil sampling/prospecting crew was contracted by Bonanza from CJL Enterprises Ltd. in Smithers, BC to collect soil samples along a line on the northern half of the geophysical survey grid as well as along two new lines at higher elevations on the southern half of the survey grid. This crew also carried out prospecting and rock sampling, mainly on the southern half of the grid.

A two man crew carried out this work from September 3-8, 2017 and collected a total of 126 soil samples and 21 rock samples. All of the samples had their GPS coordinates recorded but were not flagged.

The soil samples were delivered to the Bureau Veritas Mineral Laboratories analytical lab in Vancouver, BC where they were analyzed by ICP-ES/ICP-MS for 34 elements including lead, zinc, copper silver, arsenic and mercury, gold was analyzed by ICP-ES fire assay fusion.

The rock samples were also sent to the Bureau Veritas lab in Vancouver where they were analyzed by ICP-MS for 34 elements and gold by ICP-MS fire assay fusion.

#### **9.3.1 Results of the Soil Sampling Surveys**

One significant and two smaller lead, zinc, copper, silver and gold soil anomalies were outlined on the southern half of the survey grid from analysis of the soil samples Hendex had collected.

The most significant anomaly is defined by the coincident >300ppm Pb, >300ppm Zn, >50ppm Cu, >3ppm Ag, > 50 ppb Au, > 4000ppm Mn and >4% Fe contours. It extends in an east-west direction across all of the soil survey lines for a distance of 500m and is not closed off. It measures from 100m - 300m in the north-south direction and is closed off.

When these analytical results were plotted on maps and the anomaly was shown to be open upslope to the west, Bonanza contracted CJL Enterprises to conduct a follow up soil and rock sampling program, primarily to collect soil samples along two lines across the western projection of the anomaly above the previous sampling lines. As well one soil sample line was conducted on the northern part of the survey grid, roughly along the 1,200m topographical contour.

A total of 126 soil samples and 27 rock grab and chip samples were collected during the CJL program and submitted to the Bureau Veritas laboratory for 34 element plus gold ICP\_MS analysis.

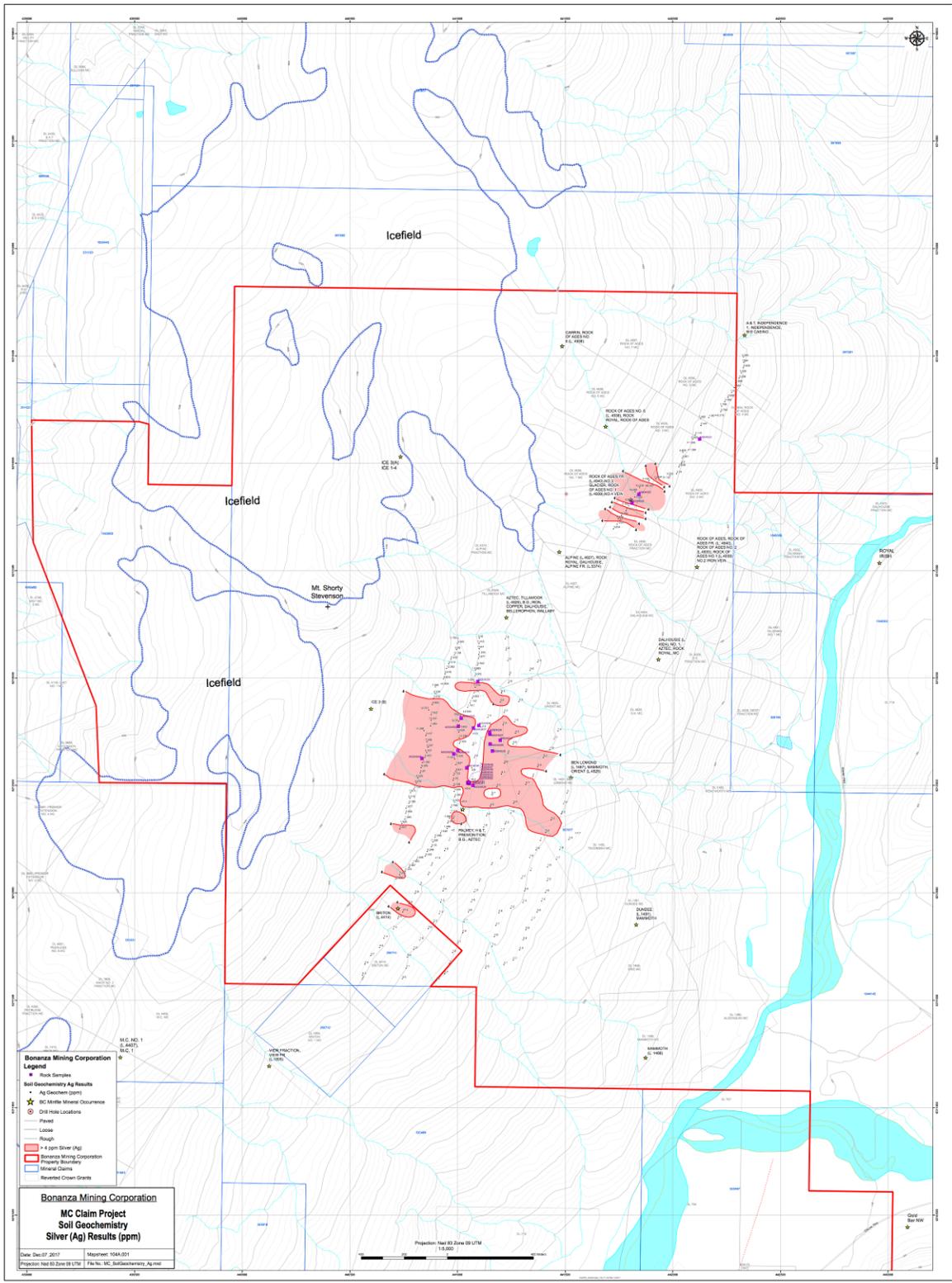


The CJL soil sample analytical results from the two lines they ran upslope of the multi-element anomaly, outlined by the Hendex sampling, were also highly anomalous and show the anomaly is still open and continues further upslope of the highest CJL soil line.

