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Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

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

TOTAL COST: $ 4,982.90

AUTHOR(S): Andris Kikauka **SIGNATURE(S):** A. Kikauka

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): no surface disturbance **YEAR OF WORK:** 2016

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5603569

PROPERTY NAME: Rocher Deboule

CLAIM NAME(S) (on which the work was done): 510469, 856170

COMMODITIES SOUGHT: Cu-Ag-Au (Pb-Zn-Co)

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 093M 073

MINING DIVISION: Omineca **NTS/BCGS:** 093M 04/E, 093M.012

LATITUDE: 55 ° 10 ' 22 " **LONGITUDE:** 127 ° 41 ' 21 " **(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):

Precious and base metal bearing minerals occur in fracture-fissure zones trending E, NE and to a lesser degree SE. Mineralization is hosted in Upper Cretaceous Kasalka Grp andesitic porphyritic flows, breccias and tuffs that have been phyllic altered with illite-quartz-pyrite-sericite-chlorite-anhydrite assemblage. A total of 6 quartz-carbonate-sulphide zones were identified that range in strike length from 100-200 meters, have widths of 0.1-3.0 meters, and dip steeply. Post mineral flat faults cut off mineralizatio

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 3463, 8323, 8705, 25674, 26984, 27558, 28625, 29082, 29502, 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	1:5,000 15 hectares	510469, 856170	2,102.34
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock	19, 30 element ICP & Au geochemistry	510469, 856170	2,880.56
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:	4,982.90

NTS 093M 04/E, TRIM 093M.012
LAT. 55 10' 22" N
LONG. 127 41' 21" W

GEOLOGICAL, & GEOCHEMICAL REPORT ON ROCHER DEBOULE MINERAL PROPERTY

CAP
MINERAL OCCURRENCES
HAZELTON, B.C.

Omineca Mining Division

by

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

July 8, 2016

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1.0 Summary

The Rocher Deboule property consists of MTO tenure numbers 510491 and 856170, and covers 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, Mines and Petroleum Resources 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 and disseminated mineralization associated with the Late Cretaceous Bulkley Plutonic Suite, and the satellite Rocher Deboule feldspar porphyry stock which displays "Iron Oxide Copper Gold" (anomalous Fe-Cu-Au-Ag-Co-P-La-REE's) breccia/fault array style mineralization.

The property is underlain by a broad, east to west trending belt of alteration zones and/or intermittent mineralization that may reflect the presence of one or more buried intrusion in a 1 X 2 km area, resulting in hydrothermal emanations of copper, silver and gold bearing minerals invading fracture and/or fissure with quartz-carbonate-chlorite gangue. This Cu-Ag-Au zone of mineralization is located between the Cap (westernmost) and Highland Boy (easternmost) occurrences.

The Cap showings are hosted in andesitic flows/tuffs (porphyritic) of Upper Cretaceous Kasalka Group (Brian Boru Formation). The Cap showings consist of 4 zones of fault-fracture controlled zones of quartz-carbonate-sulphides. The zones are each approximately 100-250 meters in strike length and vary in width from 0.1-3.0 meters. The quartz-carbonate-sulphide fissure veins generally strike NE, E, and SE and dip steeply. The sulphide minerals are mainly pyrite and chalcopyrite, with minor sphalerite, galena, arsenopyrite, and tetrahedrite. It is assumed that the hydrothermal activity associated with the emplacement of quartz-carbonate-sulphide fissure veins is related to the nearby intrusion of the Rocher Deboule granodiorite stock. The intrusion is also responsible for a 300 X 500 m area of ubiquitous quartz-sericite-pyrite (phyllic) alteration. A program of geological mapping (15 hectares area, Fig 6) and geochemical rock chip sampling (19 rock chip samples over a 15 hectare area, Fig 7), on the Cap showings (located on the northwest portion of the property), were carried out by American Manganese personnel in May, 2016. Geological mapping and geochemical sampling of outcrops in a 300 X 500 m area was centered on the Cap (AKA Huckleberry) base and precious metal mineral occurrences.

A total of 19 rock chip samples were taken in the area of the Cap showings. The following list highlights 10 of 19 rock samples that returned geochemical analysis results > 5 ppm Ag:

Rock Samples from Cap area > 5 ppm Ag

Sample ID	Sample type	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm
1420101	Rock chip channel	75	5.3	433	1238	1414	171	77
1420102	Rock chip channel	9280	40.0	57026	1181	2809	8658	272
1420103	Rock chip channel	245	65.5	13388	4469	44367	6654	3360
1420104	Rock chip channel	130	67.2	3589	66	875	684	732
1420105	Rock chip channel	80	8.9	259	52	2758	97	41
1420106	Rock chip channel	75	10.2	610	72	483	452	58
1420108	Rock chip channel	910	74.3	51587	810	466	267	769
1420110	Rock chip channel	165	28.7	542	86	585	498	72
1420112	Rock chip channel	75	6.9	1959	108	323	125	20
1420117	grab float	245	65.8	14750	587	733	134	55

Geochemical analysis results suggest elevated Au values are associated with Cu, and to a lesser degree with Pb-Zn-As-Sb. Elevated Ag values are associated with Cu, and to a lesser degree with Pb-Zn. Ag, Au and to a lesser degree Cu are the elements of economic interest for mineral processing.

Follow up exploration work including detailed mapping and hand trenching of elevated precious metal bearing quartz-carbonate-sulphide veins is recommended. A program of exploration to cover the entire property including the Silvertip Creek, Rocher Deboule, Victoria, Highland Boy, Great Ohio & Hazelton View area is also recommended. 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).

2.0 Introduction

2.1 General Statement

The Rocher Deboule gold-silver-copper-(zinc-lead-cobalt) 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 data such as six holes drilled into the Highland Boy Upper vein in 2007 by American Manganese Inc, and the results of an airborne geophysical survey flown by Dighem that same year, and a description of surface exploration program conducted by Ethier Exploration, on behalf of American Manganese Inc in 2011, that includes data on 455 rock samples, 841 soil and 68 stream sediment samples.

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 Kitsegulka bridge. The Victoria and Cap mine site is 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 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 2 tenures that cover an aggregate of 997.76 hectares (2,464.5 acres). The tenures are listed in Table 1.

Tenure number	Claim Name	Issue Date	Good To Date	Area in hectares
510469		2005/apr/09	2017/nov/02	979.29
856170	Capp	2011/jun/02	2017/nov/02	18.47

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 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.

3.1 Cap [Minfile 093M 073]

The Cap showing is 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. The samples are listed in Table 3 and shown in Figure 7. More detailed analyses are given in the appendix.

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, (labelled V 1+150). A similar line of samples were taken along the old tramway tower service road, 400 metres below the Capp tunnel. It extends 2.29 km (labelled T 1+150). 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. In all, 188 soil samples were collected along the road system and the Capp soil grid. Of these 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.

3.2 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, 6318ppm), and anomalous mercury values have been found in stream sediments around the yellow gossan as well as in rocks in the vicinity. They contain up to 1438 ppm Hg (Table 3).

Geochem; Cap Showings rock, stream sediment.

3.3 Hazelton View

The area discussed here is 3.5 km in length and about 1.2 km wide. It is mapped as sediments and is in contact with the intrusive to the east. The west boundary of the sediments is the Cap fault and the

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

volcanics. The sediments are hornfelsed and in many places appear to be a thin layer as granodiorite is seen to be occurring as an interfingered mixture of intrusive with sediment.

All of the principal shear veins of the Rocher and Victoria mines follow a general east west pattern. The westward extensions of these veins enter the sediment.

Airborne geophysical targets were identified ("D" and "C") and a soil survey was conducted to evaluate the area covered in overburden.

Geophysics Target D

A total of 223 soil samples were taken approximately 25 metres apart on six, one kilometres long, parallel, lines spaced 100 metres apart. A further 121 samples at 50 metre spacing extended the grid to the south. The results are in the appendix under soils. The data are inconclusive. There were samples containing anomalous amounts of molybdenum and cobalt in the northeast and a fan of silver enriched samples suggestive of migration down-slope from the vicinity of the "D" anomaly on the intrusion contact but no clearly defined indications of underlying mineralization. (Figure 9)

The "C" anomaly, which covers the intersection of two faults that meet on a contact between volcanic and sedimentary rock was only partially covered and remains unexplained. There are scattered point anomalies for other metals down slope from the intrusion contact but none clearly match the known Victoria or Rocher Deboule veins. However, two new veins, enriched in gold, silver and copper have been found by prospecting float (11 KM 786 and 787, and 788 and 789), in the vicinity of the tramway and rail transfer spot. Soils collected towards the southeast suggest there may be other veins to be found further to the southwest (Figure 10). There may be an unidentified silver-rich vein half way between the Rocher Deboule #1 vein and the Great Ohio vein.

