BC Geological Survey
Assessment Report
39681

Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

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

TOTAL COST: $57,754.95

AUTHOR(S): Andris Kikauka

SIGNATURE(S): A. Kikauka

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

YEAR OF WORK: 2021

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5851602

PROPERTY NAME: Rocher Deboule

CLAIM NAME(S) (on which the work was done):
510469

COMMODITIES SOUGHT: Au, Ag, Cu, Co, W, Mo, Pb, Zn, REE, Y

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 093M 071

MINING DIVISION: Omineca

NTS/BCGS: 093M 04/E, 093M.012

LATITUDE: 55 ° 09 ' 35 " **LONGITUDE:** 127 ° 38 ' 36 " **(at centre of work)**

OWNER(S):
1) American Manganese Inc
2)

MAILING ADDRESS:
2-17942 55th Ave, Surrey BC V3S 6C8

OPERATOR(S) [who paid for the work]:
1) Same
2)

MAILING ADDRESS:
Same

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
hornfelsic greywackes siltstones Jurassic-Cretaceous Bowser Lake Grp intruded Rocher Deboule porphyritic granodiorite stock of Bulkley Plutonic Suite
dykes consist of fine-grained quartz monzonite, fine-grained diorite and porphyritic andesite, 1-5 m wide veins occur over 750 m
within parallel structures, strike 075 degrees, dip 35 to 65 degrees north, 3 stages of mineralization: first is pegmatitic, with apatite, magnetite, scheelite, molybdenite, rare earths, 2nd main stage has chalcopyrite
glassy quartz, arsenopyrite, cobaltite, safflorite, glaucodot and pyrrhotite, 3rd milky quartz, siderite, calcite, tetrahedrite, sphalerite, galena, pyrite and possibly chalcocite

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 16575, 16714, 25674, 26984, 27558
28625, 29338, 33297

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TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization	3.8 line km 4.48 Km grid	510469	$51,558.55
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock	5 ME-MS61r 4 acid, ICP-MS +REE, AuICP21	510469	6,183.06
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	$57,741.61

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Mineral Claim Exploration and Development Work/Expiry Date Change

Confirmation

Mineral Claim Exploration and Development Work/Expiry Date Change

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- Select/Input Titles
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- Link Event Numbers
- Data Input Form
- Upload Report
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- Process Payment
- Confirmation

Recorder: AMERICAN MANGANESE INC. (119404)
Submitter: AMERICAN MANGANESE INC. (119404)
Recorded: 2021/NOV/19
Effective: 2021/NOV/19
D/E Date: 2021/NOV/19

Confirmation

If you have not yet submitted your report for this work program, your technical work report is due in 90 days. The Exploration and Development Work/Expiry Date Change event number is required with your report submission. **Please attach a copy of this confirmation page to your report.** Contact Mineral Titles Branch for more information.

Event Number: **5851602**

Work Type: Technical Work
Technical Items: Geochemical, Geophysical

Work Start Date: 2021/JUN/25
Work Stop Date: 2021/JUL/17
Total Value of Work: $ 57754.95
Mine Permit No:

Summary of the work value:

Title Number	Claim Name	Issue Date	Good To Date	New Good To Date	# of Days For-ward	Area in Ha	Applied Work Value	Sub-mission Fee
510469		2005/APR/09	2025/APR/01	2028/JAN/29	1033	979.29	$ 55394.64	$ 0.00
856170	CAPP	2011/JUN/02	2025/APR/01	2028/JAN/29	1033	18.47	$ 1044.98	$ 0.00
1077458	OPPORTUNITY	2020/JUL/22	2021/JUL/22	2028/JAN/29	2382	18.48	$ 1301.99	$ 0.00

Financial Summary:

Total applied work value: $ 57741.61

PAC name: American Manganese Inc
Debited PAC amount: $ 0.0
Credited PAC amount: $ 13.34

Total Submission Fees: $ 0.0

Total Paid: **$ 0.0**

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NTS 093M 04/E, TRIM 093M.012
LAT. 55 09' 35" N
LONG. 127 38’ 36" W

GEOPHYSICAL,GEOCHEMICAL REPORT ON ROCHER DEBOULE MINERAL PROPERTY

GOLD-SILVER-COPPER-COBALT-REE MINERAL OCCURRENCES JUNIPER & COMEAU CREEKS SOUTH HAZELTON, BC

Omineca Mining Division

by

Andris Kikauka, P.Geo.
4199 Highway 101,
Powell River, BC V8A 0C7

December 15, 2021 (Amended March 29, 2022)

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1.0 Summary

The Rocher Deboule property consists of MTO tenure numbers 510491, 856170, and 1077458 covering 1,016.24 hectares, includes 4 past-producing underground mines (Rocher Deboule, Victoria, Highland Boy, & Cap) and significant prospects (Hazelton View, Silvertip Basin, and Great Ohio) located in-and-around the Rocher Deboule stock, south of Hazelton in Central British Columbia. British Columbia Ministry of Energy and Mines MINFILE database lists the Rocher Deboule [MINFILE 093M071] mine produced 36,457 tonnes containing 2,167,780 grams silver, 133,676 grams gold and 2,557,433 kilograms of copper between 1915 and 1929; the adjacent Highland Boy [MINFILE 093M070] mine produced 68 tonnes containing 1,089 grams silver, 124 grams gold and 4,760 kilograms of copper, and the nearby Victoria [MINFILE 093M072] mine produced 51 tonnes, containing 7,341 grams gold, 7,710 kilograms of arsenic and 785 kilograms of cobalt between 1926 and 1940. These mines and other mines and prospects

at Great Ohio [MINFILE 093M069], Cap [MINFILE 093M073], reflect the presence of widespread vein, breccia and disseminated mineralization associated with the Late Cretaceous Bulkley Plutonic Suite, and the satellite Rocher Deboule feldspar porphyry stock (featuring anomalous Fe-Cu-Au-Ag-Co-P-La-REE's) Iron Oxide Copper Gold breccia/fault mineralization (array style faulting).

The property is underlain by a broad, east-west trending belt of alteration zones and/or intermittent mineralization. Rocher Deboule porphyritic granodiorite cover a 1 X 4 km area, resulting in hydrothermal alteration and late-stage copper, silver and gold bearing minerals along fracture and/or fissure zones with quartz-carbonate-chlorite gangue. Earlier phase of polymetallic vein/breccia with rare earth elements + magnetite and later cross-cutting sub-volcanic type massive chalcopyrite lenses adjacent to 030 porphyritic andesite dykes are present at Rocher Mine area. Cu-Ag-Au bearing mineralization is widespread and is located between the Cap (westernmost) and Highland Boy (easternmost) occurrences covering a 1 X 4 km area. Co-Ni-As bearing mineral occurrences are located in the west portion of the claims where the porphyritic granodiorite stock contacts Kasalka Grp (Red Rose/Brian Boru Fm) volcanic rocks at 1,500-1,700 meters elevation (e.g. Victoria & Vent Zones).

The 'Vent Zone' is located approximately 1 km SW of the Victoria No 1 Vein. The Vent Zone is characterized by disseminated, widespread mineralization and clay alteration (chlorite-quartz-carbonate-garnet) hosted in andesitic flows/tuffs (porphyritic) of Upper Cretaceous Kasalka Group (Brian Boru Formation) mixed with Lower Cretaceous Red Rose Formation coarse clastic sediments. The Vent Zone is well defined by SGH (spatiotemporal geochemical hydrocarbon) sample results carried out by American Manganese Inc in 2017 (Actlabs SGH rpt A17-06702). In 2017, a total of 144 soils (B horizon SGH samples), were taken from the Victoria No 1 area (to the north) and the Victoria Vent Zone (to the south) for SGH (spatiotemporal geochemical hydrocarbon) ppt analysis at Actlabs, Ancaster, ON. The results of 2017 hydrocarbon survey identified a redox cell anomaly in the Vent Zone (6.0 out of 6.0 rating), and copper-gold anomalous zones that coincide with the redox cell anomaly (5.0 out of 6.0 rating). In the area of the Victoria No 1 Vein the SGH survey identified (5.0 out of 6.0 rating) copper-gold anomaly clusters located 100-400 meters to the west, southwest and northwest of the No 1 Vein. The SGH (soil-gas hydrocarbon) redox cell anomaly results and elevated Cu-Au-Ag-Fe-REE geochemistry suggest the Vent Zone represents an IOCG (iron oxide copper gold) target. It is postulated that only the alteration shell is exposed on surface. Previous work has revealed potential for "Iron Oxide Copper Gold" (IOCG) mineralization located approximately 1-2 km west of the "Main Zone" historic production. The Victoria No 3 Vein trends west towards Upper Cretaceous Kasalka Fm volcanic-hosted garnet-sericite-illite-quartz-calcite-chlorite-actinolite alteration in an area where American Manganese fieldwork in 2019 identified a well-defined redox-cell soil-gas hydrocarbon (SGH) anomaly and IOCG related (elevated La-Ce-Fe-Cu) geochemical anomalies.

In 2021 American Manganese (operator: Scott Geophysics) performed IP Geophysics (total 3.8 line-km IP survey, 4.48 line-km grid) on the "Vent Zone" target (Fig 5, 6). Also, geochemical sampling was carried out near Rocher Mine area "Main Zone" No 3 & 4 Veins (Fig 7-10).

Evaluation of geophysical results suggest large areas of elevated chargeablity (>30 mV/V), including a 400 m wide and 200 m deep (Line 5200 E), in the central and west portions of the grid which roughly correlates with the redox-cell soil-gas hydrocarbon (SGH) anomaly (Fig 6,10,11). Widespread, disseminated sulphides (mostly fine grain pyrite) are present in the Cap, Vent and to a lesser degree at Victoria and Hazelton View Zones The east portions of the Vent grid area has several tabular shape (vein?) chargeability responses. Based on IP survey results, the Vent Zone (ridge) is a target for mineralization where anomalous chargeability (and low resistivity) increasing at depth (e.g. L5500 E, 4460 N). IP chargeability and coincident low resistivity anomaly on L 5200 E & L 5300 E are further west (and downhill) from the interpreted extent of Vent Zone. The strong chargeability and low resistivity increase at depth. If the initial drilling on L 5400 E, and L 5500 E produce encouraging results, future drilling is recommended on L 5200 E & L 5300 E.

A total of 5 rock chip samples (ranging from 0.55-1.44 kgs in weight) were taken from outcrop (sampled intervals ranging from 15-35 centimeters) near the Rocher Mine area (proposed drilling of "Main Zone" No 4 & 3 Veins), and shipped to ALS Canada Ltd for ME-MS61r four acid multi-element ICP-MS + REE, and AuICP21 Au 30 gram Fire Assay ICP-AES finish (certificate VA 21172433). The following significant results are listed:

ID	Vein	Sulphides	Cu %	Ag g/t	Au g/t	Fe %	Ce ppm	La ppm	Nd ppm	Pr ppm
21rdr-1	No 4	9% pyrite, 0.3% chalcopyrite, 0.1% molybdenite	0.33	8.52	0.188	20.9	>500	9580	>1000	934
21rdr-2	No 4	5% pyrite, 0.5% chalcopyrite	0.84	5.35	0.592	2.84	>500	1050	262	104.5
21rdr-3	No 4	12% chalcopyrite, 8% pyrite 0.1% molybdenite	6.04	101.0	0.178	17.0	236	192.5	42.1	17.6
21rdr-4	No 4	18% chalcopyrite, 10% pyrite, 1% bornite	17.55	58.9	0.241	27.9	47.2	40.2	9.2	3.28
21rdr-5	No 3	15% chalcopyrite, 8% pyrite 0.1% molybdenite	10.50	89.2	2.030	21.7	>500	1120	270	104

Rock chip sample geochemical analysis results indicate massive and semi-massive chalcopyrite-pyrite mineralization (with minor bornite and molybdenite) contain significant rare earth elements (REE elements Ce-La-Nd-Pr are listed above). The Main Zone No 3 & 4 Veins are considered primarily as vein type (tabular shaped) copper resources accompanied by silver, gold and rare earth element bearing minerals. The distribution of rare earth elements (La-Ce-Sc-Y-Pr-Nd-Pm-Sm-Eu-Gd-Tb-Dy-Ho-Er-Tm-Yb-Lu) are associated with silicified fault zones that have magnetite and massive sulphide. Sulphides & REE do not correlate well. It is unclear whether rare earth bearing minerals are associated with sulphide minerals or re-distributed (re-mobilized) from earlier geological (e.g. pegmatitic phase) events, or a combination of both. Rare earth elements weakly correlate with increased P, and U/Th. Note- U values ranging between 1.1-19.7 ppm uranium and Th values ranging between 0.12-13.9 ppm thorium are well below the Provincial threshold values of 100 ppm U.

The two main deposit types are observed at the Rocher Mine No 4 & 3 Veins:
2)SUB-VOLCANIC VEIN/BRECCIA: massive chalcopyrite, minor bornite-tetrahedrite-arsenopyrite-spahlerite-argentiferous galena bearing mineralization is related to elevated Cu-Ag-As-Sb in 'sub-volcanic' fissure veins/breccias (rock sample ID 21rdr-3, 4).
1) POLYMETALLIC VEIN/BRECCIA: semi-massive and coarse grain (blebby) chalcopyrite with increased magnetite-REE bearing mineralization is related to elevated Cu-Au-Ag-REE in

‘polymetallic’ fissure veins/breccias (rock sample ID 21rdr-1,2,5) developed in pegmatitic/aplitic phases of early forming intrusions.

‘Sub-volcanic’ mineralization is developed after polymetallic veins.

Sub-volcanic deposit types can potentially form large lenses of chalcopyrite which can be identified by IP geophysics at depths between 50-200 meters. High magnetite polymetallic deposit type have higher Au-Ag and REE values.

Previous airborne geophysical magnetometer surveys identified several potential high magnetite targets in the Silvertip Creek area where the No 4 Vein crosses the creek and above where the Silvertip Basin has numerous Cu-Ag-Au-Fe showings (1,580-1,800 meters elevation).

Follow up exploration work including detailed mapping, hand trenching, core drilling and metallurgical testing of elevated precious metal bearing vein and disseminated mineral zones is recommended. A program of exploration to cover the Rocher Mine Zone No 2 and No 4 Veins, Victoria Vent Zone (1,490-1,640 m elevation), Cap Zone (600-800 m elev), Silvertip Creek, & Hazelton View area is also recommended. The proposed follow up fieldwork includes core drilling of the Rocher Mine and Vent Zones. Also, the Rocher Deboule No 2 Vein (in the vicinity of Southern Gold Res Ltd 1988 core drilling in the east and west portion of the Rocher Deboule No 2 & 4 Veins), is proposed for additional core drilling.

2.0 Introduction

2.1 General Statement

The Rocher Deboule gold-silver-copper-cobalt-rare earth bearing mineral property is 100% owned by American Manganese Inc. This report describes the history of development of small mines, the geology and mineralization of the area and the exploration history, including previous historic data and 2021 geophysical IP & geochemical rock chip sampling fieldwork.

2.2 Location and Access

The Rocher Deboule property lies at the north end of the Rocher Deboule Range in central British Columbia. It is at latitude of 55 degrees, 10 minutes north, and longitude 127 degrees, 38 minutes west on NTS Map Sheet 93M/04E (093M.012 & 013) and approximately 8 kilometres south of the community of Hazelton.

The central part of the property is rugged and mountainous. Many of the old workings can be accessed by roads and trails (Figure 1). The historic mine workings of the former Rocher Deboule Mine and much of the southwestern part of the property can be reached using an ATV vehicle along an old, largely over-grown road that follows Juniper Creek. The road links to Highway 16 approximately 1 kilometre northeast of the Kitseguelka bridge. The Victoria, Vent and Cap mineral zones are best reached via an un-maintained four-wheel drive road that leaves the east side of Comeau Road (1 km south of Highway 16), located approximately 3 km southeast of Seeley Lake Provincial Park. The Comeau Creek mine road leads to a switchback trail 400 metres below the lowest adit (Victoria No 3 adit). Other parts of the property are also accessed by trails that lead back to a rudimentary road system in the Juniper Creek valley.

Hazelton is in the Skeena River valley, one of the main arterial routes from central British Columbia to the Pacific coast. It is well serviced. It has major road (Highway 16), rail (Canadian National) and hydro-electric power links to the rest of the province and easy access to port facilities at Prince Rupert and Stewart. There are routine commercial flights into airports at the near-by communities of Terrace and Smithers, both of which provide local services.

2.3 Topography and Climate

The Rocher Deboule Range is located on the eastern edge of the Coast Mountain Range. Elevations range from approximately 2200 metres in the east to 400 metres in the west.

Vegetation is sparse above timberline. However, there is significant tree cover, especially on the east and west flanks of the mountain. It is mostly a mix of conifer; hemlock, balsam, spruce, pine and deciduous; poplar, birch, vine-maple, and alder. At lower levels the fauna include moose, deer and goat; bear, black and grizzly, wolf, coyote, cougars, wolverines and eagles, hawks and owls.

The Rocher Deboule Range is subject to both coastal and interior weather patterns. The climate in the Hazleton area is semi-arid with annual precipitation of less than 51 centimetres per year; however, there is considerable accumulation of snow at higher elevations during the winter months. The summer months tend to be hot and dry, punctuated by intermittent Pacific storms.

2.4 Claim Data

The Rocher Deboule property is 100% owned by American Manganese Inc. It consists of a contiguous block of claims that covers an area of reverted Crown Grant mineral claims (Figure 2). It consists of 3 tenures that cover an aggregate of 1,016.24 hectares (2,510.1 acres). The tenures are listed as follows:

Tenure number	Claim Name	Issue Date	Good To Date* subject to approval	Area in hectares
510469		2005/apr/09	2028/JAN/29	979.29
856170	Capp	2011/jun/02	2028/JAN/29	18.47
1077458	Oppurtunity	2020/jul/22	2028/JAN/29	18.48

3.0 Exploration and Development History

The history of exploration of the area is discussed in considerable detail in a NI 43-101 compliant report entitled "Technical Report on the Rocher Deboule Property, Rocher Deboule Range, Omineca Mining Division, British Columbia" written by A.A. Burgoyne and A. Kikauka for Rocher Deboule Minerals Corp., in December, 2007. The Technical Report describe the known history of the old showings, including the three small past producing mines at Rocher Deboule, Victoria and Highland Boy, and surface and underground sampling programs conducted by Western Cobalt Uranium Mines Limited (Hill, H.K. and Legg, R.E., 1951), Southern Gold Resources Limited (Quin,1987, 1989), and Ameridex Minerals Corp (currently American Manganese Inc) which recently carried out exploration of disseminated, bulk tonnage type targets. The principal areas of interest that American Manganese focused on in their 2011 fieldwork extending an East – West trending belt from Cap (about 1 km west of the contact of the stock) through the Rocher Deboule and Victoria mines, Vent Zone (SW of Victoria, and hosted in altered volcanics), and east to the Highland Boy (which host mineralization within the Rocher Stock). 2011 fieldwork focused on areas that lie under the floor of a hanging cirque at Silvertip, approximately mid-way between the Rocher and Highland Boy mines. In 2017 & 2018, American Manganese entered in an option agreement with Longford Resources Ltd, and carried out geochemical fieldwork on the Victoria and Cap Zones. The option agreement was terminated in 2019, and American Manganese continues to focus exploration fieldwork on the Au-Co-Cu-Ag-rare earth bearing mineralization present in the Rocher Mine, Vent, Victoria, Silvertip Basin, and Cap Zones.

Cap [Minfile 093M 073]

The Cap showing is hosted in Kasalka Group volcanic breccia exposed at 670 metres elevation on the lower slope of the Rocher Deboule range, west of the stock contact. The main zone is reported to consists of east-west fractured andesite flow and breccia cut by numerous veins containing quartz, carbonate, pyrite, chalcopyrite, arsenopyrite and, locally at least, sphalerite. The rocks in a 1.0 X 0.5 km area are moderately clay-altered (phyllic alteration) and strongly pyritized (1-5% disseminated and fracture filling pyrite).

The Cap showing is accessible by means of the Victoria mine access road. The principal vein is exposed in four locations over 80 metres strike length. Sample 76056 is a grab sample from the lower access tunnel. Uphill, at the principal showing there are several trenches and a shaft. Sample 76057, which assayed 587g/t silver, 1.2% copper and 3.8% zinc, is a 1metre chip across the vein in the shaft. Mineralization is also exposed in a rock cut a further 65m to the northeast. Chip samples 11 DE 211, 212, and 213 describe the vein over 2.5 metres. The high-grade part of the vein (212 -0.5m) assayed 1.8 g/t gold, 407g/t silver, 1.6% copper, 2.11% zinc and 0.28% lead.
Sample 11 DE 833 is from a heavily altered, 8m wide shear in the road bed.

Soil Surveys have shown geochemical anomalies in the pyritized volcanic breccia around the Capp showing. An extension of the previous soil grid was done using the roadways to help determine the extent of the main anomaly. Soil samples were collected at 50 metres intervals along the Victoria road from the Comeau Road turn off to the 1100m elevation, a distance of 4.2 km. A similar line of samples were taken along the old tramway tower service road, 400 metres below the Cap tunnel. Both lines show that, where underlain by volcanic rock, the soils are enriched in silver, zinc and, to a lesser extent, copper. The linear anomaly on the Tower road contained an average of 4 grams per ton silver over 675 metres road length, and on the main access road the anomaly averaged the same amount between 550 metres and 1050 metres elevation. A total of 188 soil samples were collected, and 49 samples were greater than 2 g/t silver, indicating a significant system 1500m east to west and 600m north to south and open to the north and south.

The Yellow Gossan

Visible from the highway, it is a limonitic cliff exposure with a characteristic yellow colour. The zone appears to have a circular shape within the Kasalka Volcanic breccia unit. The rocks are strongly altered and pyritized, which suggests hydrothermal activity. No other sulfides have been found; however, zinc is enriched in some stream sediment samples (11 KM 733 Zn, 6318 ppm), and anomalous mercury values have been found in stream sediments around the yellow gossan as well as in rocks in the vicinity. The gossan is indicative of a very large hydrothermal system that is likely Cretaceous age. The yellow gossan is currently not part of the Cap mineral property (work reported in 2011 when it was part of the Cap property).

Geochem; Cap Hazelton View showings rock, stream sediment.

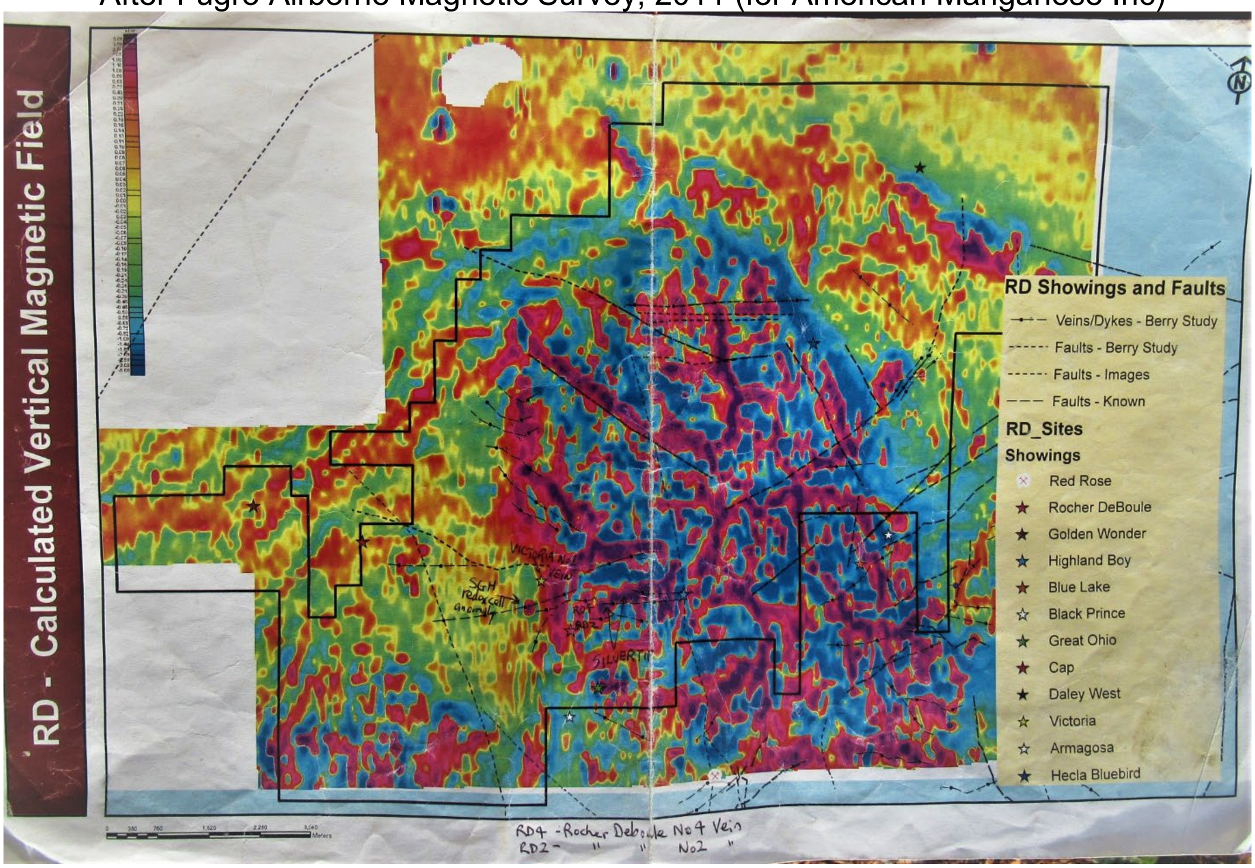
Hazelton View, Cap

Table 3; Geochem; Capp show rock, stream sediment,									
Sample	UTM	East	North	Au	Ag	Cu	Pb	Zn	Hg
				ppb	ppb	ppm	ppm	ppm	ppm
cap 201	9 U	583295	6114797	82	18550	540	846	1860	
cap 202	9 U	583283	6114795	128	27500	294	416	3170	
Cap 203	9 U	583346	6114821	9	430	56.6	35.7	42	
Cap 204	9 U	583358	6114833	233	245000	13300	629	1550	
Cap 205	9 U	583431	6114831	1	430	47.6	23.5	31	
Cap 206	9 U	583466	6114848	9	930	65.7	22.5	35	
Cap 207	9 U	582422	6112939	5	100	58	4.5	112	
Cap 208	9 U	582545	6113093	3	160	51.2	7.5	39	
Cap 209	9 U	582580	6113091	8	580	140	310	21	
Cap 210	9 U	582805	6113070	3	180	29.3	7.3	34	
Cap 211	9 U	583354	6114838	703	141000	6250	635	1680	
Cap 212	9 U	583356	6114839	1815	407000	16000	2790	21100	
Cap 213	9 U	583359	6114839	37	10700	293	178.5	1005	
11 KM 732	9 U	583899	6115104	360.3	4710	424.3	36.87	178.5	109
11 KM 734	9 U	582342	6112348	2.2	99	44.09	3.48	16	1054
11 KM 739	9 U	583504	6113865	2	83	30.19	2.8	76.1	30
11 KM 740	9 U	582760	6112428	2.2	94	51.1	7.31	441.1	434
11 KM 742	9 U	583191	6112488	1.1	36	19.63	3.79	60.8	380
11 KM 743	9 U	583177	6112367	0.2	26	14.89	4.69	41.6	298
11 CA 902	9 U	583318	6114253	0.4	66	12.5	25.47	32.2	12
11 CA 940	9 U	582849	6112771	2	60	58.55	2.52	42.5	<5
11 CA 956	9 U	582843	6112790	1.1	51	38.03	6.63	68.6	1438
11 DE 807	9 U	584501	6113638	27.4	1277	303.98	21.41	32	13
11 DE 808	9 U	584500	6113625	10.9	1642	138.39	158.71	795.9	36
11 DE 831	9 U	583594	6114728	26	7171	137.24	190.08	230.4	
11 DE 831 b	9 U	583594	6114728	5	391	17.19	31.58	90	
11 DE 832	9 U	583619	6114714	6.8	2738	60.19	127.42	178.5	
11 DE 833	9 U	583984	6114744	10.3	342	6.29	24.59	11.6	
11EE0100	9 U	583542	6114890	1.7	23	28.34	10.03	12	
11EE0101	9 U	583508	6114893	4.3	305	24.62	33.66	24.5	
76-056	9 U	583178	6114758	226	477000	6890	1260	12900	
76-057	9 U	583305	6114801	149	587000	11900	3290	38800	
11 KM 902 s	9 U	584558	6115111	94.3	1211	150.99	26.4	98.8	109
11 KM 733 s	9 U	582271	6112433	0.6	77	40.16	12.51	6318.4	319
11 KM 738 s	9 U	583193	6113382	0	124	38.27	7.78	211.7	163
11 KM 741 s	9 U	583129	6112592	0.9	154	22.17	9.64	50.1	852
11 CA 950 s	9 U	582008	6113616	3.5	485	26.87	21.37	269.7	158
11 CA 951 s	9 U	583031	6114005	1.7	86	33.21	14.98	121.1	503
11 CA 952 s	9 U	583038	6113557	1	57	21.86	15.43	238.5	135
11 CA 953 s	9 U	582500	6112398	1.3	39	27.79	15.72	118.2	98
11 CA 954 s	9 U	582694	6112452	1.1	56	33.69	9.11	121.5	260

VENT ZONE: Prospecting southwest of the Victoria creek watershed, There are several copper-bearing showings of a black mat of biotite or hornblende, several inches thick, with magnetite, chalcopyrite and pyrite, usually as blebs in the biotite. The showings are commonly found in what appears to be altered granodiorite, often with carbonate as well as limonite staining, at the contact with the sediments. Garnet is commonly found beside the biotite. The garnet is an alteration product as well as the biotite. This type of mineralization occurs on the east and west sides of the intrusive on the mountain near the contact. (ie Mudflat creek, Limonite Ridge areas).

HAZELTON VIEW: Sample 11 DE 814, is a high-grade sample collected near the mouth of the tunnel at Hazelton View (geochemical analysis results of 6 g/t gold, 65 g/t silver, 10.14 % copper, 0.27 % cobalt and 1.0 % arsenic). Elsewhere in the Hazelton View area, there is a 1m wide shear zone that contains frothy quartz, and there are several areas of rock stained by malachite. Sample DE 820 consists of hornfelsed sediment that contains disseminations of chalcopyrite and assays 9 g/t silver and 0.27 % copper. Sample KM 747 is a biotite, magnetite and chalcopyrite rich rock that contains 2.3 % copper and 17 g/t silver.

After Fugro Airborne Magnetic Survey, 2011 (for American Manganese Inc)



Hazelton View and extensions of Victoria and Rocher Veins

Sample #	Au	Ag	Cu	Zn	Mo	Ni	Comments
	ppb	ppb	ppm	ppm	ppm	ppm	
09 DE 314	246.1	11269	15860	104.6	37.09	39.2	
09 DE 315	9690	1748	17.22	42.3	3770	37.3	Re 969, Pd 236
11 DE 814	5914.9	65682	10.14%	148.7	7.72	65.1	Co 2000ppm Copper Hill hygrade
11 DE 816	5.3	233	53.03	44.8	1.35	15.9	1m chip
11 DE 817	517.1	1400	478.43	62	11.7	45	Co 2000
11 DE 818	27.3	3468	6903.19	192.9	8.97	67.1	Float
11 DE 819	19.6	903	263.45	260.7	0.46	64.4	Zn 260, float
11 DE 820	39.3	9088	2700.79	388	1.71	25.7	Zn 380ppm
11 DE 821	4.1	185	223.08	73.1	0.92	6.1	
11 DE 827	80.6	142	114.42	40.7	711.06	102.8	
11 DE 829	279.3	2522	12.68	88.7	5.05	4.4	
11 DE 830	4.8	410	232.8	72	0.93	5.9	
11 DE 871	48.5	524	4462.11	52.2	49.83	12.6	
11 DE 872	139.7	810	29.39	47.2	1.26	4.4	
11 DE 873	265.4	1054	196.9	28	1.5	163.5	Bi 217
11 DE 874	3370.1	955	569.95	21.8	43.98	616	Co 1367, Bi 978, 1m chip
1000 EE08	23400	48800	16700	13	32.5	202	Bi 268
1001 EE08 f	4340	11900	6470	27	40.7	43.7	Float 0.72% Co
1002 EE08	1485	6260	7660	53	10.75	21.2	Co 608
1003 EE08 f	16	0.36	157.5	231	0.84	4.8	Float, garnet, Y 45.2,
1004 EE08	25	0.16	152.5	201	0.81	9.8	Ce 76.1, Y 96.8 Garnet
1005 EE08	7	0.35	161	88	1.41	3.6	
1006 EE08	16	1.13	66.3	3830	124	27.3	Zn 3830
1007 EE08	74	25	11000	122	1.34	16.1	
1008 EE08	28	2.35	2660	75	61.7	5.4	
1009 EE08	32	2.91	2500	90	73.1	5.7	
1010 EE08	3	0.19	172.5	133	2.88	19.8	Ce, Li
105-1201	6.1	415	97.4	63	0.34	10.3	
105-1202	3.1	118	38.08	19.5	0.4	11.7	float
105-1203	1.2	281	115.77	148.4	0.32	3.1	
105-1204	1.2	127	53.42	35.6	2.07	80.8	
105-1205	2.2	719	278.26	116.6	3.27	7.5	

Rocher Deboule Mine [Minfile 093M 071]

The Rocher Deboule mine was an underground operation that exploited a series of east-northeast trending, north dipping (moderate to steep) fissure veins within a 750

Sample #	Au	Ag	Cu	Zn	Mo	Ni	Comments
	ppb	ppb	ppm	ppm	ppm	ppm	
105-1206	7.7	870	554.13	123.7	7.74	4.3	
105-1296	5.7	136	58.47	85	0.51	16.2	
105-1297	5.3	432	845.6	92.5	2.9	20.2	Chip soil sample 1m of soil
105-1298	1	71	1004.99	61.5	0.9	9.9	
105-1299	6.1	1579	21.71	43	22.64	7.9	
105-1339	1.7	140	38.17	79.5	1.66	13.9	
105-1340	1.7	282	93.04	165.6	0.48	17.1	
105-1341	1.6	106	176.47	134.8	1.75	18.7	garnetization
105-1342	1.5	129	20.78	139.6	0.31	19.4	old trench near tunnel
105-1402	2.1	77	125.74	112.2	0.33	19.9	float
105-1408	0.8	67	27.61	21.6	4.63	17.8	float
105-1409	0.9	157	95.37	15.4	0.38	8.1	float
105-1410	0.2	240	122.02	45.1	2.16	6.2	
11 CA 958	12.5	282	2303.9	35.6	0.17	7.1	float
65E 3350	23	200	21.4	68	2.47	22.6	Soil highlight
66E 3300	1883.3	32016	0	273.9	29.51	31.2	Soil highlight, Hazelton View tunnel
67E 0650	19	241	70.64	80.3	4.95	17.7	Soil highlight
67E 0750	10.8	1171	114.82	103.1	9.52	20.4	Soil highlight
67E 0850	21.9	4060	33.57	21.5	4.81	5.7	Soil highlight
69E 2050	139.7	349	81.31	43	9.95	11.6	Soil highlight
69E 2350	2.8	901	29.23	33.3	5.02	6.9	Soil highlight
11 KM 745	956.2	1323	1322.38	137.2	57.76	38.6	Te 7.5, Co1488
11 KM 746	4	670	191.78	181.6	0.61	10.1	garnet
11 KM 747	280.2	17212	2.30%	192.5	35.2	40.9	float
11 KM 748	146.3	8849	1.42%	102.1	26.59	23.1	
11 KM 752	360.3	5730	4617.3	51.9	87.09	48.8	
11 KM 753	151.3	1791	878.39	91.4	4.84	15.5	
11 KM 754	63.1	861	546.96	234.2	3.6	16.7	float, garnet
11 KM 755	25.5	244	198	48.5	1.33	9.8	Garnet, prospector’s hole, float
11 KM 756	10.3	404	192.18	121.9	2.88	3.4	
11 KM 757	34.3	999	1170.23	42.7	327.67	154.4	Mo 327, Float
11 KM 759	284.3	388	143.19	136.2	6.97	26.6	
11 KM 785	595.8	3799	26.73	319.2	87.17	83	Pb 1835 ppm, Co 814ppm, trench
11 KM 786	637.6	22120	136.55	142.9	1.59	7.3	
11 KM 787	240.9	485g	150.66	62.7	13.46	1.2	Pb 3014ppm, Sb 2000ppm trench
11 KM 788	281.4	56747	115.7	151.1	2.47	6.5	trench material
11 KM 789	41792	7297	493.97	27.3	39.97	8.4	Bi, Sb. trench

metres wide block of intrusive rock a short distance to the east of the intrusion contact. The underground miners exploited narrow, high-grade veins and developed approximately 775 metres of tunnel at the 1200 m level. According to MINFILE, the deposit had a combined “probable and possible” resource of 54,000 tonnes grading 2.7 percent copper, 207.4 g/t silver and 3.5 g/t gold in 1990. The estimate was taken from George Cross Newsletter, #228, published November, 1990. It is historic and non-compliant estimate.