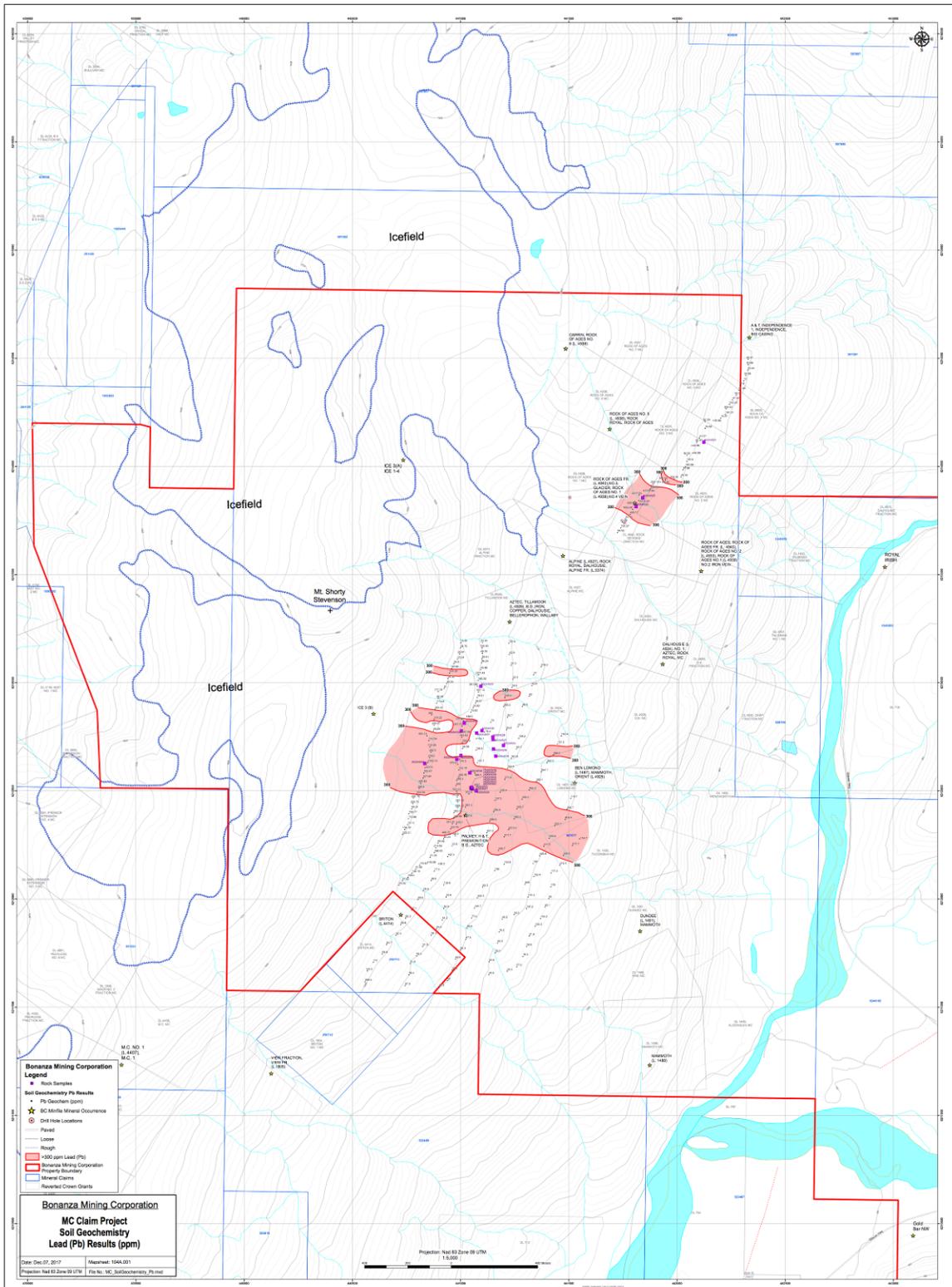
Also when the magnetic plan map of the southern half of the geophysical survey was completed it showed that the location of the soil anomaly was coincident with the main magnetic anomaly and might be the source of the mineralization.

SJ Geophysics was then requested to run a 3D inversion of the magnetic data to create a better interpretation and model for the magnetic anomaly and the results of the 3D inversion are discussed in the Ground Magnetic Results section of this report.



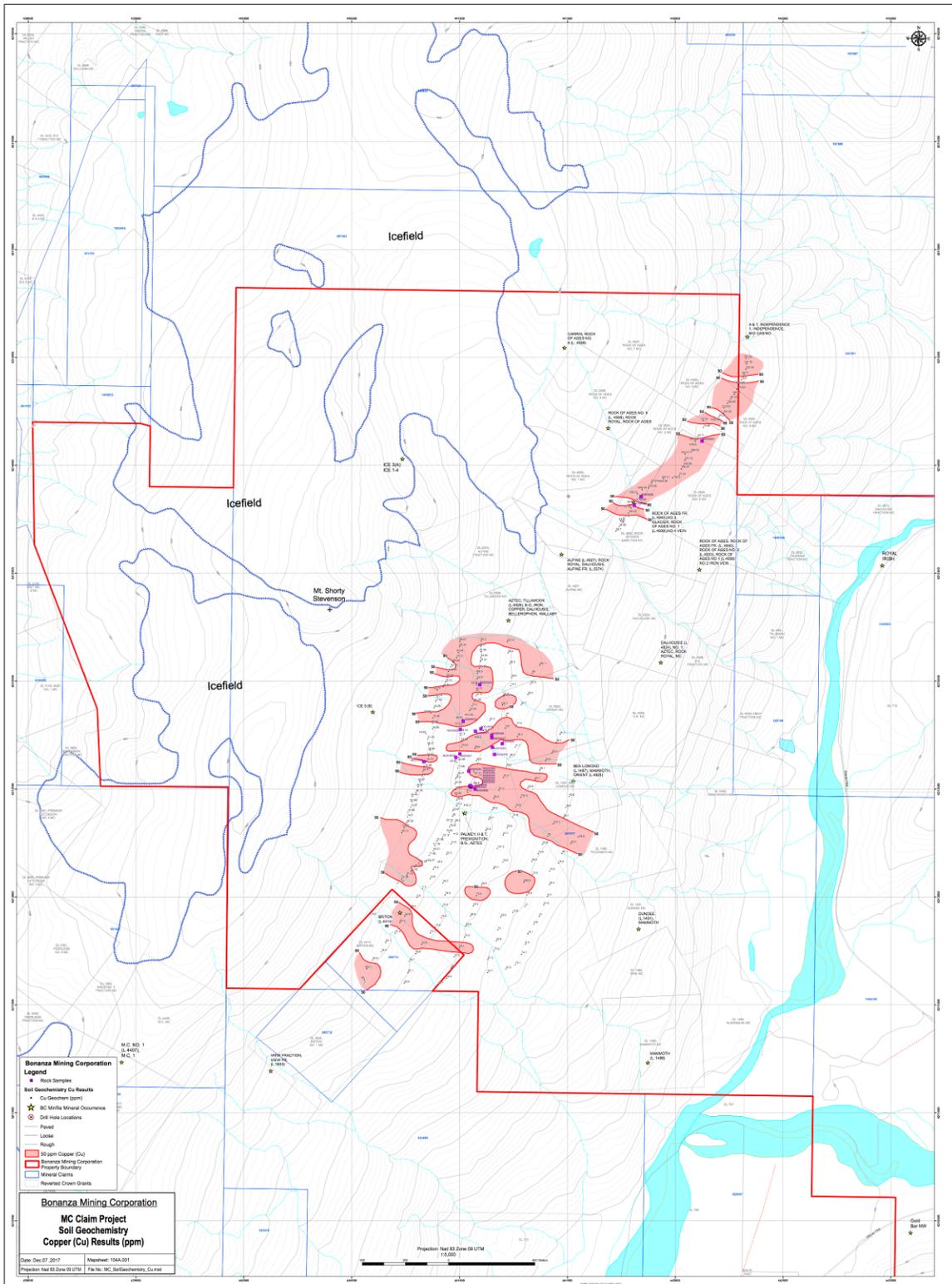


**Figure 9-18 Silver in Soils**



**Figure 9-19    Lead in Soils**







### **9.3.2 Results of Prospecting and Rock Sampling**

Prospecting work during the CJL Enterprises program located numerous quartz-carbonate polymetallic sulfide veins within the anomaly, several of which had been previously trenched by earlier exploration work.