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).

The old reports speak of the Hazelton View and the Victoria as being the same occurrence, however while prospecting the area a set of railroad tracks protruding from a collapsed tunnel was found. The showing accessed by the tunnel is presumably covered but may be reflected in local debris. Sample 11 DE 814, is a high-grade sample collected near the mouth of the tunnel. It is the most significant indication of mineralization in the Hazelton View area and was found to contain 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.

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	

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

3.4 Rocher Deboule Mine [Minfile 093M 071]

The Rocher Deboule mine was an underground operation that exploited a series of northeast trending, northwest dipping veins within a 750 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 on 26th November, 1990. It is an historic estimate presented for interest only. It is not NI 43101 compliant.

The current program explored for extensions and additional structures of known veins. It focused on the potential for broader zones of lower-grade mineralization that might provide an opportunity for open-cut development. There was less emphasis on resampling the older, known veins. 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 (Figure 11). Selected results are shown in Table 6. Complete analyses are shown in an appendix.

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 and is discussed as the Silvertip Basin stockwork.

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. Fourteen samples were collected in the general vicinity of the old mine.
(Figure 11) and the results are shown in Table 5 and Appendix, Rock Geochem.

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

3.5 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.

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.

Victoria Area Geochem

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 105130
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

3.6 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. The drill results were disappointing; however, 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 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 "Teeth" in "The 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 in the granodiorite that strikes north twenty 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

3.7 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.

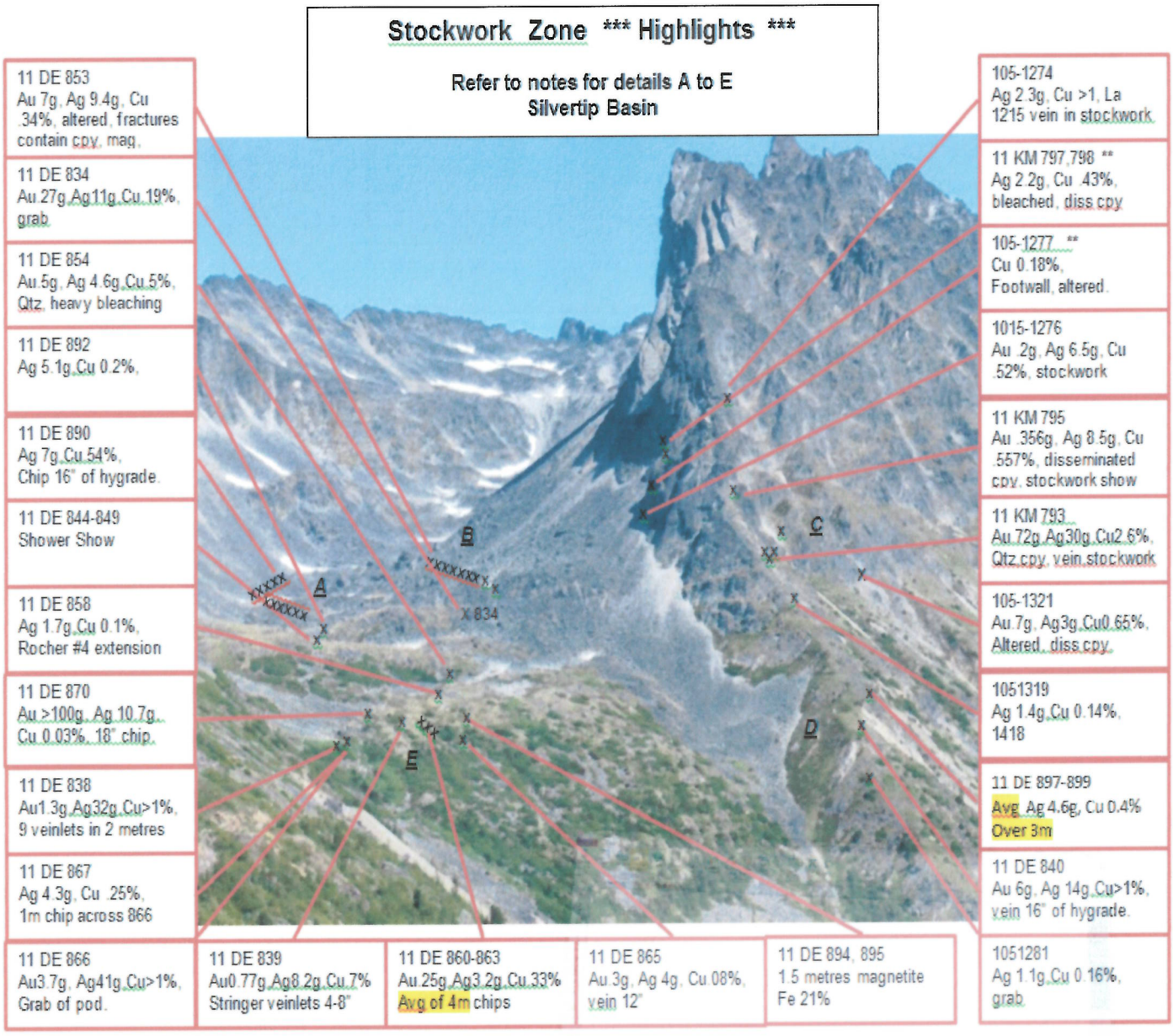
The granodiorite underlying the stockwork zone is broken and altered and lighter in colour than found on the overlying mountain slopes. It is more or less bleached to a whitish colour through the removal of mafic minerals and it has developed a light tan colour.

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.

Table 10; 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 16 inch 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 hygrade 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

Soil Survey; Silvertip Basin

The Silvertip basin is a typical upland cirque that has been glacially scoured and in filled with blocky talus from its side slopes. The soil development is extremely poor. Where found, the soils may be talus fines, locally developed or glacially transported material, or a mixture thereof. Nevertheless, a limited soil survey was conducted over an area of 400 metres x 225 metres in the floor of the cirque.
A total of 50 samples were collected and analyzed. There results were erratic, one sample assayed 205 ppb gold, three adjacent samples gave values greater than 10 g/t silver, and eleven samples contained between 100 and 182 ppm copper.

Magnetometer Survey; Silvertip Basin

The Rocher Deboule stock consists of mafic granodiorite that is moderately magnetic; however, it is locally altered and magnetite has clearly been remobilized, out of some granodiorite into veins and fractures. A series of magnetometer survey traverses were done to establish the value of using magnetic data to identify zones of iron depletion and of magnetite enrichment.
Out of 897 readings, twenty, mostly on the north ridge west of the pot-hole lake at the head of Silvertip basin, were found to be below 55000 gammas, and 21 were found to be above 58,000 gammas. The latter were found at relatively low elevation west of the stockwork zone. They appear to be related to the Rocher Deboule #3 and #4 hornblende, quartz, magnetite vein systems.

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 ma and 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 Local 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 the "Mapplace" and from a 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.

6.0 Mineralization, Deposit Types and Previous Work

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 09and3M055], vein/breccia on the central portion of the property contains variable amounts of tin, tungsten, copper, molybdenum, gold, silver, lead and arsenic but not much 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, which are described below.

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.