Exploration for extensions and additional structures of known veins is ongoing, and exploration broader zones of lower-grade mineralization that might provide an opportunity for open-cut development are also of interest. There are five main shear-veins in the Rocher Mine, which are numbered from 1 to 5; the No. 2 and 4 veins being the most important. They occur within parallel structures which generally strike 075 degrees and dip 35 to 65 degrees north. The veins are 0.5 to 2.4-metres wide and locally contain gold, silver, copper, cobalt, molybdenite and tungsten. There is little alteration of host rock associated with the mineralization and, although geochemical and geophysical work conducted prior to and in 1987 were successful in identifying the surface expression of the main veins and also of four other possible veins, they were found to be hard to trace. In 2011, the exploration program focused on the area surrounding the Rocher Deboule mine. New veins were found and pockets of alteration were noted and sampled. Fourteen samples were collected in the general vicinity of the old mine.

Although the veins are tight and generally display little wall-rock alteration, there is commonly some alteration and also rusty granodiorite found adjacent to a vein. The Rocher Deboule #2 vein is a case in point. It is exposed and was sampled in a small creek very close to the original 1912 tunnel. Further along the vein (on the east side) the vein is buried by debris; however, there are several patches of rusty granodiorite that contains malachite and chalcopyrite. This patch, which was approximately 3m x 4m in exposed surface area is one of four in the area of the attached photograph. These were not systematically sampled as only the one sample, 1019, was taken. The values from the 1019 sample are strong and indicate further evaluation of all rusty spots should be conducted. Sample 1018 EE 08 (1.5 g/t gold, 138 g/t silver and 15.75 percent copper) is a chip sample across the Rocher Deboule #2 vein and sample 1019 EE 08, (0.882 g/t gold, 19.3 g/t silver and 6.0 percent copper) is a panel sample across a pod above the vein.

Large rusty spots were also found in granodiorite alongside the Rocher #4 vein. However, there is little evidence of mineralization away from the obvious veins. Ten samples were taken to evaluate the granodiorite in the vicinity of the old Rocher workings. Generally these samples were not anomalous. However, one sample (Sample 105-1315) containing quartz stringers and traces of sericite and malachite was found to contain 2.3 g/t gold and 0.1 percent Copper. The sample was collected approximately 20m above the #4 vein. The potential for stockwork mineralization to occur beyond the veins was explored to a greater extent some 200 to 600 metres to the east of the #4 vein IN Silvertip Basin.

Several other areas were also examined; including anomalous zones described by Quinn (1987) on the west side of Rocher Deboule mine, along the Tramway ridge and along the contact between the granodiorite and the sediment. Four trenches and one tunnel were located along the ridge as well as what is probably the Hazelton View mine. These showings mark structures that are probably extensions of the Rocher Deboule veins. The old trenches require cleaning out as the material sampled was float rock. The samples in the attached table show that anomalous gold values in the trenches range from 0.24 g/t to 41.8 g/t gold. Similarly, anomalous silver values range from 3.8 g/t to 485 g/t silver. Galena was found in Samples 11 KM 785 & 787; however, there was no chalcopyrite.

Rocher Mine Area

Table 5; Rocher Mine Area					
Sample	Au ppb	Ag ppb	Cu	Pb	Comments
08 KM 2002	2170	26000	41600	17.9	Rocher #2 vein,
08 EE 1018	1505	138000	157500	279	Rocher#2 vein in creek, 070/48W, chip
08 EE 1019	882	19300	61700	20.2	Pod 10ft X 12ft above vein #2 , panel sample
105-1314	115.4	1204	319.11	4.94	Rocher #4 alteration.
105-1315	2335.1	2147	1098.59	6.39	Rocher #4 Granite with quartz stringers,
105-1339	1.7	140	38.17	6.47	quartz veinlet possible rocher #4 ext
105-1340	1.7	282	93.04	2.94	biotite infill crystals. possible rocher #4 ext
105-1341	1.6	106	176.47	6.08	o/c, garnetization, possible rocher #4 ext
105-1342	1.5	129	20.78	3.01	old trench near tunnel, possible rocher #4 ext
11 KM 785	595.8	3799	26.73	1835.32	qtz, arsenopyrite, biotite, tram area trench
11 KM 786	637.6	22120	136.55	17.87	crystaline qtz in dyke, breccia? tram area trench
11 KM 787	240.9	485g	150.66	3014.57	biotite with quartz stringers, tram area trench
11 KM 788	281.4	56747	115.7	42.94	trench material, tram area trench
11 KM 789	41792	7297	493.97	31.56	trench west end of #2 Rocher Mine. Tram

In 1987–1989, Southern Gold Resources Limited completed drill testing and sampling of the No. 2 Vein and an estimated a potential resource of 49 800 tonnes average 2.69% copper, 208.1 grams per tonne silver & 3.51 grams/tonne gold.

Victoria Mine [Minfile 093M 072]

The Victoria Mine is reported to consist of at least three, approximately east – west oriented veins (Victoria #1 to Victoria #3); however, prospecting suggests there may be a well-mineralized, parallel, unexplored vein, Victoria #0, a short distance to the north and a mineralized shear, Victoria #4, further south (Figure 12). When plotted on a map, the adits and trenches of the Victoria #1 vein demonstrate the strike and dip as it is exposed across the topography (downhill). This pattern is duplicated in the mapping of the #2 vein. The Victoria #4 can also be seen on surface. It is known that the veins are sub parallel and form strong linear features throughout the Rocher Deboule and Victoria mine areas. Other mineralized rock samples appeared to follow the same pattern and may reflect similar veins.

The Victoria mineral zones are located in the west portion of the claim group at 1,200-1,900 meters elevation. The Victoria No 1 Vein showings are hosted in Rocher Deboule granodiorite and minor phases of feldspar porphyry. Hydrothermal activity associated with the emplacement of hornblende-chlorite vein-dyke with Au-As-Co bearing sulphide mineralization related to the nearby intrusion of the Rocher Deboule granodiorite stock. The Victoria mineral zones consist of three parallel vein structures (Victoria #1, #2 and #3), 200 to 300 metres apart, which strike 085 degrees and dip 60 degrees north, and a small cross-vein which strikes north and dips 50 degrees east).

Previous work on Victoria No. 1 vein has outlined the basic mineralogy and geology. Principal minerals are actinolite-hornblende-chlorite-quartz-calcite-apatite-quartz gangue, and arsenopyrite-safflorite-lollingite-molybdenite mineralization. The No 1 Vein trends 085, dips -60 N, and follows a dark grey, fine-grained diorite dike, averages 0.5 metre width, & up to 450 metres along strike, and is 300 metres in vertical extent. It is open to the east and at depth. The No. 2 vein is roughly parallel to No 1 and about to the 200 south. The No 2 Vein follows a feldspar porphyry dyke. The dyke is approximately 10 metres wide and up to 800 metres long. The No. 3 vein is roughly parallel to No 1 and about to the 300 south. The No 3 Vein is approximately 723 metres long and intersected by a cross-vein trending north, containing galena, sphalerite, tetrahedrite, arsenopyrite, safflorite and pyrite.

Victoria #0 is poorly exposed but strike compatible sections were observed from Victoria Peak. Samples 105-1311, 1312, 1313 and 105-1412 appear to project towards and may reflect a structure that links with the newly discovered Victoria #0 vein. Sample 105-1412, appears to lead downhill to the northwest through Samples 105-1334 and 105-1331. The same structure may also extend through Samples KM 749 and DE 824 to EE 1012. Together, the above mix of outcrop and float suggests the presence of hornblende-rich stringer system of variable width but locally up to two metres wide, which contains typical, Victoria area mineralization and an appreciable amount of gold and silver.

The Victoria #1, Victoria #2 and Victoria #3 veins were prospected uphill to the southeast towards the height of land and beyond. Numerous showings were found prospecting from northeast to southwest along the ridge top. These showings are thought to reflect the numbered veins. In all, a total of 58 rock samples (grab and chip) are listed in Table 7, which shows the content of gold and silver in parts per billion, and copper, cobalt, molybdenum, bismuth and nickel in parts per million.

Victoria #2 may extend into the metasediment immediately beyond the granodiorite intrusion contact and crop out as a large area of quartz, sericite and carbonate alteration sampled by Sample DE 323, which assayed 0.5 g/t gold, 18 g/t silver and 0.26 percent Cu over 8 metres. Similarly, the Victoria #3 vein may show as an 8 metres wide altered shear zone containing chlorite, fist-sized pods of biotite and quartz, hornblende and sulphide exposed in the vicinity of DE 325. Several other samples (DE 312, 313 and 315) also appear to contain a trace of gold.

The Victoria #1 vein, as defined by Sample 105-1215 (0.484 g/t gold, 19.7 g/t silver and 1.33 percent copper) projects towards some in-filled trenches near the summit: poorly mineralized nearby samples include 105-1306 and 105-1411. The Victoria #2 vein was identified as mineralized clay gouge in altered, hornblende, quartz, sericite-rich granodiorite. Samples 105-1303, 1304, 1307, 1308 and 1407 show that it is poorly mineralized at this elevation; however, if it is the same structure as found at 09-DE 323 (0.26% Cu, 0.55 g/t gold and 17.8 g/t silver) and at 11 KM 751 (Au 10.8 g/t) it may be mineralized elsewhere along its length. Sample 105-1301 and 1302 define a mineralized fault that appears to project into the Victoria #2 vein. Victoria #3 is probably marked by a well-defined notch in the ridge-top. One sample 105-1300 was found to be barren; however, other samples collected in the same general area, 11 DE 873, DE 874 and to a lesser extent 105-1410 are mineralized. The structure appears to project towards 11 KM 757 and 09 DE 315, which are float samples found along a drill road.

Several rock samples, 11 DE 871, 872, 105-1297, 1298 and 1299 were collected in an area of carbonate veining and strong limonite staining in granodiorite that defines a shear zone that strikes 250 degrees, is vertical and projects towards the Hazelton View. It may also reflect the presence of another structure (Victoria #4) that projects to the west and links to an area of rusty sediment high up on the west side of the Victoria basin. This is referred to as the “50m circle”.

The contact between the granodiorite and sediment in the Victoria area is poorly defined. Some of the sediments west of the contact are limonite stained and appear uninteresting; however they locally contain stringer veinlets of arsenopyrite and pyrite and have been found to carry gold values greater than 1 g/t (e.g. samples 09 DE 312, 2.8 g/t gold; 09 DE 315. 9.6 g/t gold). The Victoria mine is approached by a switchback trail that the company is maintaining. While clearing debris, it located a cliff face of altered, rusty sediment that contains disseminated pyrite and chalcopyrite. Sample DE 826, from an intensely limonitic pod assayed 2.6 g/t gold, 20.5 g/t silver and 2.58 % copper. Below the drill road, at 1440m elevation, there an area of rusty limonitic sediment near the creek that contains disseminated chalcopyrite and arsenopyrite. Sample 11 KM 752 assayed 0.36 g/t gold, 5.7 g/t silver and 0.46% copper.

Sample	Au ppb	Ag ppb	Cu	Co	Comments
08 KM 2001	67300	2720	208	20500	float from the Victoria Mine.
09DE310	18820	899	1.69	4480	float 19 g/t Au
09DE312	2829	1723	2508.11	3130	grab veinlet, Co As
09DE313	36.8	353	531.3	505.2	grab, As veinlet, close to 312, 200/vert.
09DE315	9690	1748	17.22	52.7	float, along old drill rd, As in hornblende.
09DE316	87899	5434	58.8	11330	1m chip. quartz, chlorite, hornblende, 130° 85°E
09DE317	161650	12712	11.48	25800	same place as 316 hygrade zone 3 " wide.
09DE323	554.2	17858	2608.11	26.4	8m shear, 248/80N, sericite, qtz,ca,bleached seds.
09DE324	150.6	225	55.13	17.7	Lot 619 Rosa, black silicified sed with garnet.
09DE325	151.7	346	83.46	27.1	float, qtz, 8m shear, chlorite, Hornblende stockwork
09DE326	22.8	542	163.58	14.5	garnet in biotitte, altered seds, Shear?
08 EE 1004	25	0.16	152.5	26.3	Garnet in intrusive contact.
08 EE 1005	7	0.35	161	8.8	contact, intrusive at sediment
08 EE 1006	16	1.13	66.3	26.6	Zn 3830
08 EE 1007	74	25	11000	71	Cu 1.1
08 EE 1008	28	2.35	2660	26.9	o/c, malachite, qtz vein with pyrite.
08 EE 1009	32	2.91	2500	9.4	same as 1008. grab Cu .25%, 040/80W
08 EE 1010	3	0.19	172.5	13.8	Ce, Li
08 EE 1011	3	0.17	77.5	6.9	granite, bands of hornblende.
08 EE 1012	206000	27900	20.1	22400	Mo 2250, U 379, Ni 7320 Float, hb, euretherite
08 EE 1013	47	0.31	58.3	16.8	Ce 29, Sr 562, o/c, small black veins
105-1214	2	101	2331.65	33.8	Cu .2, oc, qtz, calcite, malachite
105-1215	247.8	19744	1.33%	9.4	10% mag, fsp porphyry, footwall 10ft from tunnel.
105-1216	1.4	280	129.24	2.4	oc, hornblende at tunnel
105-1292	2.4	117	12.41	2.5	o/c fractured granite with quartz, hornblende
105-1293	2.3	56	25.51	10.4	tunnel, 1m diameter and 1.5m deep. Quartz crystals
105-1294	0.2	50	12.84	5.1	OC, fractured granite, limonite,shear? Rep sample
105-1295	6159.8	499	11.64	1322.8	granite, quartz, hornblende, tetrahedrite? Electrum?
105-1296	5.7	136	58.47	15.2	OC, blue 'mafic' granodiorite, SW of Victoria
105-1297	5.3	432	845.6	37.7	soil, in saddle fault gouge near main Victoria site.
105-1298	1	71	1004.99	12.5	green blue granodiorite, malachite, calcite. 084/60N
105-1299	6.1	1579	21.71	7.5	calcite veins, parallel, five/ 3m, 340/88E. pyrite, cpy
105-1300	0.2	60	27.2	7.5	parallel faulting with hb Rep sample 270/46N,
105-1301	1.5	403	335.84	18.9	granite, diss cpy, magnetite. connected to 1051302
105-1302	101.6	1821	559.91	1113.4	granite, diss arsenopyrite– cpy, pyrite.
105-1303	1.5	109	17.98	10.5	OC, fault 300/60SW calcite, limonite. target for drill
105-1304	3.2	149	36.31	16.2	soil of fault gouge red brn sandy clay
105-1305	1	129	46.18	7.5	'the flag pole' 1996m right above No.2 vein Victoria
105-1306	0.8	75	23.93	8.4	green alteration, micacious looking flakey mineral.
105-1307	0.2	20	2.72	2.7	no.2 vein, 'mica like' seracite? 270/42N calcite
105-1308	0.2	12	2.14	2.7	OC, hornblende blob with quartz very limonite.
105-1309	0.5	97	24.5	3.8	OC, parallel no.1 vic vein,quartz, hornblende, calcite

Sample	Au ppb	Ag ppb	Cu	Co	Comments
105-1310	0.5	89	17.51	3.7	OC, big fault no.1 vic 40/60SW granite
105-1311	0.9	136	6.49	5.7	OC, calcite, qtz, limonite contact zone,
105-1312	0.2	126	19.68	2.1	OC, volcanic, carbonate stains,
105-1313	0.2	209	4.25	1	quartz vein carbonate and limonite 130/50NE
105-1331	12.3	63	10.65	3.8	o/c, hornblende 1cm wide, 8 over 2m 100/56N
105-1332	1.9	111	33.38	11.1	weird outcrop or large float?,
105-1333	150.4	195	5.92	113.2	U 1842, o/c, 340/60 SW, fault ,quartz, hornblende
105-1334	2034.7	418	0.83	128.1	hb, quartz, calcite. 290/42 N. 1 ft wide, cobalt
105-1335	1.1	106	37.06	7.6	above 1012, contact, qtz, bleached granite, dyke?
105-1336	3.3	571	128.01	12.2	o/c, volcanic, rusty stringer veins. 240/56 NW
105-1337	1.6	75	17.75	11.5	o/c volcanic, quartz, 240/68SE, 360/70W, 120/45NE
105-1338	34	56	7.67	1.3	Hb stringers in granite, qtz. creek wall.
105-1403	88.5	6782	1815.62	27.1	float, grano with diss cpy and possibly As
105-1404	6	5834	2679.86	9.7	float, Hb veins 2mm, cpy fracture fills
105-1405	7	2294	928.69	2.4	dyke, 2ft, diss pyr in grano, trace cpy 340/58w
105-1406	31.3	7161	3877.4	2.2	cpy in grano, close to shear
105-1407	1.7	54	11.94	7.3	o/c, Hornblende, As
105-1408	0.8	67	27.61	5.1	float, Hb qtz veins purple and green qtz, rusty.
105-1409	0.9	157	95.37	6	float bleached grano, cpy, pyr
105-1410	0.2	240	122.02	2.1	o/c, diss cpy, 300/42E
105-1411	0.4	16	11.39	7.3	o/c, grano, magnetic,320/54E, 035/70E
105-1412	37.7	2142	1863.15	4.5	o/c, bleached grano, minor cpy, 215/14E, 266/66W,
11 DE 822	8682.1	1520	14.62	1192.5	searching for 1012 Hornblende eurytherite,
11 DE 823	6.7	476	512.18	59.2	diss pyr, cpy silicifield, Dyke? pegmetic feldspars
11 DE 824	3294.2	1302	2.04	831.9	Mo 0.79%, hornblende, nickel–arsenio and cobalt
11 DE 825	9.7	549	35.99	8	Tunnel NV Victoria #1, chorite, shear zone mud 24”
11 DE 826	2558.6	20501	2.58%	34.6	pods 1m cubed, alteration, disseminated pyr, cpy
11 DE 827	80.6	142	114.42	382	Mo 711, Victoria drill road, Hornblende
11 DE 871	48.5	524	4462.11	9.8	Cu .44%, shear in granodiorite 250/vert.
11 DE 872	139.7	810	29.39	8.9	fsp porphyry pastel green blue with pyrite dyke
11 DE 873	265.4	1054	196.9	118	lighter green hornblende Vic style,
11 DE 874	3370.1	955	569.95	1367	1m chip, hornblende, As
11 KM 749	10277.8	2411	154.16	0.37%	Mo 827, Arsenopyrite >1%, cobalt, in hornblende
11 KM 750	406.9	4562	6712.56	38.4	float,chalcopyrite above tunnel
11 KM 751	10808	770	11.43	2.18%	Mo 329, As 1%, float, Victoria mine high grade ore,
11 KM 752	360.3	5730	4617.3	367	arsenpyrite (triangles) diss pyrite
11 KM 756	10.3	404	192.18	5.5	decomposed rock, o/c, cpy,pyr, biotite, garnet
11 KM 757	34.3	999	1170.23	61	cpy, pyr massive? Float

American Manganese Inc. diamond drilled six holes in the upper vein at Highland Boy and prospected the area around the upper adit in 2007. Recent re-examination of the core provides considerable insight into the workings of the hydrothermal system responsible for the mineralization in the surrounding rocks. Careful examination of the core shows that fresh, granodiorite has been fractured, and that the cracks are filled with veins of quartz, carbonate and magnetite, with or without chalcopyrite and other sulphides. It also shows that the veins have well developed bleached envelopes that clearly formed through the destruction of magnetite and dark "mafic" minerals, such as hornblende in the country rock granodiorite. The rocks show clear indication of remobilization of iron and other metals out of the granodiorite into a well-defined vein system.

The 'Vent Zone' is located approximately 0.6 km SW of the Victoria No 1 Vein (approximately the same elevation 1,500-1,650 m above sea level). The Vent Zone is characterized by disseminated, widespread mineralization and alteration hosted in andesitic flows/tuffs (porphyritic) of Upper Cretaceous Kasalka Group (Brian Boru Formation) mixed with Lower Cretaceous Red Rose Formation coarse clastic sediments. The Vent Zone is well defined by SGH (spatiotemporal geochemical hydrocarbon) sample results (Actlabs A17-06702, Appendix D). A total of 144 soil samples (B horizon), were taken from the Victoria No 1 area (to the north) and the Victoria Vent Zone (to the south) for SGH analysis at Actlabs, Ancaster, ON. The results of this hydrocarbon survey identified a redox cell anomaly in the Vent Zone (6.0 out of 6.0 rating, location centered at 585,825 E 6,114,075 N), and copper-gold anomalous zones that coincide with the redox cell anomaly (5.0 out of 6.0 rating). In the area of the Victoria No 1 Vein the SGH survey identified (5.0 out of 6.0 rating) copper-gold anomaly clusters (4 specific locations: 6,114,375 N 585,400 E : 6,114,800 N 585,575 E : 6,114,375 N 585,625 E &: 6,114,900 N 585,500 E). It is postulated from the SGH redox cell anomaly results and elevated Cu-Au-Ag-Fe-REE geochemistry, widespread garnetization, suggesting the Vent Zone represents an IOCG (iron oxide copper gold) drill target.

Vent Zone 2017 Rock Chip Sample Results:

Sample	Width	Au g/t	Ag g/t	Cu%	As ppm	La ppm	Ce ppm	Fe %
17VIC-8	float	0.18	0.21	0.01	4,730	610	>500	3.0
17VIC-10	30 cm	0.12	2.04	0.51	3,760	2.9	4.82	15.15
17VIC-13	18 cm	0.07	2.22	0.40	34.5	620	>500	28.2

Hydrothermal activity associated with the emplacement of quartz-carbonate-sulphide fissure veins is related to the nearby intrusion of the Rocher Deboule granodiorite stock. A program of geochemical rock chip sampling on the Victoria showings (located on the west portion of the property), were carried out by American Manganese personnel in June, 2017. A total of 14 rock chip samples taken in the area of the Victoria showings are listed as follows:

Rock Samples from Victoria area

Sample ID	Fe %	Ce ppm	La ppm	Ni ppm	Bi ppm	Ca %	Pb ppm	Zn ppm
17VIC-1	1.62	5.33	2.8	310	83.9	2.59	1	33
17VIC-2	10.7	24.6	20.2	639	1815	1.73	2.9	23
17VIC-3	4.69	12.9	5.9	102	4.97	3.05	15.1	109
17VIC-4	11	199.5	159.5	3020	318	0.85	6.6	23
17VIC-5	10.5	7.72	5.5	3500	1650	1.05	2.3	17
17VIC-6	8.21	23.6	15.1	1745	783	2.36	7.2	27
17VIC-7	1.47	>500	600	423	156	1.55	3.5	10
17VIC-8	3	>500	610	33	1.05	0.06	2.9	779
17VIC-9	5.98	21.6	12.5	601	230	9.2	346	35
17VIC-10	15.15	4.82	2.9	137	1.47	0.19	5.6	61
17VIC-11	7.89	34.8	16.6	38.7	0.57	0.72	4.2	170
17VIC-12	12.3	20.8	9.5	4.4	0.22	0.36	36.5	169
17VIC-13	28.2	>500	620	8	0.44	5.9	1.8	89
17VIC-14	8.41	169.5	136.5	5660	1060	1.41	21	60

Sample ID	Au ppm	Au g/t	Ag ppm	Cu ppm	Co ppm	Co %	As ppm	As %	Mo ppm
17VIC-1	8.77		2.32	7.7	3400		>10000	1.555	2260
17VIC-2	>25.0	110.5	3.67	2.3	>10000	1.535	>10000	18.05	2310
17VIC-3	0.22		0.77	514	48.7		451		9.39
17VIC-4	>25.0	126	7.75	4.5	>10000	1.705	>10000	20.2	4130
17VIC-5	>25.0	96.8	2.84	1.1	>10000	2.75	>10000	26.2	2410
17VIC-6	>25.0	56.8	1.95	1.5	>10000	2.05	>10000	15.55	1885
17VIC-7	>25.0	119	7.95	37.8	>10000	2.46	>10000	9.72	5960
17VIC-8	0.18		0.21	43.5	222		4730		314
17VIC-9	13.65		20.4	12	2360		>10000	2.68	33.2
17VIC-10	0.12		2.04	5090	138		3760		125
17VIC-11	0.04		0.17	60.8	35.1		58.3		3.93
17VIC-12	<0.02		1.57	410	11.2		96.4		6.25
17VIC-13	0.07		2.22	3950	9.1		34.5		11.05
17VIC-14	>25.0	164	22.4	18.3	>10000	1.135	>10000	18.8	905

Geochemical analysis results from rock chip samples 1-7, and 14 (Victoria No 1 Vein), suggest elevated Au values are associated with Ag-Co-As (Ni-Mo-La-Ce-Fe-Bi) in a gangue of hornblende-actinolite. Results from rock chip samples 8, 10-13 (Victoria Vent Zone) show elevated Au values associated with increased Cu-Fe-Ce-La values. Au-Cu-Fe-Ce-La geochemical association suggests Victoria Vent Zone is associated with IOCG type mineralization.

Geophysical readings were taken using GEM Systems GSM19T v 7.0, vertical component of total field was recorded at 12.5 m intervals over the area of the SGH survey (50 meter line spacing). Results suggest a moderate strength, relatively well-defined (100-400 nT) positive anomaly (approx. 100 X 300 m area, elongated east-west) located in the east portion of the Victoria No 1 Vein (1,550-1,700 m elev), and open to the east) which coincides with the area of adits and underground development work (Fig 8). The positive anomalies are likely caused by increased magnetic minerals associated with mafic dykes that are associated with Au-Ag-Co-As-Mo bearing mineralization. Additional weak and relatively poorly defined positive magnetometer anomalies (50-150 nT) occur approximately 200 meters north and south of the Victoria No 1 Vein. The weak north magnetometer anomaly (200 m n of Victoria No 1), coincides with 15 cm width outcrop rock chip sample 17VIC-1 which contains 8.77 g/t Au, 2.32 g/t Ag, 0.34% Co, 1.56% As, 0.23% Mo (source: ALS cert VA17142788).

The magnetometer survey included the area of the Vent Zone (located 500-1,000 m southwest of the Victoria No 3 Vein). The Vent Zone features weak (100-200 nT) and poorly to moderately defined anomalies in the east portion of the grid area covering an area of approximately 200 X 600 meters. These magnetometer anomalies in the higher elevation portions of the Vent Zone (1,410-1,640 m elevation) coincide with rock chip samples 17VIC-8, 10, & 13 with the following results (source: ALS cert VA17142788):

Vent Zone Rock Chip Sample Results:

Sample	Width	Au g/t	Ag g/t	Cu%	As ppm	La ppm	Ce ppm	Fe %
17VIC-8	float	0.18	0.21	0.01	4,730	610	>500	3.0
17VIC-10	30 cm	0.12	2.04	0.51	3,760	2.9	4.82	15.15
17VIC-13	18 cm	0.07	2.22	0.40	34.5	620	>500	28.2

ALS Metallurgy Kamloops, Test Results from Rock Chip Samples 17VIC-4, 5, & 6:

The main arsenic bearing minerals present in rock chip samples (17VIC-4, 5, & 6) are arsenopyrite and Safflorite/Lollingite in a gangue of hornblende-actinolite and chlorite, with minor quartz-calcite-sericite-apatite-epidote. When the As content increases, more of the safflorite/lollingite is present. The cobalt distribution roughly correlates with arsenic distribution. The spectra data shows the cobalt content in these arsenic bearing minerals. Sulphur is mostly associated with arsenopyrite, then in molybdenite. The two high As samples (4 & 5) seem to have significantly different host rock compositions from Sample 9: i.e. high amphibole, low carbonates. Gold particle observations shows some silver content. Metallurgical process testing (on crushed rejects) that could be done might include: Grind to a typical processing size (150µm P80) and investigate cyanide leaching, froth flotation and gravity recovery. The flotation testing would give a good indication of gold association with arsenopyrite, since that and molybdenum are the only 2 main species that should float. Cyanide leaching may be best way to recover gold, as the arsenopyrite may be difficult to sell as a concentrate. If gold is refractory with arsenopyrite, which would be indicated by the flotation and cyanide leach response, pressure oxidation on a flotation concentrate is recommended. Finally, gravity is always good to check and see what can be recovered by grinding and non-chemical methods. High mass recoveries due the high levels of arsenic bearing minerals may incur some high smelter penalties. Cobalt recovery, may be achieved by hydrometallurgical treatment.

Highland Boy [Minfile 093M 070]

American Manganese Inc. diamond drilled six holes in the upper vein at Highland Boy and prospected the area around the upper adit in 2007. Re-examination of the core and texture observations provide information regarding hydrothermal related mineralization in the surrounding rocks. Careful examination of the core shows that fresh, granodiorite has been fractured, and that the cracks are filled with veins of quartz, carbonate and magnetite, with or without chalcopyrite and other sulphides. It also shows that the veins have well developed bleached envelopes that clearly formed through the destruction of magnetite and dark "mafic" minerals, such as hornblende in the country rock granodiorite. The rocks show clear indication of remobilization of iron and other metals out of the granodiorite into a well-defined vein system.

The Highland Boy mine consists of two principal, east to west trending, veins and several other parallel structures, such as the "60 metre fault" that can be readily traced to the west into the Silvertip area and beyond towards and into the Rocher Deboule mine. The vein system appears to be cut-off by the north-south oriented Chicago fault, a short distance east of the Highland Boy mine and either by the north-south Capp fault or the intrusion contact in the Rocher Deboule mine area to the west. It has been traced for approximately 3.5 kilometres.

The Highland Boy veins are exposed on a south-facing slope below a rugged east-west oriented mountainous ridge informally known as "The Teeth". The lower vein can be traced as a colour anomaly across a dangerous slope into the Silvertip area. It has been sampled at several localities including 105-1276, 1277, and KM 797, 798. Exploration in the upper vein area has located a vein with a more northwesterly trend than expected. However, it is clearly part of the main vein system. Sample 105-1244, 1248 and 1249 are part of a predominantly magnetite based composite vein system 3 to 4 metres wide. However, sample 1249 comes from a magnetite stringer zone that also contains quartz, hornblende, chalcopyrite and hematite.

Prospecting of "The Teeth" and the rocks around a small pot-hole lake at the head of the Silvertip cirque, shows that the granodiorite is strongly fractured and that many, if not all the major fractures contain quartz veins with hornblende and magnetite, with or without biotite and calcite (and or chalcopyrite or traces of malachite) bordered by more or less bleached, altered granodiorite. Samples 1221 to 1232 are from twelve different parallel veins along the cliff face. They are grab samples of mineralized vein material from veins up to 1.0 metres wide and/or mineralized pods collected over different widths; however, they show consistent enrichment in gold, silver, copper and molybdenum. The samples include several from the "60 metres zone", which is parallel to and approximately 250 metres north of the Highland Boy upper adit. It is a particularly well defined, broad (60 metres) east – west trending zone of altered granodiorite riddled with micro-veins of magnetite with or without chalcopyrite. Although the general trend of the major veins is east-west, there are numerous interconnecting structures, such as those that separate individual spires in "Teeth zone". The Happy Jack showing, north of the Highland Boy, is a 2 metres wide calcite-chalcopyrite lens in a coarse-grained quartz, feldspar, calcite, hornblende pegmatite zone. Granodiorite strikes north 20 degrees east. Samples 07 HB 107, HB 111 and HB 112 show that it is rich in copper, and contains significant traces of gold and silver.

Highland Boy Geochem

Highland Boy							
Sample #	Au	Ag	Cu	Zn	Mo	Ni	Notes
	ppb	ppb	ppm	ppm	ppm	ppm	
07 HB101	2260	20100	10000	216	132	39	tunnel, Upper vein
07 HB102	285	4400	6636	27	41	71	
07 HB107	10	2800	6059	97	3	27	1.5m chip, Happy Jack
07 HB108	405	5800	10000	136	155	101	W 100, Upper vein
07 HB109	80	800	1161	571	104	100	
07 HB110	25	1100	5009	436	179	42	Upper vein
07 HB111	180	2100	10000	31	16	151	1m chip Happy Jack
07 HB112	2310	26400	10000	24	25	144	Happy Jack
07 HB113	80	600	277	48	23	24	W 100
105-1221	4	77	91.21	25.1	5.21	75.1	60m shear area
105-1222	0.4	74	135.67	15.1	1.36	6.9	60m shear area
105-1223	0.3	58	6.05	9.8	80.65	13.5	60m shear area
105-1224	2	102	79.68	42.5	75.71	26.5	60m shear area
105-1225	484.2	2445	5122.11	15.2	72.47	34.5	BIG VEIN
105-1226	32734.5	23453	9.68%	15.7	171.73	168.3	Big Vein
105-1228	19.2	197	164.61	56.3	12.3	12.6	60m shear area
105-1229	27	263	238.41	14.7	64.28	105.7	60m shear area
105-1230	4.8	143	70.74	29.8	24.59	16.9	Overlooking highland boy.
105-1231	214.7	3495	2.25%	97.6	1.56	30.9	60m shear area, north
105-1232	1213.9	2870	1.77%	37.4	13.79	56.2	60m shear area, north

Silvertip Stockwork

The small cirque at the head of Silvertip Creek is locally known as the Silvertip basin. It is above 1700 metres elevation, surrounded by rugged mountains on three sides and to a large extent floored in coarse, blocky talus. It is midway between the Rocher Deboule and Highland Boy mines, west of the Delta Tunnel, on the immediate easterly projection of the Rocher Deboule #4 vein, which passes through the stockwork zone. The stockwork has limited exposure as small, isolated areas of altered and mineralized outcrop along the creek, amongst the talus and on the immediate walls of the cirque. The full extent of the stockwork zone has yet to be delineated.

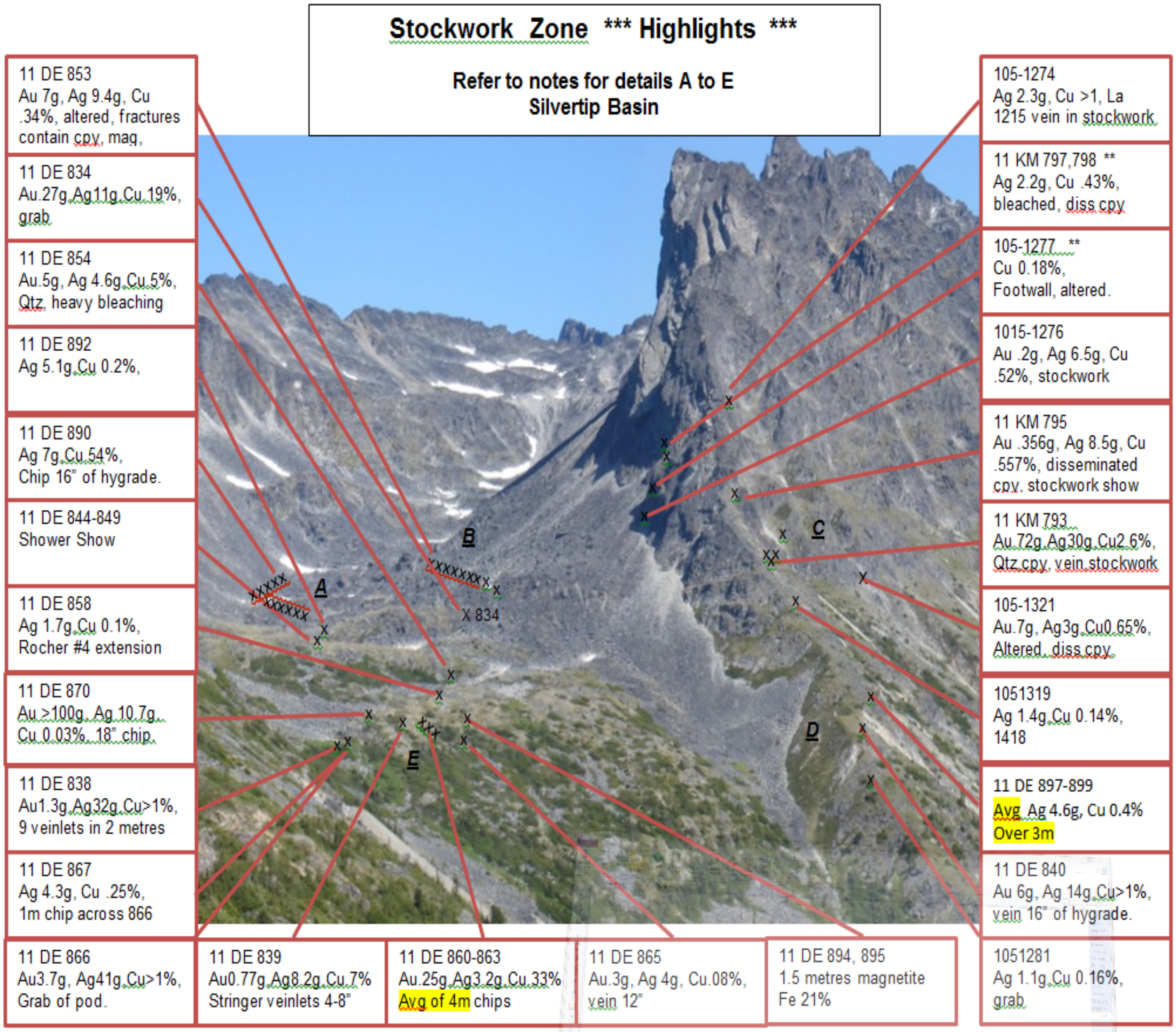
The granodiorite underlying the stockwork zone is broken and altered and lighter in colour than found on the overlying mountain slopes. It is more or less bleached to a whitish colour through the removal of mafic minerals and it has developed a light tan colour.

Locally, the granodiorite is associated with pegmatite. Altered and bleached granodiorite is often intimately associated with coarse hornblende-feldspar-quartz pegmatite that contains magnetite, chalcopyrite, especially in the "Area E". A similar pegmatite area at the "Shower Show" has alteration but it is otherwise un-mineralized.