The analytical/assay results from the 27 rock samples returned values up to 10.5g/t Au, 1,503g/t Ag, 5.31% Pb, 5.72% Zn and 6,693ppm (0.67%) Cu. Descriptions of these rock samples are in the following table.

There were six separate samples that contained > 1.0g/t Au and fifteen separate samples that contained > 20g/t Ag, all of these samples were collected from mineralized zones on the southern part of the property.

**Table 9-1 2017 Assay Results, High-Grade Samples**

Sample	Gold (g/t)	Silver (g/t)	Description
A0004533	10.5	36	Collected from a large gossan, 75m long by 20m wide, in siliceously altered gray volcanics with very fine disseminated pyrite
A0004549 <sup>1</sup>	8.7	78.6	Collected from an area that contains at least three major quartz veins up to 30cm wide with numerous smaller cross cutting quartz veins from 10-15cm wide. The sample was collected from the center vein that is 30cm wide and contains a 15cm wide horizon containing high-grade coarse galena and trace chalcopyrite. The veins exhibit massive, brecciated, wispy and colloform textures. Minor quartz-carbonate veins are present as well and the zone is possibly the continuation of the zone that contains some old workings
A0004539	4.04	21	A 1.0m chip sample from an old hand trench 2.1m long and 2m deep at the southeastern part of an area of old workings. This trench cuts through a very siliceous volcanic gossan with numerous quartz veins carrying variable amounts of very fine grained galena and possible sphalerite to massive coarse grained galena, chalcopyrite and trace sphalerite. The zone pinches to the southeast to about 45cm and flares out to the northwest. The weathered surface is very rusty and contains large pockets of limonite with decomposing pyrite
A0004542	2.86	34	A grab sample collected from an outcrop of a galena, chalcopyrite and sphalerite rich zone with brecciated fragments of country rock
A0004543	1.4	27.8	A 1.0m chip sample from a zone that siliceous gray volcanics, basalt flows, bleached volcanic horizons and intermingled quartz veins and siliceously altered zones with massive to disseminated galena, chalcopyrite and sphalerite
A0004532	1.2	1,503	Only 369ppm copper, 68ppm antimony, 0.44% lead and 1.27% zinc <sup>2</sup>

*1) The samples containing the second to fifth highest gold values and the sample containing 1,503g/t silver were collected along what appears to be the same mineralized system over a strike length of about 300m and it strikes northwesterly at approximately 310°.*

*2) The low copper-lead-zinc results are indicating there are not a lot of copper-lead-zinc sulfide minerals such as chalcopyrite, galena, sphalerite or tetrahedrite in the sample that could host the silver. Similarly, the relatively low to moderate antimony content does not indicate the silver is contained in silver-antimony minerals such as pyrargyrite or stephanite. It is therefore most likely the silver is contained in argentite, which is a silver sulfide mineral, or is present as native silver.*

**Table 9-2 2017 Assay Results**

Sample	Easting (m)	Northing (m)	Elev. (m)	Description
A0004523	442,124	6,214,113	1000	Outcrop 320°/84° rusty weathered surface, grey volcanics with 2-3% disseminated pyrite and possible chalcopyrite
A0004524	441,811	6,213,815	1109	Large angular float boulder of siliceous, grey volcanic, 2-3% pyrite as small veins and 1cm wide blebs. The cut sample shows a very interesting texture, with the siliceously altered mudstone horizons slightly folded then broken and offset. The fractured clasts were then cemented with fine grained, grey sulphides, primarily pyrite
A0004525	441,842	6,213,856	1099	Outcrop, very rusty irregular zone of very fine grained, grey volcanics with 3-5% disseminated pyrite
A0004526	441,152	6,212,694	1180	Outcrop trend 336° center of quartz swarm with up to nine veins over an area of 50m wide and 90m in length. The individual veins are cross-cut by smaller veins and vein sets with irregular strikes. The system is hosted in siliceous, fine grained, grey volcanics. Veins pinch and swell with locally high-grade galena and chalcopyrite with lesser bornite and possible sphalerite occurring as contact selvages and pods within barren quartz. The sample is from a 50cm wide vein with a 20cm wide high-grade core containing 5% coarse grained galena, chalcopyrite and bornite
A0004527	441,150	6,212,739	1206	Outcrop trend 360°, 40cm wide quartz vein with 1-2% very coarse grained galena. A 15cm wide quartz vein trending at 15° appears to have been cut by 40cm wide vein trending 360°
A0004528	441,149	6,212,749	1217	Outcrop 10m north of previous sample along same 40cm wide quartz vein. The zone is marked by a heavy rust stained, weathered surface, with minor intense zones of malachite and azurite. Fresh face contains 5% coarse grained galena and chalcopyrite. Veins are buried to the north by scree slope
A0004529	441,094	6,212,984	1283	Rusty sheared volcanic horizon 15m wide. Siliceous, fine-grained, volcanic unit with localized limonitic patches. Weathering penetrates to 15cm with fractures weathered to 5cm. Fresh volcanic rock contains 1-2% very fine-grained disseminated pyrite with limonite within the weathered sections. The hill contains numerous pods and horizons identical to this unit
A0004530	440,983	6,212,648	1287	Outcrop 116°/64°, a 12cm wide quartz vein in a large spine within a steeply dipping creek draw. The spine contains two such veins that are locally mineralized and pinch and swell along strike
A0004531	441,002	6,212,664	1274	Float, cobble sized float of fine-grained, grey, volcanic host with 85% quartz-carbonate veins. Vein contains small vugs that are infilled with calcite and coarse grained galena. Two small pods to 1cm diameter consisting of coarse to very fine-grained galena within the outer margins of the vein. A 1cm wide vein within the volcanic unit is surrounded by a sericite alteration halo that extended 1cm on either side of the vein
A0004532	441,004	6,212,777	1283	Float, cobble of quartz-carbonate vein with 5% chalcopyrite-pyrite-galena. Weathered surface is vuggy and moderately rusty. The area has a number of mineralized float samples, but prospecting above this zone shows no indications of mineralization in place. The area is 95% lichen covered outcrop, and the mineralized zone should be nearby due to the angular condition of the outcrop
A0004533	441,017	6,212,814	1281	Outcrop Trend 343°, large gossan, 75m long by 20m wide trending north-northwest. Siliceously altered gray volcanics with very fine-grained disseminated pyrite. Locally limonitic along weathered edges and fracture plains and also within unaltered volcanic rock as elongated blebs
A0004534	441,198	6,212,711	1172	Outcrop 345°/90°, 45cm wide quartz vein with a 10cm wide horizon with rusty weathered surface containing 5% coarse-grained galena with angular limonitic