6.1 Rocher Deboule

The Rocher Deboule [MINFILE 093M071] mine, on the west side of the pluton consists of at least five main sub parallel structures that host veins. They strike 075 degrees east and dip at between 35 and 65 degrees to the north, within a 750 metres thick package of rock. The veins (numbered No. 1 to No. 5) are up to 700 metres in length and generally 0.5 to 2.5 metres wide. Some, such as the No. 2, extend across the western contact of the intrusion and are found in hornfelsed sediment as well as in granodiorite. The veins are remarkably uniform in overall attitude"; however, they are also described as being complex "formed by successive deposition along fissures or shears that moved repeatedly. As a result the veins are lenticular in shape and variable in detail: They may be negligible in tight shears or be 1.2 to 2.4 meters wide with or without much brecciated and altered granodiorite. There appear to have been three stages of mineralization. The first introduced hornblende, quartz, feldspar, apatite and

magnetite, along with minor scheelite, & molybdenite, in the pegmatite described above. The second stage introduced glassy quartz, chalcopyrite, arsenopyrite, cobaltite and pyrrhotite. The third introduced milky quartz, siderite, calcite, tetrahedrite, sphalerite, galena and pyrite. The mineralogical and metallurgical complexity of the veins clearly results from the continued movement of the shear-veins and the introduction of three distinct and progressively cooler pulses of hydrothermal fluid.

6.2 Victoria

The Victoria [MINFILE 093M072] mine is approximately 1000 metres to the north of Rocher Deboule, along the contact and although it differs in detail, it is thought to be part of the same mineral system. It consists of at least three parallel veins, 200 to 300 metres, apart that strike at north 85 degrees and dip at 60 degrees to the north. There is also a small cross vein that strikes north and dips at 50 degrees to the east. Some of the veins are associated with dykes. The No. 1 vein follows a diorite dyke and has a felsite dyke in its wall, and the No. 2 vein follows a feldspar porphyry dyke. The main veins are of variable thickness. They consist of a hornblende, quartz, feldspar pegmatite gangue that contains streaks and massive lenses of gold-bearing cobalt and nickel arsenides, and minor amounts of molybdenite and uraninite. The veins contain very little copper.

6.3 Highland Boy

The Highland Boy [MINFILE 093M070] mine is located in the heart of the main stock, to the east of the Rocher Deboule mine. It has at least two principle east-west trending, northerly dipping veins. The southern vein may be the easterly extension of the Rocher Deboule No. 4 vein. The veins are similar to those at Rocher Deboule. They are essentially hornblende, quartz and carbonate veins that are up to 2.0 metres wide and contain variable amounts of massive and/or locally banded gold-bearing chalcopyrite, pyrite, haematite, magnetite, scheelite, cassiterite and uraninite. There appears to be very little lead and zinc in this part of the system (Burgoyne and Kikauka, 2007).

7.0 2016 Exploration Program Cap Occurrence

7.1 Methods and Procedures

Historical data from the Cap area has focused on the Cap adit and shaft and tracing the quartz-carbonate-sulphide fissure vein system to the east along the ridge crest, and to a lesser degree on the vein systems on the north facing slope north of the ridge crest.

Mapping and geochemical sampling the polymetallic mineral zones were the most effective method employed. Geological mapping is summarized in Fig 3 & 6, and rock sample locations and geochemistry is shown in Fig 7.

Rock samples were taken with rock hammer and chisel (about 1-2 kgs total size per sample, and sample chips about acorn to walnut sized), from exposed bedrock or grab samples either of rock float train, unless otherwise stated, as chip channel samples of bed-rock. The samples were, labelled, bagged and shipped to Pioneer Laboratories Inc, Richmond, BC for standard crushing, pulverizing processing and 30 element ICP multi-element analysis and separate Au geochemical analysis. Methods and procedures of analysis are listed in Appendix A (geochemical analysis certificate).

7.2 Cap Geology and Mineralization

A program of geological mapping (15 hectares area) and geochemical rock chip sampling (19 rock chip samples over a 15 hectare area), on the Cap showings (located on the northwest portion of the claims), were carried out by American Manganese personnel in May, 2016. Geological mapping and geochemical sampling of outcrops in a 300 X 500 m area was centered on the Cap (Huckleberry) base and precious metal mineral occurrences. The mapping in 2016 identified a total of 6 distinct quartz-carbonate-sulphide veins, 1 vein near the adit at 700 meter elevation, 2 at 800 meter elevation, and 2 more near the 900 meter elevation contour (Fig 6). The quartz-sulphide veins are 100-200 meter strike length, and vary between 0.1 to 3.0 meters width. The quartz-carbonate-sulphide fissure veins generally strike NE, E, and SE and dip steeply. Flat faults that are post-mineral, and displace vertical quartz-sulphide zones in the order of several meters occur in the veins at 700 and 800 meter elevation. Examination of the Cap adit reveals the crosscut extends 25 meters east and drifting 25-50 meters on the ENE to NE trends with steep to moderate SE dipping quartz-carbonate-sulphide fissure veins.

The Cap showings are hosted in andesitic flows/tuffs (porphyritic) of Upper Cretaceous Kasalka Group (Brian Boru Formation). The Cap showings are fault and/or fracture controlled zones of quartz-carbonate-sulphide mineralization as veins and vugs. The sulphide minerals are mainly pyrite and chalcopyrite, with minor sphalerite, galena, arsenopyrite, and tetrahedrite. Hydrothermal activity is associated with the emplacement of quartz-carbonate-sulphide fissure veins& is related to the nearby intrusion of the Rocher Deboule granodiorite stock. The intrusion is also responsible for a 300 X 500 m area of ubiquitous quartz-sericite-pyrite-chlorite-hematite-anhydrite

(phyllic, sericitic) alteration mineral suite. Phyllic alteration commonly forms peripheral haloes around the core of porphyry deposits. Widespread phyllic alteration and the prominence of the Upper Cretaceous Kasalka Group as a host for disseminated type gold deposits (e.g. Blackwater-Davidson), suggest that the Cap occurrence has potential for a gold bearing porphyry at depth. Porphyry potential is also suggested by the occurrence of the 'Yellow Cliff Gossan' hosted in Kasalka Group volcanic rocks and situated about 2 km SSW of the Cap showings, and clearly visible from Highway 16 (from a distance of 3 km away). The yellow cliff colour is caused by disseminated and fracture filling pyrite that oxidizes to jarosite. A small amount of arsenopyrite occurs in the yellow cliff area but base and precious metal values are low. The yellow cliff occurrence is identified as a propylitic alteration halo (calcite-chlorite-sericite-clay-limonite-pyrite), and indicates potential for large scale, bulk tonnage mineralization.

A total of 19 rock chip samples were taken in the area of the Cap showings and are listed in the following table:

Cap area 2016 Rock Chip Sample geochemical analysis results

Sample ID	Width (cm)	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm
1420101	25	75	5.3	433	1238	1414	171	77
1420102	28	9280	40.0	57026	1181	2809	8658	272
1420103	22	245	65.5	13388	4469	44367	6654	3360
1420104	28	130	67.2	3589	66	875	684	732
1420105	30	80	8.9	259	52	2758	97	41
1420106	float	75	10.2	610	72	483	452	58
1420107	15	61	1.1	56	67	30	82	16
1420108	30	910	74.3	51587	810	466	267	769
1420109	float	8	.4	66	10	32	85	18
1420110	8	165	28.7	542	86	585	498	72
1420111	32	28	1.9	97	39	126	212	19
1420112	28	75	6.9	1959	108	323	125	20
1420113	float	21	2.1	273	52	811	98	19
1420114	float	19	.9	20	79	1448	35	18
1420115	float	27	2.4	26	351	691	36	19
1420116	45	18	1.1	14	194	271	19	20
1420117	float	245	65.8	14750	587	733	134	55
1420118	25	10	.3	46	44	391	158	24
1420119	float	16	1.8	79	159	159	210	20

The results suggest that elevated Au values are associated with Cu, and to a lesser degree with Pb-Zn-As-Sb. Elevated Ag values are associated with Cu, and to a lesser degree with Pb-Zn. Values of economic interest on the Cap are Ag-Au and to a lesser degree Cu.

8.0 Discussion

The Rocher Deboule property covers the northern part of a well-defined granodiorite stock that forms a prominent mountain immediately to the south of Hazelton, in northern British Columbia. It covers three small past producing mines; the Rocher Deboule, Victoria and Highland Boy and several other showings that are described separately in the British Columbia Ministry of Energy and Mines "MINFILE" database. There are other showings confined to the stock to the south of the Rocher Deboule property and, equally important, in the immediately surrounding volcanic and sedimentary rocks. Empirically, it is clear that the stock is well mineralized.

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 and Kikauka (2007).

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 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.

The second stage forms the main 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). Precious metals are associated with the sulphides of this phase, and are considered the main target of economic mineralization.