In the stockwork zone, the altered granodiorite commonly contains limonitic hairline fractures and it locally contains veins and pods of quartz that are either weakly or strongly correlated with pegmatite, malachite and more rarely, chalcopyrite. Numerous showings were located in-amongst the talus; however, they tend to cluster and five locations ("A" to "E") are described separately.

In all, a total of 224 rock samples collected from 180 sites in an area of approximately 2,000 metres by 1,000 metres were submitted for analysis for 53 elements. Of these, 119 were found to be anomalous in at least one metal. However, most contained a combination of gold > 0.5 g/t, silver > 1.5 g/t and > 0.1% copper.

Highlights of Silvertip Stockwork



“Area A”

Area A is the furthest north in the stockwork, located 75 metres northeast of camp which is the Shower show, described above (Figure 16). It covers an area of 250 x 50 metres of mixed outcrop, large fragile pieces of float that are believed to be locally derived and talus. Table 8 shows the assay results obtained from rock samples derived from either outcrop or residual float. The data show significant enrichment in gold, silver and copper. The mineralization in this area occurs in altered granodiorite and in the most northerly areas around the pond it is quartz with malachite staining. Malachite occurs in the granodiorite as fracture fills, and disseminations. Pegmatite mineralization occurs as hornblende quartz and this may also contain chalcopyrite.

Silvertip Creek Area “A``

Sample	Area		Au ppb	Ag ppb	Cu ppm	comments
11 KM 775	A	float	25.3	341	725.49	qtz with malachite
11 DE 845	A	chip 2m	1.3	515	34.61	Shower Show, hornblende quartz
11 DE 849	A	chip 1 m	0.2	62	7.22	Shower Show, hornblende quartz
11 DE 851	A	grab	354.2	8426	904.78	fractured in multiple directions.
11 DE 852	A	grab	73.6	4713	1782.8	malachite in qtz
11 DE 857	A	grab	2	54	7.3	La 883, Ce 1123,
11 DE 884	A	float	46.2	4711	3094.53	grano frac-filled diss. Malachite cpy, mag.
11 DE 885	A	float	11	811	2566.59	mag, cpy, and black dots
11 DE 886	A	grab	3.7	249	2403.17	malachite staining in altered grano
11 DE 887	A	grab	1416.1	86604	3.19%	cpy disseminated in grano.
11 DE 888	A	grab	81	2882	1017.01	bleached grano, malachite stained
11 DE 889	A	grab	17.8	403	548.89	grano with hb stringers, cpy
11 DE 890	A	chip 16"	123.6	7082	5414.64	altered bleached grano, Cpy diss, mag.
11 DE 891	A	chip 12"	166.2	2846	1055.48	4-12” qtz vein, malachite.
11 DE 892	A	grab	171.8	5104	1994.26	malachite.

“Silvertip Creek Area B”

South of the 887 area 75m, is the next group in the series of altered granodiorite zones containing light limonite and malachite. This location is on the south side of the lower pond that is the next bench above camp 100m. The coarse dimension of the sample area is 140m x 50m. There are no obvious mineral showings, it appears to be dead ground. A few hornblende stringer veins and light limonite on fractures. Sample 853, gold at 7 grams with 0.34% Cu, is a hairline fracture in a series of micro fractures.

Silvertip Creek Area "B``

Sample	Area		Au ppb	Ag ppb	Cu ppm	comments
11 DE 834	B	grab	275.4	11164	1920.24	malachite Pict.
11 DE 853	B	grab	7088.8	9426	3425.57	altered, fractures contain cpy, mag,
11 DE 856	B	grab	11.3	517	60.07	carbonate stringers. Possible 350°
11 DE 875	B	chip 1 m	1224.2	4133	1984.03	grano fractures
11 DE 876	B	grab	14.3	152	167.19	Fe 20%, biotite pods in grano. magnetite
11 DE 877	B	float	1429.2	25432	1.17%	apalite? Rusty rotted grano, cpy
11 DE 878	B	float	33.8	2016	1571.87	qtz vein with cpy
11 DE 879	B	chip 0.3 m	317.2	9314	8303.16	bleached grano? Cpy 12" wide
11 DE 880	B	grab	58.6	1230	1448.47	Bleached grano, hb, cpy, limonite
11 DE 881	B	grab	31.9	1184	2055.58	qtz, bleached grano fracture fills of cpy
11 DE 882	B	chip 1 m	156.6	1634	4362.71	connected with 883.
11 DE 883	B	chip 1 m	799.3	11880	2354.69	massive mag, cpy and 2" cube of Moly

"Silvertip Creek Area C"

Area C is a further 125 metres to the south. It covers an area 200 metres by 120 meters on the western end and lower slopes of "The Teeth". It starts near the ridge and extends south towards Juniper Creek. The geology appears to be more varied than under the valley floor. The rocks consist of unaltered and altered granodiorite along with dykes and lenses of feldspar porphyry. Mineralization is erratic and unevenly distributed but locally contains "high-grade" material. 17 of 31 samples show significant enrichment in gold and silver and, in particular copper. It is possible that one or other of the "higher-grade" veins encountered reflects the eastern extension of the Rocher Deboule #4 vein.

Area C

Sample	Area		Au ppb	Ag ppb	Cu ppm	comments
105-1260	C	float	62.1	2116	2059.84	float, very large 6m x 4m x 3m malachite
105-1261	C	chip 1.5m	7997.6	45821	1.51%	vein over tunnel, W 0.05%
105-1262	C	grab	33	1974	6085.88	malachite in a quartz vein 10cm wide
105-1263	C	grab	17	275	956.77	quartz, green tinge.magnetite calcite quartz
105-1264	C	grab	38.3	1192	1473.35	altered small vein.magnetite and malachite
105-1265	C	grab	176.6	3492	2024.26	float boulder 11m x 3m x 2m. 3 veins
105-1266	C	grab	41	1488	2325.44	fresh granite unweathered with chalcopyrite
105-1267	C	grab	186.1	5327	1.57%	chalcopy magnetite calcite
105-1274	C	grab	46.7	2370	7.64%	La 1215, vein going cross ways
105-1275	C	grab	1.3	37	184.37	quartz vein in the stock work magnetite
105-1276	C	grab	239.7	6560	5252.57	hanging wall pod of chalcopyrite, bleached
105-1318	C	grab	0.6	66	86.48	alteration or contact with a granite
105-1319	C	grab	79	1422	1498.04	cpy, magnetite, pyrite.
105-1320	C	chip 1 m	2.8	129	28.43	hb vein 1m wide. meets 11KM 1418.
105-1321	C	grab	659.4	13190	6523.91	diss pyrite in bleached granite.
105-1322	C	grab	1.5	113	37.97	contact of bleached with regular granite
105-1324	C	chip 1 m	3.8	115	30.01	hb, qtz and magnetite, vein in granite.
105-1325	C	grab	58.2	1726	2764.91	Intersect of mag highs chalcopyrite,magnetite
105-1417	C	grab	0.2	35	20.1	o/c, grano, magnetitte, epidote, kspar alteration
105-1418	C	grab	96.6	1069	767.54	, o/c, 1.5 - 2m qtz, hb, mag, cpy, 15m e of 1320,
105-1419	C	chip 0.6 m	13.1	110	77.64	o/c, hb, qtz,magnetitte, calcite, 0.6m wide
105-1420	C	chip 0.75 m	16	184	83.14	Fe 10%, o/c, hb, qtz, magnetitte, 0.75m
105-1421	C	grab	568.8	9964	1.29%	o/c, blue volcanic, magnetitte, cpy
11 KM 784	C	grab	7670.4	19967	9365.21	Au 7.67g Ag 19.967g, Cu .936%
11 KM 793	C	grab	721.9	30498	2.62%	o/c, 20mx15m bleached grano, grab of Qtz, cpy,
11 KM 794	C	grab	52.8	1781	2386.15	diss cpy, stockwork show
11 KM 795	C	grab	356.2	8472	5565.27	disseminated cpy, stockwork show
11 KM 796	C	chip 0.6 m	8.2	627	281.54	8" vein, magnetite, cpy, pyrite, stockwork show
11 KM 797	C	grab	103.1	2259	4343.36	Ag 2.2g, Cu .43%, bleached grano with diss cpy
11 KM 798	C	grab	44.4	1568	2103.96	magnetitte, hemetitte, quartz, cpy, carbonate stain
11 DE 835	C	grab	1.7	101	1411.97	qtz,malachite

“Silvertip Area D”

Area D is at 1670 m elevation on the lower slopes of “The Teeth”.
A 40 cm wide vein at the contact of granodiorite and andesitic feldspar porphyry was discovered (DE 840 Au 6g/t, Ag 14g/t, Cu 1.32%). The mineralization was not restricted to the vein. A 1m chip of the fractures in the adjacent granodiorite (footwall) shows 0.95% copper. The hanging wall, andesitic feldspar porphyry is mineralized with disseminated pyrite and chalcopyrite, 1m chip of 500 ppm copper. There are several pieces of high-grade float rock and a strong magnetometer anomaly requiring follow up. East of the 840 vein 75 meters, the mag anomaly led to a limonitic feldspar porphyry with malachite, pyrite and chalcopyrite. The average of 4.6

g/t Ag and 0.4% Cu is over 3 meters. The area below these showings was not investigated.

Silvertip Creek Area D

Sample	Area		Au ppb	Ag ppb	Cu ppm	comments
105-1277	D	grab o/c	102.2	913	1859.75	malachite, magnetite, hematite in bleached granite.
105-1278	D	grab o/c	1.5	87	48.19	OC, multi fractured granodiorite with 1-2% magnetite.
105-1279	D	grab	1.9	122	79.93	OC, rusty spots on granite chloritized
105-1280	D	grab	43.9	789	1076.44	small show #2A extension? Lots of fractures
105-1281	D	grab	30.4	1146	1622.22	OC, bleached granite with malachite 2-4%
105-1282	D	grab	2.8	123	90.41	OC, same vein as #281 Hb qtz, diss cpy, glassy qtz.
105-1286	D	grab	1	43	7.82	
105-1287	D	grab	193.9	4993	2663.51	quartz vein, malachite. shear zone, bleached
105-1288	D	grab	0.5	31	2.73	rusty walls of shear zone very rotten granite.
105-1289	D	float	5.3	125	23.7	float, white bleached granite, pyrite.
105-1290	D	grab	0.9	101	6.1	blue green andesite dike with apalite bands,
105-1291	D	grab	31.9	319	9172.63	malachite in a quartz hornblende vein through granite.
11 DE 840	D	chip 16"	6013.6	14028	1.32%	vein 16" of hygrade. 310 / 75 s.
11 DE 841	D	grab	42.8	632	217.25	Sr 283,feldspar porphyry contact granite, Epidote.
11 DE 842	D	grab	108.6	3586	9517.44	La 255, Ce 381, fracture fills 1m into granite
11 DE 843	D	chip 0.3	92.4	1740	1777.25	La 145, Ce 210, 12" sample, magnetite calcite cpy
11 DE 844	D	chip 1 m	19.2	707	505.12	fsp porphyry andesite, mineralized hanging wall
11 DE 896	D	float	37.8	2969	1.06%	float, malachite, carbonate, cpy
11 DE 897	D	chip 1 m	41.1	2642	1706.09	fsp porphyry, rusty. Mag, cpy, pyr. 280/40N.
11 DE 898	D	chip 1 m	34.2	3774	3611.92	Ag 3.8g, Cu .36%, continue 1m chip
11 DE 899	D	chip 1 m	66	7617	6818.46	Ag 7.6g, Cu .68%, continue 1m chip

"Sivertip Creek Area E"

Silvertip creek at 1600m elevation takes a sharp turn to the east, following a fault believed to be the Rocher #4 vein. In the creek bed a 1 meter wide hornblende, quartz, magnetite, chalcopyrite vein has been exposed in two locations, 11 DE 858, and 869. The rock that forms the south bank of the creek at this location forms a bench which has been scoured by ice. This bench is the footwall of the #4 vein and it has the altered granodiorite with numerous fractures throughout it. Prospecting this bench several shows were located of pegmatite hornblende, quartz, magnetite veins. This area is roughly 200m x 60m and within that area 10 shows were identified, trenched and sampled. Visible gold was located.
A strong consistent Magnetometer anomaly traversed this bench on a bearing of 100° using 11DE 838 as the fixed point.

Silvertip Creek Area E

Sample	Area		Au ppb	Ag ppb	Cu ppm	comments
11 DE 811	E	grab	12.8	772	1039.74	hornfels seds, pyr often contains cpy
11 DE 812	E	grab	189.8	759	2714.77	limonite pod, Cpy, hematite? Magnetite?
11 DE 838	E	grab	1365.8	32321	2.75%	#4 vein perhaps only 20m away. 8 small veins
11 DE 839	E	grab	776.1	8251	7260.02	stringers 4 to 8" wide, 300 / 5 ne.
11 DE 854	E	grab	497.5	4625	5045.16	bedrock, qtz and malachite. heavy bleaching
11 DE 855	E	float	115.9	126	6.85	float, rotted qtz, magnetite.
11 DE 858	E	chip 1 m	19.7	1688	1030.64	Rocher #4 vein, Hornblende, qtz, mag, cpy.
11 DE 859	E	chip 1 m	19.6	373	621.19	Cu 621ppm, Fe 29%, mag, qtz pods.
11 DE 860	E	chip 1 m	409.9	7014	7907.44	mag, hb, minor cpy
11 DE 861	E	chip 1 m	68	728	733.74	1m chip, mag, hb, minor cpy
11 DE 862	E	chip 1 m	439.9	3078	1843.29	mag, hb, minor cpy
11 DE 863	E	chip 1 m	109.6	2158	2799.21	mag, hb, minor cpy.
11 DE 864	E	chip 1 m	196.9	5517	924.07	La 127, Ce 165, magnetite massive, hornblende.
11 DE 865	E	grab	315.3	4009	848.59	qtz vein ~1 ft mag, hb, cpy. Rotted granodiorite
11 DE 866	E	grab	3676.1	41198	4.68%	pods of o/c with hornblende mag, cpy. Grab
11 DE 867	E	chip 1 m	102.5	4328	2535.39	chip 1m wide across 866 show
11 DE 868	E	grab	25.7	1946	1713.37	parallel to #4 Rocher shear plane. 6-8 inches
11 DE 869	E	chip 1 m	3301.8	17981	1.65%	magnetite vein 1m thick, chip
11 DE 870	E	chip 1 m	82.1g	10710	303.94	black calcite mix, vg, pod 18" apparent 340/56 SW.
11 DE 893	E	grab	42.5	161	203.27	altered grano, qtz vein, cpy, mag, hb.
11 DE 894	E	chip 0.5 m	100.2	176	262.2	altered grano, massive mag in bands. Hb, cpy, qtz,
11 DE 895	E	chip 1 m	62	186	79.16	Fe 24%, 1m chip 240/55N, mag, hb, qtz, cpy

4.0 Regional Geology

The Rocher Deboule area lies within the Skeena Arch, a northeast-trending belt of uplifted Jurassic and older rocks that transects central British Columbia and now separates the Bowser and Nechako Basins. The Skeena Arch is extremely well mineralized and it has been mapped in considerable detail.

The Skeena Arch straddles Skeena Terrane; which is a volcanic arc complex that formed off-shore and accreted to the west coast of North America in Middle Jurassic time. The terrane comprises two cycles of volcanic and related intrusions and overlying sedimentary rock (Takla Group and Hazelton Group) built on a pre-existing basement of metamorphosed volcanic rock and limestone (Asitka Group). Volcanism ceased shortly after the terrane docked and the arch developed as a topographic high that separated a large overlying sedimentary basin (Bowser Basin) in the northwest from a continental volcanic basin (Nechako Basin) in the southeast. The Rocher Deboule area is on the Bowser Basin side of the arch. Marine sediments gave way to non-marine (Skeena Group), in the early Cretaceous.

At about that time, the Skeena Terrane and its cover of Bowser Group sediment started to undergo severe contraction. According to Evanchick and Thorkelson (2005), there was approximately 44% or 150 kilometres of shortening across the Basin. Folding and to a lesser extent faulting caused significant thickening of the crust. Contraction continued into the Tertiary but peaked in the Late Cretaceous, between 110 & 90 ma.

Continental volcanism, accompanied by emplacement of small plutons in the thickened crust, started in the Skeena Arch and in the Nechako Basin shortly after peak deformation and continued intermittently through to the Tertiary. The main period occurred between approximately 88 ma and 74 ma, when the Bulkley intrusions were emplaced and the Kasalka volcanic rocks were extruded. The Rocher Deboule intrusion and the surrounding volcanic rocks are from one of these volcanic complexes. There was a similar, later, episode of volcanism an intrusion the Babine in the Early Tertiary, between 54 ma and 51.5 ma.

According to MacIntyre and Diakow (1998) the two magmatic events occurred during periods of extension which lead to local horst (uplift) and graben (collapse) development between parallel north-south oriented faults, and also deposition of substantial thicknesses of lava within caldera basins and on their flanks. They also note that there is commonly a close association between the volcanic rocks and their associated intrusions. MacIntyre and Diakow (1998) indicate there are three stages in the development of the Central Skeena Terrane. The relationship at Rocher Deboule is well displayed at the west end of the Late Cretaceous (95-65 ma) section. There, Hazelton Group volcanic rocks (lmJH) are overlain by Bowser Lake Group sediments (mJKB) and Skeena Group (lKS) sediments. The rocks are deformed, eroded and faulted – in this schematic by a cauldron subsidence complex. Kasalka Group volcanic rocks are shown surrounding the down-drop basin and the underlying Bulkley intrusions are shown to have off-shoots that (potentially at least) are associated with porphyry style Cu mineralization. At Rocher Deboule, there are 16 MINFILE occurrences clearly associated with the main body of the stock. Most, including the Rocher Deboule and Victoria are found around the outer rim.

5.0 Property Geology

A list of lithologies present on the property are listed as follows:

LKBfp Late Cretaceous Bulkley Plutonic Suite
feldspar porphyry (Rocher Deboule Stock)

LKBg Late Cretaceous Bulkley Plutonic Suite
granodiorite (Rocher Deboule Stock)

uKK Upper Cretaceous Kasalka Grp
andesitic tuffs/flows (Brian Boru Fm)

lKSRs Lower Cretaceous Skeena Grp
coarse clastic sediments (Red Rose Fm)

lKSK Lower Cretaceous Skeena Grp
shale, siltstone (Kitsumkalum Fm)

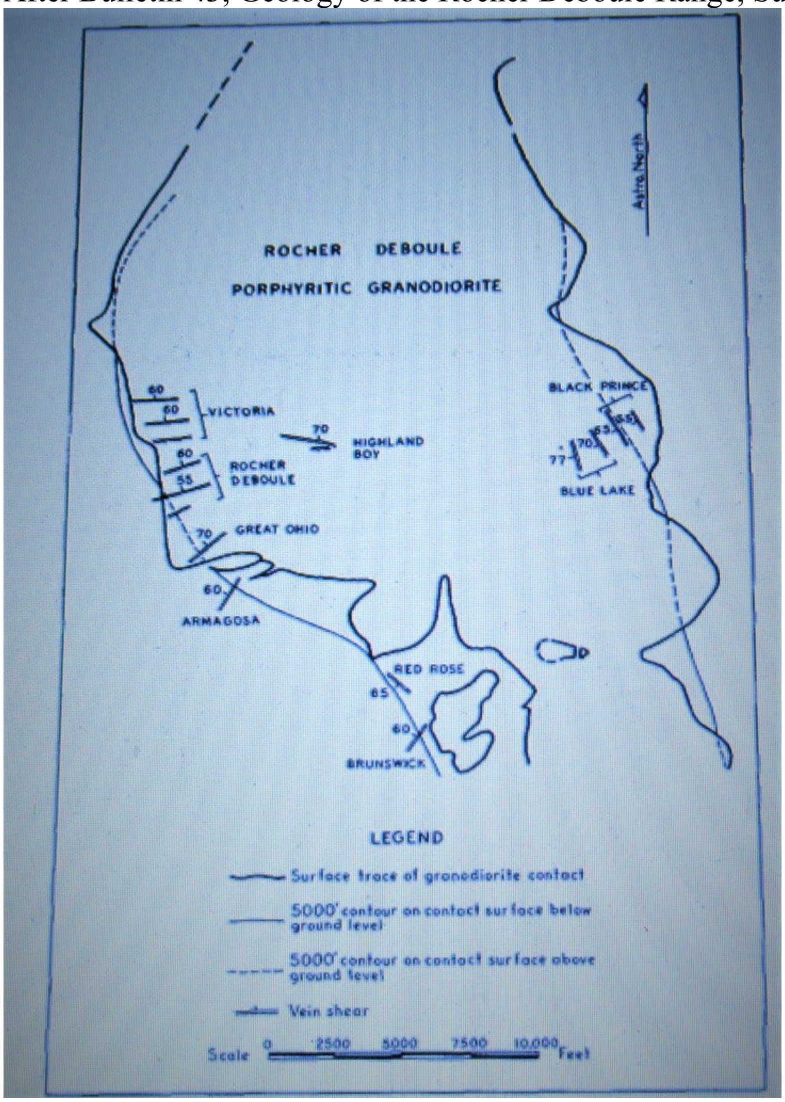
The vein-related mineral showings on the Rocher Deboule property are either within or immediately adjacent to a composite intrusion that was mapped by Sutherland Brown and reported in Bulletin 43 (Sutherland Brown, 1960).

The Rocher Deboule stock consists of two, Bulkley-aged intrusions. The main pluton is an elongate body of granodiorite (LKBg) and lesser feldspar porphyry (LKBfp) that is cut by a smaller, slightly younger body of quartz monzonite (LKBqm) at its northern end. The two intrusions cut through hornfels folded fine-grained clastic sediments of the Lower Cretaceous Skeena Group Red Rose formation (lKSRs) between two north-south oriented extension faults. The stock appears to reduce in size to the south, where it appears to cut higher up section, into Upper Cretaceous Kasalka Group (uKK) volcanic rocks (mainly andesite). The main body of the stock appears to be fairly homogenous, consisting of approximately 60% plagioclase, 10% orthoclase, 10% quartz, 10% hornblende, 10% biotite (Kikauka, 2004) and a minor amount of magnetite. Other less abundant rock types reported in the literature include aplite, pegmatite and, quartz diorite, which are present as dykes. The granodiorite is strongly magnetic and airborne magnetometer (first vertical derivative) data from Mapplace and from Fugro Airborne Survey Corp survey flown over the property in 2007 (Burgoyne and Kikauka, 2007) both suggest that the intrusion dips moderately to the west.

The main northern body of the stock is jointed throughout. There are three main joint sets, of which the two most prevalent include one parallel to the contact and one (a “cross-joint”) normal to the contact. The latter makes a horizontal trace on the contact surface. The third and least well-developed joint set is radial, vertical and normal to the other two. The pattern suggests orthogonal fracturing in response to contraction on cooling. In the Rocher Deboule mine area, the three principal joint sets on average strike north 15 degrees west and dip 65 degrees west (approximately parallel to the contact); north 85 degrees east and dips 5 degrees north (sub-horizontal “cross-joints”) and north 60 degrees east and dips at 65 degrees northwest (radial). There is also a fourth set that strikes north 55 degrees east and dips at 55 degrees to the southeast.

The east trending, northerly dipping radial fractures appear to be particularly important as they host most of the mineralized veins. They are also responsible introducing fluid for alteration, quartz-hornblende pegmatite vein development and for mineralization. The east - west trending, northerly dipping radial fractures on the west side of the intrusive appear to be particularly important as they host most of the mineralized veins. They are also responsible for introducing fluid for alteration, quartz-hornblende pegmatite vein development and for mineralization.

After Bulletin 43, Geology of the Rocher Deboule Range, Sutherland-Brown, 1960



6.0 Property Mineralization & Deposit Types

The veins in the northern part of the Rocher Deboule stock are widespread, have considerable strike length and, where known, appear to project to considerable depth. They are largely polymetallic, shear and/or fracture-hosted veins & some locally develop into stockwork zones. The veins contain a wide range of potentially economic elements, not all of which are commonly associated with typical “porphyry” deposits. The Victoria veins in the north, for instance, contain gold, silver, cobalt and nickel arsenides, but are low in copper, molybdenum and tungsten. The Silvertip Glacier [MINFILE 093M055], vein/breccia on the central portion of the property contains variable amounts of tin, tungsten, copper, molybdenum, gold, silver, lead and arsenic but not elevated nickel or cobalt. The Red Rose [MINFILE 093M 067] deposit to the south of the property contained sufficient tungsten, copper, gold, silver molybdenum and uranium that it became an active producer of tungsten between 1942 and 1954. However, the nearby Great Ohio [MINFILE 093M069], located on the Rocher Deboule property a short distance to the north and west of the Red Rose Mine which contains tungsten, copper, with minor gold, silver, lead and zinc. These vein deposits cluster around the Rocher Deboule and Highland Boy mines.

The stock may show some affinity with iron-oxide-copper-gold (IOCG) deposits found elsewhere, or with some underlying “porphyry” system. Compilation of geological data suggests that there is a broad, west to east trending corridor of mineralization, roughly 1 km wide and 11 km long, of which 6 kms has been focused on. There are numerous past producing mines in the corridor and 2 porphyry copper-molybdenum showings. The majority of mineral showings, with certain exceptions (porphyry and stockwork zone), on the Rocher Deboule Property comprise vein fillings of shear zones, normally in close proximity to the margin of the Rocher Deboule stock.

7.0 2021 Geochemical (Rock Chip Samples) Rocher Mine, & IP Geophysics Vent Zone

7.1 Methods and Procedures

Geophysical fieldwork carried out in 2021 provided IP geophysical data for a 0.4 X 1.0 km area on the west portion of the Vent Zones located at the headwaters of Comeau Creek. A total of 3.8 line-kilometers were recorded for IP chargeability and resistivity over a total distance of 4.48 line kilometers that were surveyed (Appendix B). Rock chip sampling was carried out on the Rocher Mine No 4 and No 3 Vein Zones (Appendix A).

A total of 5 rock chip samples were taken from outcrop using rock hammer and chisel. Approximately 1 kilogram of acorn size rock chips were placed in marked poly ore bags. Sampled intervals near the Rocher Mine area (“Main Zone” No 4 & 3 Veins) intervals ranging from 15-35 centimeters in width at right angles to strike of vein. Samples were shipped to ALS Canada Ltd for ME-MS61r four acid multi-element ICP-MS + REE, and AuICP21 Au, 30 gram Fire Assay ICP-AES finish. Detailed methods and procedures of ALS Canada labs are stated in Appendix A, listed with certificate VA 21172433).

Rock samples were taken with rock hammer and chisel (ranging from 0.55-1.44 kgs total weight per sample), and sample chips about acorn to walnut sized clasts, from exposed bedrock or grab samples either of rock float train, unless otherwise stated, as chip channel samples of bed-rock. Sample locations were surveyed using Garmin GPSMAP 64s receiver (accuracy plus or minus 5 meters). The samples were, labelled, bagged and shipped to ALS Canada, North Vancouver, BC for standard crushing, pulverizing processing and multi-element ICP multi-element analysis ME-MS61r, Au-ICP21, and over-grade geochemical analysis (ME-OG62). Methods and procedures of analysis are listed in Appendix A (geochemical analysis certificate, and methods and procedures).

A Total of 3.8 line km of IP geophysical instrument surveying was carried out over the 4.48 line kilometers of grid surveyed over the west portion of Vent Zone by Scott Geophysics Ltd (Fig 5, 6). IP survey used pole-dipole array, GDD GRx8-32, and pulse rate 2 seconds Complete description of methods and procedures used for IP survey is listed in attached geophysical report (Appendix B).

7.2 Geology, Mineralization, Rock Sample Geochemical Analysis (Rocher Mine No 4 & 3 Veins)

A total of 5 rock chip samples (ranging from 0.55-1.44 kgs in weight) were taken from outcrop (sampled intervals ranging from 15-35 centimeters) near the Rocher Mine area (proposed drilling of "Main Zone" No 4 & 3 Veins), and shipped to ALS Canada Ltd for ME-MS61r four acid multi-element ICP-MS + REE, and AuICP21 Au 30 gram Fire Assay ICP-AES finish (certificate VA 21172433). The following significant results are listed:

ID	Vein	Sulphides	Cu %	Ag g/t	Au g/t	Fe %	Ce ppm	La ppm	Nd ppm	Pr ppm
21rdr-1	No 4	9% pyrite, 0.3% chalcopyrite, 0.1% molybdenite	0.33	8.52	0.188	20.9	>500	9580	>1000	934
21rdr-2	No 4	5% pyrite, 0.5% chalcopyrite	0.84	5.35	0.592	2.84	>500	1050	262	104.5
21rdr-3	No 4	12% chalcopyrite, 8% pyrite 0.1% molybdenite	6.04	101.0	0.178	17.0	236	192.5	42.1	17.6
21rdr-4	No 4	18% chalcopyrite, 10% pyrite, 1% bornite	17.55	58.9	0.241	27.9	47.2	40.2	9.2	3.28
21rdr-5	No 3	15% chalcopyrite, 8% pyrite 0.1% molybdenite	10.50	89.2	2.030	21.7	>500	1120	270	104

Rock chip sample geochemical analysis results indicate massive and semi-massive chalcopyrite-pyrite mineralization (with minor bornite and molybdenite) contain significant rare earth elements (REE elements Ce-La-Nd-Pr are listed above). The Main Zone No 3 & 4 Veins are considered primarily as vein type (tabular shaped) copper resources accompanied by silver, gold and rare earth element bearing minerals. The distribution of rare earth elements (La-Ce-Sc-Y-Pr-Nd-Pm-Sm-Eu-Gd-Tb-Dy-Ho-Er-Tm-Yb-Lu) are associated with silicified fault zones that have magnetite and massive sulphide. Sulphides & REE do not correlate well. It is unclear whether rare earth bearing minerals are associated with sulphide minerals or re-distributed (re-mobilized) from earlier geological (e.g. pegmatitic phase) events, or a combination of both. Rare earth elements weakly correlate with increased P, and U/Th. Note- U values ranging between 1.1-19.7 ppm uranium and Th values ranging between 0.12-13.9 ppm thorium are well below the Provincial threshold values of 100 ppm U.

Sample ID	ID Vein	Tenure No	Easting NAD 83	Northing NAD 83	Elev (m)	Sample Type
21RDR-1	No 4	510469	586676	6113919	1618	Rock chip channel
21RDR-2	No 4	510469	586615	6113896	1641	Rock chip channel
21RDR-3	No 4	510469	586615	6113884	1635	Rock chip channel
21RDR-4	No 4	510469	586460	6113833	1648	Rock chip channel
21RDR-5	No 3	510469	586426	6113641	1563	Angular float

Sample ID	Sample Type	Lithology	Alteration, gamgue
21RDR-1	Rock chip channel	porphyritic granodiorite	5% actinolite, 10% hornblende, 0.1% calcite, 0.1% sericite
21RDR-2	Rock chip channel	porphyritic granodiorite	55% quartz, 0.1% limonite, trace calcite, trace sericite
21RDR-3	Rock chip channel	porphyritic granodiorite	5% actinolite, 5% hornblende, 0.2% calcite, 0.3% sericite
21RDR-4	Rock chip channel	porphyritic granodiorite	5% actinolite, 5% hornblende, 15% qtz 0.2% cal, 0.3% sericite
21RDR-5	Angular float	porphyritic granodiorite	10% actinolite, 5% hornblende, 0.2% calcite, 0.3% sericite

Sample ID	Sulphides	Vein Strike	Vein Dip	Width (cm)
21RDR-1	9% pyrite, 0.3% chalcopyrite, 0.1% molybdenite			15
21RDR-2	5% pyrite, 0.5% chalcopyrite	72	64 N	30
21RDR-3	12% chalcopyrite, 8% pyrite 0.1% molybdenite	73	65 N	30
21RDR-4	18% chalcopyrite, 10% pyrite, 1% bornite	67	67 N	35
21RDR-5	15% chalcopyrite, 8% pyrite 0.1% molybdenite			

Sample ID	Cu %	Ag g/t	Au g/t	Zn ppm	Sb ppm	As ppm	Mo ppm
21RDR-1	0.33	8.52	0.188	76	4.72	28.3	567
21RDR-2	0.84	5.35	0.592	39	17.5	29.3	30.6
21RDR-3	6.04	101	0.178	2450	2230	808	709
21RDR-4	17.55	58.9	0.241	707	4.33	135.5	9.49
21RDR-5	10.5	89.2	2.03	228	3.84	302	1060

Sample ID	Fe %	Ca %	P ppm	Ce ppm	La ppm	Nd ppm	Pr ppm
21RDR-1	20.9	6.39	2320	>500	9580	>1000	934
21RDR-2	2.84	0.24	240	>500	1050	262	104.5
21RDR-3	17	5.09	1030	236	192.5	42.1	17.6
21RDR-4	27.9	2.6	1190	47.2	40.2	9.2	3.28
21RDR-5	21.7	3.97	300	>500	1120	270	104

Rock chip samples 21RDR-3 to 5 contain coarse grain massive chalcopyrite across a vein width of 30-35 centimeters. This section of the No 4 Vein in the Rocher Mine area trends east and dips moderately (50-60 degrees dip) to the north. The No 4 Vein appears to splay at Portal 100 (Fig 8 & 9) where samples 21RDR-2 and 3 were taken from two separate parallel fault zones approximately 12 meters apart. At Portal 100 (elevation 1,616 m, 5,302 ft), the upper vein 21RDR-2 is a quartz-carbonate vein with sparse sulphides, and the lower vein 21DRD-3 consists of semi-massive chalcopyrite. Exploration drilling is planned to target the No 4 and 3 Veins in the area of rock chip sampling.

7.3 IP GEOPHYSICS, VENT ZONE SURVEY JULY, 2021

Operator Scott Geophysics Ltd performed IP Geophysics (total 3.8 line-km IP survey, 4.48 line-km grid) on the "Vent Zone" target (Fig 5, 6). Evaluation of geophysical results suggest large areas of elevated chargeablity (>30 mV/V), including a 400 m wide and 200 m deep (Line 5200 E), in the central and west portions of the grid which roughly correlates with the redox-cell soil-gas hydrocarbon (SGH) anomaly that traces a west-northwest trending ridge (Fig 6,10,11). Widespread, disseminated sulphides (mostly fine grain pyrite) are present in the Cap, Vent and to a lesser degree at Victoria and Hazelton View Zones The east portions of the Vent grid area has several tabular shape (vein?) chargeability responses. Based on IP survey results, the Vent Zone (ridge) is a target for mineralization where anomalous chargeability (and low resistivity) increasing at depth (e.g. L5500 E, 4460 N). IP chargeability and coincident low resistivity anomaly on L 5200 E & L 5300 E are further west (and downhill) from the portion of Vent Zone above 1,500 m elevation (near treeline). The strong chargeability and low resistivity increase at depth. If the initial drilling on L 5400 E, and L 5500 E produce encouraging results, future drilling is recommended on L 5200 E & L 5300 E where IP surveying has identified high chargeability (increasing at depth).

8.0 Discussion

Two main deposit types observed at the Rocher Mine No 4 & 3 Veins are:

2)LATE SUB-VOLCANIC VEIN/BRECCIA: massive chalcopyrite, minor bornite-tetrahedrite-arsenopyrite-spahlerite-argentiferous galena bearing mineralization is related to elevated Cu-Ag-As-Sb in 'sub-volcanic' fissure veins/breccias (rock sample ID 21rdr-3, 4).

1) EARLY POLYMETALLIC VEIN/BRECCIA: semi-massive and coarse grain (blebby) chalcopyrite with increased magnetite-REE bearing mineralization is related to elevated Cu-Au-Ag-REE in 'polymetallic' fissure veins/breccias (rock sample ID 21rdr-1,2,5) developed in pegmatitic/aplitic phases of early forming intrusions.

'Sub-volcanic' mineralization 2) is developed after polymetallic veins. Sub-volcanic deposit types can potentially form large lenses of chalcopyrite (which can be identified by IP geophysics).

High magnetite, polymetallic deposit type 1) with IOCG affinities, generally contain higher values of Au, Ag, and REE (rare earth elements).

Previous airborne geophysical magnetometer surveys identified several potential high magnetite targets in the Silvertip Creek area where the No 4 Vein crosses the creek and above where the Silvertip Basin has numerous Cu-Ag-Au-Fe showings (1,580-1,800 meters elevation).

Follow up exploration work including detailed mapping, hand trenching, core drilling and metallurgical testing of elevated precious metal bearing vein and disseminated mineral zones is recommended. A program of exploration to cover the Rocher Mine Zone No 2 and No 4 Veins, Victoria Vent Zone (1,490-1,640 m elevation), Cap Zone (600-800 m elev), Silvertip Creek, & Hazelton View area is also recommended. The proposed follow up fieldwork includes core drilling of the Rocher Mine and Vent Zones. Also, the Rocher Deboule No 2 Vein (in the vicinity of Southern Gold Res Ltd 1988 core drilling in the east and west portion of the Rocher Deboule No 2 & 4 Veins), is proposed for additional core drilling.

The regional geological setting of the Rocher Deboule stock has been studied in considerable detail by Government geologists, including Stevenson (1947, 1949), Sutherland Brown (1960, 1976) and Richardson (1980) and MacIntyre and Diakow (1998) and, although much of the early work is now missing, the various mines and prospects have been studied and reported on by numerous company geologists, including Walker (1952), Plecash (1982, 1983), Quin (1987, 1989) and Kikauka (2002, 2004). The geology and history of the area is summarized in a NI 43-101 compliant technical report prepared by Burgoyne (2007), and updated by Parent (2020).