Sample	Easting (m)	Northing (m)	Elev. (m)	Description
A0004535	441,162	6,212,661	1160	Outcrop trend 296°, 15cm wide quartz vein with minor chalcopyrite. Sample is the lowermost section of the veining system before the scree slope masks all the outcrop
A0004536	441,099	6,212,780	1224	Outcrop Trend 322°, 35cm wide quartz vein with just a slight rusty weathered surface. Large rusty/limonitic pockets in fresh rock with zones of coarse-grained chalcopyrite and galena
A0004537	441,074	6,212,768	1228	Outcrop on a small ridge in scree slope that is a siliceous zone in northwest trending gossan. Chloritic volcanics with small quartz veinlets. Sample contains 1-2% disseminate pyrite and possible chalcopyrite
A0004538	441,043	6,212,583	1190	Outcrop 160°/52°, 25cm wide quartz vein that appears to be a swell within the system. Sample of quartz with small (2mm wide) veinlets of fine grained pyrite and disseminated fine grained chalcopyrite. Small patches of coarse-grained chalcopyrite and galena are also present
A0004539	441,072	6,212,501	1203	1.0m chip 130°/72°, lowest (southeastern) part of old workings. The sample is from an old hand trench 2.1m wide and 1.8m deep. The trench cuts through a very siliceous, volcanic gossan with numerous quartz veins carrying variable amounts of very fine-grained galena and possible sphalerite to massive, coarse-grained galena, chalcopyrite and trace sphalerite. The zone pinches to the southeast to about 45cm and flares out to the northwest. The weathered surface is very rusty and contains large pockets of limonite with decomposing pyrite
A0004540	441,055	6,212,510	1203	1.5m chip, 20m uphill at 297° a second hand trench was discovered. This trench cut through 3m of siliceous, fine-grained, grey volcanics with quartz veins and replacement zones containing trace to massive zones of fine to coarse grained galena, chalcopyrite, pyrite and sphalerite. A subtle zonation of pyrite grading to galena was noticed in this sample
A0004541	441,054	6,212,510	1203	1.5m chip, continuation from previous sample. The zone becomes more siliceous with an increase in galena. Sample includes zones of fine to coarse-grained galena, chalcopyrite, sphalerite and possible bornite
A0004542	441,048	6,212,514	1206	Outcrop trend 317°, 8m uphill at 300° from previous chip samples the zone flares out to 6m wide with larger zones of siliceous volcanics between the mineralized quartz veins. This sample was a grab from outcrop of a galena, chalcopyrite and sphalerite rich zone with brecciated fragments of country rock. The zone appears to truncate to the north but mineralized float samples above zone were located
A0004543	441,048	6,212,513	1207	1.0m chip sample starting from southwestern extent of mineralized zone sampling to the northeast. Zone contains siliceous grey volcanics, basaltic flows, bleached volcanic horizons and intermingled quartz veins and siliceously altered zones with massive to disseminated galena, chalcopyrite and sphalerite
A0004544	441,049	6,212,513	1206	1.0m chip sample continuation from previous sample. Zone contains siliceous grey volcanics, basaltic flows, bleached volcanic horizons and intermingled quartz veins and siliceously altered zones with massive to disseminated galena, chalcopyrite and sphalerite
A0004545	441,050	6,212,514	1206	1.0m chip sample continuation from previous sample. Zone contains siliceous grey volcanics, basaltic flows, bleached volcanic horizons and intermingled quartz veins and siliceous zones with massive to disseminated galena, chalcopyrite and sphalerite
A0004546	441,050	6,212,515	1205	1.0m chip sample continuation from previous sample. Zone contains siliceous grey volcanics, basaltic flows, bleached volcanic horizons and intermingled quartz veins and siliceously altered zones with massive to disseminated galena, chalcopyrite and sphalerite

Sample	Easting (m)	Northing (m)	Elev. (m)	Description
<b>A0004547</b>	441,051	6,212,515	1205	1.0m chip sample continuation from previous sample. Zone contains siliceous grey volcanics, basaltic flows, bleached volcanic horizons and intermingled quartz veins and siliceously altered zones with massive to disseminated galena, chalcopyrite and sphalerite
<b>A0004548</b>	441,052	6,212,516	1205	1.0m chip sample continuation from previous sample. Zone contains siliceous grey volcanics, basaltic flows, bleached volcanic horizons and intermingled quartz veins and siliceously altered zones with massive to disseminated galena, chalcopyrite and sphalerite
<b>A0004549</b>	440,835	6,212,627	1420	Outcropping veins oriented at 130°/38° within scree. Area contains at least three major quartz veins to 30cm with numerous smaller (10-15cm wide), cross-cutting quartz veins. The veins appear to be following the fracture sets within the host volcanic unit. The main vein sets are 130° and 86°. Sample from center vein that is 30cm wide within which is a 15cm wide horizon containing high grade, coarse galena and trace chalcopyrite. The veins exhibit massive, brecciated, wispy and colloform textures. Minor quartz carbonate veins are present as well. This is possibly the continuation of the zone containing the old workings