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. In addition, it has established the presence of considerable areas of alteration and mineralization 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

The 2016 exploration program identified new mineral showings and confirmed the widespread nature of precious metal bearing quartz-carbonate-sulphide fissure vein mineralization over a 300 X 500 m area near the Cap showings. It also established that there are broader areas of phyllic alteration present on the property, and it provided for a better understanding of the nature of the silver and gold bearing mineralization. Three main areas; the Silvertip Stockwork, Rocher Deboule, and the Cap zone require follow up work, as well as the Hazelton View, Highland Boy, Victoria, & Great Ohio.

1) The Silvertip stockwork zone is talus covered and poorly defined. Nevertheless, 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 see if there is any correlation between alteration and extent of mineralization. If there is evidence of breakdown of magnetite in the host granodiorite (and the terrain allows) it could warrant a detailed magnetometer survey.

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 looking for signs of alteration in the granodiorite and also for the presence of feldspar porphyry dykes.

2) The Silvertip alteration zone appears to be following the principal veins. The Rocher Mine area needs to be reassessed for alteration, especially in the east portion of the No 4 Vein. A program of core drilling on the Rocher Deboule No 2 Vein is also recommended. 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 averaging 2.69 per cent copper, 208.1 grams per tonne silver and 3.51 grams per tonne gold. With a well planned drill program, additional ore can be developed.

3) Efforts should be made to identify and map the shear zones of Victoria #2, 3, and 4 in detail, especially in areas where the vein(s) widen and form 'ore shoots'. Metasediment below the Victoria veins are locally limonitic. Reference samples of these sediments contain significant values. A trenching and sampling program would evaluate this area.

4) The Cap area needs to be mapped in detail to identify a drill target. Particular areas of interest include an area where airborne geophysics and soil sampling indicates anomalies. Area near the junction of the Skeena and Cap faults are an excellent area to map and survey. Induced polarization geophysics would also be an excellent tool to identify drill targets.

5) The Hazelton View should be hand trenched and chip sampling especially in areas known to have high values of gold and the disseminated chalcopyrite samples.

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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 thirty 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 geological mapping, surveying, geochemical rock sampling of mineralized zones carried out May 7-9, 2016.
6. I have a direct interest in the Rocher Deboule Property and American Manganese Inc. The recommendations in this report 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.,

A. Kikauka

July 8, 2016

ITEMIZED COST STATEMENT-
MINERAL TENURES 510469, 856170
FIELDWORK PERFORMED MAY 7-9, 2016 (CAP SHOWINGS),
WORK CONSISTED OF GEOCHEMICAL, & GEOLOGICAL
ON MINERAL TENURES 510469, 856170
OMINECA MINING DIVISION, NTS 93M 04E (TRIM 093M 012)

FIELD CREW:

A. Kikauka (Geologist) 3 days (surveying, mapping)	**$**	**1,500.00**
D. Ethier (Geotechnician) 3 days (surveying, sampling)	**$**	**1,200.00**

FIELD COSTS:

Equipment & supplies	**62.20**
Mob/demob/preparation	**310.00**
Meals and accommodations	**313.00**
Truck mileage & fuel	**396.20**
ICP AES geochemical analysis & Au geochemistry (19 rock samples)	**551.50**
Report	**650.00**
Total=	**$ 4,982.90**

PIONEER LABORATORIES INC. #103 - 2691 VISCOUNT WAY RICHMOND, BC CANADA V6V 2R5 TELEPHONE (604) 231-8165

GEOCHEMICAL ANALYSIS CERTIFICATE

AMERICAN MANGANESE INC.

Multi-element ICP Analysis - 0.500 gram sample is digested with 3 ml of aqua regia, diluted to 10 ml with water. This leach is partial for Al, B, Ba, Cr, Fe, Mg, Mn, Na, P, S, Sn, Ti and limited for Na and K. *Au Analysis- 20 gram sample is digested with aqua regia, MIBK extracted, and is finished by AA or graphite furnace AA to 1 ppb detection.

Analyst RSam

Project: Rocher Deboule Cap
Sample Type: Rocks

Report No. 2161565
Date: June 15, 2016

ELEMENT SAMPLE	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	S %	Sb ppm	Sn ppm	Sr ppm	Te ppm	Ti %	Tl ppm	V ppm	Zn ppm	*Au ppb
1420101	5.3	2.14	171	<5	43	<10	.28	13	37	41	433	7.92	.16	1.21	3330	2	.03	21	.13	1238	2.27	77	<2	5	<5	.02	<5	103	1414	75
1420102	40.0	3.5	8658	<5	8	109	.35	25	30	14	57026	31.16	.12	1.47	6963	10	.18	18	.31	1181	16.77	272	<2	8	<5	.13	<5	27	2809	9280
1420103	65.5	4.5	6654	<5	12	2	1.67	281	24	27	13388	28.69	.13	3.55	53439	12	.16	32	.22	4469	8.33	3360	<2	42	<5	.17	<5	22	44367	245
1420104	67.2	2.19	684	<5	17	26	.17	11	21	48	3589	15.53	.08	1.04	9125	4	.03	15	.09	66	9.14	732	<2	5	<5	.02	<5	60	875	130
1420105	8.9	2.86	97	<5	29	14	.15	23	22	50	259	11.44	.09	1.76	5455	6	.02	31	.17	52	5.02	41	<2	4	<5	.02	<5	57	2758	80
1420106	10.2	2.30	452	<5	18	19	.17	4	21	54	610	16.35	.08	1.07	7033	4	.01	13	.11	72	10.43	58	<2	3	<5	.02	<5	62	483	75
1420107	1.1	.79	82	<5	67	<10	.07	2	9	28	56	2.62	.18	.80	105	5	.02	10	.10	67	2.11	16	<2	2	<5	.04	<5	13	30	61
1420108	74.3	.03	267	<5	10	614	.16	20	16	15	51587	45.56	.24	.08	2800	29	.10	40	.07	810	7.60	769	<2	20	<5	.06	<5	16	466	910
1420109	.4	1.61	85	<5	52	<10	2.00	2	10	48	66	2.80	.14	1.55	204	11	.09	15	.21	10	2.93	18	<2	32	<5	.12	<5	28	32	8
1420110	28.7	3.12	498	<5	47	2	.05	4	16	40	542	22.26	.01	1.00	7573	6	.03	6	.17	86	3.03	72	<2	5	<5	.04	<5	59	585	165
1420111	1.9	1.50	212	<5	39	<10	.09	2	10	34	97	4.86	.16	1.05	1541	4	.02	12	.21	39	2.45	19	<2	2	<5	.02	<5	25	126	28
1420112	6.9	2.57	125	<5	25	19	.07	3	12	64	1959	13.84	.08	1.05	4176	5	.03	18	.39	108	5.28	20	<2	10	<5	.02	<5	56	323	75
1420113	2.1	.68	98	<5	142	<10	.14	7	11	38	273	2.84	.12	.40	7676	10	.03	16	.20	52	.48	19	<2	7	<5	.01	<5	9	811	21
1420114	.9	.96	35	<5	27	<10	.11	13	7	28	20	3.06	.14	.68	815	8	.03	12	.16	79	1.47	18	<2	6	<5	.01	<5	14	1448	19
1420115	2.4	.92	36	<5	69	<10	.12	5	6	38	26	3.78	.16	.50	1248	7	.01	9	.22	351	1.42	19	<2	5	<5	.03	<5	12	691	27
1420116	1.1	1.05	19	<5	19	<10	.59	3	10	35	14	4.68	.05	.77	530	5	.10	11	.31	194	3.83	20	<2	29	<5	.15	<5	42	271	18
1420117	65.8	2.96	134	<5	10	53	.23	6	29	21	14750	15.26	.04	.76	5188	4	.03	3	.33	587	8.37	55	<2	4	<5	.02	<5	37	733	245
1420118	.3	1.46	158	<5	28	<10	1.75	4	22	108	46	4.83	.09	1.28	2021	3	.02	51	.23	44	2.73	24	<2	19	<5	.02	<5	46	391	10
1420119	1.8	2.17	210	<5	55	<10	.62	2	9	43	79	5.70	.17	1.07	1212	2	.09	5	.34	159	.51	20	<2	41	<5	.03	<5	58	159	16