One of the principal features of the area is the diversity of style and mineralogy of the various showings and the apparent chemical zonation shown by the veins. Some of the prospects within the stock appear to be "porphyry-type" stockworks; others more clearly resemble "polymetallic veins". The showings display a remarkable degree of chemical diversity. "Porphyry" occurrences contain one or more of Cu, Mo, Au, Ag, W and Sn while the "polymetallic veins" appear to be strongly zoned, carrying Cu, Au and Ag in the centre of the stock (Highland Boy); Co, Ni, As, Au and Ag in the northwest part (Victoria) and Cu, Pb, Zn, Au and Ag on the western margin (Cap).

The oldest and most widespread, a pegmatitic phase, formed polymetallic veins composed principally of dark massive hornblende and glossy quartz with minor feldspar, apatite, magnetite, scheelite, tourmaline, ferberite, and molybdenite. This style of mineralization predominates on the Highland Boy, Great Ohio and is locally well developed on No. 2 and No. 4 veins of the Rocher Deboule mine (and Red Rose Mine).

The second stage forms the sub-volcanic phase of sulphide mineralization including principally chalcopyrite (No. 4 vein, Rocher Deboule), pyrrhotite (Great Ohio), but also locally significant amounts of arsenopyrite and cobalt-nickel sulpharsenides (Victoria vein) and pyrite. It appears that these minerals replace the hornblende and possibly the quartz and cavities. The sulphide content is variable, averaging 5-10% and ranging up to 89-90% over 0.5 to 1.0 metres. Quin (1987) suggests there may be some evidence for regional zoning of the sulphides from the interior of the pluton where pyrrhotite-chalcopyrite predominate (Great Ohio, Highland Boy) to chalcopyrite and pyrite at the pluton margins (No. 4 vein, Rocher Deboule) to sulpharsenides in the sediments outside the pluton (Victoria vein). Copper, cobalt and precious metals are associated with sulphides (and minor oxides). Cu-Co-Au-Ag are considered the main commodities of economic interest, and rare earth elements a secondary target.

The third stage of mineralization cross-cuts the earlier stages. Mineralization consists of milky quartz with main sulphides of tetrahedrite, galena, and pyrite and possibly chalcocite. Gangue mineral fillings consist of combs of quartz containing siderite and calcite. The eastern-end of the No. 2. vein, at the Rocher Deboule mine is the best example of this phase. This phase has limited tonnage but is important and a secondary target of economic mineralization

All three phases can overlap, especially at the western and eastern ends of No. 2 vein at the Rocher Deboule mine on the 1200 and 950 levels, respectively. The precious metals appear to be distributed among several minerals, but principally the iron-cobalt sulpharsenides and arsenides, tetrahedrite and chalcopyrite. Phases three and two are the main precious metal carriers with the phase three minerals carrying most of the silver. The three phases of mineralization reflect three pulses of mineralization along deep, reactivated structures. The degree and extent of overlap presumably reflects the extent to which various shear-hosted veins were reopened and their proximity to the source of later, incoming fluids. The composition of the fluid will be governed by its source, subsequent reaction with country-rock and temperature gradient.

The known veins on the Rocher Deboule property are widely distributed throughout the northern part of the Rocher Deboule stock. For the most part they are oriented with a easterly strike and a moderate north dip, parallel to one of four prominent joint sets. The current exploration program shows that there are undoubtedly far more veins than have been mapped to-date, and that there are a significant number of crosscutting structures that are also mineralized. Most of the veins display minimal wall-rock alteration, but recent work also shows that there is alteration and mineralization in the Silvertip stockwork area and alongside many of the veins. It was noted in several places adjacent to the Rocher Deboule veins west of the Silvertip stockwork. The nature of the alteration is uncertain; however, analysis of several samples of bleached granodiorite adjacent to well-defined veins of quartz, carbonate and magnetite in core from the Company's 2007 drill program at Highland Boy, show that this particular alteration process has removed, and presumably remobilized a trace amount of copper, zinc, nickel and cobalt, in addition to substantial amounts of iron. This type of alteration may be more extensive than hitherto realized and it is conceivable that the nickel and cobalt found in arsenides in the Victoria vein system are sourced through this type of alteration.

To date, the most extensive zones of alteration have been found under the floor of the Silvertip valley. The granodiorite underlying the Silvertip stockwork zone is broken and altered and lighter in colour than found on the overlying mountain slopes. It is more or less bleached to a whitish colour through the removal of mafic minerals and it has developed a light tan colour. There, the altered granodiorite commonly contains limonitic hairline fractures and it locally contains veins and pods of quartz, either glassy or white, that are either weakly or strongly correlated with the pegmatite, malachite, chalcopyrite and pyrite. The alteration appears strongest in an east west path that would follow the 60 metre fault zone, connecting with the Chicago fault at the Highland Boy area and probably splitting into several shears of size such as the Victoria #2 (up to 8 metres) and #3 vein (up to 13 metres). Much of the Silvertip stockwork area is covered by talus derived from the surrounding slopes and the full extent and significance of the area has yet to be determined; however, it lies mid-way between the Rocher Deboule and Highland Boy mines, where their respective vein systems appear to break down. It could mark the presence of buried intrusion responsible for the introduction of the copper, gold and silver found concentrated in the major veins on the property and dispersed throughout the stockwork.

The Silvertip stockwork is one of several alteration zones located in a broadly east to west trending, 1.0 km wide, zone extending from the Chicago fault in the east to the Capp fault, and beyond in the west, a distance of approximately 4.0 km. Exploration throughout this area has located numerous new veins and showings and has established the widespread nature of the copper-gold silver mineralization within the Granodiorite stock. It has also located possible extensions of some of the main veins west of the granodiorite contact. Mineralization extends along the western contact of the stock and in the surrounding metasediment and metavolcanic rock (Cap). The size of the alteration system and the extent and nature of the mineralization in the Cap area suggests a separate fluid source to the one responsible for the Silvertip stockwork. The chemistry of the veins varies from place to place throughout the property and the source of the fluid has yet to be determined; however, the presence a younger quartz monzonite stock at the Daley West, and of feldspar porphyry dykes in the Rocher Deboule and Victoria workings suggests that there may be buried "porphyry" intrusions capable of contributing the copper, silver, gold, lead, zinc, molybdenum, cobalt & tungsten found in the vein systems.

9.0 RECOMMENDATIONS

Follow up exploration work including detailed mapping, hand trenching, core drilling and metallurgical testing of elevated precious metal bearing vein and disseminated mineral zones is recommended. A program of exploration to cover the Rocher Deboule Mine (No 2 & 4 Veins), Victoria No 1 Vein (1,550-1,700 m elev), and Vent Zone (1,410-1,640 m elevation) following up on geochemical, and coincident geophysical anomalies, drilling to target mineralization at 100-225 m depth, combined with alteration mapping is recommended. Cap Zone (600-800 m elev), and Silvertip Creek (1,600-1,750 m elev) are secondary follow-up targets. Hazelton View (and further south) are areas that are also recommended for follow-up geochemical sampling, geophysical surveys. The proposed follow up fieldwork would also include core drilling of the Rocher Deboule No 2 Vein (in the vicinity of Southern Gold Res Ltd 1988 core drilling, near the intrusive contact zones (and 030 trending Rocher porphyritic 'sub-volcanic' andesite dyke) in the west portion of the Rocher Deboule No 2 Vein at 1,475 meter elevation, as well as No 4 Vein (outcropping at 1,610 meters elevation).

The Silvertip stockwork zone is talus covered and poorly defined. It is important to establish the extent and continuity of the copper, gold and silver mineralization. The area needs to be prospected to establish size, mapped (where possible) to establish vein density and orientation, and trenched to assess continuity of grade. It will be important to map alteration and extent of mineralization because the Silvertip alteration zone may project to depth. The slopes below the Silvertip bench and the Juniper creek upper basin from the Rocher Deboule to the Highland Boy mine should be prospected for copper-iron bearing sulphide/oxide mineralization, alteration and feldspar porphyry dykes. Where No 4 Vein crosses Silvertip Creek and creek changes direction at right angles are highly prospective. A program of core drilling on the Rocher Deboule Mine No 2 & 4 Veins are recommended. Victoria No 1, and Vent Zones require core drilling as well as Highland Boy and Cap. Hazelton View, & Juniper Creek should be hand trenched and chip sampling and mapped in detail, notably in areas with high geochemical values of gold, silver and copper.

10.0 References

Burgoyne, A.A., 2006: Geological Report on the Rocher Deboule Property for Ameridex Minerals Corp., dated February 7, 2006.

Burgoyne, A.A. and Kikauka, A. (2007): Technical Report on the Rocher Deboule Property, Omenica Mining Division; British Columbia Ministry of Energy, Mines and Petroleum Resources, Assessment Report No. 29,677.

Ethier, D., 2011, Prospecting and Geochemical Report on the Rocher Deboule Property, Assessment Report 33297, for American Manganese Inc (report date June, 2012).

Kikauka, A., 2002: Geological & Geochemical Report On The RD 1-6 Claim Group, Rocher Deboule Range, Hazelton, BC for Ameridex Minerals Corp., November 30, 2002.

Kikauka, A., 2004: Geological & Geochemical Report On The RD 1-8 Claim Group, Rocher Deboule Range, Hazelton, BC Ameridex Minerals Corp, Nov, 2004. Assessment Report 27,558

Fugro Airborne Surveys Corp., 2007: Dighem Survey for Rocher Deboule Minerals Corp., New Hazelton Area, British Columbia, NTS 93M/4, dated September 4, 2007.

Geological Survey Branch of British Columbia, 2001: RGS Stream Sediments Survey Compilation Maps for 95th Percentile for Au, La, Fe, and Cu

Geological survey of Canada, 1969: Airborne Magnetic Survey, Skeena Crossing, British Columbia, NTS 93 M4 in Geophysics Paper 5245 and Map 5245G.

George Cross Newsletter, 1990: International Kengate Ventures Inc., in George Cross Newsletter, No. 228 (1990), November 26, 1990.

Geoscience Canada 1993: Ore Deposit Models, Volumes 1 and 2. Editors PA Sheahan, ME Cherry, RG Roberts

Geoscience Canada 1996: Atlas of Alteration, editors AJB Thompson and JFH Thompson

Hill, H.L. and Legg, R.E. (1951): Report on Western Uranium Cobalt Mines Limited, Skeena Crossing, B.C., Rocher Deboule Mine, November, 1951.

Holland, S.S. 1952 b: Minister of Mines, BC. Annual Report 1952.

Jasper, M., W., 1952: Assay Plan – No. 2 Vein, Rocher Deboule Property, Western Uranium Cobalt Mines Ltd., Map No. 1-52, May 5, 1952.

Kindle, E. D. (1954): Mineral Resources, Hazelton and Smithers Areas, Geol. Surv., Canada, Mem. 223 (revised).

Minister of Mines, B.C., **Annual Reports** for 1912, 1916, 1917, 1918, 1920, 1921, 1926, 1926, 1928, 1929, 1930, 1948, 1949, 1950, 1951, 1952.

Minister of Mines, B.C., **Assessment Reports** 00092, 00324, 01134, 02855, 03469, 03872, 04839, 06894, 07779, 07903, 08323A, 08323B, 08332, 08336, 08521, 08705, 08937, 10106, 10368, 11019, 11134, 11513, 12133, 12712, 14632, 16012, 16455, 16575, 16714,

Minister of Mines, B.C., **Minfile** 093M 053, 055, 056, 057, 058, 059, 061, 062, 063, 065, 066, 067, 068, 069, 070, 071, 072, 073, 074, 075, 096, 098, 113, 114, 115, 150, 154, 186, 093L 001.

Parent, Ron, Marais, Christo, 2020, 43-101 Technical Summary Report on the Rocher Deboule Property, for American Manganese Inc, filed on SEDAR

Pezzot, E. Trent, 1987: Geophysical Report on a magnetic and VLF Electromagnetic Survey on the Rocher Deboule Property for southern Gold Resources Ltd., October 7, 1987. Assessment Report 16,575.

Pinsent, R., Ethier, D., 2011, Prospecting and Geochemical Report on the Rocher Deboule Property, Assessment Report 33297, for American Manganese Inc (report date June, 2012).

Plecash, D.C. 1983: Rocher Deboule Property, Victoria Group, NTS 93M/4E, Omineca M.D., D. Groot Logging Ltd., Minerals Exploration, Smithers, B.C., November 1983, Assessment Report 11,513

Plecash, D.C. 1982: Rocher Deboule Property, Victoria Group, NTS 93M/4E, Omineca M.D., D. Groot Logging Ltd., Minerals Exploration, Smithers, B.C., March, 1982. Assessment Report 10,368.

Quin, S.P., 1987: Summary Report, 1987 Exploration Program, Rocher Deboule Property for Southern Gold Resources Ltd., November 9, 1987. Assessment Report 16,714.

Quin, S.P., 1989: Summary Report, 1988 Exploration Program, Rocher Deboule Property for Southern Gold Resources Ltd. and Canamin Resources Ltd., June 1989.

Richards, T.A., 1980: Geology of Hazelton (93M) Map Area, Open File 720, Geological Survey of Canada.

Richards, T.A., 1978: Geology of Hazelton (West half) Map Area, Geological Survey of Canada Paper 78-1A, pp. 59-60.

Richards, T.A., 1994: Petrology and Alteration for Prospectors

Schroeter, T.G., 1995: Porphyry Deposits of the Northwestern Cordillera of North America, Special Volume 46, Canadian Institute of Mining and Metallurgy.

Sutherland Brown, A., 1976: Porphyry Deposits of the Canadian Cordillera, A Volume Dedicated to Charles S. Ney, Special Volume 15, Canadian Institute of Mining and Metallurgy. Stevenson, J. S., 1949: Victoria, *Minister of Mines,* B.C., Annual Report, pp. 82-93.

Stevenson, J.S., 1947: Red Rose Mine, *Econ. Geol.,* Vol. XLII, pp. 433-464.

Sutherland Brown, A., 1960: Geology of the Rocher Deboule Range, Bulletin No. 43, British Columbia Department of Mines

CERTIFICATE AND DATE

I, Andris Kikauka, of 4199 Highway, Powell River, BC am a self-employed professional geoscientist. I hereby certify that:

1. I am a graduate of Brock University, St. Catharines, Ont., with an Honours Bachelor of Science Degree in Geological Sciences, 1980.
2. I am a Fellow in good standing with the Geological Association of Canada.
3. I am registered in the Province of British Columbia as a Professional Geoscientist.
4. I have practiced my profession for forty years in precious and base metal exploration in the Cordillera of Western Canada, U.S.A., Mexico, Central America, and South America, as well as for three years in uranium exploration in the Canadian Shield.
5. The information, opinions, and recommendations in this report are based on fieldwork carried out in my presence on the subject property during which time a technical evaluation consisting of IP geophysics and geochemical surveys carried out.
6. I have a direct interest in the Rocher Beboule Mineral Property and American Manganese Inc (who paid for the IP & Geochemical survey). The recommendations in this report are for the purpose of describing future exploration work, and cannot be used for the purpose of public financing.
7. I am not aware of any material fact or material change with respect to the subject matter of this Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. This technical work report supports requirements of BCEMPR for Exploration and Development Work/Expiry Date Change.

Andris Kikauka, P. Geo., December 15, 2021

ITEMIZED COST STATEMENT-

ROCHER DEBOULE VICTORIA PROJECT-
GEOPHYSICAL AND GEOCHEMICAL FIELDWORK
Dates worked: 2021/JUNE/25 to 2021/JULY/17
BCGS 093M.012, NTS 093 M/4 E, SKEENA MINING DIVISION
Work carried out on MTO tenure number: 510469

GEOCHEMICAL SAMPLING:
FIELD CREW:

A. Kikauka (Geologist) 2 days	
2021/JUNE/25 to 2021/JUNE/26	$ 945.00
D. Ethier (Geotechnician) 8 days	
2021/JUNE/25 to 2021/JUNE/26	
2021/JULY/10 to 2021/JULY/16 (9 days)	$ 3,360.00

FIELD COST:

Preparation, Mob and Demob	$ 191.20
Equipment (bags, flags, tags), bear spray, fire extinguisher	54.50
ATV rental (6 days total)	1,200.00
Meals	311.55
Fuel	300.90
Accommodations	336.75
Canadian Helicopters (2.3 hrs invoice P-0492493)	2,207.94
Communication (sat phone, VHF radios)	85.45
Report	1,200.00

SUB-TOTAL= $ 10,193.29

GEOPHYSICAL IP SURVEY (Scott Geophysics Ltd):
cost statement (July 7-17, 2021)

IP Survey, Rocher Deboule Poperty, Hazelton Area, BC (2152101)

Preparation fee			$750.00
Crew Chief (Gord), Technician (Alex), Equipment			
July 7-8	mob	2 travel days @ $1050	2,100.00
July 9-17	IP survey	8.5 survey days @ $1750	14,875.00

Expenses

Food and fuel costs:	6,845.82

4x4 vehicles:	July 7-17	11 days x 2 vehicles @ $160	3,520.00
Assistants			
Isaac Swift-Scott	July 7-17	2 days @ $347.02 + 8.5 days@$480.55	4,778.71
Josh Dundas	July 7-17	2 days @ $347.02 + 8.5 days @ $480.55	4,778.71
Josiah Medin	July 7-17	2 days @ $347.02 + 8.5 days @ $480.55	4,778.71
Malcolm Johnson	July 7-17	2 days @ $347.02 + 8.5 days @ $480.55	4,778.71
Establishing grid		4.45 km @ $80/km	356.00
Total charges IP survey			$47,561.66

TOTAL COST STATEMENT AMOUNT FOR GEOCHEMICAL AND GEOPHYSICAL FIELDWORK= $ 57,754.95

Fig 1 Rocher Deboule Property General Location

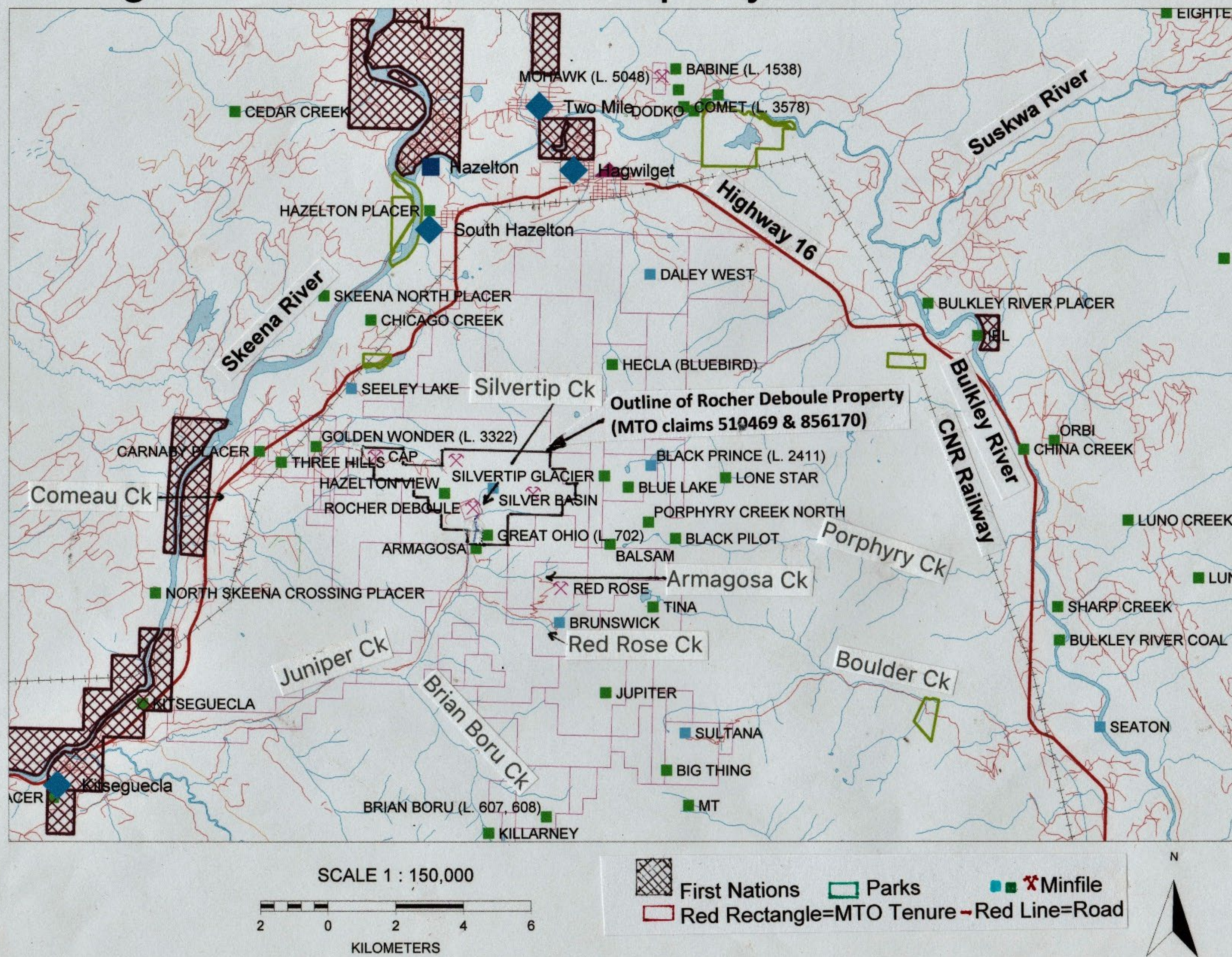
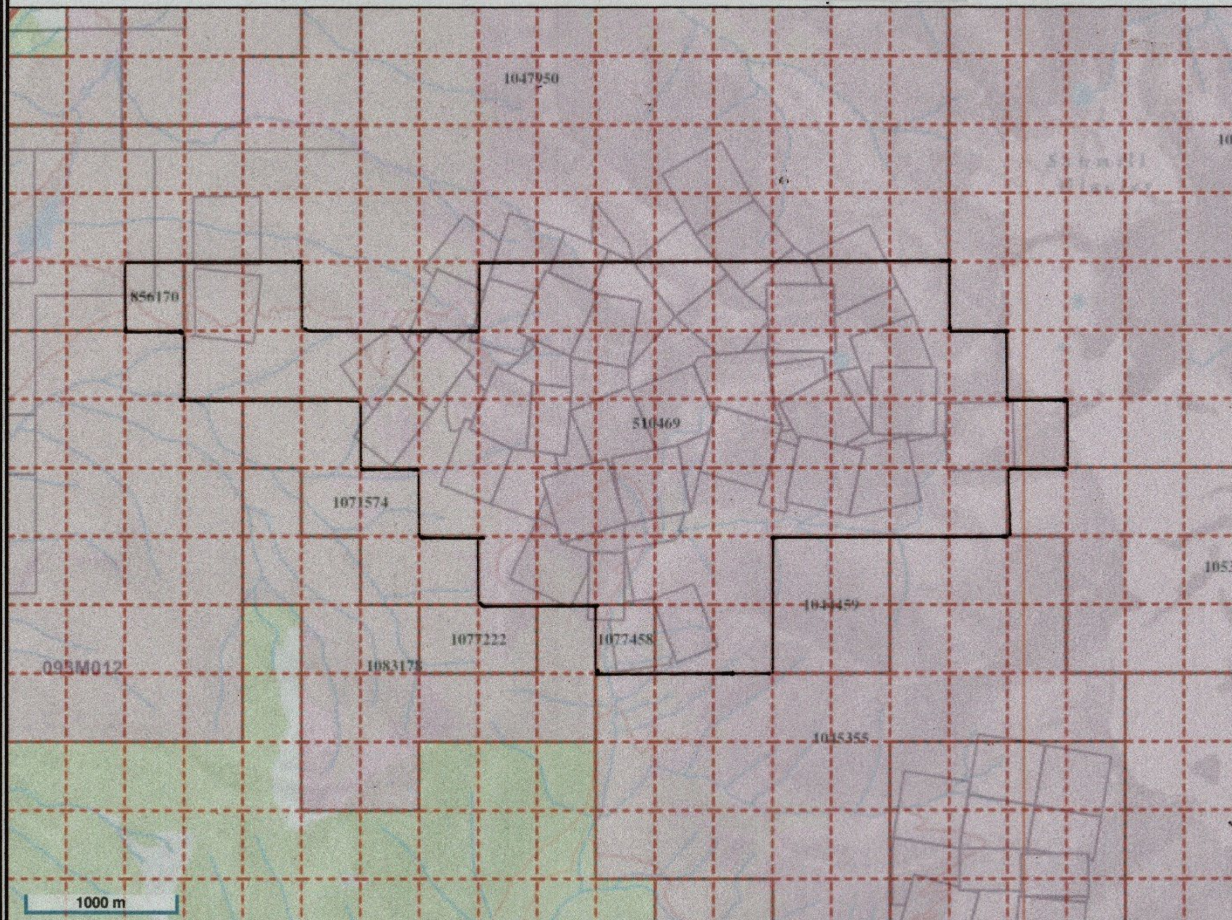


Fig 2 MTO Mineral Claim Map

Note: Crown Grant legacy claims are non-active



Legend

Mineral Titles (MTO)

MTO Grid

Title (current)

- LEASE
- CLAIM

Reserves

- No Registration
- Conditional
- Heritage/Historic Site

Crown Land Layers (Tantalis)

Land Act Survey Parcels - Tantalis - Legal Descriptions

- Label Text

Land Act Survey Parcels - Tantalis - Outlined

Administrative Boundaries

Local Regional Greenspaces - Outline

- Local and Regional Greenspa

Local Regional Greenspaces - Colour Filled

Federal Transfer Lands - Outlined

Federal Transfer Lands - Colour Filled

National Parks - Outlined

- National Park

National Parks - Colour Filled

Conservancy Areas - Tantalis - Colour Filled

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Printed using the Mineral Titles Online (MTO) application.NTS093 M 04/E, BCGS 093M.012
Omineca M.D.

Total Area = 1,016.24 hectares (2,510.1 acres)

Center: 55°9'45", -127°38'33"
Scale: 1 : 67710
SRS: EPSG:3857
UTM Zone: 9

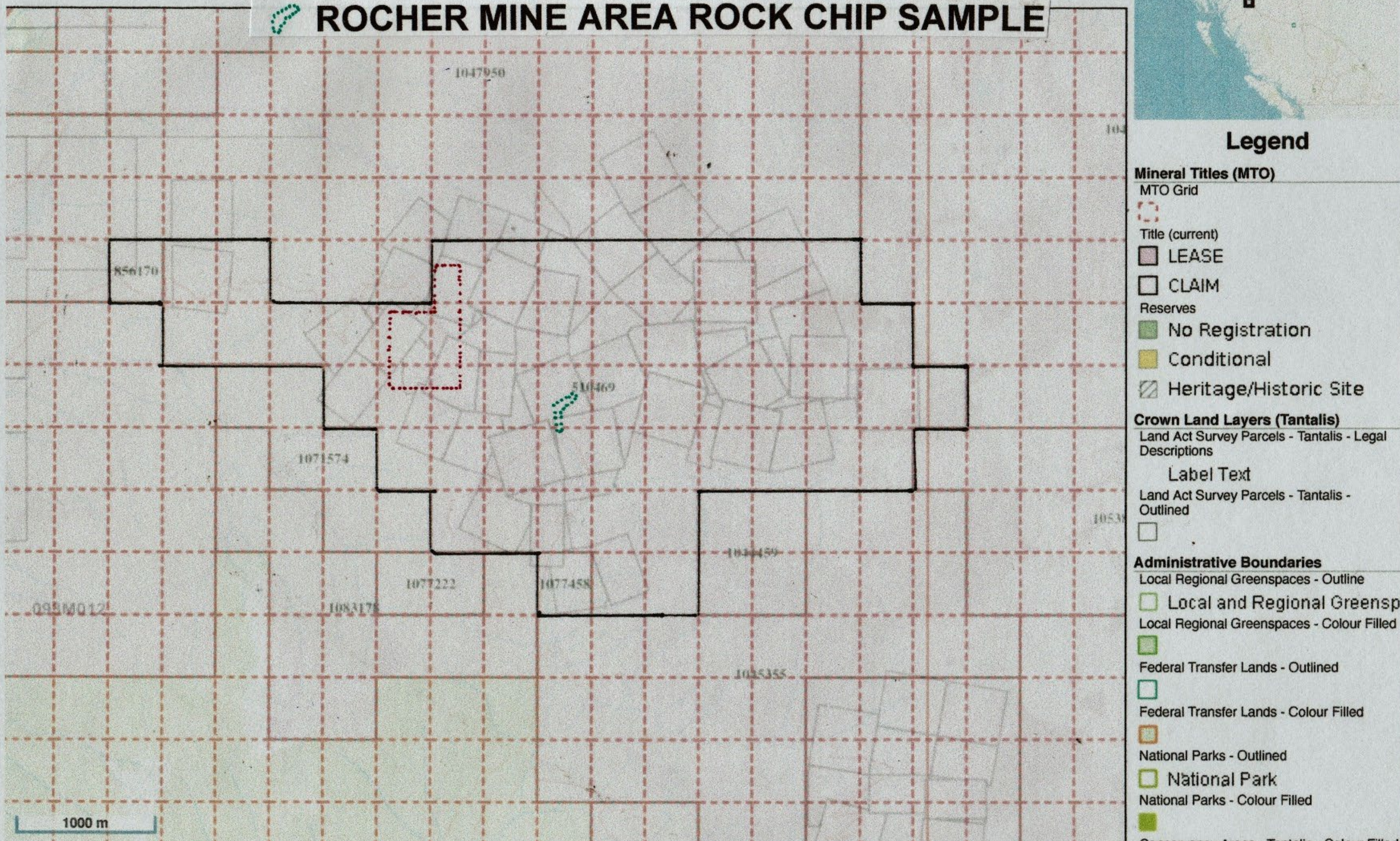
N

BRITISH COLUMBIA

Fig 2B MTO Mineral Claim Map

VENT ZONE IP SURVEY

ROCHER MINE AREA ROCK CHIP SAMPLE



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THIS MAP IS NOT TO BE USED FOR NAVIGATION.

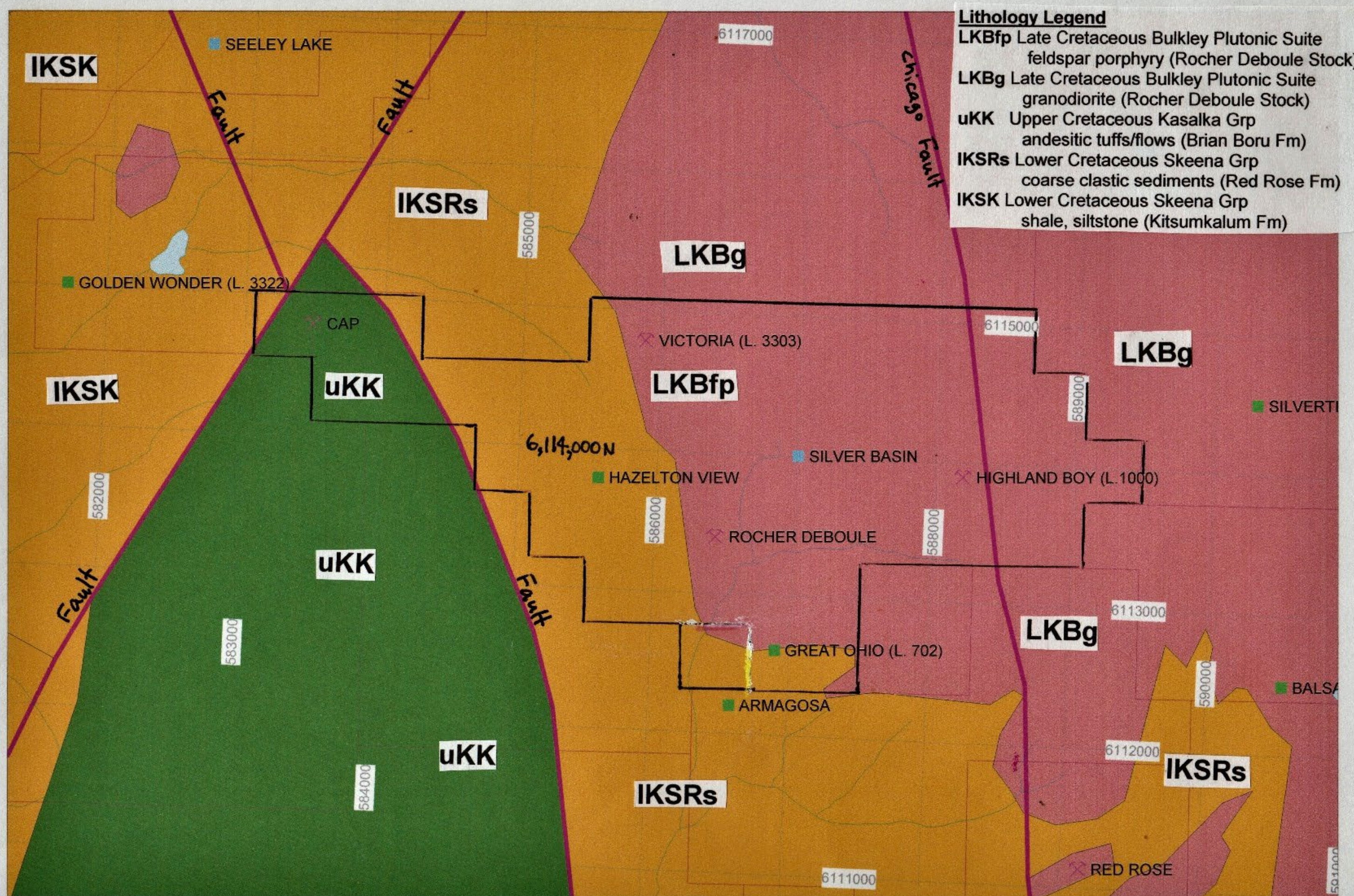
Printed using the Mineral Titles Online (MTO) application.NTS093 M 04/E, BCGS 093M.012 Omineca M.D.