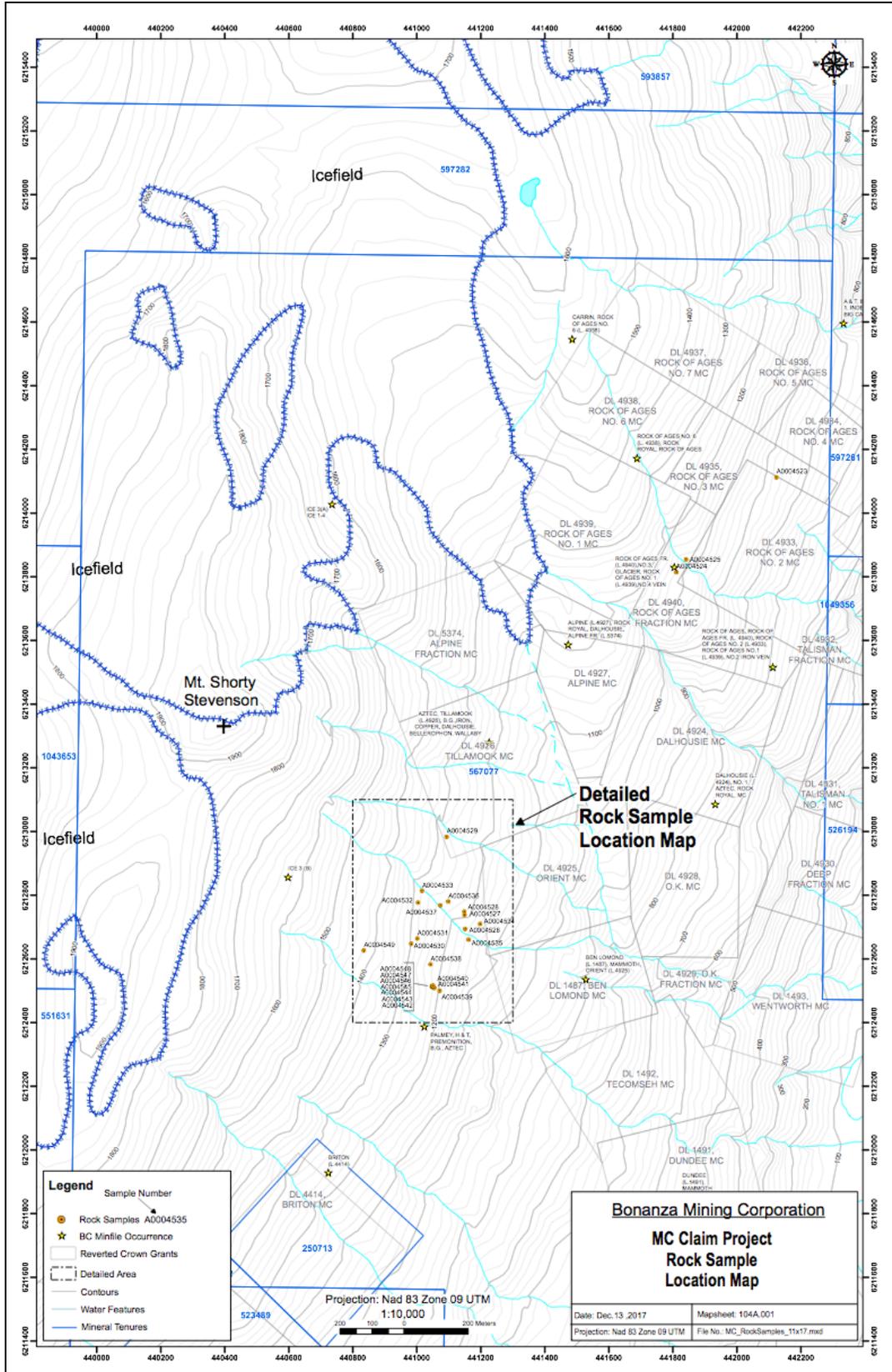


Figure 9-22 Rock Sample Location Map

#### **9.4 Recommendations from Geophysical Survey**

All three parameters, magnetics, chargeability and resistivity suggest a lithological change between the southern and northern halves of the survey grid. The southern half is characterized by lower resistivity, lower chargeability and lower magnetic intensity than the northern half. The boundary between these two areas coincides with a major fault structure that runs northwesterly across the entire MC 1 claim and is a deeply incised gully that hosts a small glacier.

Two high chargeability zones are mapped in the northern part of the survey grid near 300m depth. These may be reflecting disseminated or semi-massive sulfide bodies and could be related to the vein systems mapped at the surface. Inversion modeling suggests narrow apophyses may extend up from these bodies and approach the ground surface.

The R3 resistivity anomaly is a 200-300m wide zone of anomalously low resistivity that crosses the grid in the vicinity of station 4400N. This anomaly may be reflecting a fault zone that is associated with several of the known mineralized vein systems. If this relationship can be confirmed it may provide a tool for directing further exploration along strike both to the northwest and southeast.

##### **Follow-up to the geophysical surveys include:**

- 1.) Geological mapping is recommended to identify the source of the high resistivity layers R4a, R4b and R4c. This information will help determine whether these features are in some manner related to the target mineralization. From previous mapping it is most likely these layers are three separate, siliceous volcanic beds.
- 2.) Chargeability anomalies C1 and C2 are both comprised of a large and deep body with small, apophyses extending to the surface. One possible interpretation is that the deep anomalies represent large buried masses of disseminated to semi-massive sulfides and the surface features are representing small, localized zones that originated from them. No evidence has been found that suggests these deep bodies have already been tested. It is likely that drilling will be required.

Considering the steep terrain, finding suitable sites to access and construct drilling platforms will play a major role in determining the most efficient way to drill. A preferred scenario to help minimize the length of the holes would be to collar them downslope to the southeast of the targets and angle their azimuths to the northwest to intersect the interpreted targets.

Initial holes should target the center of the high chargeability bodies, but multiple holes will likely be required in order to identify and delineate them. If these targets reflect sulfide mineralization, it is possible that the highest chargeability zones may be associated with high pyrite concentrations and economic mineralization may be found around the periphery of chargeability anomalies.

Two targets have been selected that represent the interpreted centers of the large, buried chargeability anomalies.



The C1 anomaly center is located at UTM grid coordinates 441590E / 6213390N / 710m, this point is approximately 400m below ground surface of 1120m.

The C2 anomaly center is located at UTM grid coordinates 441895E / 6214027N / 900m, this point is approximately 265m below the ground surface of 1165m.

The drillhole azimuths, dips and lengths will need to be calculated to intersect these targets once suitable drill collar locations have been established.

- 3.) The main magnetic anomaly on the southern half of the survey grid is located at the northern edge of a body of Texas Creek granodiorite and appears to have several northwest striking dykes emanating from it that run through the multi-element soil and rock sample anomalous area.

This is potentially significant as gold-silver mineralization at the Premier mine occurs around bodies of Texas Creek granodiorite and associated dykes.

The main mineralized copper-pyrite-gold bearing showings at the Dalhousie area in the northern half of the survey grid also contain a considerable amount of magnetite and a ground magnetic survey conducted by a previous explorer traced the magnetite mineralization for at least 1km.

It is possible that the C 1 chargeability anomaly is due to magnetite which may be significant as the main Dalhousie showing assayed 21.77g/t Au across 6m.

## **9.5 Recommendation from Soil and Rock Sampling**

The soil and rock sampling surveys have outlined a significant zone of gold and silver mineralization and lead, zinc and copper sulfides associated with quartz-carbonate veining and brecciation on the southern half of the survey area.

The soil anomaly is over 300m long in a northwest trend and is open along strike. Significantly this soil anomaly is coincident with a ground magnetic anomaly that follows the strike of the mineralized zone and the magnetic anomaly is situated at the northern edge of an intrusive body of Texas Creek granodiorite which is a setting similar to the location of gold-silver mineralization at the Premier mine.

## 10 Drilling

A total of four drillholes have been completed on the MC Property.

A diamond drill was completed in 1990 in an attempt to cut the QSP zone as well as the NW extension of the quartz-sulphide vein. The hole was stopped well short of its target depth due to mechanical problems. The 99m drillhole intersected high-grade sulphides in the final 0.2m which gave the following results:

**Table 10-1 1990 Drillhole Sample Results**

From (m)	To (m)	Width (m)	% Pb	% Zn	Ag g/t	Au g/t
98.8	99.0	0.2	0.37	9.24	311.7	1.62

A gold-silver-zinc bearing quartz-sulphide vein system hosted in volcanic-sedimentary rocks was drill tested in the Rock of Ages #3 Vein Zone and was found to define wide sections of moderately elevated polymetallic values. Sulphides consist of near totally of disseminated pyrite ranging from 2 up to 20% with minor <2% sphalerite and trace chalcopyrite. The showing is aligned along a prospective northwesterly trend for approximately 1,200m which includes the Rock of Ages #2, Dalhousie, and Cairn showings. The drilling encountered hydrothermally altered sericite-chlorite-carbonate-sulphide rich volcanic and sedimentary rocks throughout most of the core and specifically in multiple sections varying in down-hole lengths ranging from 25 up to 210m. Multiple narrow sections consisting of feldspar-quartz porphyry intrusive were also identified in the core associated with the altered rocks and an increase in the sulphide concentration. The zone continues south-southwest and future work should be expanded and directed towards exploring the Dalhousie and Rock of Ages No 2 and Cairn showings along the favourable trend.

Diamond drilling was carried out in 2011 for Reliant Gold Corp., with three holes from two set-ups were completed for 710m. The drilling focused on the Rock of Ages No.3 Showing, and testing surface geochemical rock and soil Au-Ag-Zn-Pb-Cu anomalies supported by favourable magnetic signatures from a surface exploration program completed in 2010.