APPENDIX A Geochemical Analysis Certificate

APPENDIX B Rock Sample Descriptions

Sample ID	Tenure No	Easting	Northing	Elev (m)	Sample Type	Lithology
1420101	856170	583295	6114833	697	Rock chip channel	andesitic tuffs-flows
1420102	856170	583358	6114826	724	Rock chip channel	andesitic tuffs-flows
1420103	856170	583298	6114796	720	Rock chip channel	andesitic tuffs-flows
1420104	856170	583283	6114792	716	Rock chip channel	andesitic tuffs-flows
1420105	510469	583698	6114755	848	Rock chip channel	andesitic tuffs-flows
1420106	510469	583609	6114705	811	Rock chip channel	andesitic tuffs-flows
1420107	510469	583835	6114893	880	grab float	andesitic tuffs-flows
1420108	510469	583642	6114860	792	Rock chip channel	andesitic tuffs-flows
1420109	510469	583581	6114861	771	Rock chip channel	andesitic tuffs-flows
1420110	510469	583528	6114803	786	Rock chip channel	andesitic tuffs-flows
1420111	510469	583744	6114857	841	Rock chip channel	andesitic tuffs-flows
1420112	510469	583705	6114843	832	Rock chip channel	andesitic tuffs-flows
1420113	510469	583578	6114725	820	grab float	andesitic tuffs-flows
1420114	510469	583501	6114766	803	grab float	andesitic tuffs-flows
1420115	510469	583458	6114768	771	grab float	andesitic tuffs-flows
1420116	510469	583379	6114805	748	Rock chip channel	andesitic tuffs-flows
1420117	510469	583349	6114848	728	grab float	andesitic tuffs-flows
1420118	856170	583212	6114817	688	Rock chip channel	andesitic tuffs-flows
1420119	856170	583260	6114907	648	grab float	andesitic tuffs-flows

Sample ID	Alteration, gangue	Sulphides
1420101	quartz, sericite, limonite, chlorite	pyrite
1420102	quartz, sericite, limonite, chlorite	pyrite, chalcopyrite, sphalerite, galena, arsenopyrite
1420103	quartz, sericite, carbonate, limonite, chlorite	pyrite, chalcopyrite, sphalerite, galena, arsenopyrite, tetrahedrite
1420104	quartz, sericite, limonite, chlorite	pyrite, chalcopyrite, tetrahedrite
1420105	quartz, sericite, limonite, chlorite	pyrite, sphalerite
1420106	quartz, sericite, limonite, chlorite	pyrite, chalcopyrite, tetrahedrite
1420107	quartz, sericite, limonite, chlorite	pyrite
1420108	quartz, sericite, limonite, chlorite	pyrite, chalcopyrite
1420109	quartz, sericite, carbonate, limonite, chlorite	pyrite
1420110	quartz, sericite, limonite, chlorite	pyrite, chalcopyrite, sphalerite
1420111	quartz, sericite, limonite, chlorite	pyrite
1420112	quartz, sericite, limonite, chlorite	pyrite, chalcopyrite
1420113	quartz, sericite, limonite, chlorite	pyrite
1420114	quartz, sericite, limonite, chlorite	pyrite, sphalerite
1420115	quartz, sericite, limonite, chlorite	pyrite, sphalerite
1420116	quartz, sericite, limonite, chlorite	pyrite
1420117	quartz, sericite, limonite, chlorite	pyrite, chalcopyrite, sphalerite
1420118	quartz, sericite, carbonate, limonite, chlorite	pyrite
1420119	quartz, sericite, limonite, chlorite	pyrite

Sample ID	Au ppb	Ag ppm	Cu ppm	As ppm	Sb ppm	Fe %	Co ppm	Ca %	Pb ppm	Zn ppm	Mn ppm
1420101	75	5.3	433	171	77	7.92	37	.28	1238	1414	3330
1420102	9280	40.0	57026	8658	272	31.16	30	.35	1181	2809	6963
1420103	245	65.5	13388	6654	3360	28.69	24	1.67	4469	44367	53439
1420104	130	67.2	3589	684	732	15.53	21	.17	66	875	9125
1420105	80	8.9	259	97	41	11.44	22	.15	52	2758	5455
1420106	75	10.2	610	452	58	16.35	21	.17	72	483	7033
1420107	61	1.1	56	82	16	2.62	9	.07	67	30	105
1420108	910	74.3	51587	267	769	45.56	16	.16	810	466	2800
1420109	8	.4	66	85	18	2.80	10	2.00	10	32	204
1420110	165	28.7	542	498	72	22.26	16	.05	86	585	7573
1420111	28	1.9	97	212	19	4.86	10	.09	39	126	1541
1420112	75	6.9	1959	125	20	13.84	12	.07	108	323	4176
1420113	21	2.1	273	98	19	2.84	11	.14	52	811	7676
1420114	19	.9	20	35	18	3.06	7	.11	79	1448	815
1420115	27	2.4	26	36	19	3.78	6	.12	351	691	1248
1420116	18	1.1	14	19	20	4.68	10	.59	194	271	530
1420117	245	65.8	14750	134	55	15.26	29	.23	587	733	5188
1420118	10	.3	46	158	24	4.83	22	1.75	44	391	2021
1420119	16	1.8	79	210	20	5.70	9	.62	159	159	1212

Sample ID	Vein Strike	Vein Dip	Width (cm)	Comments
1420101			25	5% diss pyrite, 0.1% cpy, 0.4% sph
1420102	58	80 N	28	NE trend vn, steep dip, & flat fault
1420103	63	83 N	22	near shaft
1420104			28	trench below Capp 202
1420105			30	
1420106			float	along road, massive chlorite
1420107			o/c grab	epithermal look, frothy
1420108	300	76 SSW	30 cm chip	
1420109			float	qtz
1420110	90	72 S	8 in chip	old trench, crystals of qtz
1420111	127	38 S	32	
1420112	138	60 SW	28	open cut
1420113			float	breccia texture, 35% chlorite
1420114			float	1-3 cm pyrite veins
1420115			float	N-S trending fault zone
1420116			45	breccia texture, 6% sulphides
1420117			float	8% chlorite
1420118			25	5% sulphides
1420119			float	sub-crop

APPENDIX C Photos

Cap Zone in foreground, lower right, Victoria in background upper right, looking SE

MINFILE Record Summary

MINFILE No 093M 073

XML Extract/Production Report

APPENDIX D Minfile Description

File Created: 24-Jul-85 by BC Geological Survey (BCGS)
Last Edit: 17-Feb-15 by Garry J. Payie(GJP)

SUMMARY

Summary Help

Name	CAP, COMEAU, LOUDEL, GOLDEN WONDER, HUCKLEBERRY, MANDON, ROCHER DEBOULE, RD	**NMI**	093M4 Cu5
		Mining Division	Omineca
		BCGS Map	093M012
Status	Past Producer	**NTS Map**	093M04E
Latitude	55° 10' 22" N	**UTM**	09 (NAD 83)
Longitude	127° 41' 21" W	**Northing**	6114802
		Easting	583489
Commodities	Copper, Silver, Gold, Zinc	**Deposit Types**	M01 : Flood Basalt-Associated Ni-Cu I05 : Polymetallic veins Ag-Pb-Zn+/-Au
Tectonic Belt	Intermontane	**Terrane**	Overlap Assemblage

Capsule Geology

The Cap showing is located 8 kilometres south of South Hazelton, on the west slope of Rocher Deboule.

The host rocks are porphyritic flows, breccias and fine grained tuffs of the Upper Cretaceous Brian Boru Formation (Kasalka Group) which has been dated at 72 million years in the area (Geological Survey of Canada Open File 2322). The strata strike northeast in the area, dipping 20 to 30 degrees southeast.

The showing is an altered and fractured zone which strikes 070 degrees, dipping 70 to 80 degrees northwest. The zone ranges in width from 15 to 120 centimetres, containing pyrite, quartz, siderite, calcite, chalcopyrite and arsenopyrite. The zone has been traced for 100 metres on surface by several trenches and has been explored by two short adits and shafts. A 26 tonne shipment, to the Ladysmith smelter in 1917, produced 7,838 grams of silver, 93 grams of gold and 1,531 kilograms of copper. A subsidiary vein is located some distance east of the main vein. It strikes parallel to the main vein, is up to 1 metre in width and contains pyrite, sphalerite and chalcopyrite.