Fig 2B

Center: 55°9'45", -127°38'33"
Scale: 1 : 67710
SRS: EPSG:3857
UTM Zone: 9

N

Fig 3 General Geology Rocher Deboule Property



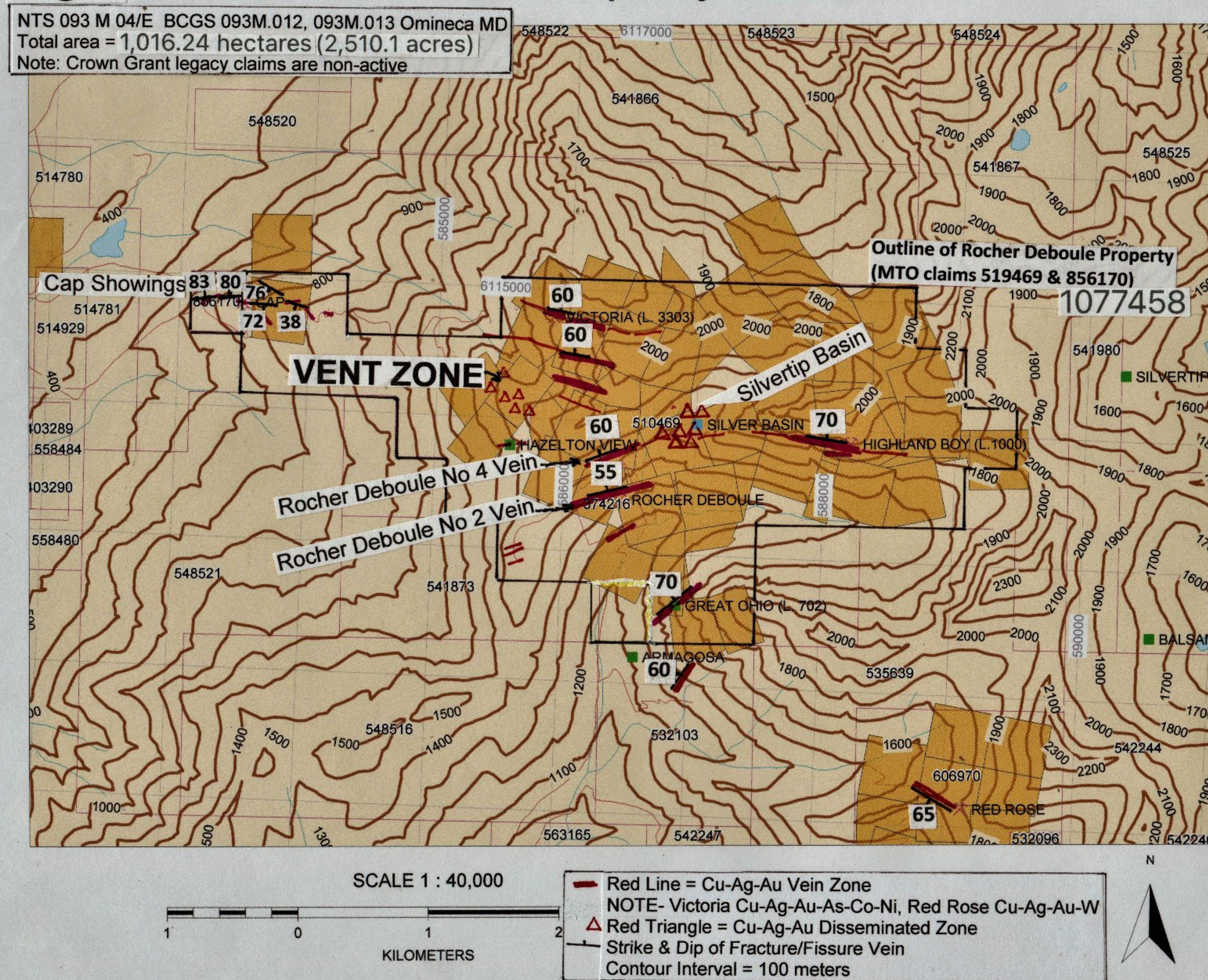
SCALE 1 : 40,000

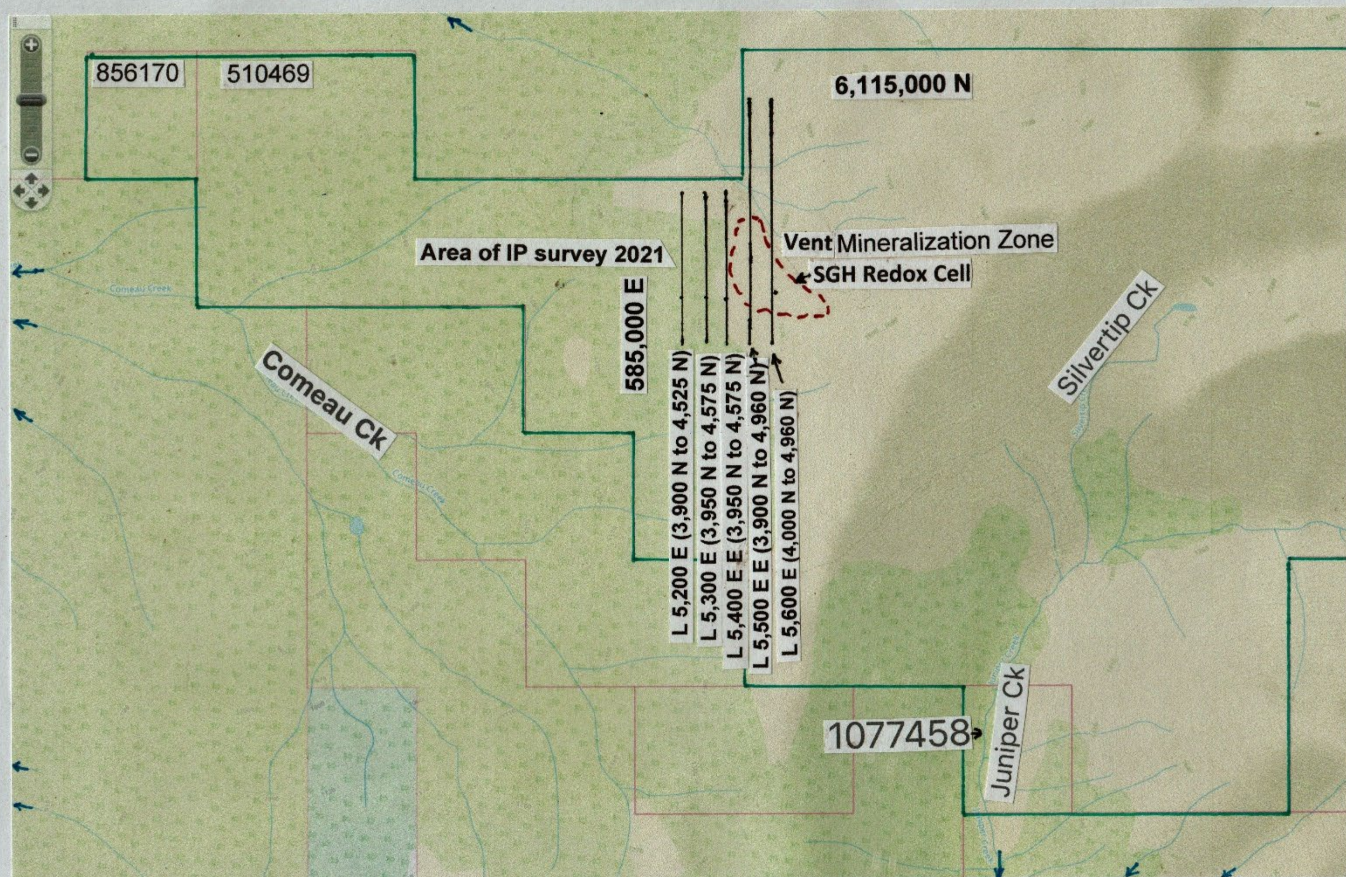
2,000 0 2,000 4,000 6,000
FEET

NTS 093 M 04/E BCGS 093M.012, 093M.013 Omineca MD

Total Area = 1,016.24 hectares (2,510.1 acres)

Fig 4 Rocher Deboule Property & Area Mineral Zones





Scale 1: 25000

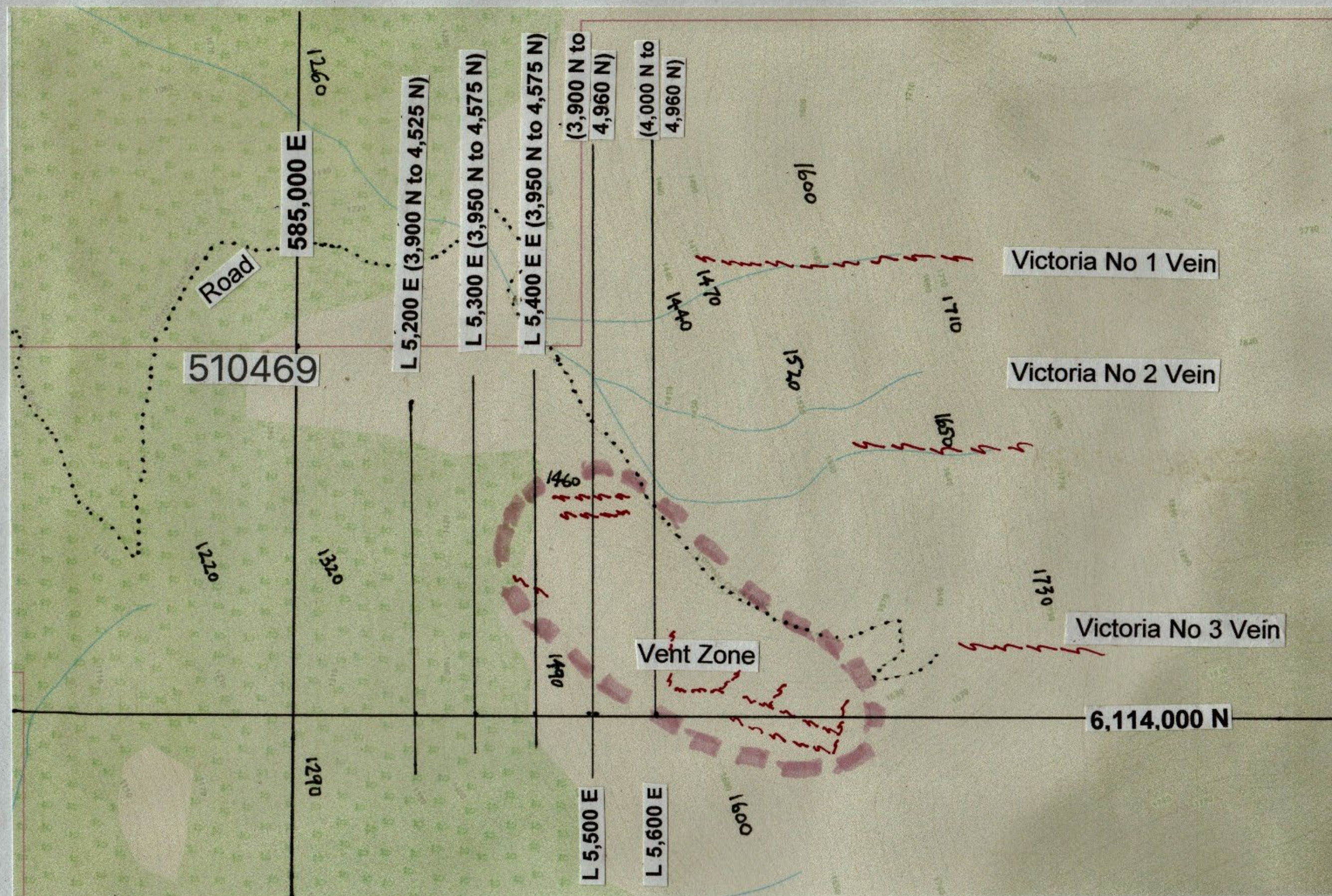
0 200 400 600m

VENT ZONE IP SURVEY GRID LINES

UTM ZONE 9 NTS 093 M 04/E BCGS 093M.012, 093M.013 Omineca MD

N

Fig 5



VENT ZONE IP SURVEY GRID LINES

Fracture/Fissure Vein

NTS 093 M 04/E, BCGS 093M.012, Omineca Mining Division

UTM ZONE 9

SGH (Soil Gas Hydrocarbon) Redox Cell (6 out of 6 Rating)

Fig 6

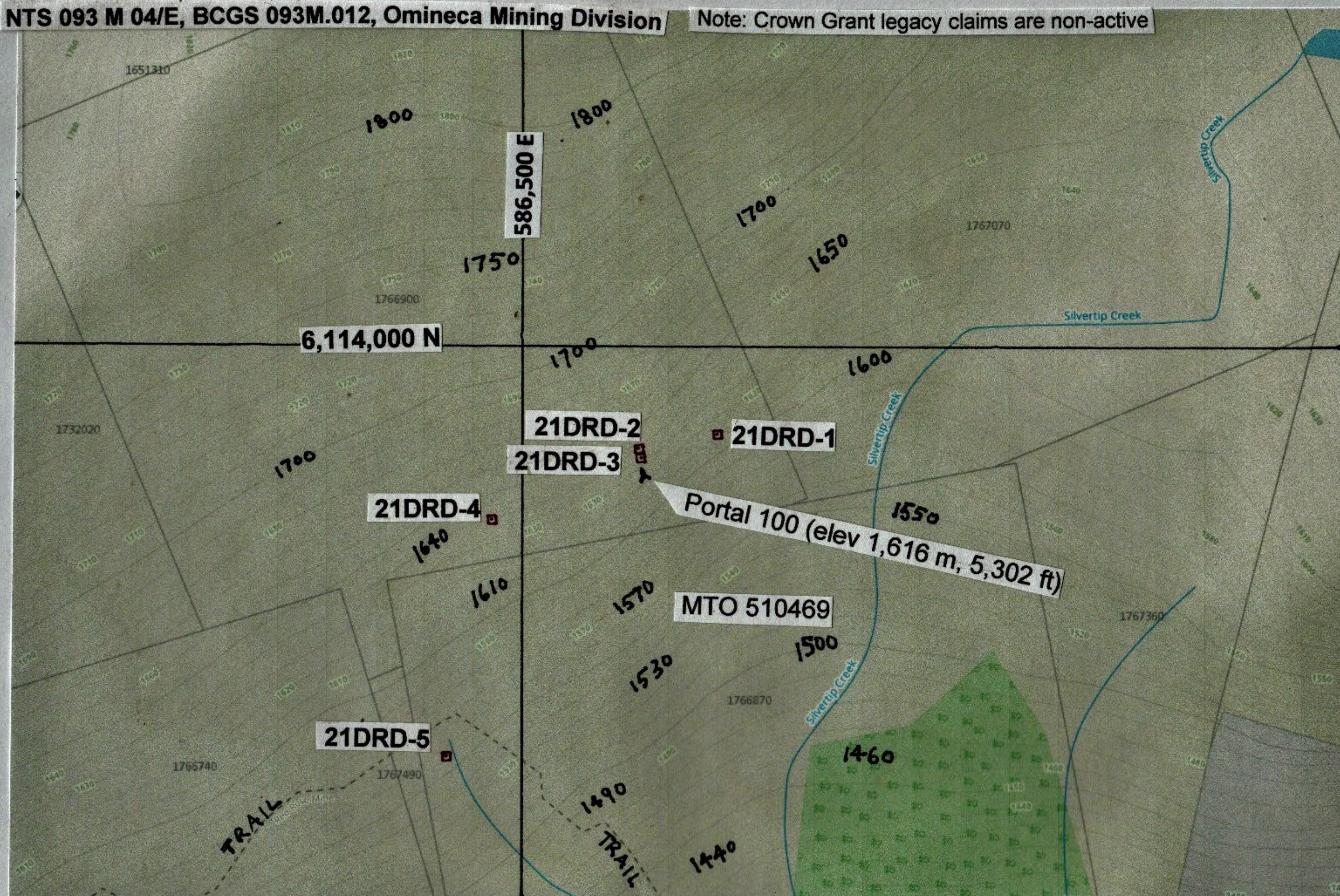


Fig 7

0 200 m

UTM ZONE 9

ROCHER MINE AREA ROCK CHIP SAMPLES

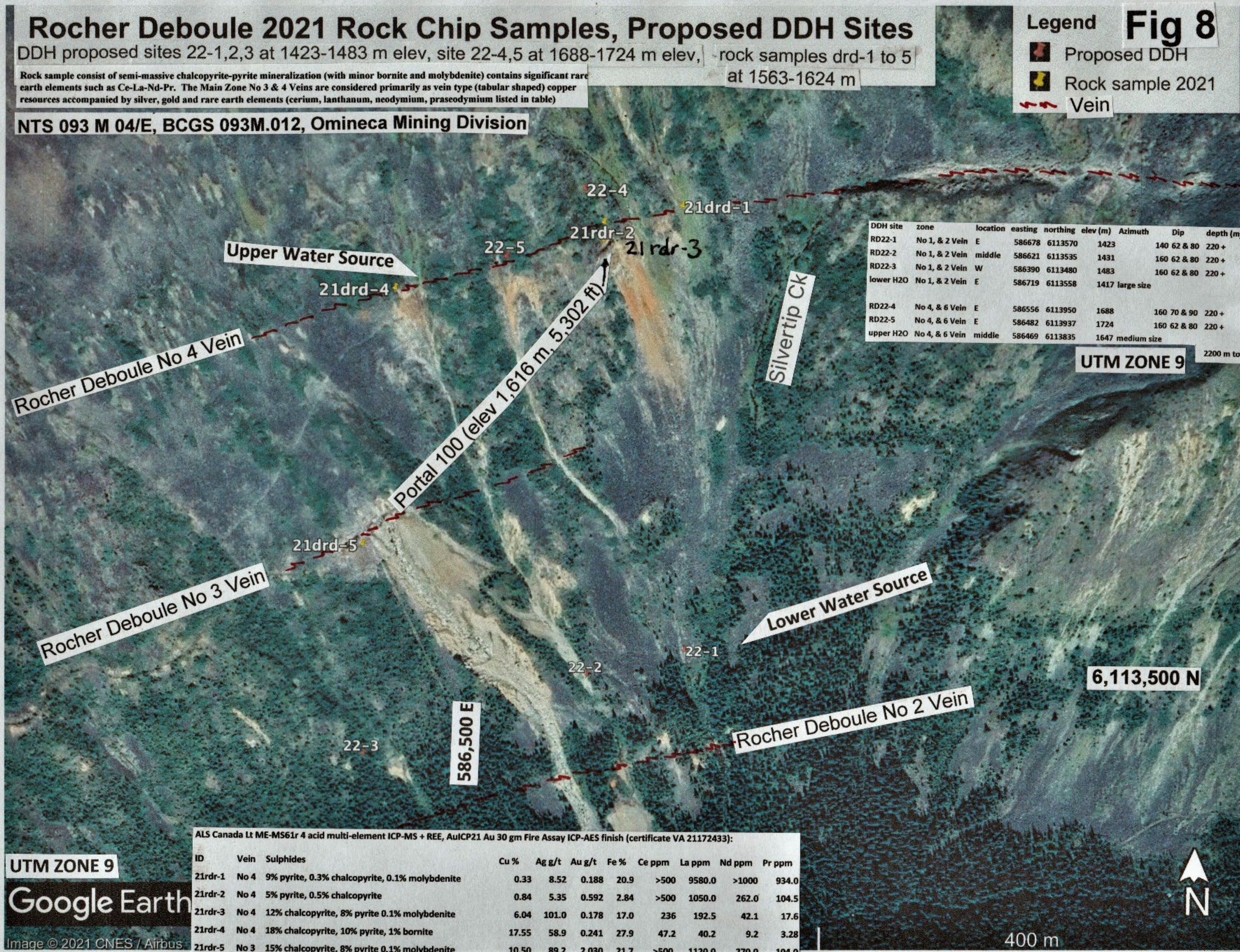
Scale 1:5,000

ALS Canada Lt ME-MS61r 4 acid multi-element ICP-MS + REE, AuICP21 Au 30 gm Fire Assay ICP-AES finish (certificate VA 21172433):

ID	Vein	Sulphides	Cu %	Ag g/t	Au g/t	Fe %	Ce ppm	La ppm	Nd ppm	Pr ppm
21rdr-1	No 4	9% pyrite, 0.3% chalcopyrite, 0.1% molybdenite	0.33	8.52	0.188	20.9	>500	9580.0	>1000	934.0
21rdr-2	No 4	5% pyrite, 0.5% chalcopyrite	0.84	5.35	0.592	2.84	>500	1050.0	262.0	104.5
21rdr-3	No 4	12% chalcopyrite, 8% pyrite 0.1% molybdenite	6.04	101.0	0.178	17.0	236	192.5	42.1	17.6
21rdr-4	No 4	18% chalcopyrite, 10% pyrite, 1% bornite	17.55	58.9	0.241	27.9	47.2	40.2	9.2	3.28
21rdr-5	No 3	15% chalcopyrite, 8% pyrite 0.1% molybdenite	10.50	89.2	2.030	21.7	>500	1120.0	270.0	104.0

Rock sample consist of semi-massive chalcopyrite-pyrite mineralization (with minor bornite and molybdenite) contains significant rare earth elements such as Ce-La-Nd-Pr. The Main Zone No 3 & 4 Veins are considered primarily as vein type (tabular shaped) copper resources accompanied by silver, gold and rare earth elements (cerium, lanthanum, neodymium, praseodymium listed in table)

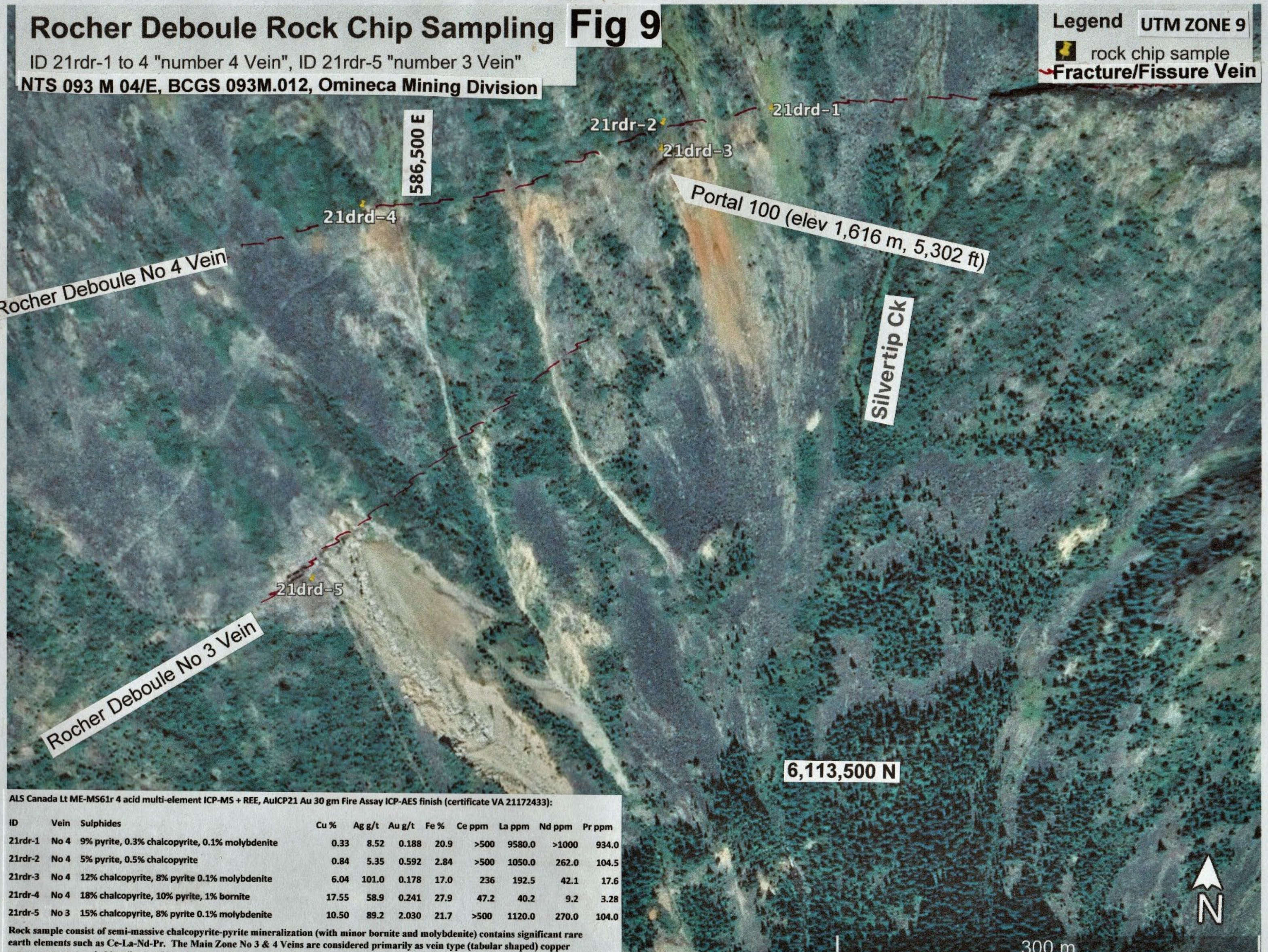
N



DDH site	zone	location	easting	northing	elev (m)	Azimuth	Dip	depth (m)
RD22-1	No 1, & 2 Vein	E	586678	6113570	1423	140	62 & 80	220 +
RD22-2	No 1, & 2 Vein	middle	586621	6113535	1431	160	62 & 80	220 +
RD22-3	No 1, & 2 Vein	W	586390	6113480	1483	160	62 & 80	220 +
lower H2O	No 1, & 2 Vein	E	586719	6113558	1417 large size			
RD22-4	No 4, & 6 Vein	E	586556	6113950	1688	160	70 & 90	220 +
RD22-5	No 4, & 6 Vein	E	586482	6113937	1724	160	62 & 80	220 +
upper H2O	No 4, & 6 Vein	middle	586469	6113835	1647 medium size			
								2200 m total

ALS Canada Lt ME-MS61r 4 acid multi-element ICP-MS + REE, AuICP21 Au 30 gm Fire Assay ICP-AES finish (certificate VA 21172433):

ID	Vein	Sulphides	Cu %	Ag g/t	Au g/t	Fe %	Ce ppm	La ppm	Nd ppm	Pr ppm
21rdr-1	No 4	9% pyrite, 0.3% chalcopyrite, 0.1% molybdenite	0.33	8.52	0.188	20.9	>500	9580.0	>1000	934.0
21rdr-2	No 4	5% pyrite, 0.5% chalcopyrite	0.84	5.35	0.592	2.84	>500	1050.0	262.0	104.5
21rdr-3	No 4	12% chalcopyrite, 8% pyrite 0.1% molybdenite	6.04	101.0	0.178	17.0	236	192.5	42.1	17.6
21rdr-4	No 4	18% chalcopyrite, 10% pyrite, 1% bornite	17.55	58.9	0.241	27.9	47.2	40.2	9.2	3.28
21rdr-5	No 3	15% chalcopyrite, 8% pyrite 0.1% molybdenite	10.50	89.2	2.030	21.7	>500	1120.0	270.0	104.0



ALS Canada Lt ME-MS61r 4 acid multi-element ICP-MS + REE, AuICP21 Au 30 gm Fire Assay ICP-AES finish (certificate VA 21172433):

ID	Vein	Sulphides	Cu %	Ag g/t	Au g/t	Fe %	Ce ppm	La ppm	Nd ppm	Pr ppm
21rdr-1	No 4	9% pyrite, 0.3% chalcopyrite, 0.1% molybdenite	0.33	8.52	0.188	20.9	>500	9580.0	>1000	934.0
21rdr-2	No 4	5% pyrite, 0.5% chalcopyrite	0.84	5.35	0.592	2.84	>500	1050.0	262.0	104.5
21rdr-3	No 4	12% chalcopyrite, 8% pyrite 0.1% molybdenite	6.04	101.0	0.178	17.0	236	192.5	42.1	17.6
21rdr-4	No 4	18% chalcopyrite, 10% pyrite, 1% bornite	17.55	58.9	0.241	27.9	47.2	40.2	9.2	3.28
21rdr-5	No 3	15% chalcopyrite, 8% pyrite 0.1% molybdenite	10.50	89.2	2.030	21.7	>500	1120.0	270.0	104.0

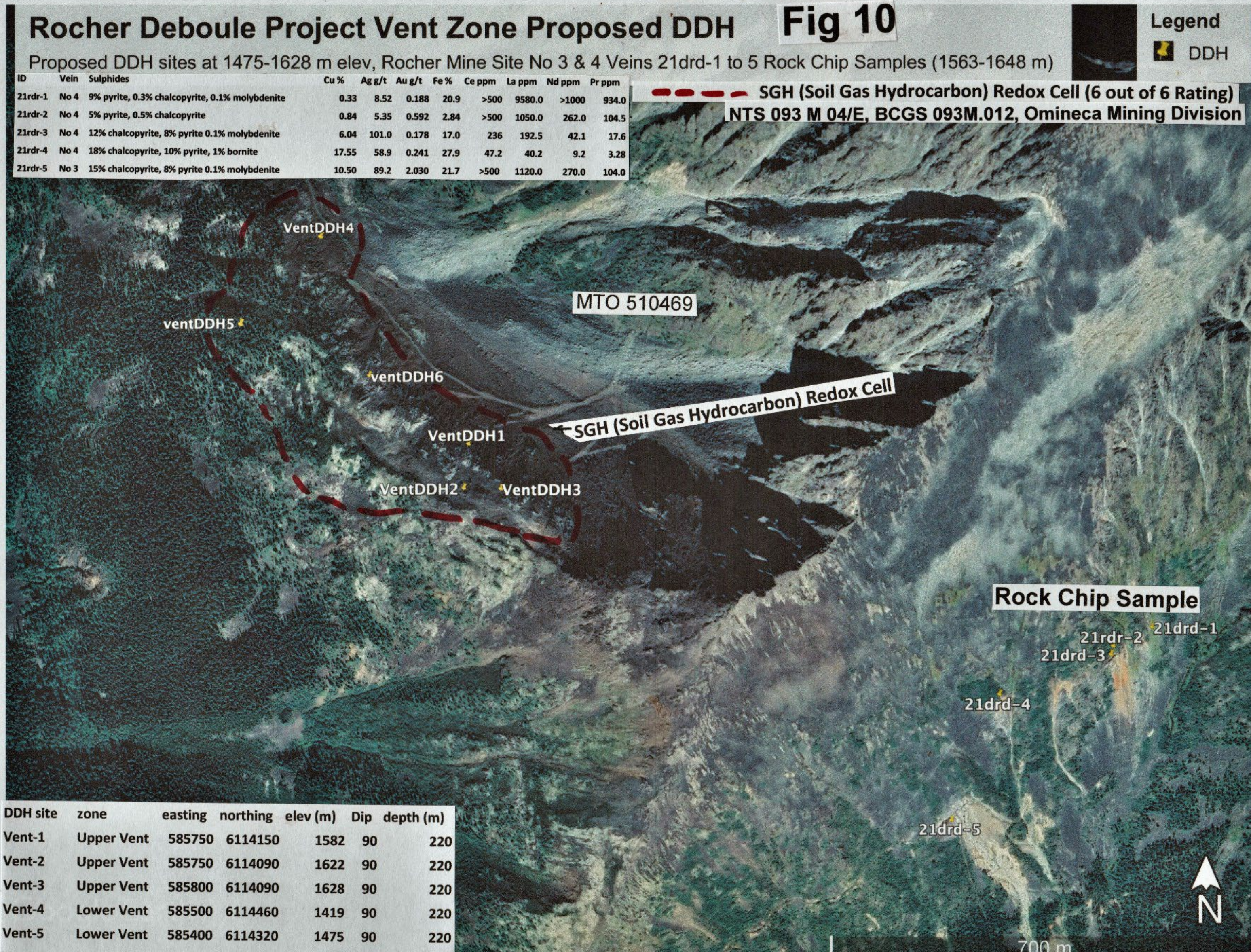
Rock sample consist of semi-massive chalcopyrite-pyrite mineralization (with minor bornite and molybdenite) contains significant rare earth elements such as Ce-La-Nd-Pr. The Main Zone No 3 & 4 Veins are considered primarily as vein type (tabular shaped) copper resources accompanied by silver, gold and rare earth elements (cerium, lanthanum, neodymium, praseodymium listed in table)

Rocher Deboule Project Vent Zone Proposed DDH

Fig 10

Proposed DDH sites at 1475-1628 m elev, Rocher Mine Site No 3 & 4 Veins 21drd-1 to 5 Rock Chip Samples (1563-1648 m)

ID	Vein	Sulphides	Cu %	Ag g/t	Au g/t	Fe %	Ce ppm	La ppm	Nd ppm	Pr ppm
21rdr-1	No 4	9% pyrite, 0.3% chalcopyrite, 0.1% molybdenite	0.33	8.52	0.188	20.9	>500	9580.0	>1000	934.0
21rdr-2	No 4	5% pyrite, 0.5% chalcopyrite	0.84	5.35	0.592	2.84	>500	1050.0	262.0	104.5
21rdr-3	No 4	12% chalcopyrite, 8% pyrite 0.1% molybdenite	6.04	101.0	0.178	17.0	236	192.5	42.1	17.6
21rdr-4	No 4	18% chalcopyrite, 10% pyrite, 1% bornite	17.55	58.9	0.241	27.9	47.2	40.2	9.2	3.28
21rdr-5	No 3	15% chalcopyrite, 8% pyrite 0.1% molybdenite	10.50	89.2	2.030	21.7	>500	1120.0	270.0	104.0

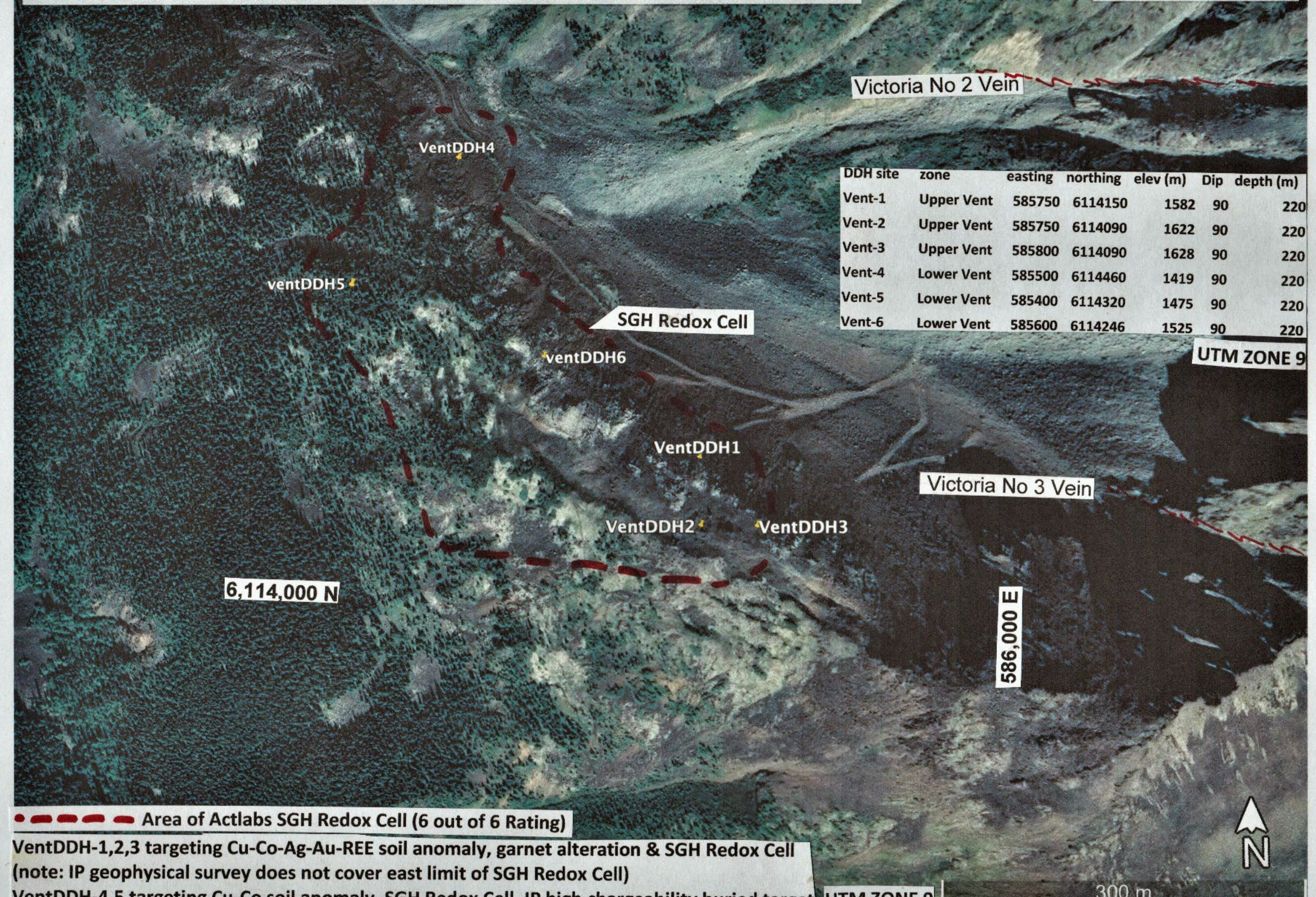


DDH site	zone	easting	northing	elev (m)	Dip	depth (m)
Vent-1	Upper Vent	585750	6114150	1582	90	220
Vent-2	Upper Vent	585750	6114090	1622	90	220
Vent-3	Upper Vent	585800	6114090	1628	90	220
Vent-4	Lower Vent	585500	6114460	1419	90	220
Vent-5	Lower Vent	585400	6114320	1475	90	220
Vent-6	Lower Vent	585600	6114246	1525	90	220

ALS Canada Lt ME-MS61r 4 acid multi-element ICP-MS + REE, AuICP21 Au 30 gm Fire Assay ICP-AES finish (certificate VA 21172433):

Rocher Deboule Project Vent Zone Proposed DDH Fig 11

Proposed DDH sites at 1475-1628 m elev (access via Comeau Ck road, helipads built on sites)



DDH site	zone	easting	northing	elev (m)	Dip	depth (m)
Vent-1	Upper Vent	585750	6114150	1582	90	220
Vent-2	Upper Vent	585750	6114090	1622	90	220
Vent-3	Upper Vent	585800	6114090	1628	90	220
Vent-4	Lower Vent	585500	6114460	1419	90	220
Vent-5	Lower Vent	585400	6114320	1475	90	220
Vent-6	Lower Vent	585600	6114246	1525	90	220

UTM ZONE 9

Area of Actlabs SGH Redox Cell (6 out of 6 Rating)

VentDDH-1,2,3 targeting Cu-Co-Ag-Au-REE soil anomaly, garnet alteration & SGH Redox Cell (note: IP geophysical survey does not cover east limit of SGH Redox Cell)

VentDDH-4,5 targeting Cu-Co soil anomaly, SGH Redox Cell, IP high chargeability buried target

ALS Minerals

SAMPLE PREPARATION PACKAGE

PREP- 31

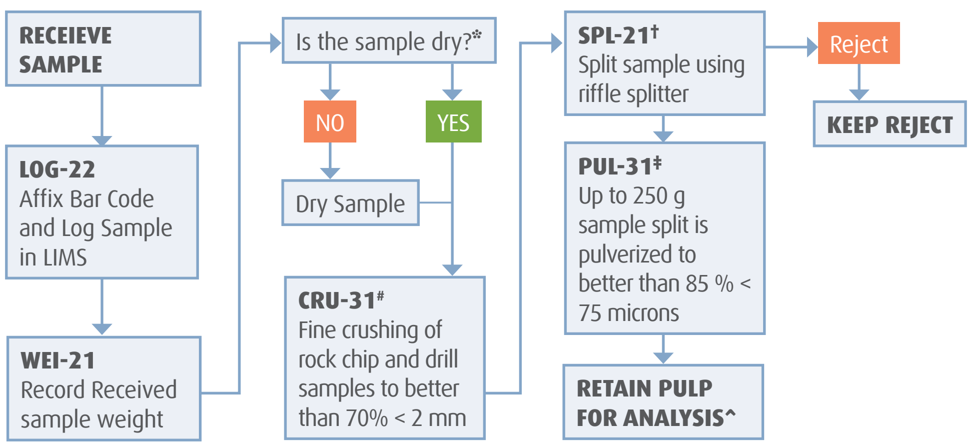
STANDARD SAMPLE PREPARATION: DRY, CRUSH, SPLIT AND PULVERIZE

Sample preparation is the most critical step in the entire laboratory operation. The purpose of preparation is to produce a homogeneous analytical sub-sample that is fully representative of the material submitted to the laboratory.