**Drillhole Collars NAD 83 UTM cords Elevation (m) Orientation (deg. AZ / deg. dip)**

- MC-11-01 9 V 441455 6213817 1251 050 / -44
- MC-11-02 9 V 441764 6213765 1144 025 / -35
- MC-11-03 9 V 441764 6213765 1144 045 / -45

Analysis of obtained 461 core samples returned multiple sections of anomalous gold, silver and zinc values of up to 0.9m of 1.03g/t Au in Hole MC-11-02, and 1.8m of 1.2% Zn and 2.4m of 7.3g/t Ag in Hole MC-11-01. The deepest hole tested the target area to a maximum depth of approximately 140m. The results were encouraging because they indicate the presence of a large hydrothermal mineralizing system to be followed up with additional exploration starting with the completion of borehole geophysical surveys in the three holes.

## **11 Sample Preparation, Analyses and Security**

The core samples from the 2011 diamond drilling were split in half using a diamond saw, sealed in secure packages and submitted directly by the project geologist to Eco Tech Laboratories in Stewart and Kamloops, British Columbia, where they were analyzed using method Au2-30 gold by fire assay and multi-element ICP-AES following aqua regia digestion. High analyses (greater than 10,000ppm, 1%) for copper, zinc, lead and (greater than 30ppm) silver underwent ore grade AA analysis. Polymetallic standards and blanks, unknown to the laboratories, were included with each submission of samples. Eco Tech is an international accredited ISO 9001 compliant laboratory which fulfills standard QA/QC protocols.

Soil and rock samples from the 2017 field program were tested by Bureau Veritas in Vancouver. Soil samples were dried; a 100g sample was extracted at -80 mesh, and digested in a 1:1:1 Aqua Regia digestion. ICP-ES/ICP-MS analysis was completed along with fire assay fusion for Au by ICP-ES on a 30g sample. Rock samples were crushed, split and pulverized to obtain a 250g sample at -200 mesh. The 250g sample was digested in a 1:1:1 Aqua Regia digestion. ICP-MS analysis was completed (15g samples). Lead collection fire assay fusion with a gravimetric finish for Au on a 30g sample was completed on two samples.



## **12 Data Verification**

There is no record of data verification from previous work programs. The 2017 work program did not include standard or blank samples from Bonanza, though Bureau Veritas performs multiple checks as standard practice.

## **13 Mineral Processing and Metallurgical Testing**

The MC Project is an early stage exploration project; no metallurgical studies have been performed to date.

## **14 Mineral Resource Estimates**

The MC Project is an early stage exploration project; no metallurgical studies have been performed to date.

## **15 Mineral Reserve Estimates**

The MC Project is an early stage exploration project; no metallurgical studies have been performed to date.

## **16 Mining Methods**

The MC Project is an early stage exploration project; no metallurgical studies have been performed to date.

## **17 Recovery Methods**

The MC Project is an early stage exploration project; no metallurgical studies have been performed to date.



## **18 Project Infrastructure**

The MC Project is an early stage exploration project; no metallurgical studies have been performed to date.

## **19 Market Studies and Contracts**

The MC Project is an early stage exploration project; no metallurgical studies have been performed to date.

## **20 Environmental Studies, Permitting and Social or Community Impact**

A Notice of Work has been applied for the recommended 2018 drilling program.

## **21 Capital and Operating Costs**

The MC Project is an early stage exploration project; no metallurgical studies have been performed to date.

## **22 Economic Analysis**

The MC Project is an early stage exploration project; no metallurgical studies have been performed to date.

## 23 Adjacent Properties

The Stewart Complex contains numerous mineral deposits that cover an area over 150km in length and 20-40km in width extending from Alice Arm (Kitsault) to the lower Iskut River valley. This area is collectively referred to as the "Golden Triangle" or "Stikine Arch". This mineral belt has been recently active because of the discovery of precious and base metal deposits such as: Silbak-Premier, Granduc, Anyox, Porter-Idaho, Dunwell, Eskay Creek, Snip, Brucejack Lake, Red Mountain, Doc, Big Missouri, Johnny Mountain, Silver Butte, Scottie Gold, Kerr, Rock 'n Roll, Inel, Bonanza, Red Bluff, Golden Wedge, Bear Pass, and Georgie River. All of these properties have been the subject of major exploration and/or development for precious and base metals in the past 20 years.

The Stewart area has been exploited for minerals since 1900 when the Red Cliff deposit on Lydden Creek was mined. Since then, approximately 120 base and precious metal deposits within the Stewart mining district have been developed.

Total recorded production from the Stewart area is 2,400,000 ounces gold, 40,000,000 ounces silver, and over 100,000,000 pounds copper-lead-zinc. Most of this production came from the Silbak-Premier, operating episodically from 1918 to 1996.

The Eskay Creek deposit contains estimated 4,000,000 ounces gold, 40,000,000 ounces silver and over 100,000,000 pounds copper-lead-zinc. This deposit does not outcrop and eluded discovery despite over 50 years of exploration history on the property. The unique high-grade stratiform 2-60mwide massive sulphide horizon is remarkable in terms of predictability of its geology and tenor, and its relatively well defined, contact controlled assay boundary.

The Red Mountain deposit is a recent discovery at the headwaters of Bitter Creek. Gold bearing sulphides (pyrite, arsenopyrite, chalcopyrite) are localized in a quartz-poor, major shear zone near a Texas Creek plutonic complex feldspar porphyry and Unuk River Fm. volcanic contact. Over 2,000,000 tonnes of 0.4 opt Au and 1.0 opt Ag have been outlined by over 150 diamond drillholes.

Numerous small scale workings near the MC claims include the Silver Crown, Monitor, Spider, Lois, Sebwaske, Hyder Gold, Dalhousie, Prince John, Big Casino, Independence, Dunwell and Ben Ali. Precious and base metal values occur as veins, and/or replacement, breccia, stockwork in quartz-sulphide gangue. Mineralization consists of sphalerite, galena, chalcopyrite, pyrite, tetrahedrite, arsenopyrite, native gold, and/or various sulphosalts in a gangue of quartz, carbonate, barite, and/or chlorite. Historic work on these showings includes underground development, drilling, geological evaluations and prospecting.