Two claims, the Cap and Belton, were owned by Denis Comeau from about 1914. The adjoining Huckleberry claim was owned by Victor Preston. Exploration and development work was begun in open cuts, a shaft, and a short adit. In 1915 the Comeau property was reported to be under bond to P.E. Lessard and R.S. Shaw, of Edmonton. Four claims, the Cap, Belton, Beatty, and Hermes, were owned in 1916 by Messrs. Comeau, Johnson, and Norberg. Intermittent development work continued until March 1918. A crosscut tunnel was driven for 24.7 metres and the vein drifted on for 20.4 metres to the northeast, where a flat fault cut off the vein and for 27 feet to the southwest to connect with the shaft. At elevation 628 metres a tunnel was driven 62 metres very nearly parallel to the strike of the vein. Further exploration work was reported by Mr. Comeau in 1923 and 1929.

The Huckleberry claim (Lot 4272) and the adjoining Mandon claim (Lot 4273) (Mineral Leases M 90 and M 91, respectively) were part of a larger claim group purchased by Chapparal Mines Ltd. in 1970 from a private company, Loudel Explorations Ltd. Additional claims were staked, bringing the property to 94 claims and 11 mineral leases. Included in the Mineral Leases were the Golden Wonder property, about 1 mile to the west, and the Homestake (Lot 3309) and other old Crown grants about 2 mile to- the east ; these probably formed part of the Victoria and Hazelton View properties. Work during 1970 included magnetometer and induced polarization surveys, and 6 percussion drill holes totalling 314 metres. This work was confined to the Loudel group of located claims. Drilling on Loudel 1 and 2 claims cut low-grade copper mineralization. Adjacent ground to the north, formerly held by others as the Mark and Park claims, was staked by the company in 1971. Work during 1971 included a geochemical soil survey over 32 line-kilometres covering Loudel 1-6, aeromagnetic and induced potential surveys covering Loudel 58-68, trenching, and diamond drilling in 4 holes totalling 332 metres on Loudel 1, 2, and 7; diamond drilling in 1970 totalled 288 metres in 4 holes.

In the period 1969 to 1972 the claim was explored by Chapparal Mines Ltd, which conducted Induced Polarization and soil-sampling surveys, and drilled one hole to a depth of 282 metres. The company also made numerous long bulldozer trenches on the crest of the ridge.

In 1979 the claim, having again reverted to the Crown, was acquired by F.B. Lilhiting, who staked three claims totalling 41 units over surrounding ground. He later assigned a 70 per cent interest to Cobre Exploration Ltd. In 1980 work consisted of prospecting, geological examinations, and sampling of road cuts and bulldozer trenches in the pyritized zone.

In 1980 an airborne VLF-EM and Magnetometer Survey was flown Mandon 1-3, Mandon, Huckleberry claims for Cobre Exploration Limited on their Mandon project (Assessment Report 8705).

In 2006 and 2007, Crucible Resources Ltd held the RD property and conducted sampling on the Cap (Assessment Report 29082, 29502).

In March 2007, Rocher DeBoule Minerals Corp contracted Fugro Airborne Survey Corporation to complete a Dighem electromagnetic, magnetic, radiometric geophysical survey over the Rocher Deboule property in a survey block amounting to 1089 line kilometres. Assessment Report 29338). A diamond core drilling program of 1106.1 meters over 6 drill holes on the Highland Boy Showing was also conducted.

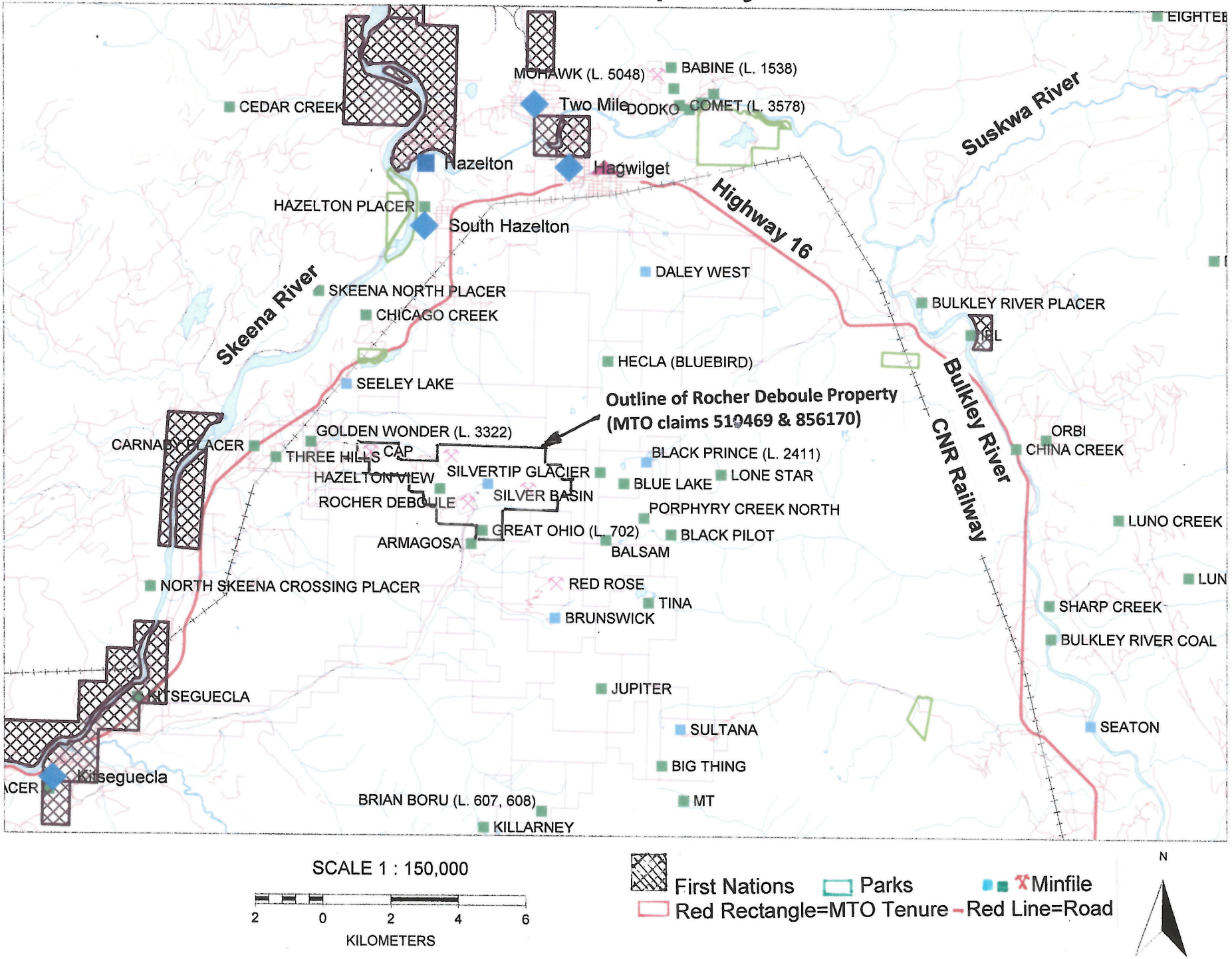
In 2011, American Manganese collected 188 soil samples along the road system and the Capp soil grid. Of these 49 samples were greater than 2 grams per tonne silver, indicating a significant system 1500 metres east to west and 600 metres north to south and open to the north and south (Assessment Report 33297). Some rock sample was also completed.