The sample is logged in the tracking system, weighed, dried and finely crushed to better than 70 % passing a 2 mm (Tyler 9 mesh, US Std. No.10) screen. A split of up to 250 g is taken and pulverized to better than 85 % passing a 75 micron (Tyler 200 mesh, US Std. No. 200) screen. This method is appropriate for rock chip or drill samples.

METHOD CODE	DESCRIPTION
LOG-22	Sample is logged in tracking system and a bar code label is attached.
DRY-21	Drying of excessively wet samples in drying ovens. This is the default drying procedure for most rock chip and drill samples.
CRU-31	Fine crushing of rock chip and drill samples to better than 70% of the sample passing 2 mm.
SPL-21	Split sample using riffle splitter.
PUL-31	A sample split of up to 250 g is pulverized to better than 85% of the sample passing 75 microns.

FLOW CHART - SAMPLE PREPARATION PACKAGE – PREP-31
STANDARD SAMPLE PREPARATION: DRY, CRUSH, SPLIT AND PULVERIZE



*If samples air-dry overnight, no charge to client. If samples are excessively wet, the sample should be dried to a maximum of 120°C. (**DRY-21**)

#QC testing of crushing efficiency is conducted on random samples (**CRU-QC**).

†The sample reject is saved or dumped pending client instructions. Prolonged storage (> 45 days) of rejects will be charged to the client.

‡QC testing of pulverizing efficiency is conducted on random samples (**PUL-QC**).

^Lab splits are required when analyses must be performed at a location different than where samples received.

Au-ICP21/Au-ICP22 – Fire Assay Fusion – ICP-AES Finish

Sample Decomposition:

Fire Assay Fusion (FA-FUSPG1 & FA-FUSPG2)

Analytical Method:

Inductively Couple Plasma – Atomic Emission Spectrometry

A prepared sample is fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents as required, inquarted with 6 mg of gold-free silver and then cupelled to yield a precious metal bead.

The bead is digested in 0.5 mL dilute nitric acid in the microwave oven. 0.5 mL concentrated hydrochloric acid is then added and the bead is further digested in the microwave at a lower power setting. The digested solution is cooled, diluted to a total volume of 4 mL with de-mineralized water, and analyzed by inductively coupled plasma atomic emission spectrometry against matrix-matched standards.

Method Code	Element	Symbol	Units	Sample Weight (g)	Lower Limit	Upper Limit	Default Overlimit Method
Au-ICP21	Gold	Au	ppm	30	0.001	10	Au-GRA21
Au-ICP22	Gold	Au	ppm	50	0.001	10	Au-GRA22

ME-MS61r
(REE Add-on package to ME-MS61)*
Ultra-Trace Level Method Using ICP-MS and ICP-AES

Sample Decomposition:

HF-HNO_3-$HClO_4$ acid digestion, HCl leach (GEO-4A01)

Analytical Method:

Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP - AES)
Inductively Coupled Plasma - Mass Spectrometry (ICP-MS)

A prepared sample (0.25 g) is digested with perchloric, nitric, hydrofluoric and hydrochloric acids. The residue is topped up with dilute hydrochloric acid and analyzed by inductively coupled plasma-atomic emission spectrometry. Following this analysis, the results are reviewed for high concentrations of bismuth, mercury, molybdenum, silver and tungsten and diluted accordingly. Samples meeting this criterion are then analyzed by inductively coupled plasma-mass spectrometry. Results are corrected for spectral interelement interferences.

NOTE: Four acid digestions are able to dissolve most minerals; however, although the term "*near-total*" is used, depending on the sample matrix, not all elements are quantitatively extracted.

Results for the additional rare earth elements will represent the acid leachable portion of the rare earth elements and as such, cannot be used, for instance to do a chondrite plot.

Element	Symbol	Units	Lower Limit	Upper Limit
Silver	Ag	ppm	0.01	100
Aluminum	Al	%	0.01	50
Arsenic	As	ppm	0.2	10 000
Barium	Ba	ppm	10	10 000
Beryllium	Be	ppm	0.05	1 000
Bismuth	Bi	ppm	0.01	10 000
Calcium	Ca	%	0.01	50

Element	Symbol	Units	Lower Limit	Upper Limit
Cadmium	Cd	ppm	0.02	1 000
Cerium	Ce	ppm	0.01	500
Cobalt	Co	ppm	0.1	10 000
Chromium	Cr	ppm	1	10 000
Cesium	Cs	ppm	0.05	500
Copper	Cu	ppm	0.2	10 000
Iron	Fe	%	0.01	50
Gallium	Ga	ppm	0.05	10 000
Germanium	Ge	ppm	0.05	500
Hafnium	Hf	ppm	0.1	500
Indium	In	ppm	0.005	500
Potassium	K	%	0.01	10
Lanthanum	La	ppm	0.5	10 000
Lithium	Li	ppm	0.2	10 000
Magnesium	Mg	%	0.01	50
Manganese	Mn	ppm	5	100 000
Molybdenum	Mo	ppm	0.05	10 000
Sodium	Na	%	0.01	10
Niobium	Nb	ppm	0.1	500
Nickel	Ni	ppm	0.2	10 000
Phosphorous	P	ppm	10	10 000
Lead	Pb	ppm	0.5	10 000
Rubidium	Rb	ppm	0.1	10 000
Rhenium	Re	ppm	0.002	50
Sulphur	S	%	0.01	10
Antimony	Sb	ppm	0.05	10 000
Scandium	Sc	ppm	0.1	10 000

Element	Symbol	Units	Lower Limit	Upper Limit
Selenium	Se	ppm	1	1 000
Tin	Sn	ppm	0.2	500
Strontium	Sr	ppm	0.2	10 000
Tantalum	Ta	ppm	0.05	100
Tellurium	Te	ppm	0.05	500
Thorium	Th	ppm	0.2	10 000
Titanium	Ti	%	0.005	10
Thallium	Tl	ppm	0.02	10 000
Uranium	U	ppm	0.1	10 000
Vanadium	V	ppm	1	10 000
Tungsten	W	ppm	0.1	10 000
Yttrium	Y	ppm	0.1	500
Zinc	Zn	ppm	2	10 000
Zirconium	Zr	ppm	0.5	500
Dysprosium	Dy	ppm	0.05	1 000
Erbium	Er	ppm	0.03	1 000
Europium	Eu	ppm	0.03	1 000
Gadolinium	Gd	ppm	0.05	1 000
Holmium	Ho	ppm	0.01	1 000
Lutetium	Lu	ppm	0.01	1 000
Neodymium	Nd	ppm	0.1	1 000
Praseodymium	Pr	ppm	0.03	1 000
Samarium	Sm	ppm	0.03	1 000
Terbium	Tb	ppm	0.01	1 000
Thulium	Tm	ppm	0.01	1 000
Ytterbium	Yb	ppm	0.03	1 000

ME-OG62- Ore Grade Elements by Four Acid Digestion Using Conventional ICP-AES Analysis

Sample Decomposition:

HNO_3-$HClO_4$-HF-HCl Digestion (ASY-4A01)

Analytical Method:

Inductively Coupled Plasma – Atomic Emission Spectroscopy (ICP-AES)

Assays for the evaluation of ores and high-grade materials are optimized for accuracy and precision at high concentrations. Ultra high concentration samples (> 15 -20%) may require the use of methods such as titrimetric and gravimetric analysis, in order to achieve maximum accuracy.

A prepared sample is digested with nitric, perchloric, hydrofluoric, and hydrochloric acids, and then evaporated to incipient dryness. Hydrochloric acid and de-ionized water is added for further digestion, and the sample is heated for an additional allotted time. The sample is cooled to room temperature and transferred to a volumetric flask (100 mL). The resulting solution is diluted to volume with de-ionized water, homogenized and the solution is analyzed by inductively coupled plasma - atomic emission spectroscopy or by atomic absorption spectrometry. Results are corrected for spectral interelement interferences.

*NOTE: ICP-AES is the default finish technique for ME-OG62. However, under some conditions and at the discretion of the laboratory an AA finish may be substituted. The certificate will clearly reflect which instrument finish was used.

Element	Symbol	Units	Lower Limit	Upper Limit
Silver	Ag	ppm	1	1500
Arsenic	As	%	0.001	30
Bismuth	Bi	%	0.001	30
Cadmium	Cd	%	0.0001	10
Cobalt	Co	%	0.0005	30
Chromium	Cr	%	0.002	30
Copper	Cu	%	0.001	50
Iron	Fe	%	0.01	100
Magnesium	Mg	%	0.01	50
Manganese	Mn	%	0.01	60
Molybdenum	Mo	%	0.001	10
Nickel	Ni	%	0.001	30
Lead	Pb	%	0.001	20
Sulphur	S	%	0.01	50
Zinc	Zn	%	0.001	30

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To: KIKAUKA, ANDRIS
4199 HIGHWAY 101
POWELL RIVER BC V8A 0C7

Finalized Date: 23-AUG-2021
Account: KIKAND

CERTIFICATE VA21172433

Project: Rocher Deboule

This report is for 5 samples of Rock submitted to our lab in Vancouver, BC, Canada on 5-JUL-2021.

The following have access to data associated with this certificate:

ANDRIS KIKAUKA

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um
DISP-01	Disposal of all sample fractions

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Ag-OG62	Ore Grade Ag - Four Acid	
ME-OG62	Ore Grade Elements - Four Acid	ICP-AES
Cu-OG62	Ore Grade Cu - Four Acid	
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-MS61r	4A multi-element ICP-MS + REE	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

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

Signature:
Saa Traxler, General Manager, North Vancouver

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POWELL RIVER BC V8A 0C7

Finalized Date: 23-AUG-2021
Account: KIKAND

Project: Rocher Deboule

CERTIFICATE OF ANALYSIS VA21172433

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS61r Ag ppm 0.01	ME-MS61r Al % 0.01	ME-MS61r As ppm 0.2	ME-MS61r Ba ppm 10	ME-MS61r Be ppm 0.05	ME-MS61r Bi ppm 0.01	ME-MS61r Ca % 0.01	ME-MS61r Cd ppm 0.02	ME-MS61r Ce ppm 0.01	ME-MS61r Co ppm 0.1	ME-MS61r Cr ppm 1	ME-MS61r Cs ppm 0.05	ME-MS61r Cu ppm 0.2	ME-MS61r Fe % 0.01
21RDR-1		1.13	8.52	2.42	28.3	<10	0.56	2.20	6.39	0.20	>500	15.1	10	2.03	3280	20.9
21RDR-2		0.90	5.35	0.72	29.3	10	0.10	0.29	0.24	0.32	>500	6.1	61	0.67	8380	2.84
21RDR-3		0.55	>100	1.59	808	40	1.18	16.15	5.09	44.5	236	24.9	4	5.41	>10000	17.00
21RDR-4		1.44	58.9	0.49	135.5	<10	0.17	1.87	2.60	5.79	47.2	50.1	5	0.24	>10000	27.9
21RDR-5		0.88	89.2	2.25	302	30	1.34	7.24	3.97	2.79	>500	78.9	9	6.21	>10000	21.7

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

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Finalized Date: 23-AUG-2021
Account: KIKAND

Project: Rocher Deboule

CERTIFICATE OF ANALYSIS VA21172433

Sample Description	Method / Analyte / Units / LOD	ME-MS61r Ga ppm 0.05	ME-MS61r Ge ppm 0.05	ME-MS61r Hf ppm 0.1	ME-MS61r In ppm 0.005	ME-MS61r K % 0.01	ME-MS61r La ppm 0.5	ME-MS61r Li ppm 0.2	ME-MS61r Mg % 0.01	ME-MS61r Mn ppm 5	ME-MS61r Mo ppm 0.05	ME-MS61r Na % 0.01	ME-MS61r Nb ppm 0.1	ME-MS61r Ni ppm 0.2	ME-MS61r P ppm 10	ME-MS61r Pb ppm 0.5
21RDR-1		88.8	3.52	0.1	1.560	0.13	9580	2.0	4.78	1000	567	0.25	0.5	89.1	2320	1.9
21RDR-2		8.28	0.45	0.1	0.288	0.05	1050	12.3	0.20	100	30.6	0.06	1.8	8.8	240	16.5
21RDR-3		12.50	0.20	0.2	6.90	0.40	192.5	15.5	2.79	1310	709	0.04	0.9	178.0	1030	1070
21RDR-4		5.00	0.17	<0.1	13.80	0.05	40.2	1.1	1.75	503	9.49	0.10	0.3	261	1190	3.4
21RDR-5		27.7	0.57	0.2	3.77	0.30	1120	3.5	2.41	930	1060	0.28	3.5	130.5	300	4.1

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

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Project: Rocher Deboule

CERTIFICATE OF ANALYSIS VA21172433

Sample Description	Method	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r
	Analyte	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V
	Units	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	LOD	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1
21RDR-1		6.4	0.159	0.38	4.72	11.2	5	5.3	45.1	<0.05	0.54	13.90	0.097	0.14	19.7	461
21RDR-2		3.0	0.016	0.79	17.50	0.6	2	0.5	7.6	0.14	0.16	31.3	0.052	0.05	3.1	43
21RDR-3		20.7	0.342	5.14	2230	4.1	37	4.8	127.0	0.05	9.87	1.40	0.063	0.26	2.0	330
21RDR-4		0.4	0.006	>10.0	4.33	2.4	38	4.5	3.8	<0.05	0.97	0.12	0.020	0.07	1.1	124
21RDR-5		15.8	0.249	7.94	3.84	3.9	49	4.7	17.3	0.19	34.3	6.72	0.113	0.37	14.8	268

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Account: KIKAND

Project: Rocher Deboule

CERTIFICATE OF ANALYSIS VA21172433

Sample Description	Method	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r	ME-MS61r
	Analyte	W	Y	Zn	Zr	Dy	Er	Eu	Gd	Ho	Lu	Nd	Pr	Sm	Tb	Tm
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.1	0.1	2	0.5	0.05	0.03	0.03	0.05	0.01	0.01	0.1	0.03	0.03	0.01	0.01
21RDR-1		0.3	42.0	76	0.9	12.55	3.61	24.2	51.5	1.78	0.72	>1000	934	145.5	5.12	0.42
21RDR-2		0.3	5.3	39	1.4	1.67	0.48	2.41	5.38	0.24	0.10	262	104.5	16.40	0.56	0.06
21RDR-3		2.5	8.7	2450	3.2	1.51	0.93	0.69	2.08	0.33	0.20	42.1	17.60	3.54	0.28	0.14
21RDR-4		0.1	3.9	707	0.8	0.69	0.44	0.20	0.82	0.15	0.09	9.2	3.28	0.98	0.12	0.07
21RDR-5		0.3	20.1	228	6.2	4.26	2.03	2.89	8.51	0.79	0.43	270	104.0	20.1	1.02	0.29

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

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Finalized Date: 23-AUG-2021
Account: KIKAND

Project: Rocher Deboule

CERTIFICATE OF ANALYSIS VA21172433

Sample Description	Method	ME-MS61r	Ag-OG62	Cu-OG62	Au-ICP21
	Analyte	Yb	Ag	Cu	Au
	Units	ppm	ppm	%	ppm
	LOD	0.03	1	0.001	0.001
21RDR-1		2.55			0.188
21RDR-2		0.39			0.592
21RDR-3		0.96	101	6.04	0.178
21RDR-4		0.43		17.55	0.241
21RDR-5		2.04		10.50	2.03

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

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Project: Rocher Deboule

CERTIFICATE OF ANALYSIS VA21172433

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

REEs may not be totally soluble in this method.

Applies to Method: ME-MS61r

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:

Ag-OG62	Au-ICP21	CRU-31	Cu-OG62
DISP-01	LOG-22	ME-MS61r	ME-OG62
PUL-31	SPL-21	WEI-21	

GEOPHYSICAL REPORT

INDUCED POLARIZATION SURVEY

ROCHER DEBOULE PROPERTY
Hazelton area, BC

on behalf of

AMERICAN MANGANESE INC.
#2, 17942 55th Avenue
Surrey BC V3S 6C8

Survey performed:
July 7-19, 2021

by

SCOTT GEOPHYSICS LTD.
4013 West 14th Avenue
Vancouver, BC V6R 2X3

EGBC Permit Number 1001471

January 5, 2022

Table of Contents

Appendices

Accompanying Data Files

All survey data and plots in Surfer and PDF formats

1. INTRODUCTION

An Induced Polarization (IP) survey was performed at the Rocher Deboule property, Hazelton area, BC within the period July 7-19, 2021. In addition, GPS readings were taken at each electrode location, subject to satellite reception.

The surveys were performed by Scott Geophysics Ltd. on behalf of American Manganese Inc. This report describes the instrumentation and procedures, and presents the results of the survey.

The objective of the survey was to detect chargeability and resistivity anomalies that may be indicative of structures and/or mineralized bodies on the property. Results from the survey may be incorporated into the selection of targets for further geophysical or geological surveys, prospecting, and drill testing.

This report presents only the results of the geophysical surveys over the property.

2. SURVEY COVERAGE

The IP survey grid covers the area shown in figure 1, below.

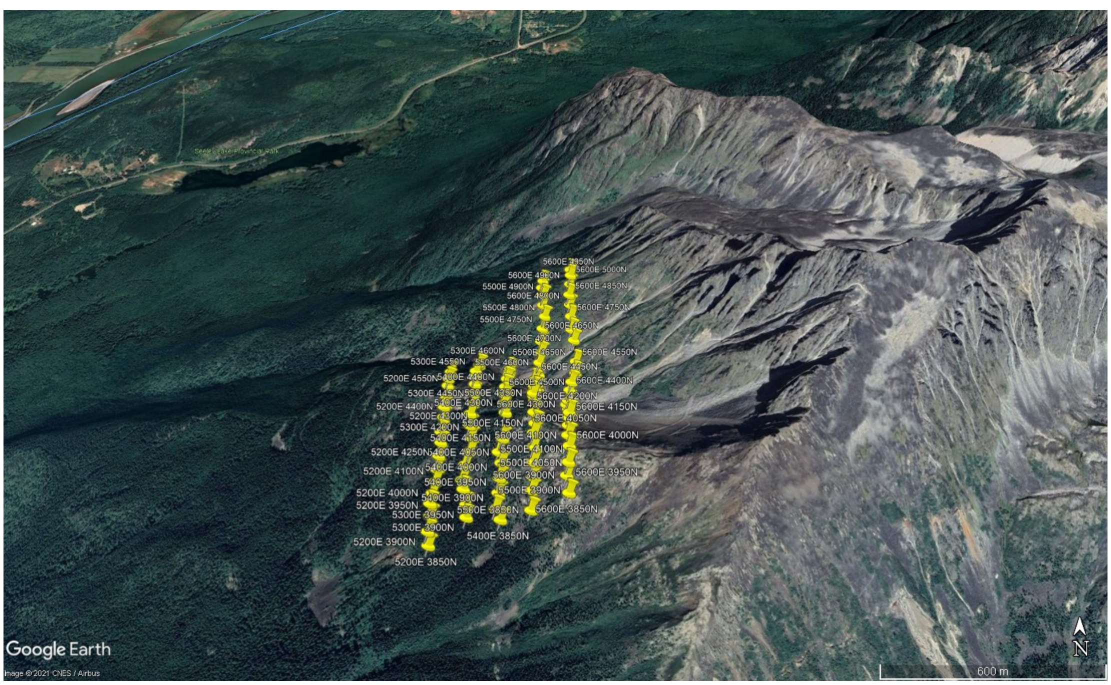


Figure 1 Rocher Deboule survey grid

For all grid lines, chargeability and resistivity results are presented on the accompanying pseudosections and plans. All survey data are archived and included as digital data files. Table 1 summaries the production for the project.

Table 1 Rocher Deboule Production Summary

Rocher Deboule Grid Summary			
Line	**From**	**To**	**Production (m)**
5200E	4600N	3850N	750
5300E	4600N	3900N	700
5400E	4600N	3850N	750
5500E	5000N	3850N	1150
5600E	5000N	3850N	1150
Grid Total (m)			4500

3 TECHNICAL SPECIFICATIONS

3.1 Overview

The following section specifies the electrode array, personnel, and equipment used in this survey. In addition, it details how apparent resistivity and chargeability are measured and calculated and specifies how the data is processed and plotted.

3.2 Induced Polarization Survey

3.2.1 Electrode Array

A pole-dipole array was used for the IP survey. Readings were taken at an a-spacing of 50 metres at n-separations of 1 to 10 (50/1-10). GPS readings were taken at all electrode locations and at the remote (“infinite”) electrode locations, subject to satellite reception. Elevation measurements are barometric altimeter readings, calibrated to GPS altitude at the beginning of each line.

3.2.2 Personnel and Equipment

Gordon Stewart was the primary field supervisor for Scott Geophysics Ltd. Andris Kikauka was the primary contact for American Manganese Inc. The following personnel were involved in assisting the field operations for the survey:

- Gord Stewart: Crew chief
- Alex Swift-Scott: Technician
- Josh Dundas: Field Assistant
- Malcolm Johnson: Field Assistant

- Josiah Medin: Field Assistant
- Isaac Swift-Scott: Field Assistant

The following instruments were used for the IP Survey:

Receiver: GDD GRx8-32, by GDD Instruments, Québec City, Québec.

> The GDD GRx8 time-domain receiver is used to collect and quality control field data. Line, station, chargeability, chargeability error, apparent resistivity, primary voltage (V_p), primary voltage error, IP decays curves, pseudosections, and spontaneous potential (SP) are recorded and monitored for quality control purposes in the field. Both windowed and full-waveform data are recorded for plotting, post-processing, and further quality control after data have been collected.

Transmitter: GDD TxII (5 kW), by GDD Instruments, Québec City, Québec.

> The GDD TxII transmitter is used for time-domain induced polarization surveys. For this survey it was set to transmit 2 second on/off cycles. The transmitter produces a constant voltage which can range from 150 to 2400 Volts, as required, set by the user. Output current is measured from the transmitter and is recalculated by the instrument four times per second. Any variations in current greater than 5% are reported, noted, and corrected in the field by the transmitter operator.

GPS: Garmin GPSMap GPS receiver.

> Line, station, and infinite locations were recorded using a Garmin GPSMap GPS receiver.

3.2.3 Apparent Resistivity and Chargeability Calculations

Direct current and induced polarization methods are ways to determine the subsurface distribution of resistivity and chargeability. Measuring resistivity in the earth is done by applying a three-dimensional expression of Ohm's law:

$$\mathbf{J}=\sigma\mathbf{E}$$

Where **J** is the current density, σ is the conductivity, and **E** is the electric field. For field measurements, resistivity, ρ, the reciprocal of conductivity, is measured, and the electric field potential, φ, is measured rather than the electric field.

In practice, multiple sets of four electrodes are used: two electrodes to inject current and two to measure the potential difference. The distance between potential electrodes is referred to as the a-spacing, and the distance between the nearest current electrode to the potential electrodes is a multiple of the a-spacing, n, where n is usually an integer.

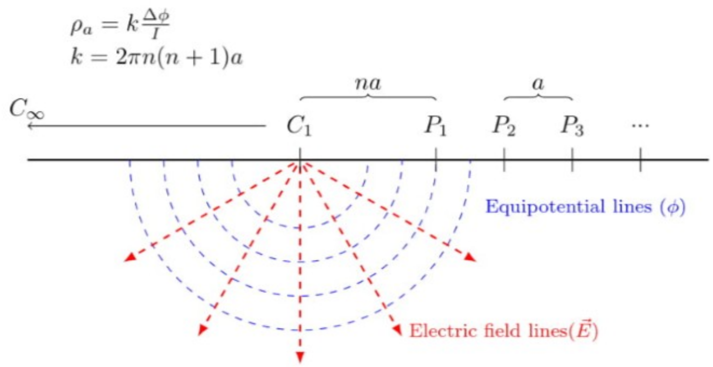


Figure 2 Pole-dipole schematic

Pole-dipole surveys situate one current at a remote location (C_∞ in the schematic above), a second current location (C_1), and pairs of potential electrodes (P_1, P_2, etc.). When electricity is turned on, electricity flows through the subsurface (in red), and the potential difference (in blue) can be measured between potential electrodes on the surface. When accounting for the geometry of the array (the geometric factor k in the equation on the above figure) and using a known input current, **I**, apparent resistivities (ρ_a) between dipoles are calculated.

Chargeability is a measure of the residual voltage decay observed when electric current is turned off (Sumner, 1976).

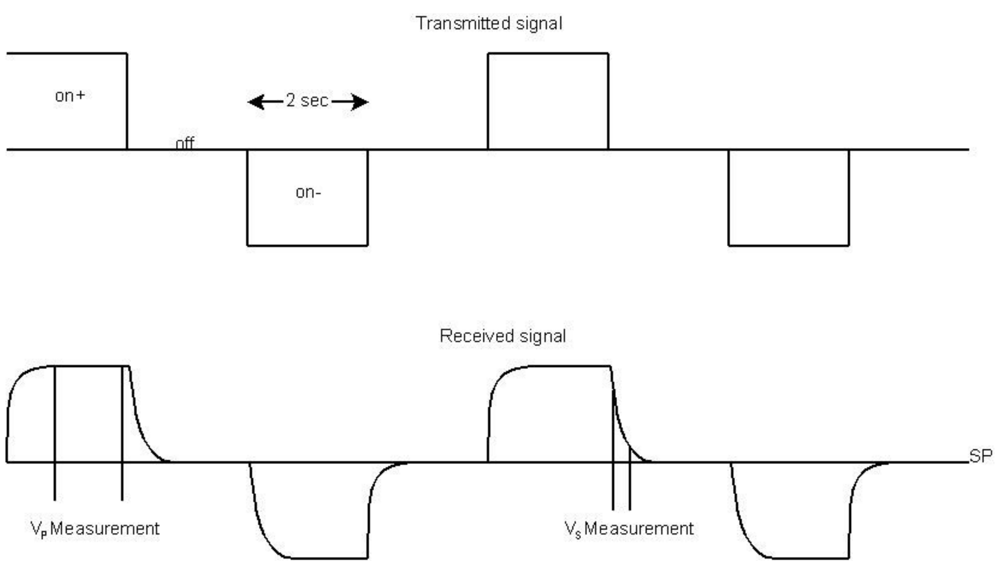


Figure 3 Transmitted and received IP signals

The above figure shows how chargeability is observed on a square wave. The upper signal is the transmitted signal, a square wave alternating on and off and switching polarity between off cycles. The lower signal is the received signal, which, importantly, shows the off-time voltage decaying with time. Chargeability is calculated by specifying a time interval (t_1 and t_2 in the image below) and integrating.

Figure 4 Chargeability calculation

This effect is caused by two mechanisms: membrane polarization and electrode polarization effect (Loke, 2018). Membrane polarization is largely caused by clay minerals present in the rock or sediment. Electrode polarization is caused by conductive minerals in rocks such that the current flow is partly electrolytic and partly electronic.

3.3 IP Data Processing and Plotting

Field data for all IP and resistivity pseudosections were processed and quality controlled using in-house software, then plotted using Golden Software's Surfer. Resistivity and chargeability plan maps were plotted using Surfer for the n=1 dipole in UTM coordinates. Data were gridded by kriging. A summary of the windows used for chargeability calculations is shown in the table below.

Table 2 Chargeability window summary

Number of windows: 20
Delay: 20 ms
Timing: 1000 ms
Window widths (ms): 20, 30, 30, 30, 40, 40, 50, 60, 70, 80, 100, 120, 120, 120, 120, 120, 140, 160, 180, 200
Plotted chargeability window (Mx): 690-1050 ms

The chargeability and resistivity results are included in Appendix C and D and are additionally submitted in PDF format. The results consist of pseudosections and contoured plans.

3.4 Inversions

Chargeability and resistivity data were inverted using Geotomo Software's RES2DINV program. A 2D inverted model was generated for each line, contoured depth plans were generated by gridding data extracted from each model at a constant depth. These inverted models were used for the review of results below.

4 REVIEW OF RESULTS

Basic statistics for apparent resistivity and apparent chargeability are summarized in Table 4. Apparent resistivity values vary widely, from 116.7 Ωm to 16,418.2 Ωm, with a median value of 3,534.9 Ωm. Apparent chargeabilities range from -1.23 mV/V to 93.58 mV/V, with a median of 9.26 mV/V and a standard deviation of 12.79 mV/V.

Table 3 Rocher Deboule statistics summary

Rocher Deboule Grid Statistics					
	Max	**Min**	**Mean**	**Median**	**σ**
Mx	93.58	-1.23	13.21	9.26	12.79
ρ	16418.2	116.7	4294.3	3534.9	2915.3

Much of the central and southern parts of lines 5500E and 5600E passed through a talus-filled bowl. Ground contacts were mostly quite poor in this area, leading to some noisy data. The southernmost close-in readings on line 5600E were not able to be completed due to a late afternoon storm.

There are two high chargeability zones on lines 5200E and 5300E. There is a large, broad zone that extends to depth on both lines near 4300N on both lines. This zone extends to the surface on line line 5200E and to approximately 100m below the surface on line 5300E. On both lines there is a smaller, shallow, subhorizontal layer of high chargeability to the south of this large anomaly. These chargeability highs do not appear to directly correspond to resistivity features.

Line 5400E has a moderate chargeability high associated with a region of low resistivity centred around 4100-4150N. Line 5500E has a similar high chargeability/low resistivity zone, but stronger and at a greater depth.

There are no significant high chargeability zones on line 5600E, although there are several narrow high chargeability/low resistivity features near the southern end.

5 CONCLUSION

The interpretation of the geophysical data embodied in this report is a simple, basic geophysical appraisal of the Rocher Deboule property. As such, it incorporates only as much geoscientific information as the author has on hand. Geologists from American Manganese Inc., who have access to geological information, are in a better position to evaluate the geological significance of the various geophysical signatures. Nevertheless, results from the 2021 Rocher Deboule survey highlight a few IP anomalies that prove encouraging and may warrant further processing, planning, and investigation, in particular the high chargeability/low resistivity feature on line 5500E and the large, high chargeability feature on lines 5200E and 5300E.

Respectfully Submitted,

Brad Scott, BSc

Appendix A: Bibliography

Loke, M.H., 2018. Tutorial: 2-D and 3-D Electrical Imaging Surveys. http://www.geotomosoft.com/

Sumner, J.S., 1976. Principles of induced polarization for geophysical exploration, Developments in Economic Geology. Elsevier, New York.

Appendix B: Statements of Qualifications

Statement of Qualifications

for

Brad Scott, Geologist (GIT)

of

1230 Harrison Way,
Gabriola, BC V0R 1X2

I, Brad Scott, hereby certify the following statements regarding my qualifications and involvement in the program of work on behalf of American Manganese Inc. at the Rocher Deboule property, Hazelton area, BC as presented in this report.

The work was performed by individuals trained and qualified for its performance.

I have no material interest in the property under consideration in this report.

I graduated from the University of British Columbia with a Bachelor of Science degree (Geology) in 2000.

I am a member-in-training of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

I have been practising my profession in the field of Mineral Exploration since 2000.

Respectfully submitted,

Brad Scott

Statement of Qualifications

for

Alan Scott, P.Geo.

of

4013 West 14th Avenue
Vancouver BC, V6R 2X3

I hereby certify the following statements regarding my qualifications and involvement in the program of work on behalf of American Manganese Inc, and as presented in this report of January 5, 2022.

The work was performed by individuals qualified for its performance.

I have no material interest in the property under consideration in this report.

I graduated from the University of British Columbia with a Bachelor of Science degree (Geophysics) in 1970 and with a Master of Business Administration in 1982.

I am a member of the Engineers and Geoscientists of the Province of British Columbia (member 19825)

I have been practising my profession as a Geophysicist in the field of Mineral Exploration since 1970.

Respectively submitted,

Alan Scott, P. Geo.

Appendix C: Pseudosections

Chargeability/Resistivity Pseudosections
5200E, 5300E, 5400E, 5500E, 5600E

American Manganese Inc.

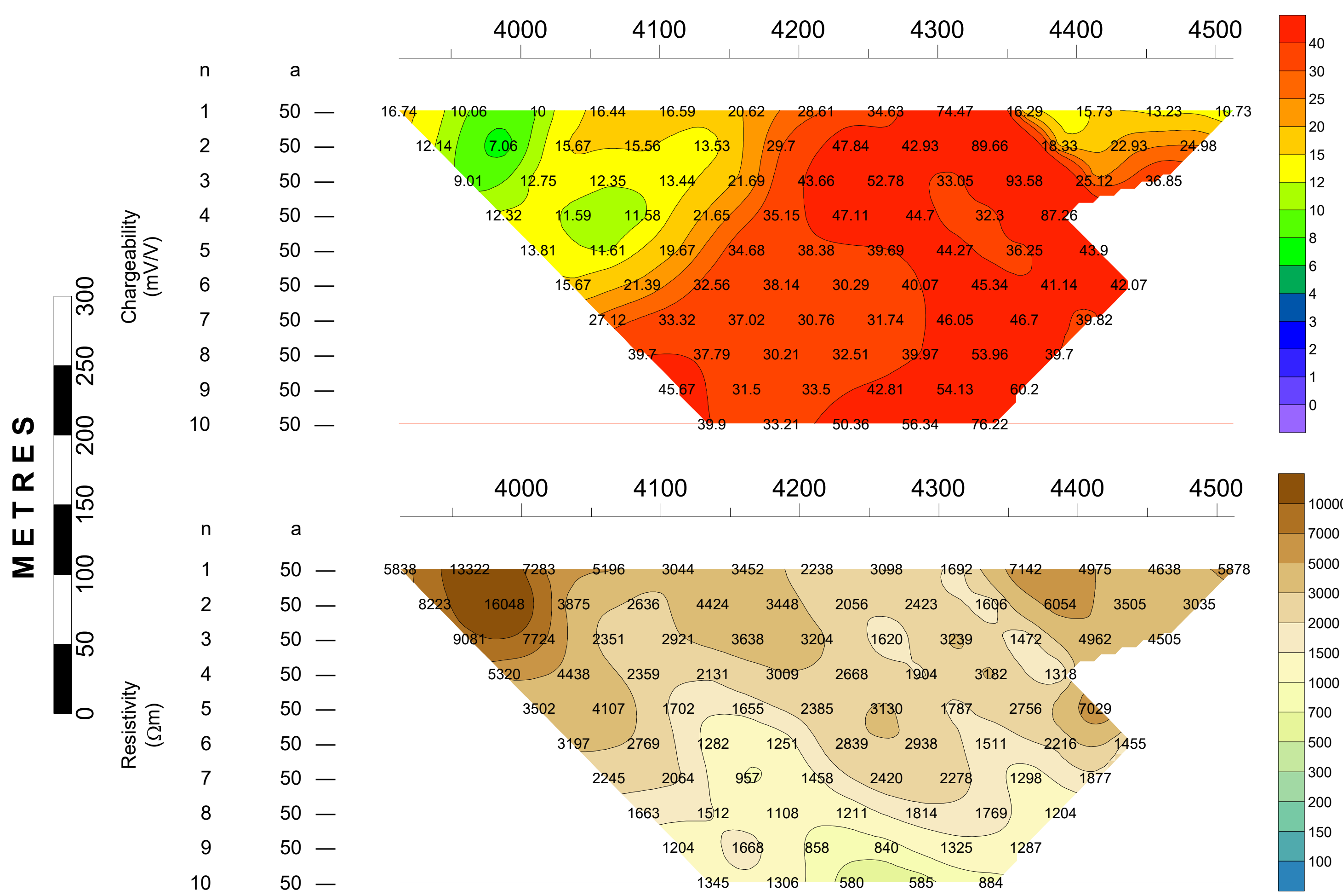
Rocher Deboule Property, Hazelton Area, BC

Line: 5200E

Induced Polarization Survey
Scott Geophysics Ltd.
July 2021

Pole-Dipole array
GDD GRx8-32
Pulse rate: 2 sec

Current electrode north of potentials
Mx chargeability window: 690-1050 msec after shuttoff



Line: 5200E

American Manganese Inc.