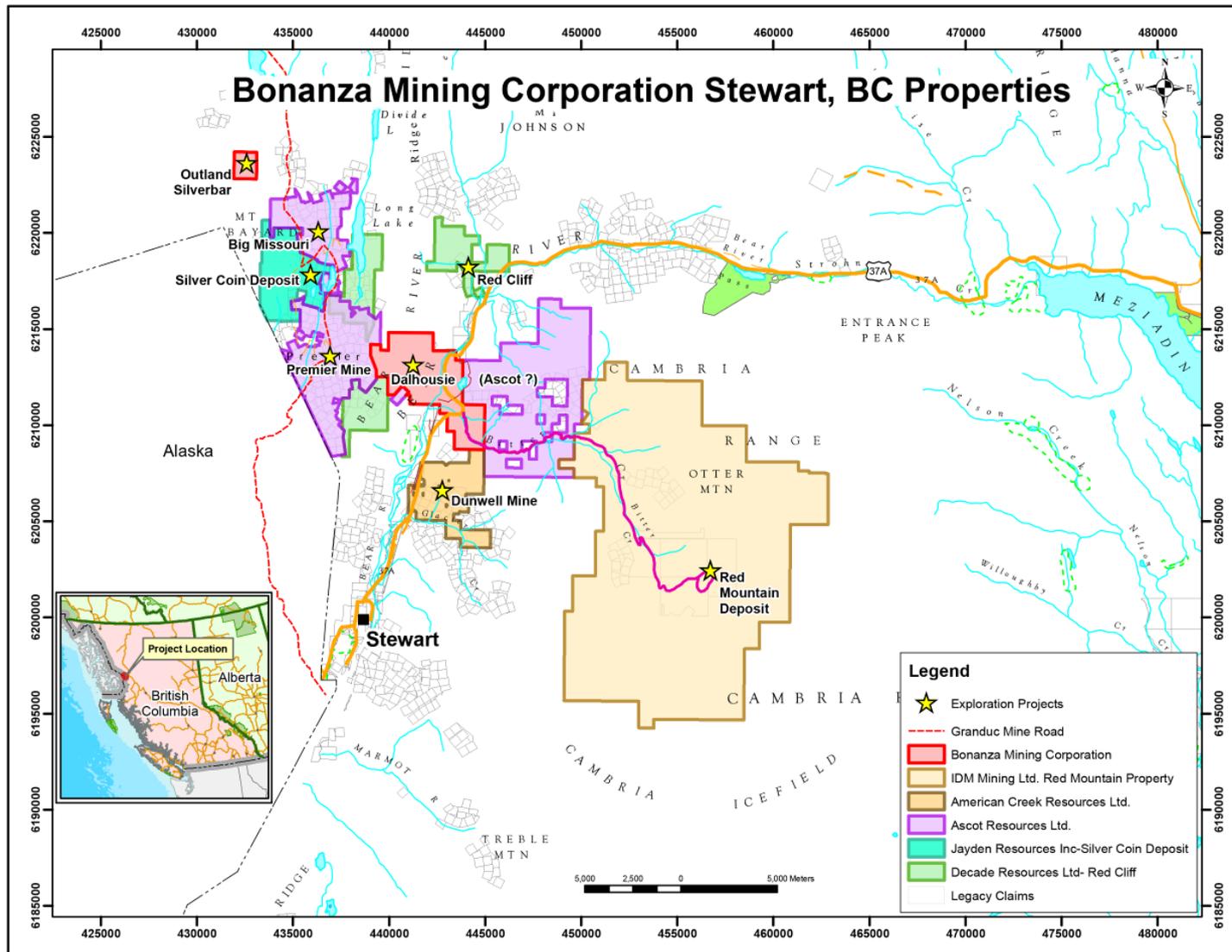


Figure 23-1 Properties Adjacent to MC Property



## **24 Other Relevant Data and Information**

All relevant information has been presented in this report; there is no additional relevant material to present.



## 25 Interpretation and Conclusions

The MC Project is a mineral occurrence hosting gold, silver, and base metals that is worthy of further exploration.

Mineral exploration in the MC area was initiated in 1910 and has continued intermittently through to the present. During this period, the MC property has been tested by four drillholes, as well as various geophysical techniques and soil, stream, and rock sampling. In 2017 a detailed 3D-IP and mag survey were completed on portions of the property as well as two phases of soil sampling and prospecting.

The property is underlain by lithologies of the middle Jurassic Hazelton Group. These rocks host significant precious and base metals deposits elsewhere in the Stewart Camp including the Silbak Premier, Silver Coin, Sulphurets, Brucejack Lake, Big Missouri-Martha Ellen, Red Mountain and Eskay Creek deposits.

The MC property lies along the eastern edge of the Coast Crystalline Complex within the western boundary of the Bowser Basin. Rocks in the area belong to the Mesozoic Stuhini Group, Hazelton Group and Bowser Lake Group that have been intruded by apophyses of both Cenozoic and Mesozoic age. Portions of the Stewart area are underlain by Triassic age Stuhini Group. The Stuhini Group rocks are either underlying or in fault contact with the Hazelton Group. These Triassic age rocks consist of dark gray, laminated to thickly-bedded silty mudstone, and fine- to medium-grained and locally coarse-grained sandstone. Local heterolithic pebble to cobble conglomerate, massive tuffaceous mudstone and thick-bedded sedimentary breccia and conglomerate also form part of the Stuhini Group.

Intrusive activity in the Stewart area has been marked by the Lower and Middle Jurassic Texas Creek granodiorite with which the Big Missouri, Silbak Premier, SB, Scottie Gold, Red Mountain and many other mineral deposits in the district are associated. Younger intrusions include the Hyder Quartz Monzonite, Bitter Creek granodiorite and many Eocene stocks, dykes and sills which form a large part of the Coast Mountain Plutonic Complex. Mineral deposits such as Kitsault Lime Creek Molybdenum, Porter-Idaho Silver Mine, and a host of other deposits are related to the 48-52 Ma (Eocene) plutons. These intrusives also form the regionally extensive Portland Canal Dyke Swarm.

A gold-copper bearing quartz-sulphide vein system was located in the Rock of Ages No 2 Vein Zone defined by rock chip sample MC10AR-204, and supported by Au-Cu in soil geochemical anomalies and total field magnetic anomalies located 100-200 m east of the Cu-Au bearing rock sample. These showings occur at an elevation of 775-950 meters and appear to line up with the northwest trending faults and lineaments of Rock of Ages Creek that exposes the No 3 Vein Zone at 1,180 meters elevation (No 3 tunnel) where a prominent 30-80 m wide gossan with quartz-sericite-pyrite-clay (phyllitic alteration) cuts the northwest trend roughly north-northeast, following the contour lines. The Dalhousie zone continues south-southwest and future work should be directed towards exploring the combined 500 meters of strike length of the Dalhousie and Rock of Ages No 2 and No 3 Vein Zones gold-enriched copper & iron bearing mineralized zones, located at 700-1300 m elevation.



The soil and rock sampling and the geophysical fieldwork from 2017 support the idea that the property requires further testing. The property is in the early stages of exploration and is worthy of a comprehensive exploration program to determine its economic mineral potential. A well designed exploration program has been proposed which builds on the existing data and will test the known anomalous areas.

## **26 Recommendations**

### **26.1 Line Cutting**

The 2017 exploration work was hampered by the dense vegetation cover over the lower elevations of the property. In order to provide access to these lower elevations, below the areas surveyed in 2017, a number of cut lines need to be established at the start of the 2018 fieldwork.

At least four cut lines will be required, two on the northern part and two on the southern part of the property.

### **26.2 Geophysical Surveying**

Geophysical, 3D IP and magnetic surveys over these lower elevation lines will be completed to extend the geophysical data obtained in 2017. The extension of the surveys is important as the 2017 magnetic data did not cover a broad enough area to do 3D inversion analysis of the anomalous areas that were found. The proposed 3D IP survey on lines below the 2017 lines is required to cover the Dalhousie and Rock of Ages North mineral showings.

### **26.3 Soil and Rock Sampling and Prospecting**

Several additional soil sample lines need to be sampled at higher elevations above the main multi-element soil anomaly outlined on the southern half of the property in 2017 as this anomaly is open upslope. As well, at least one new soil sample line needs to be sampled at a lower elevation below the main soil anomaly.

Rock sampling and prospecting need to be complete along the main soil anomaly where the showings were sampled in 2017 as well as at both higher and lower elevations along the mineralized trend. The historic Ice 3B showing is located at a higher elevation directly above the strike of the soil anomaly and this showing area needs to be prospected and rock sampled.

The main magnetic anomaly that occurs within the lower part of the soil anomaly needs to be prospected.

Prospecting needs to be carried out along the cut lines on the northern part of the property in order to locate the Dalhousie and Rock of Ages showings and these showings need to be rock sampled.