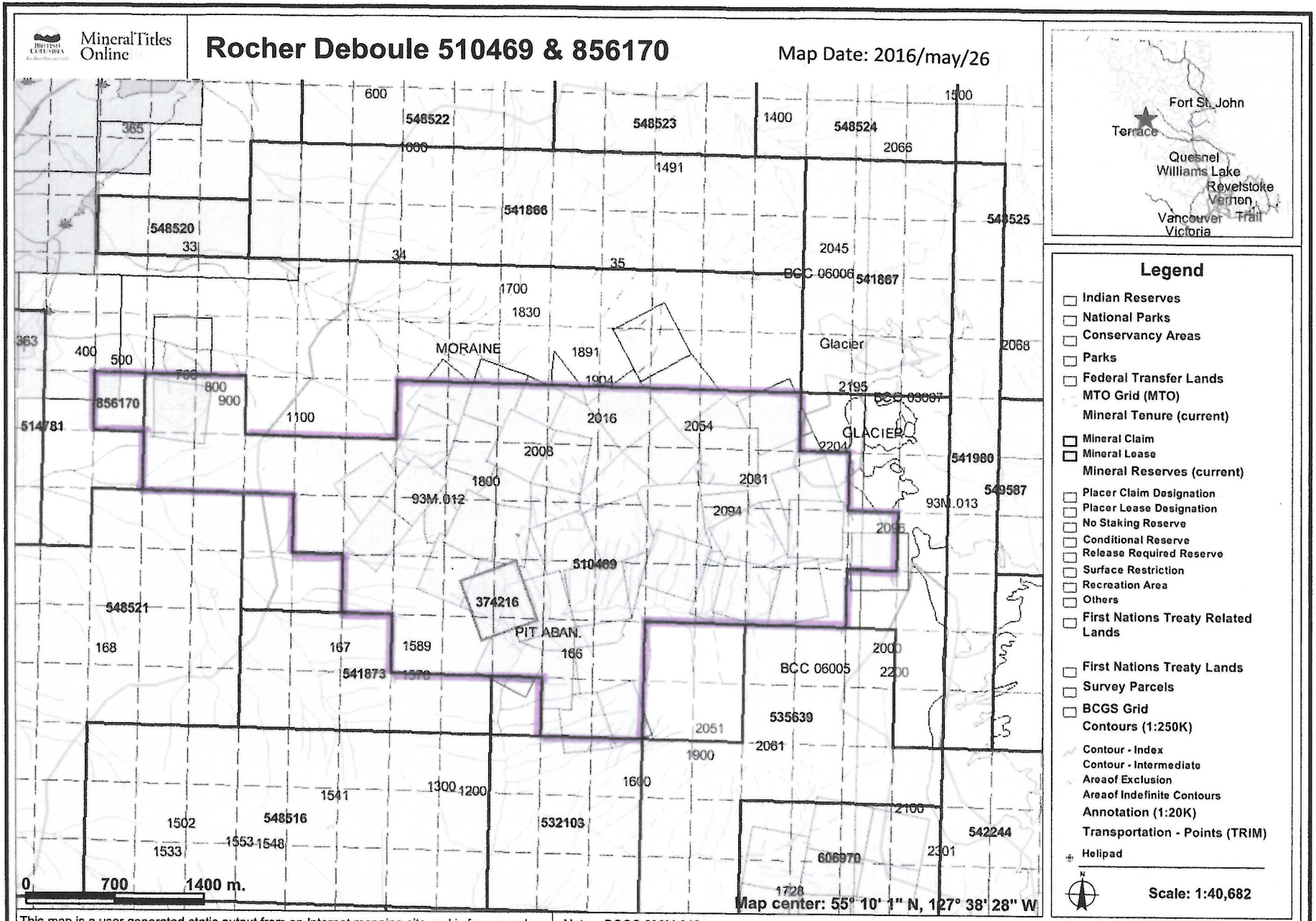
See Rocher Deboule (093M 071) for related details of work done on the Rocher Deboule property, of which the Cap was part of in the late 2000s.

Bibliography

EMPR AR 1914-200, 1916-115, 1918-113, 1923-106, 1929-155
EMPR ASS RPT 3463, *8323, 8705, 25674, 26984, 27558, 28625, 29082, 29502, *29338, *33297
EMPR BULL 10; 43-51
EMPR EXPL 1979-230
EMPR GEM 1970-173, 1971-189, 1972-430
EMPR OF 1990-32; 1992-1; 1992-3; 1998-10; 2008-6
EMPR MAP 69-1 (#284)
GSC MEM 110-22, 223-36
GSC MAP 971A, 44-24, 1731
GSC OF 551; 720; 2322; 5705

Fig 1 Rocher Deboule Property General Location





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.

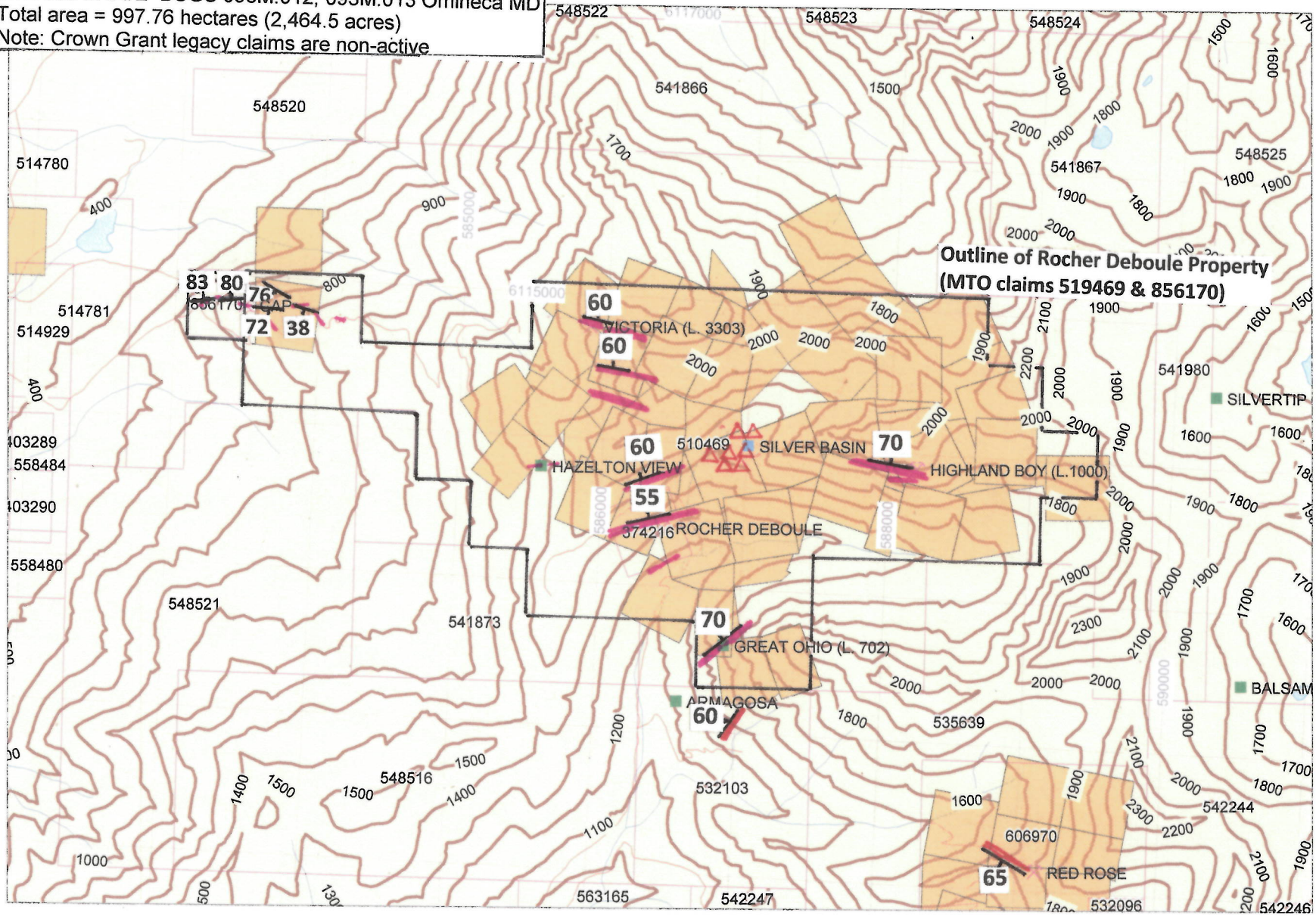
Note: Crown Grant legacy claims are non-active

Notes: BCGS 093M.012

Fig 2 Rocher Deboule Property MTO Mineral Claims
NTS 093 M 04/E BCGS 093M.012, 093M.013 Omineca MD
Total area = 997.76 hectares (2,464.5 acres)

Fig 3 Rocher Deboule Property & Area Mineral Zones

NTS 093 M 04/E BCGS 093M.012, 093M.013 Omineca MD
Total area = 997.76 hectares (2,464.5 acres)
Note: Crown Grant legacy claims are non-active