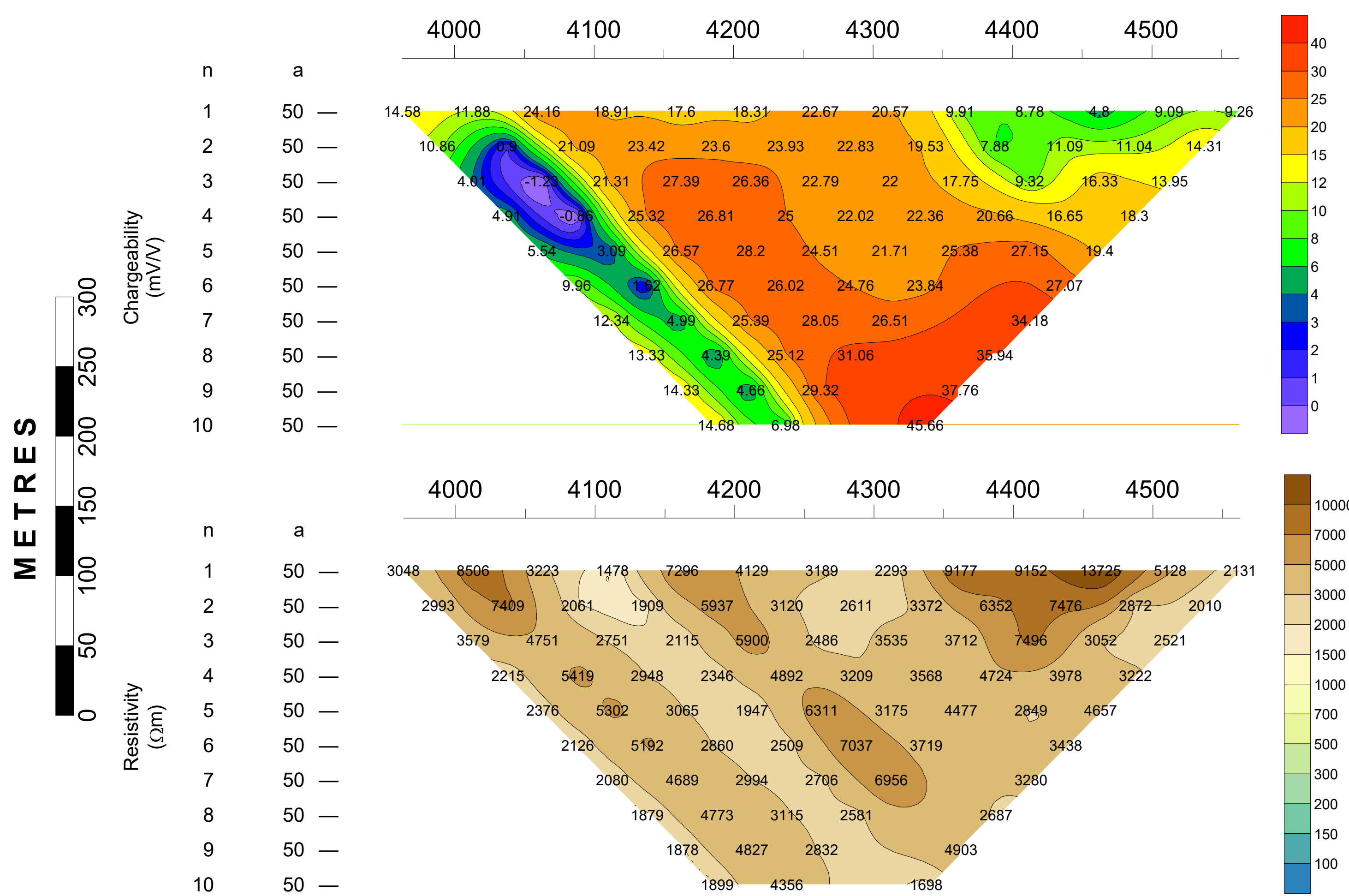
Rocher Deboule Property, Hazelton Area, BC

Line: 5300E

Induced Polarization Survey
Scott Geophysics Ltd.
July 2021

Pole-Dipole array
GDD GRx8-32
Pulse rate: 2 sec

Current electrode north of potentials
Mx chargeability window: 690-1050 msec after shuttoff



Line: 5300E

American Manganese Inc.

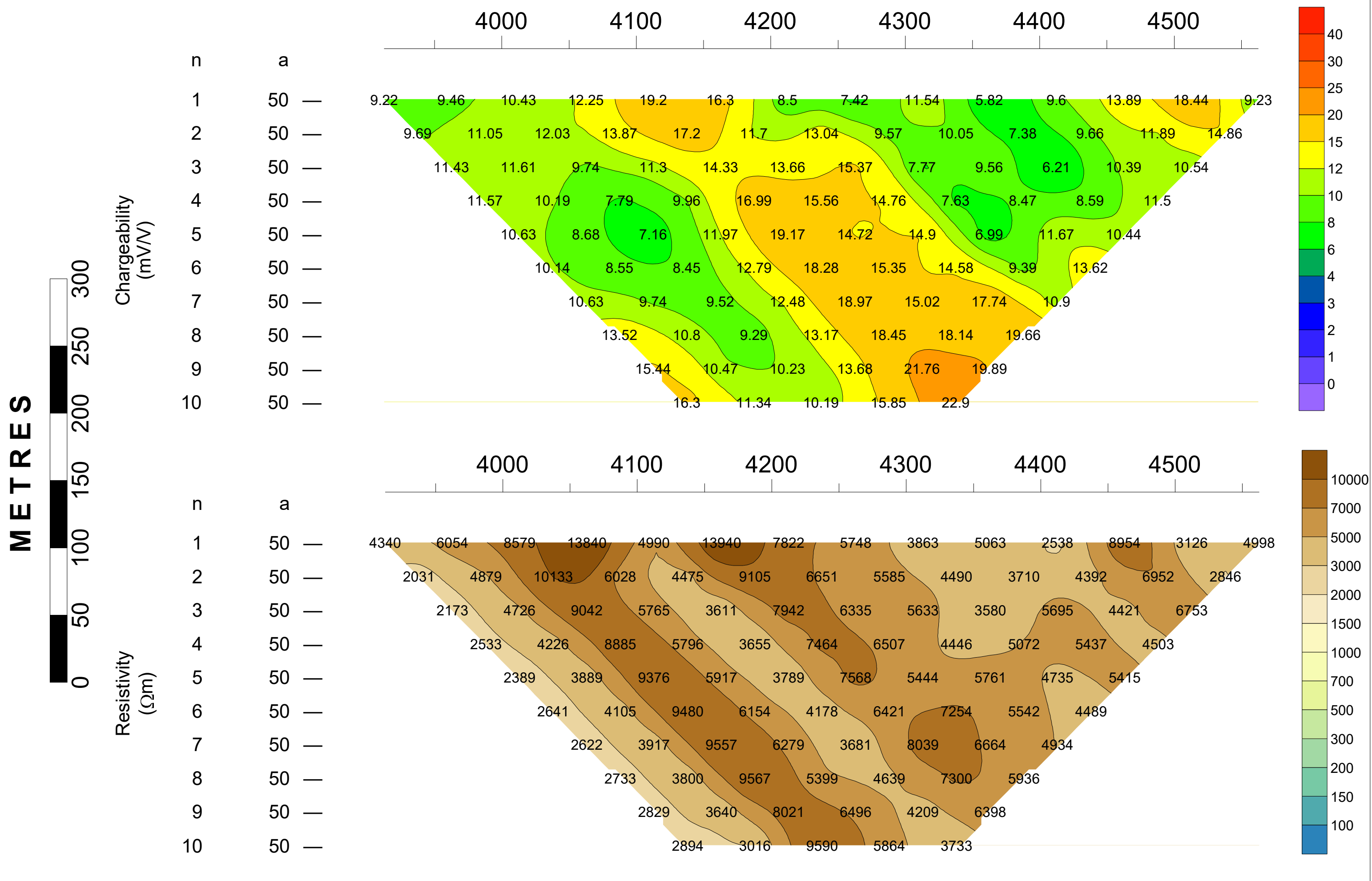
Rocher Deboule Property, Hazelton Area, BC

Line: 5400E

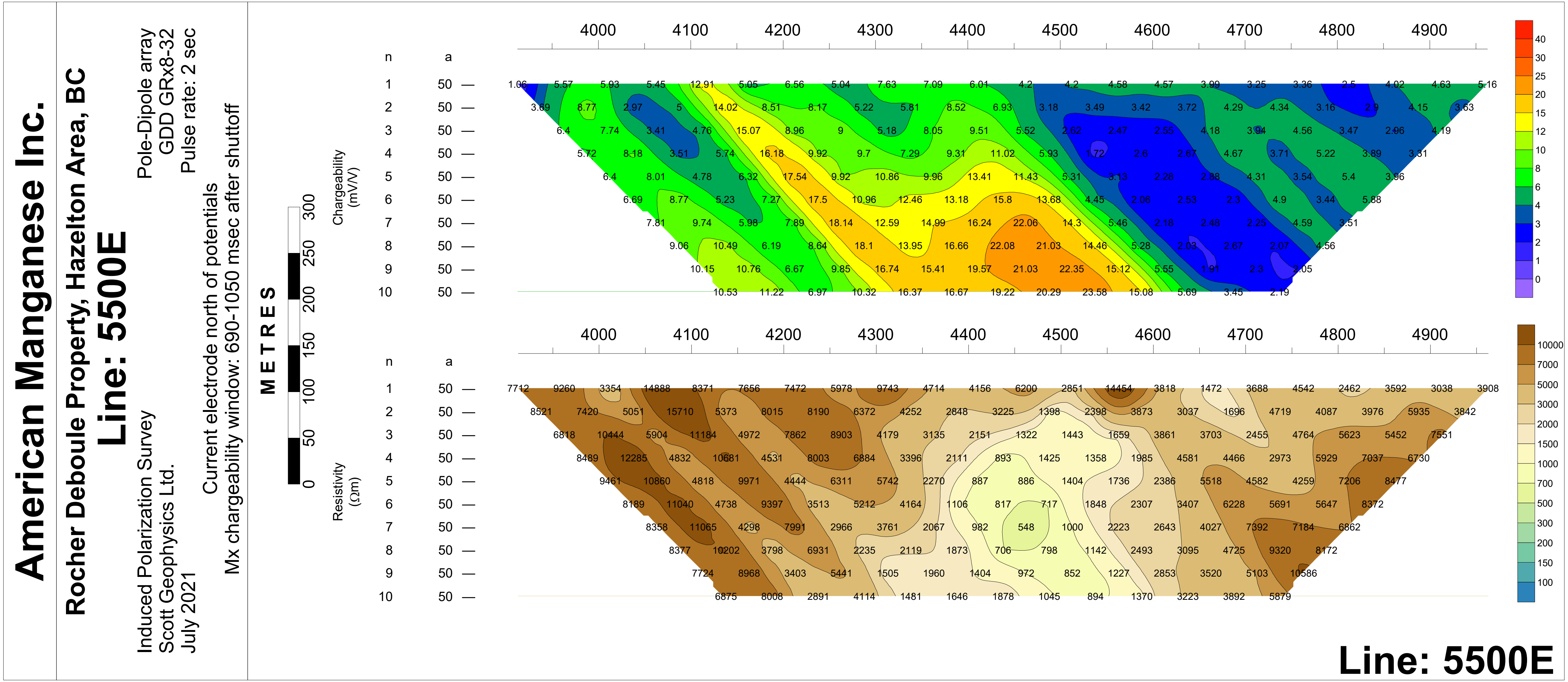
Induced Polarization Survey
Scott Geophysics Ltd.
July 2021

Pole-Dipole array
GDD GRx8-32
Pulse rate: 2 sec

Current electrode north of potentials
Mx chargeability window: 690-1050 msec after shuttoff



Line: 5400E


American Manganese Inc.
Rocher Deboule Property, Hazelton Area, BC
Line: 5500E
Induced Polarization Survey
Scott Geophysics Ltd.
July 2021
Pole-Dipole array
GDD GRx8-32
Pulse rate: 2 sec
Current electrode north of potentials
Mx chargeability window: 690-1050 msec after shuttoff
METRES
0 50 100 150 200 250 300
Chargeability (mV/V)
Resistivity (Ωm)
n
a
4000 4100 4200 4300 4400 4500 4600 4700 4800 4900
40 30 25 20 15 12 10 8 6 4 3 2 1 0
10000 7000 5000 3000 2000 1500 1000 700 500 300 200 150 100
Line: 5500E

American Manganese Inc.

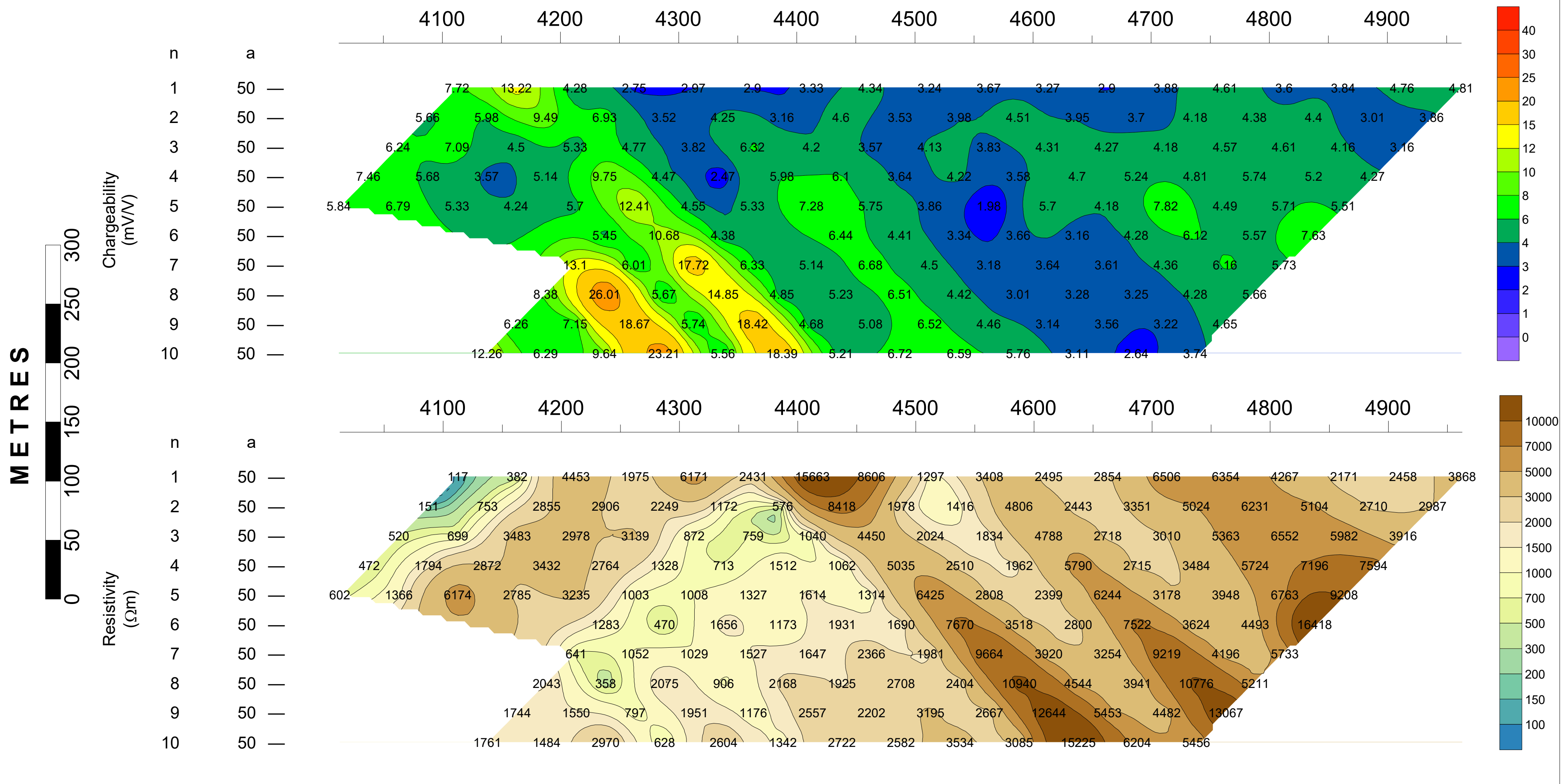
Rocher Deboule Property, Hazelton Area, BC

Line: 5600E

Pole-Dipole array
GDD GRx8-32
Pulse rate: 2 sec

Induced Polarization Survey
Scott Geophysics Ltd.
July 2021

Current electrode north of potentials
Mx chargeability window: 690-1050 msec after shuttoff



Line: 5600E

Appendix D: Maps

Chargeability contour plan – First Separation (UTM coordinates)
Resistivity contour plan – First Separation (UTM coordinates)

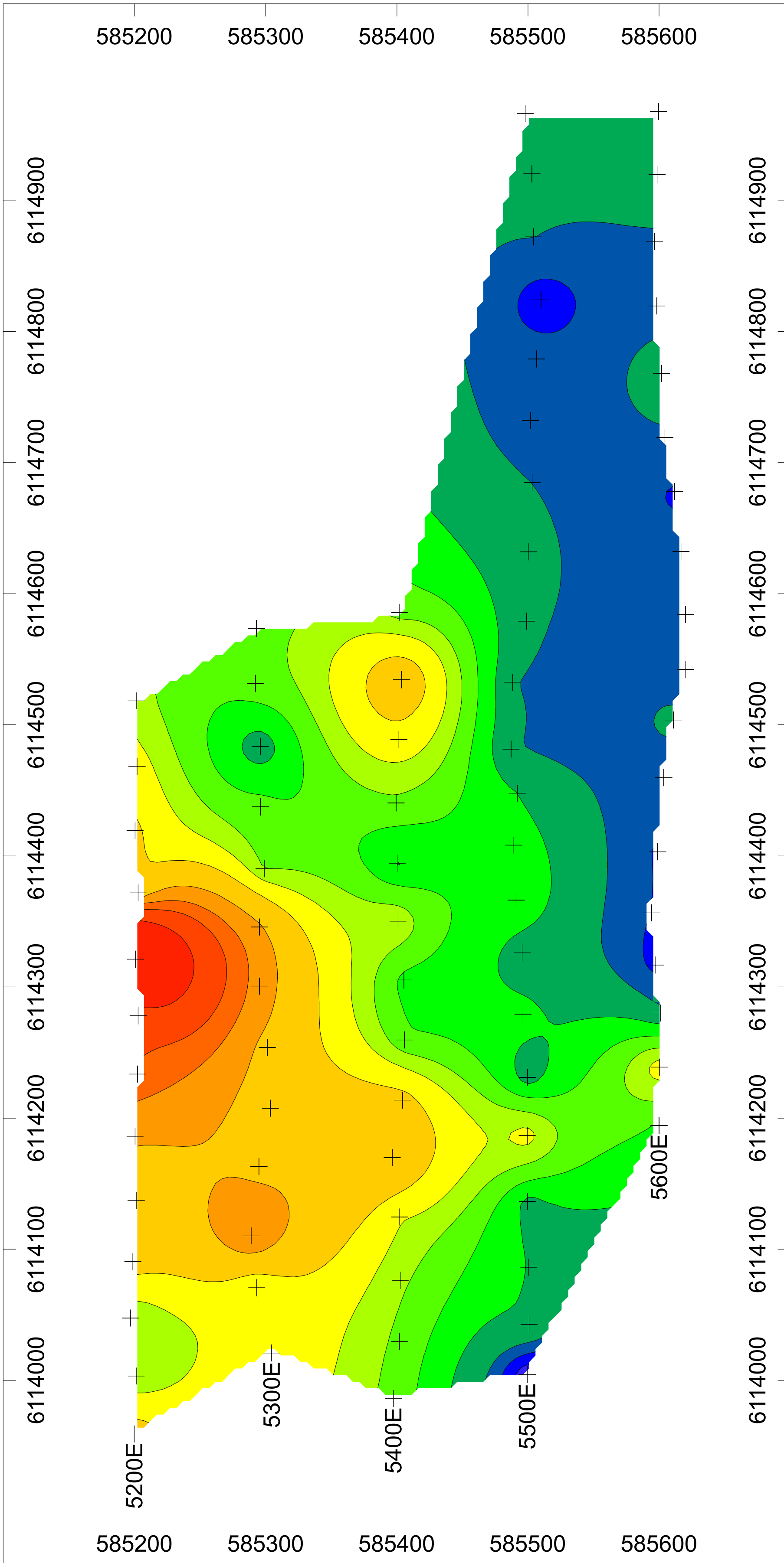
Survey Specifications

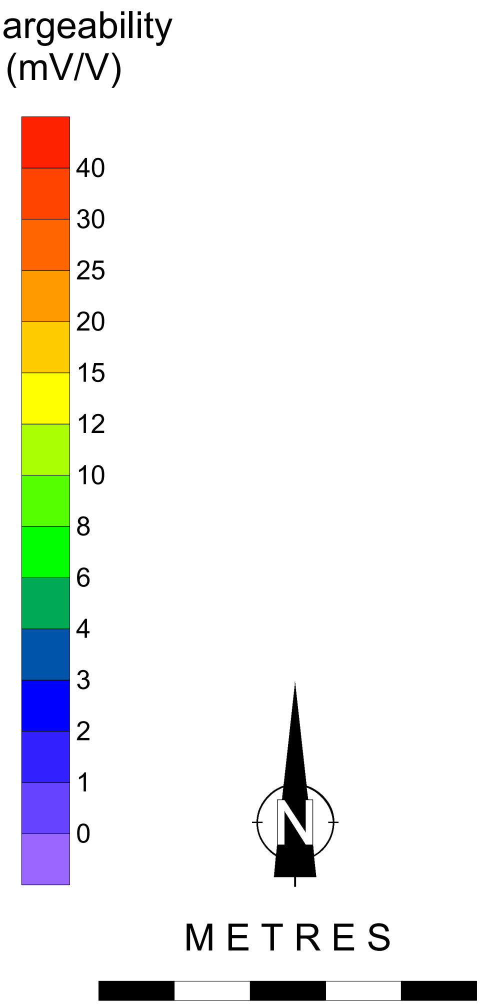
Survey performed: July, 2021

Receiver: GDD GRx8-32
Transmitter: GDD TxII (5 kW)
Pulse time: 2 sec
Mx receive window: 690-1050 msec

Array: pole-dipole
a spacing, n separations: a = 50m, n = 1-10
Current electrode north of potential electrodes

Grid coordinates: WGS84 UTM Zone 09U

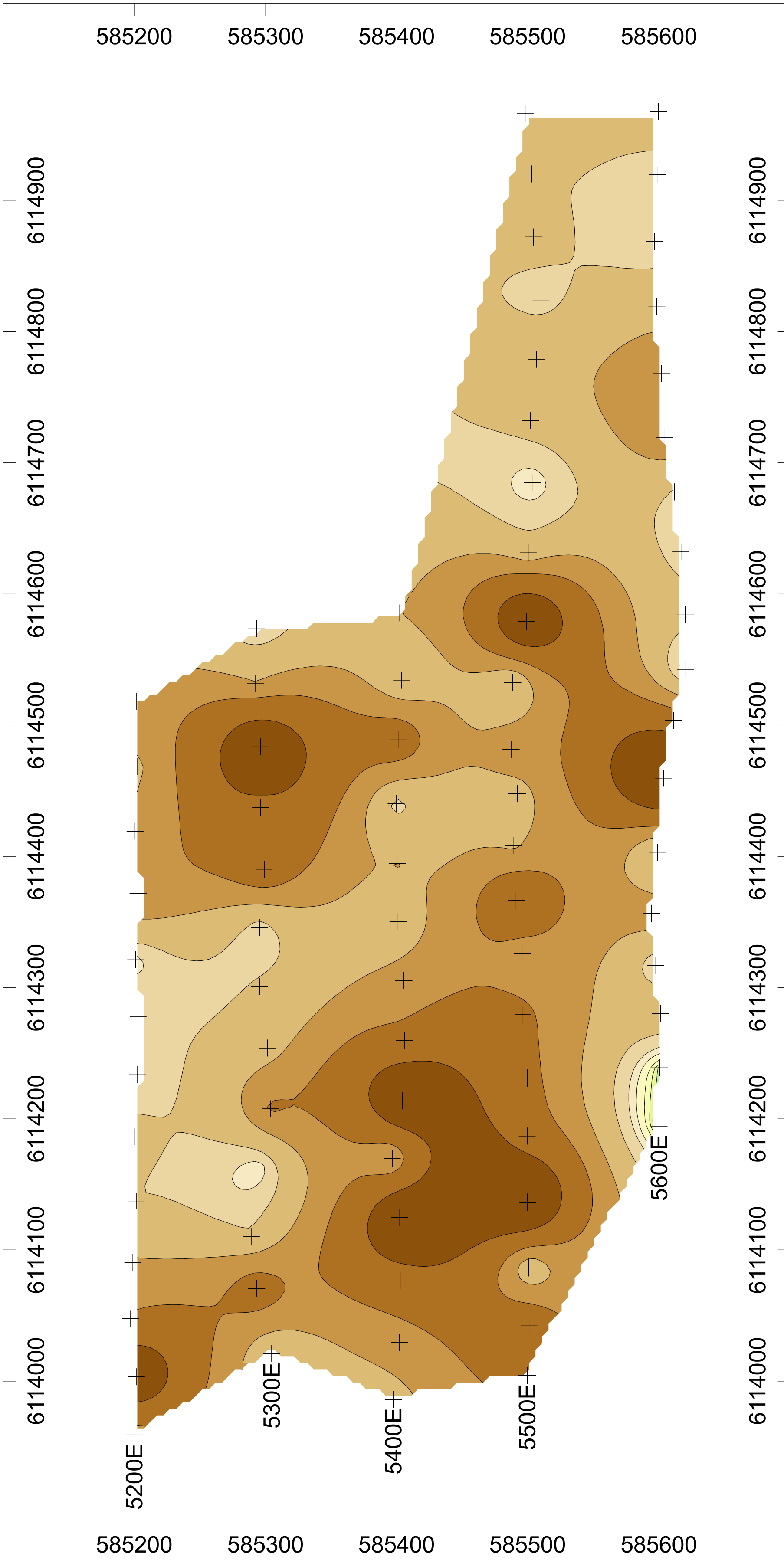




American Manganese Inc.
Rocher Deboule Property, Hazelton Area, BC
Induced Polarization Survey
First (a = 100, n = 1) Separation Chargeability

Drawn by: B Scott | Date: December 2021

Scott Geophysics Ltd.



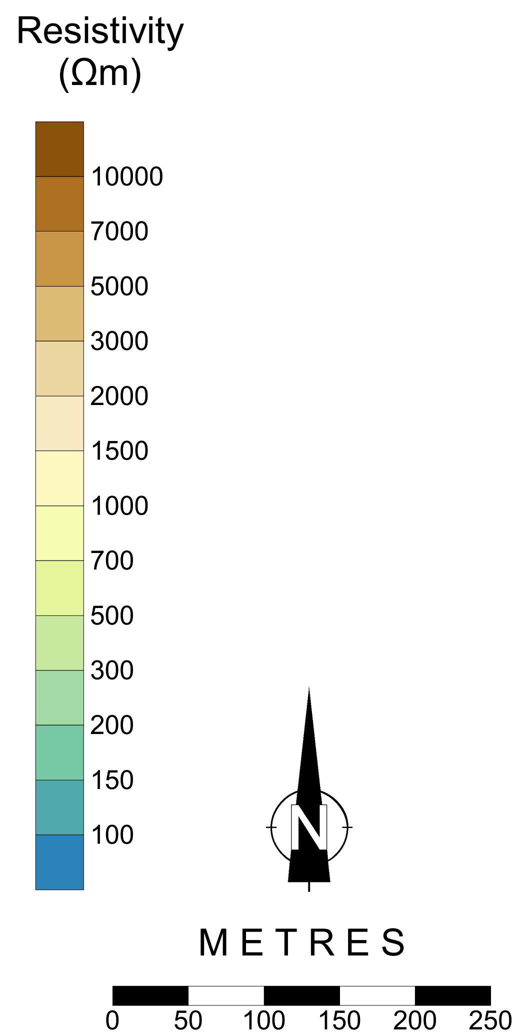
Survey Specifications

Survey performed: July, 2021

Receiver: GDD GRx8-32
Transmitter: GDD TxII (5 kW)
Pulse time: 2 sec
Mx receive window: 690-1050 msec

Array: pole-dipole
a spacing, n separations: a = 50m, n = 1-10
Current electrode north of potential electrodes

Grid coordinates: WGS84 UTM Zone 09U



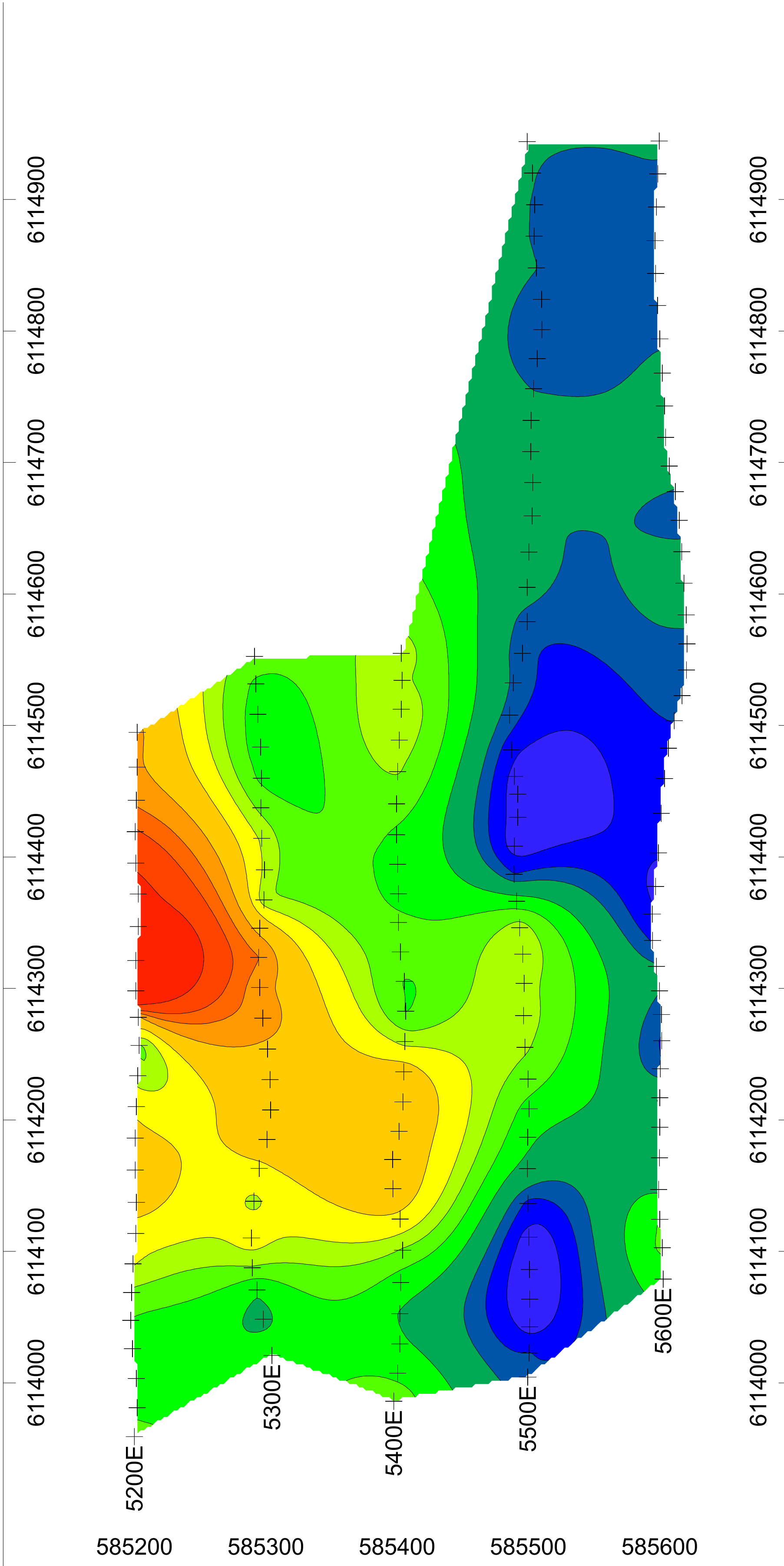
American Manganese Inc.
Rocher Deboule Property, Hazelton Area, BC
Induced Polarization Survey
First (a = 100, n = 1) Separation Resistivity

Drawn by: B Scott | Date: December 2021

Scott Geophysics Ltd.

Appendix E: Inverted Geophysical Models

Chargeability depth plans – 50m, 100m, 200m depth
Resistivity depth plans – 50m, 100m, 200m depth
Stacked chargeability sections
Stacked resistivity sections



Survey Specifications

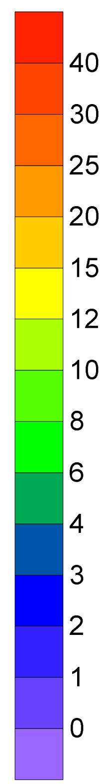
Survey performed: July, 2021

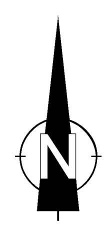
Receiver: GDD GRx8-32
Transmitter: GDD TxII (5 kW)
Pulse time: 2 sec
Mx receive window: 690-1050 msec

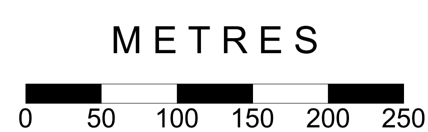
Array: pole-dipole
a spacing, n separations: a = 50m, n = 1-10
Current electrode north of potential electrodes

Grid coordinates: WGS84 UTM Zone 09U

Chargeability
(mV/V)



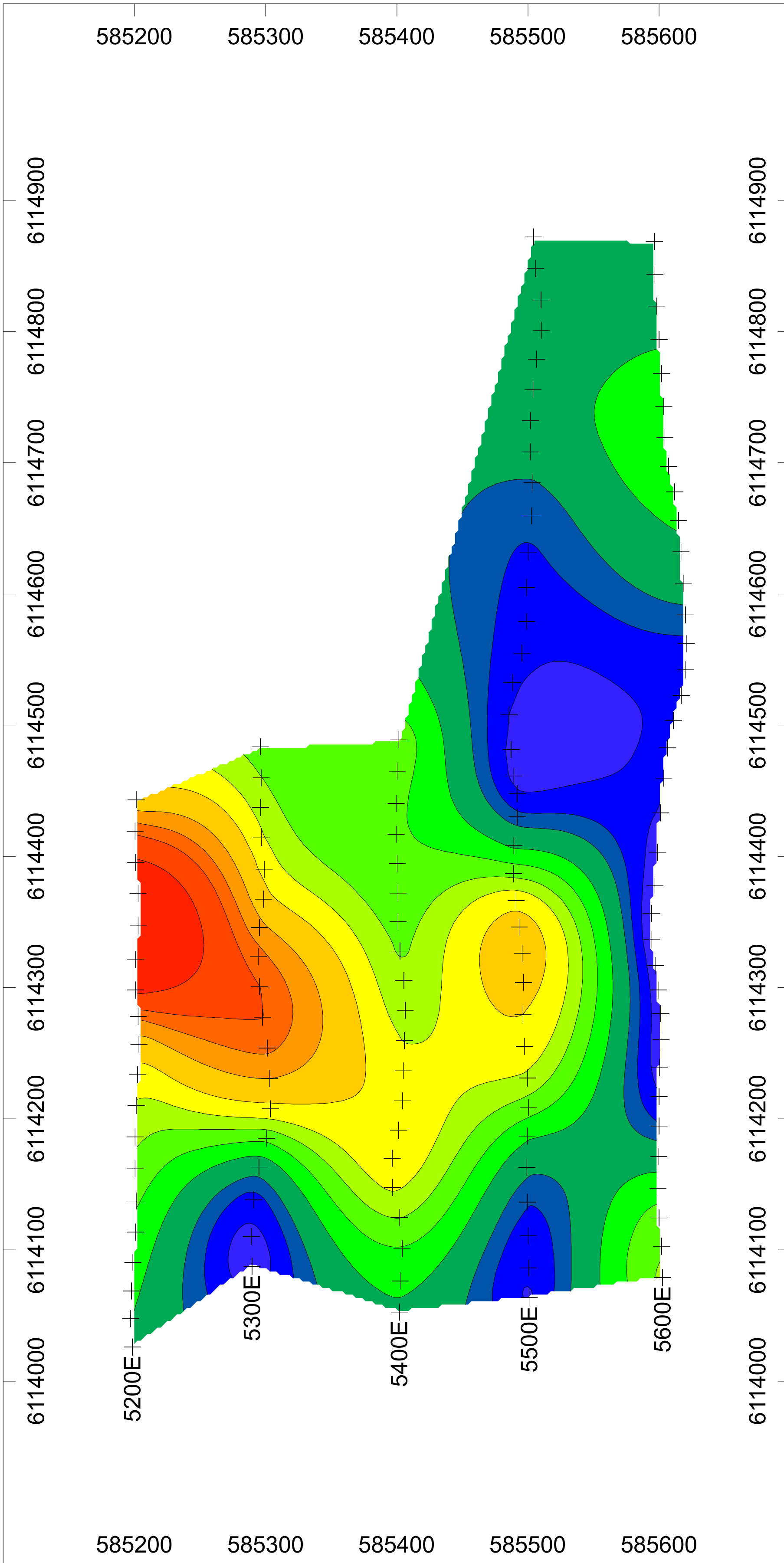




American Manganese Inc.
Rocher Deboule Property, Hazelton Area, BC
RES2DINV Inverted Chargeability Data
50m Depth Plan

Drawn by: B Scott | Date: January 2022

Scott Geophysics Ltd.