One or two soil lines need to be sampled on the northern part of the property along the cut lines in order to investigate the potential of the Dalhousie-Rock of Ages North mineralized area.

### **26.4 Geological Mapping**

A compilation map needs to be created that shows all of the important previous exploration data for the property that are located in BC government assessment reports, including rock and soil sample results, locations of mineral showings and areas that have been geologically mapped.



Geological mapping needs to be conducted on both the northern and southern parts of the property as there presently is no modern government geological map or any other geological map of that covers the area.

The mapping needs to be directed towards correlating the volcanic stratigraphy on the property, which lies along the top and east side of Bear River Ridge, with members of the Hazelton Group and particularly with the detailed stratigraphy mapped at the Premier mine area on the west side of Bear River Ridge.

One key aspect of the mapping will be to investigate whether the "Premier Porphyry" volcanic marker formation, that is intimately associated with mineralization at the Premier mine, occurs on the property.

As well, previous workers have found several thin limestone layers near the Dalhousie showings area and along the lowest rock outcrops at the base of Bear River Ridge, that need to be relocated and sampled for fossils.

The geophysical data suggests that there is a geological difference between the rocks on the north part of the property and those on the south part. The geological mapping needs to be directed towards attempting to correlate the stratigraphy between the northern and southern parts of the property.

The boundary between these two areas is the large fault structure that has a small glacier in it and the geology of this fault zone needs to be investigated.

A geological map included in BC Ministry of Mines Bulletin 58 "Geology and Mineral Deposits of the Stewart Area, BC" shows a body of intrusive Texas Creek granodiorite outcropping on the southern part of the property. Geological mapping needs to be conducted to confirm that the rocks truly are a body of the Texas Creek rocks. This mapping priority also needs to investigate the geology of the main magnetic anomaly that occurs at the northern edge of the Texas Creek body.

## **26.5 Diamond Drilling; Phase One**

A phase one drill program totaling 3,000m of coring is required. A phase two drill program may also be required depending on the results of the phase one program. A number of NQ size diamond drillholes need to be cored both on the north and south parts of the property.

On the northern part of the property at least four holes need to be drilled to explore the C1 chargeability anomaly and at least two holes need to be drilled to explore the C 2 chargeability anomaly. These six drillholes will have to average about 350m long, for a total of at least 2,000m of drilling. As well at least two shorter 100m drillholes need to be cored at the Dalhousie showing to test its potential, for a total of 200m of drilling.

On the southern part of the property at least four holes need to be drilled to explore the potential of the main soil anomaly and mineral showings. These four holes will only need to average about 200m long, for a total of about 800m of drilling.



A very preliminary rough estimate of the total cost of all the recommended 2018 exploration work is approximately \$899,700 and is detailed in Table 26-1 below.

**Table 26-1 MC Claims Project 2018 Mineral Exploration Cost Estimate**

<b>Estimate</b>	<b>Costs</b>
Option Payments 2 @ \$25,000	\$50,000
Reclamation Bond	\$15,000
Wildlife Management Plan	\$1,500
Line Cutting	\$10,000
Geological Mapping \$600/day X 14 days	\$8,400
Prospecting and Rock Sampling \$800/day X 6 days	\$4,800
Analysis and assaying of soil and rock samples	\$3,000
Geophysical Surveys 2 line km Mag @ \$ 5,000/day	\$10,000
Data Compilation 6 days @ \$500/day	\$3,000
Diamond Drilling 3,000 meters @ \$250/meter all in (includes drilling, accommodations, helicopter and assaying costs)	\$750,000
Drilling Pad Building 12 drill pads @ \$1,000/pad	\$12,000
Drill core logging/sampling geologist & splitter @ \$1,200/day for 25 days	\$30,000
Drafting	\$2,000
<b>Total MC Claim Project Costs</b>	<b><u>\$899,700</u></b>

## 27 References

- Alldrick, D.J., (1983), Geological Setting of the Precious Metal Deposits Stewart, B.C. Min. of E.M.&P.Res. Geological Fieldwork.*
- Bird, Geoffrey, 1965, Venture 74 – Aztec Group. B.C. Assessment Report 0759.*
- Boyd, Trevor, 2011, MC, Rock of Ages, Aztec, Alpine Project. Report for Reliant Gold Corp.*
- DeLeen, J., 1991, Description of Bear Pass Mining Properties, Stewart, B.C. private report for Tournigan Mining Explorations Ltd., Vancouver, B.C.*
- Dick, Lawrence, 2014, Red Cliff Property. NI 43-101 report for Decade Resources Ltd.*
- DiSpirito, F., 1986, Moche Resources, Assessment report of an airborne geophysical survey on the Ice claims, Mount Shorty Stevenson, Stewart, B.C. A.R. # 15,581.*
- Fell, F. Julian, 1983, Premier Extension Claims. B.C. Assessment Report 11,546.*
- Foye, Gary, 1981, Briton Property. B.C. Assessment Report 9624.*
- Gal, Len P., 1990, Isk-Bell Claim Block. B.C. Assessment Report 20,573.*
- Grove, E.W., (1971), Geology and Mineral Deposits of the Stewart Area, B.C. Min.of E.M.& P.Res., Bull. 58.*
- Grove, E.W., (1986), Geology of the Unuk River-Salmon River-Anyox Map Area, B.C.Min. of E.M.& P.Res., Bull. 63.*
- Harris, C.R., 1984, Rufus Claim Group, Bear River, Stewart, B.C.*
- Keyte, G. and DeLeen, John, 1979, Dalhousie Claim Group. B.C. Assessment Report 7841.*
- Kikauka, Andris, 1990, Ice 1-4 Claim Group. B.C. Assessment Report 20,429.*
- Kikauka, Andris, 1993, MC 1-5 Claims. B.C. Assessment Report 23,485.*
- Kikauka, Andris, 1994, MC 1-5 Claims. B.C. Assessment Report 23,556.*
- Kikauka, Andris, 2000, MC 1-5 Claims. B.C. Assessment Report 26,220.*
- Kikauka, Andris, 2000, MC 1-5 Claims. B.C. Assessment Report 26,381.*
- Kikauka, Andris, 2003, MC and Dundee Claim. B.C. Assessment Report 27,266.*
- Kikauka, Andris, 2010, MC, Rock of Ages, Dalhousie, Cairn, Ice 3B Project. B.C. Assessment Report 31,752.*
- Polutnik, R., 2017, Logistics Report Prepared for Bonanza Mining Corporation, Volterra-3DIP and Magnetometer MC Clamis. SJ Geophysics.*



*Pritchard, Ruth A., 1990, Dighem Surveys MM, rufus, Big Med, Little Med Properies. B.C. Assessment Report 20,379A and B.*

*Smitheringale, W.G., 1984, Independence Claim Group. B.C. Assessment Report 12,973.*

*Visagie, Dave, 1990, Rock Royal Group. B.C. Assessment Report 20,744.*

*Visser, Syd, J., 1991, MM Property. B.C. Assessment Report 22,053B and C.*

*Walkins, J.J., 1991, MM Group. B.C. Assessment Report 22,053A.*

*Yacoub F., (1990), Geology, Geochemistry, and Geophysics of the Rich 1-4 Claims, White Channel Resources Inc. Assessment Report*