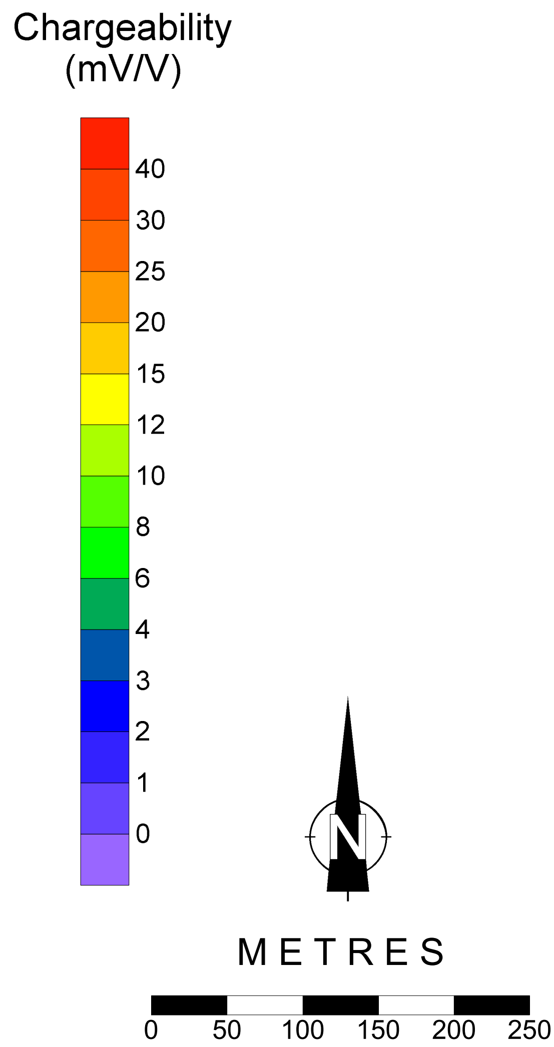
Survey Specifications

Survey performed: July, 2021

Receiver: GDD GRx8-32
Transmitter: GDD TxII (5 kW)
Pulse time: 2 sec
Mx receive window: 690-1050 msec

Array: pole-dipole
a spacing, n separations: a = 50m, n = 1-10
Current electrode north of potential electrodes

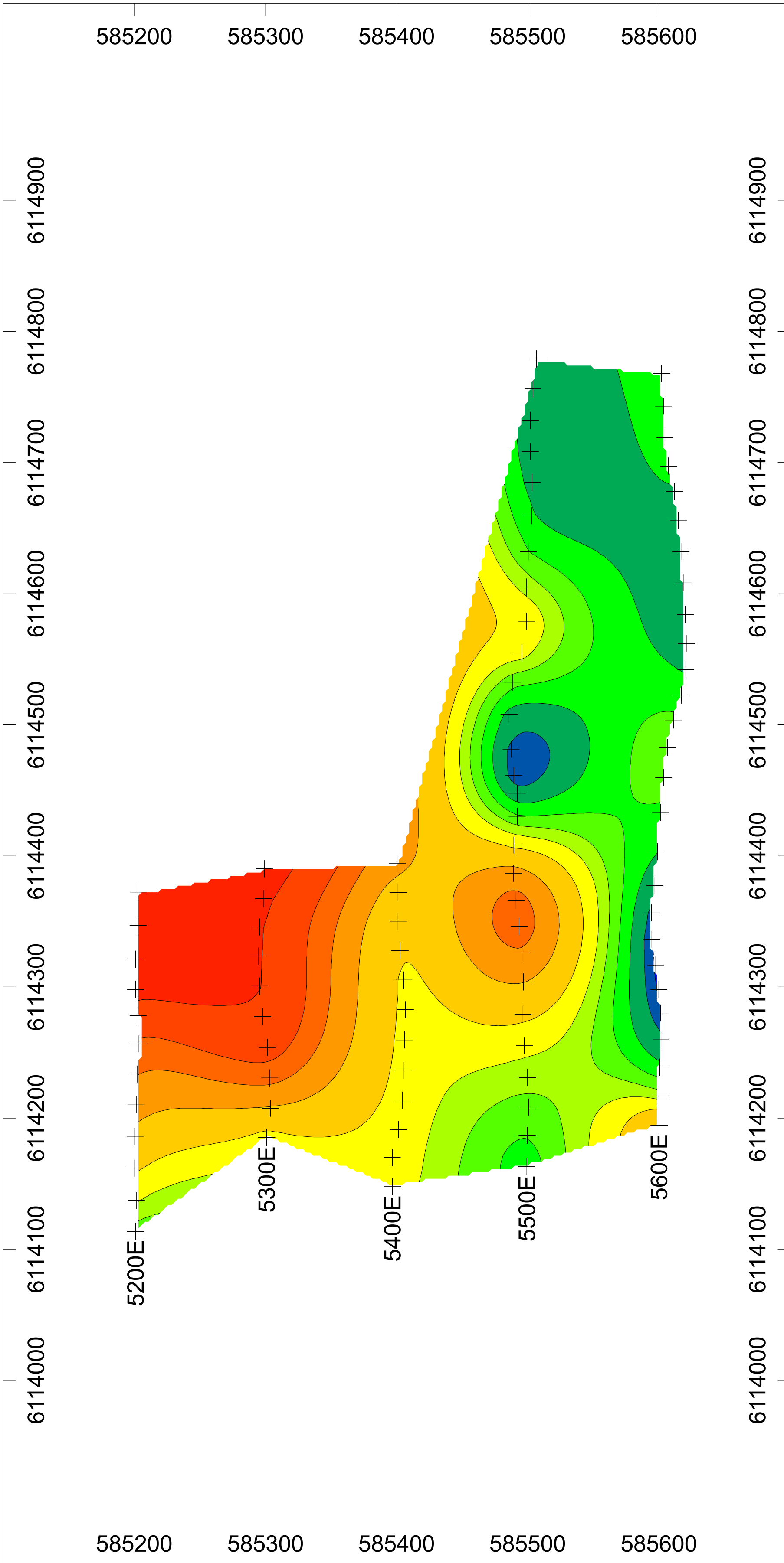
Grid coordinates: WGS84 UTM Zone 09U



American Manganese Inc.
Rocher Deboule Property, Hazelton Area, BC
RES2DINV Inverted Chargeability Data
100m Depth Plan

Drawn by: B Scott | Date: January 2022

Scott Geophysics Ltd.



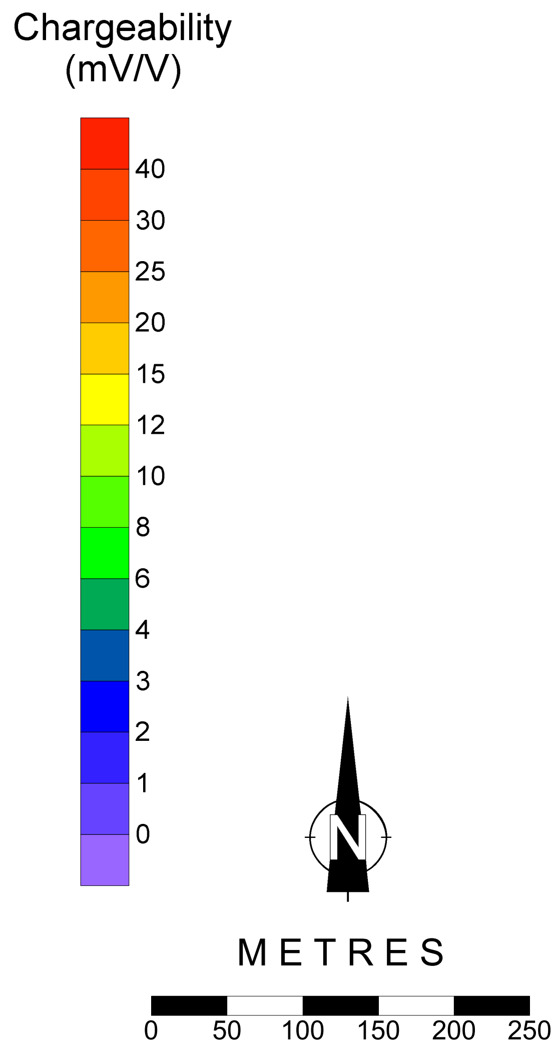
Survey Specifications

Survey performed: July, 2021

Receiver: GDD GRx8-32
Transmitter: GDD TxII (5 kW)
Pulse time: 2 sec
Mx receive window: 690-1050 msec

Array: pole-dipole
a spacing, n separations: a = 50m, n = 1-10
Current electrode north of potential electrodes

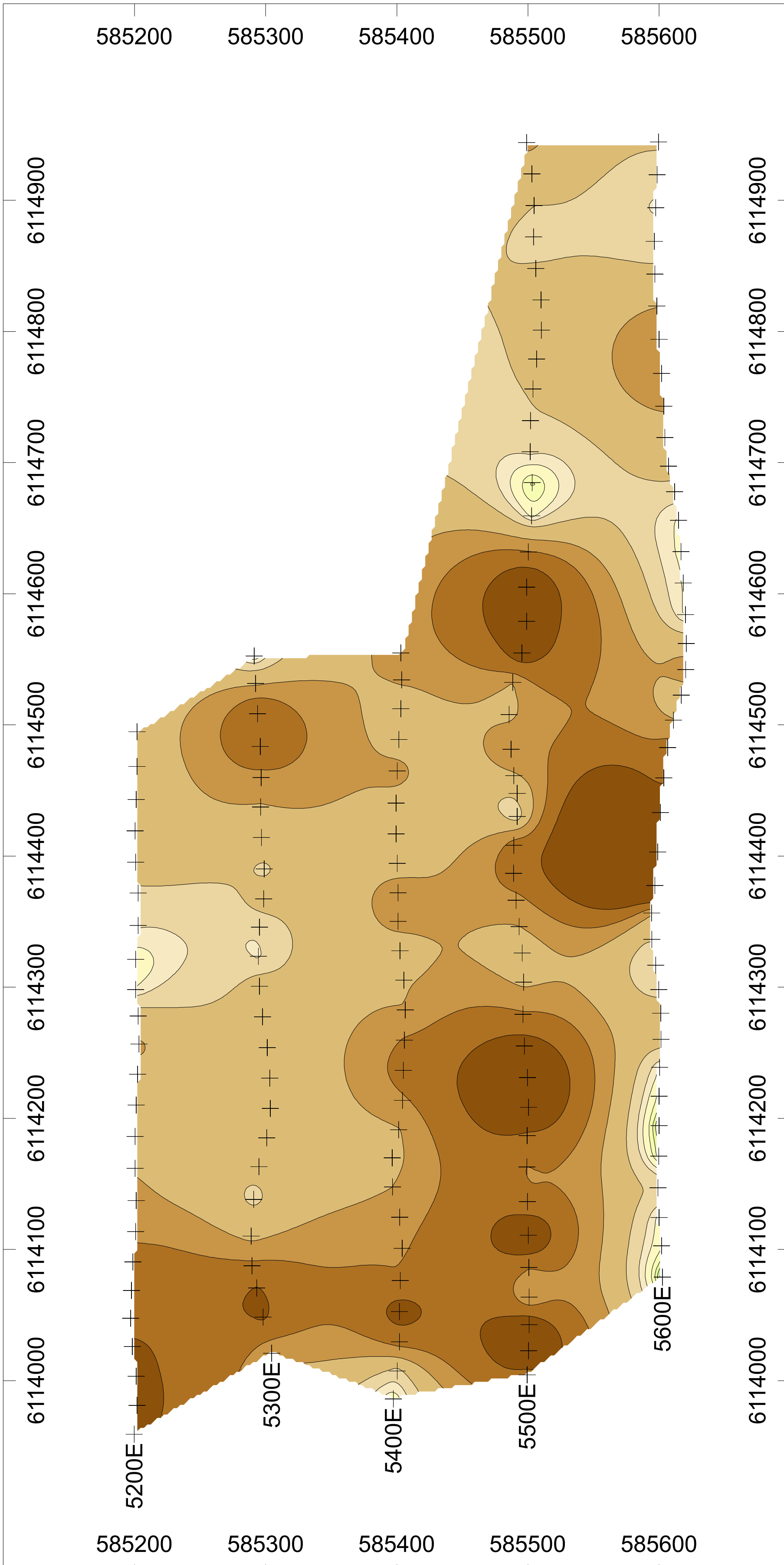
Grid coordinates: WGS84 UTM Zone 09U



American Manganese Inc.
Rocher Deboule Property, Hazelton Area, BC
RES2DINV Inverted Chargeability Data
200m Depth Plan

Drawn by: B Scott | Date: January 2022

Scott Geophysics Ltd.



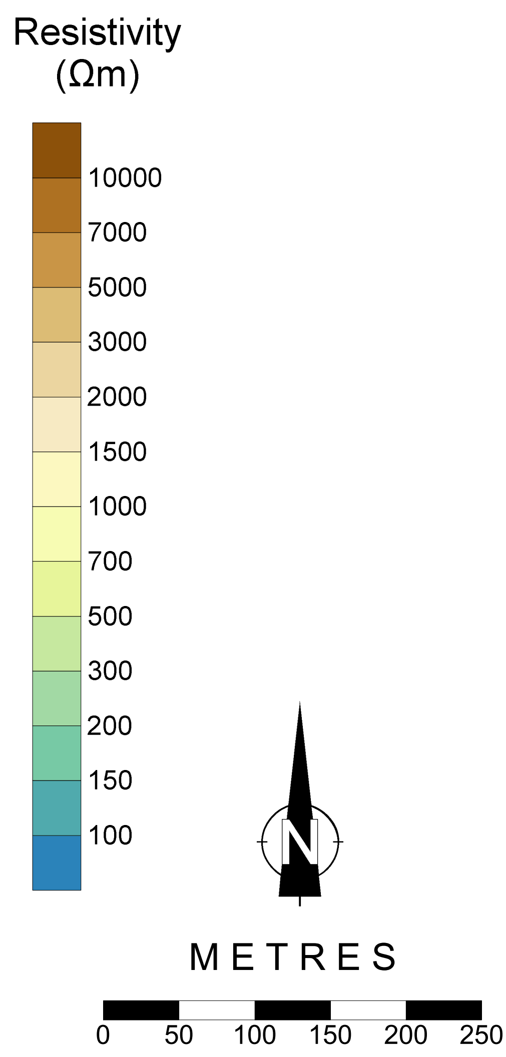
Survey Specifications

Survey performed: July, 2021

Receiver: GDD GRx8-32
Transmitter: GDD TxII (5 kW)
Pulse time: 2 sec
Mx receive window: 690-1050 msec

Array: pole-dipole
a spacing, n separations: a = 50m, n = 1-10
Current electrode north of potential electrodes

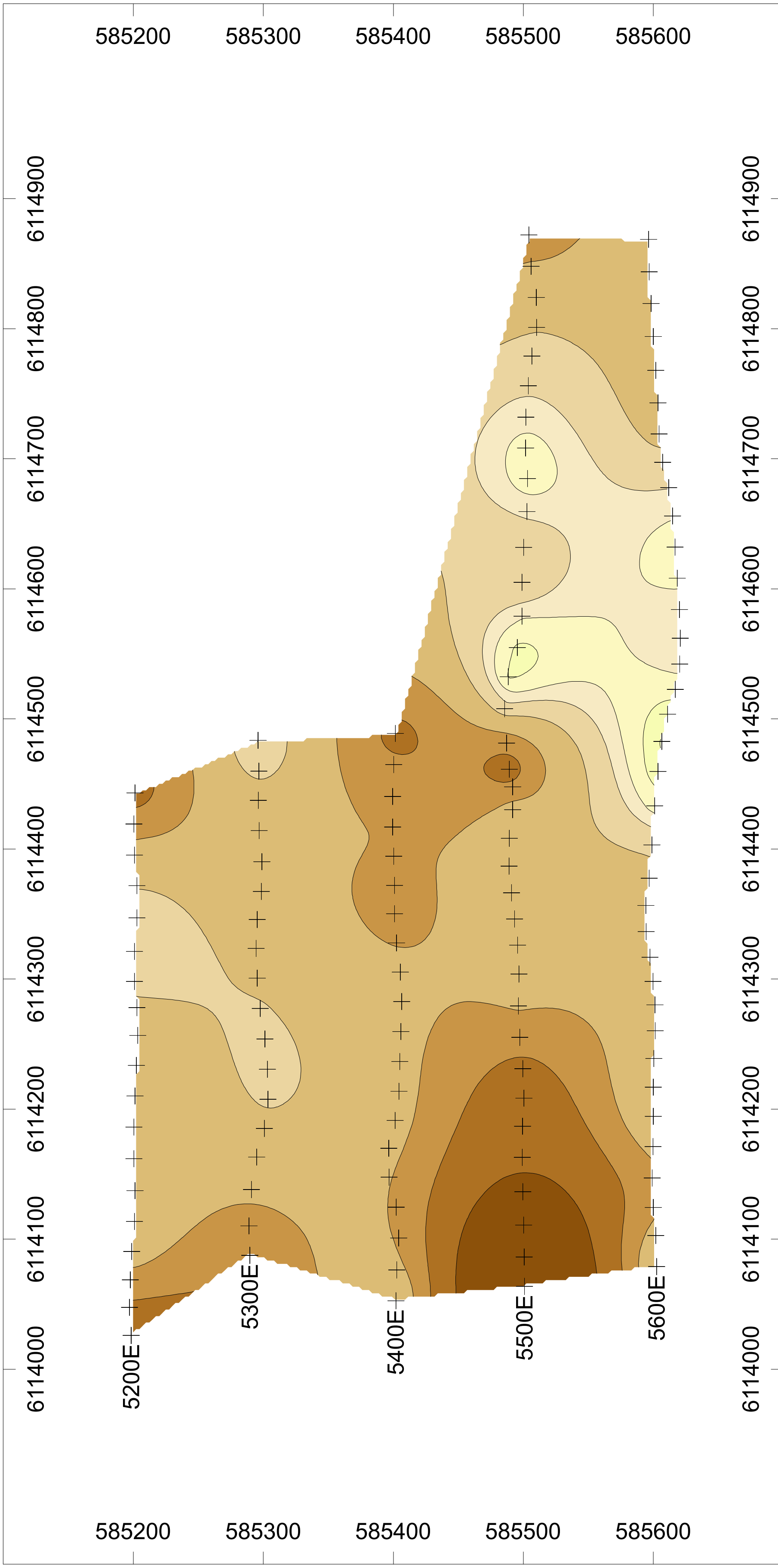
Grid coordinates: WGS84 UTM Zone 09U



American Manganese Inc.
Rocher Deboule Property, Hazelton Area, BC
RES2DINV Inverted Resistivity Data
50m Depth Plan

Drawn by: B Scott   Date: January 2022

Scott Geophysics Ltd.



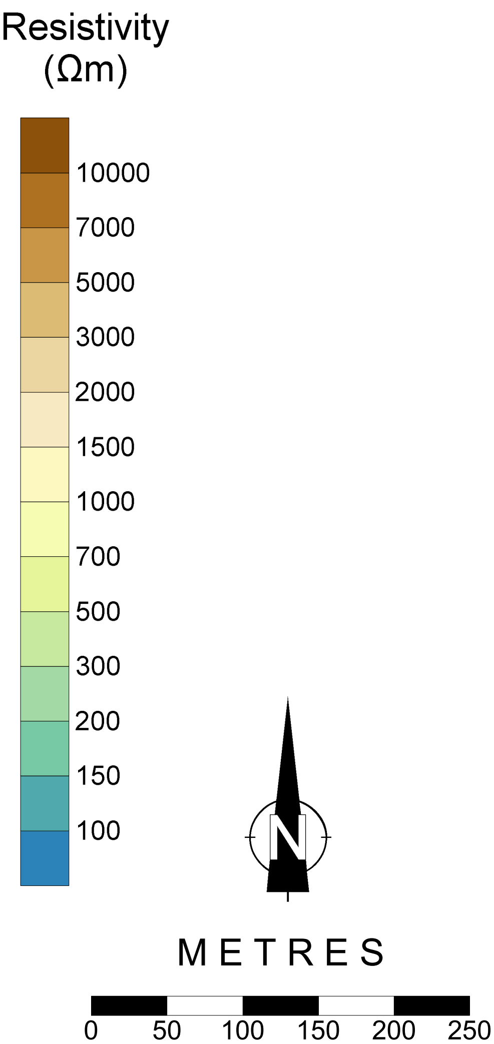
Survey Specifications

Survey performed: July, 2021

Receiver: GDD GRx8-32
Transmitter: GDD TxII (5 kW)
Pulse time: 2 sec
Mx receive window: 690-1050 msec

Array: pole-dipole
a spacing, n separations: a = 50m, n = 1-10
Current electrode north of potential electrodes

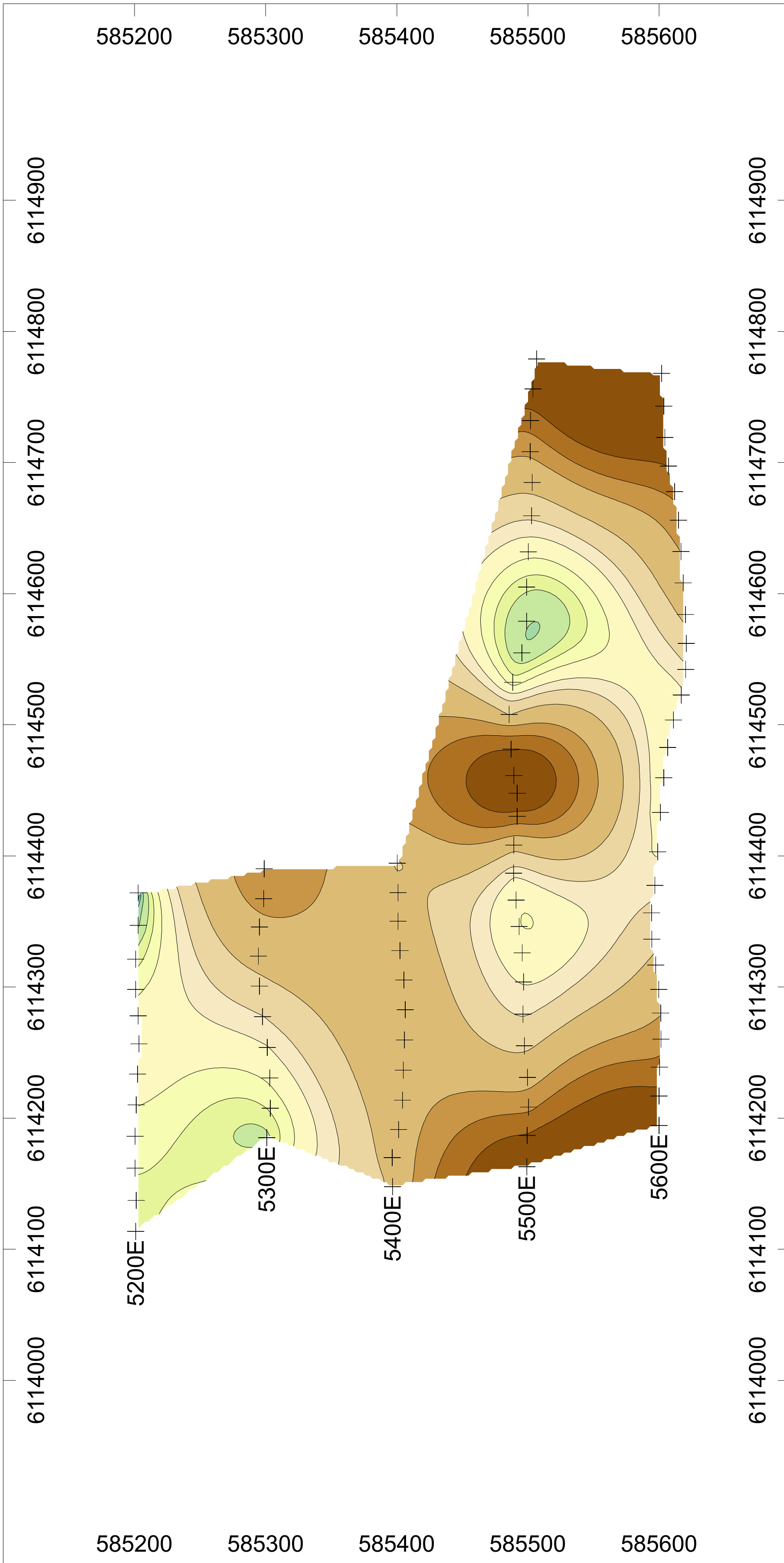
Grid coordinates: WGS84 UTM Zone 09U



American Manganese Inc.
Rocher Deboule Property, Hazelton Area, BC
RES2DINV Inverted Resistivity Data
100m Depth Plan

Drawn by: B Scott | Date: January 2022

Scott Geophysics Ltd.



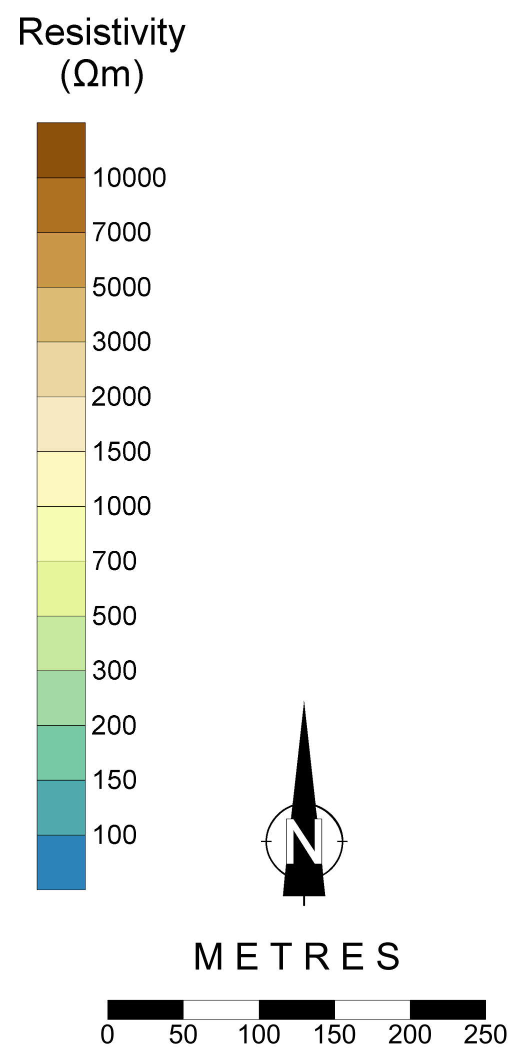
Survey Specifications

Survey performed: July, 2021

Receiver: GDD GRx8-32
Transmitter: GDD TxII (5 kW)
Pulse time: 2 sec
Mx receive window: 690-1050 msec

Array: pole-dipole
a spacing, n separations: a = 50m, n = 1-10
Current electrode north of potential electrodes

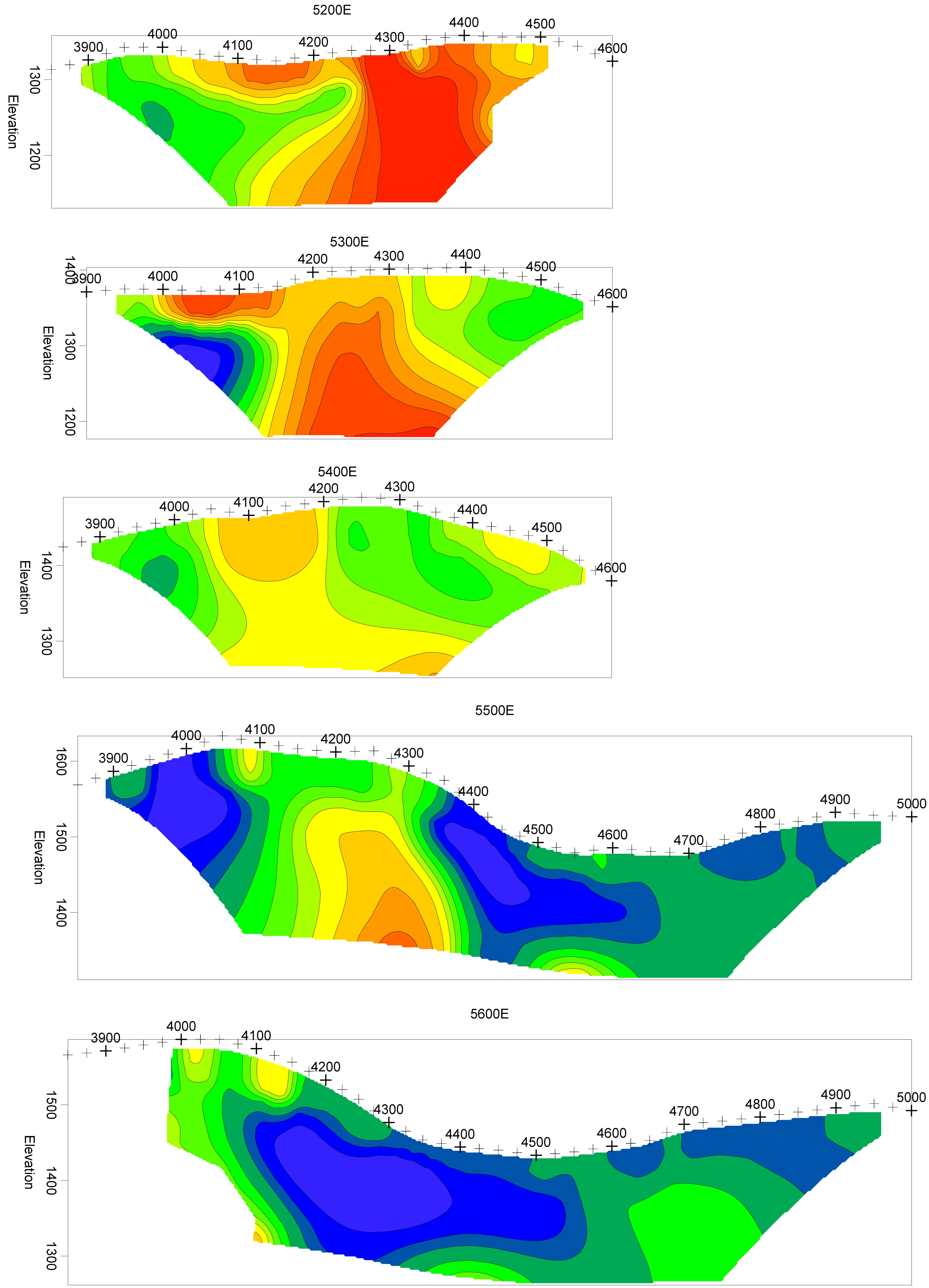
Grid coordinates: WGS84 UTM Zone 09U



American Manganese Inc.
Rocher Deboule Property, Hazelton Area, BC
RES2DINV Inverted Resistivity Data
200m Depth Plan

Drawn by: B Scott
Date: January 2022

Scott Geophysics Ltd.

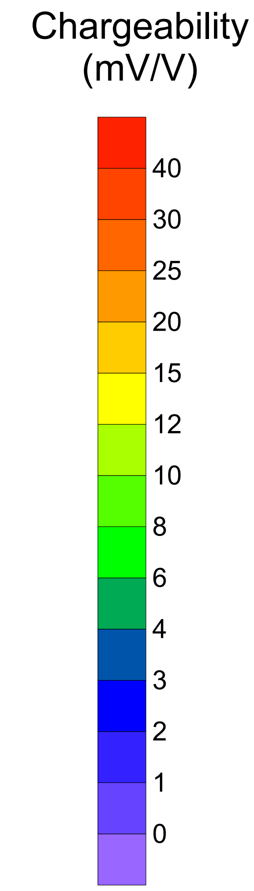


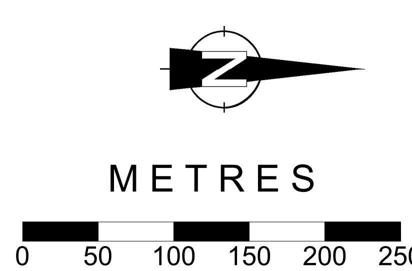
Survey Specifications

Survey performed: July, 2021

Receiver: GDD GRx8-32
Transmitter: GDD TxII (5 kW)
Pulse time: 2 sec
Mx receive window: 690-1050 msec

Array: pole-dipole
a spacing, n separations: a = 50m, n = 1-10
Current electrode north of potential electrodes

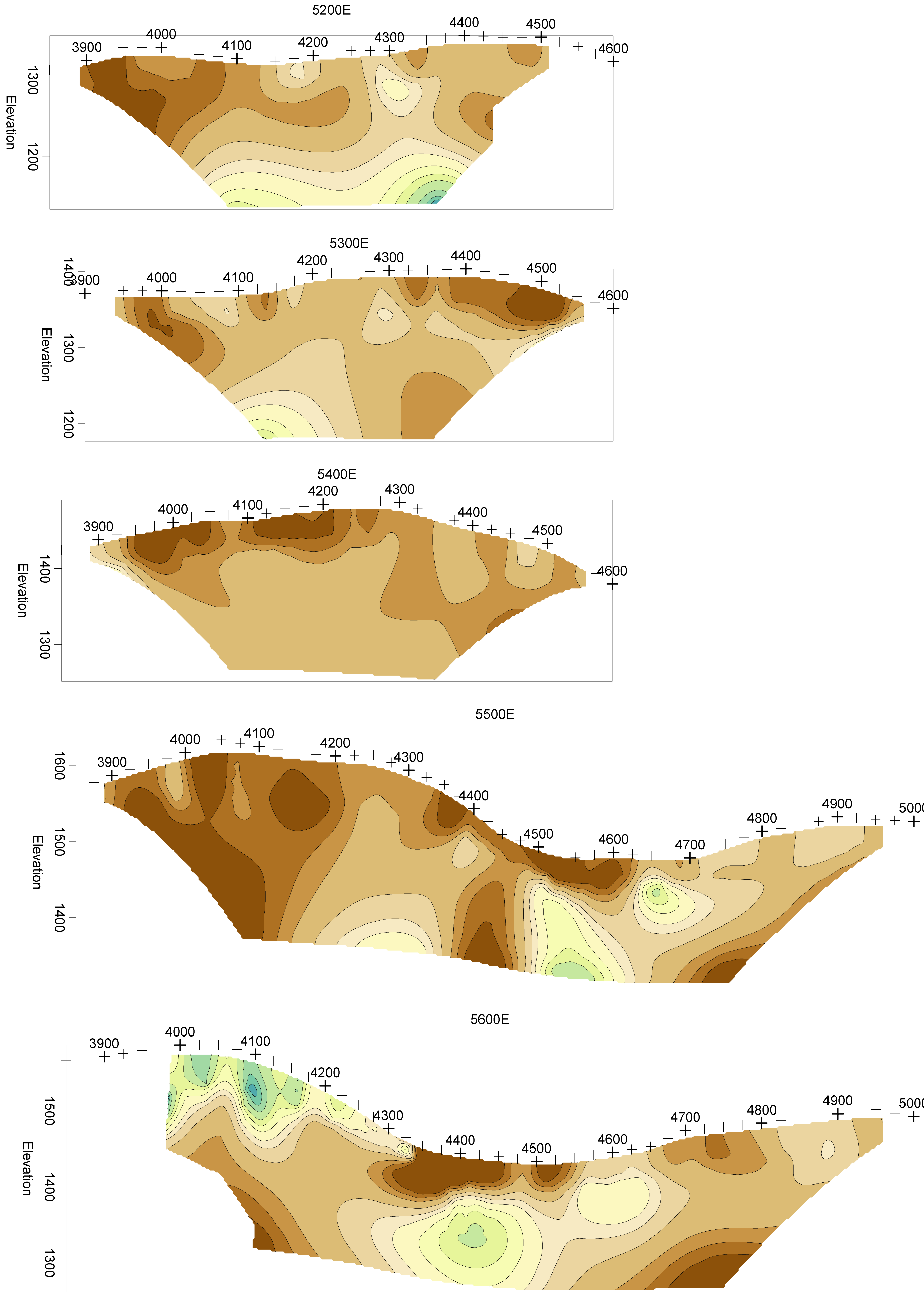




American Manganese Inc.
Rocher Deboule Property, Hazelton Area, BC
RES2DINV Inverted Chargeability Data
Stacked Sections

Drawn by: B Scott
Date: January 2022

Scott Geophysics Ltd.

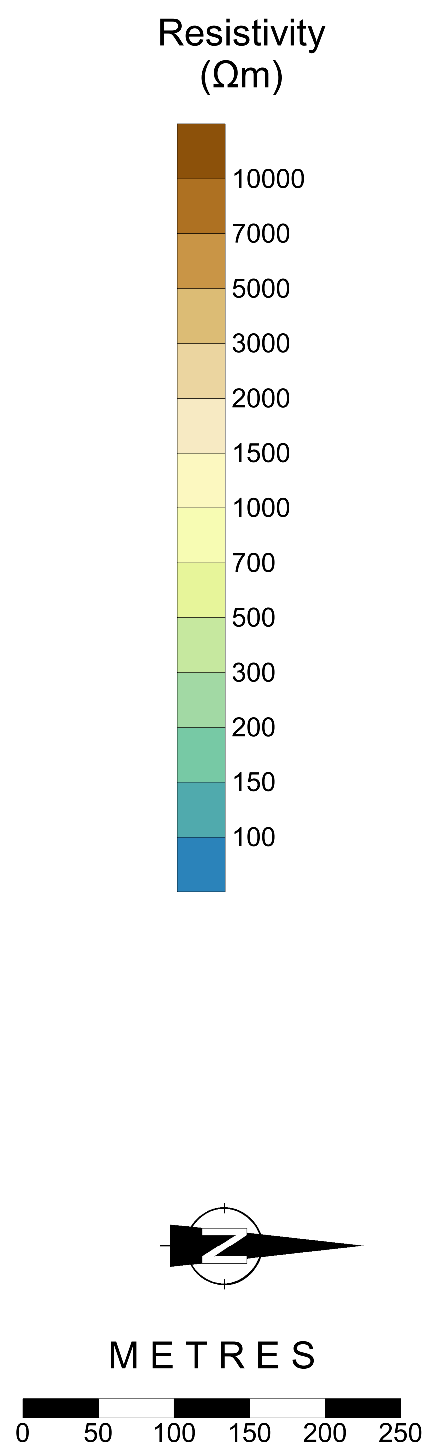


Survey Specifications

Survey performed: July, 2021

Receiver: GDD GRx8-32
Transmitter: GDD TxII (5 kW)
Pulse time: 2 sec
Mx receive window: 690-1050 msec

Array: pole-dipole
a spacing, n separations: a = 50m, n = 1-10
Current electrode north of potential electrodes



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Rocher Deboule Property, Hazelton Area, BC
RES2DINV Inverted Resistivity Data
Stacked Sections

Drawn by: B Scott | Date: January 2022

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