SCALE 1 : 40,000

1 0 1 2
KILOMETERS

Red Line = Cu-Ag-Au Vein Zone
NOTE- Victoria Cu-Ag-Au-As-Co-Ni, Red Rose Cu-Ag-Au-W
Red Triangle = Cu-Ag-Au Disseminated Zone
Strike & Dip of Fracture/Fissure Vein
Contour Interval = 100 meters

N

Fig 4 Cap Area Geology (Regional)

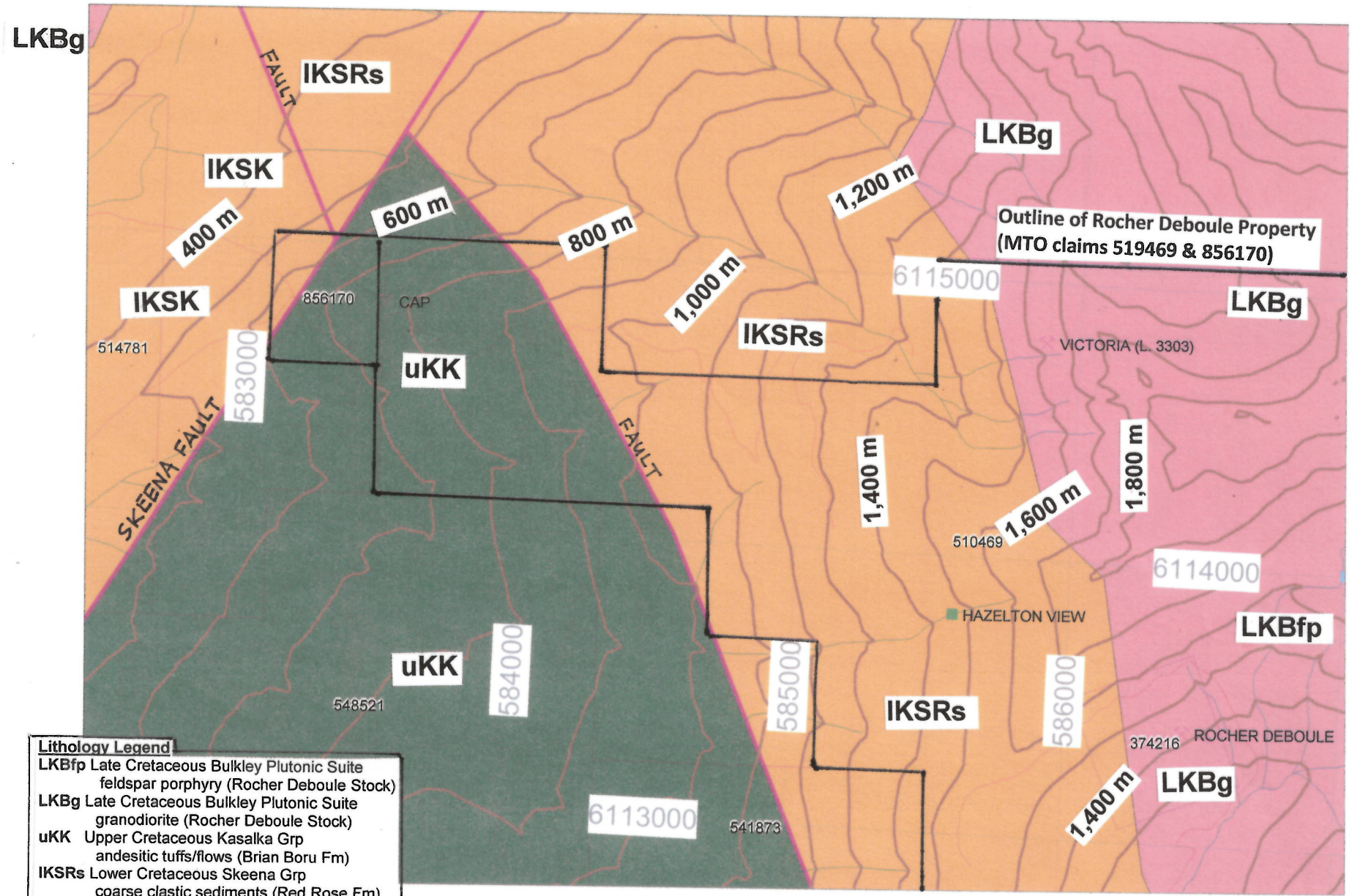


Fig 5 Cap Area Geology (Detail)

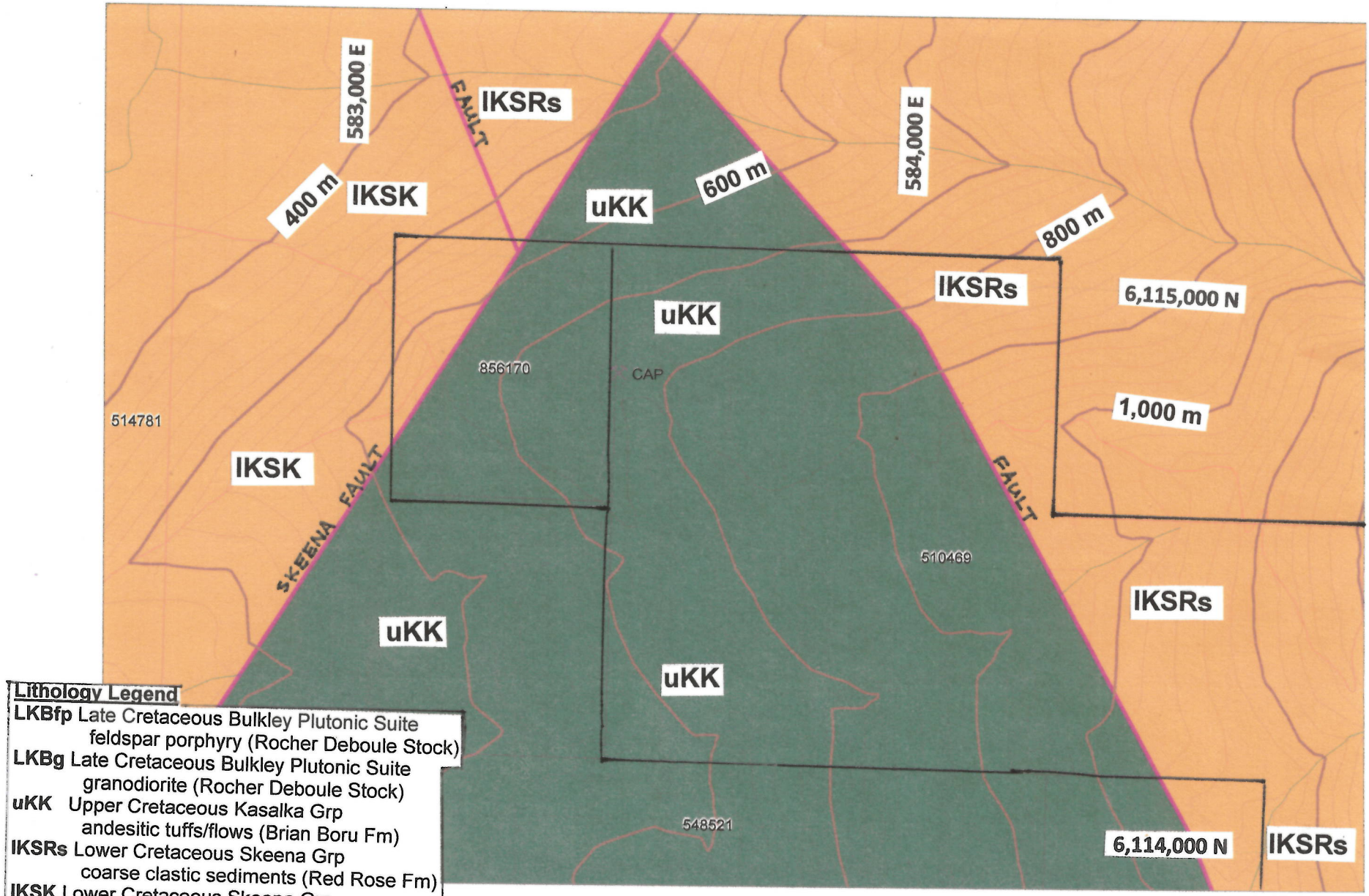
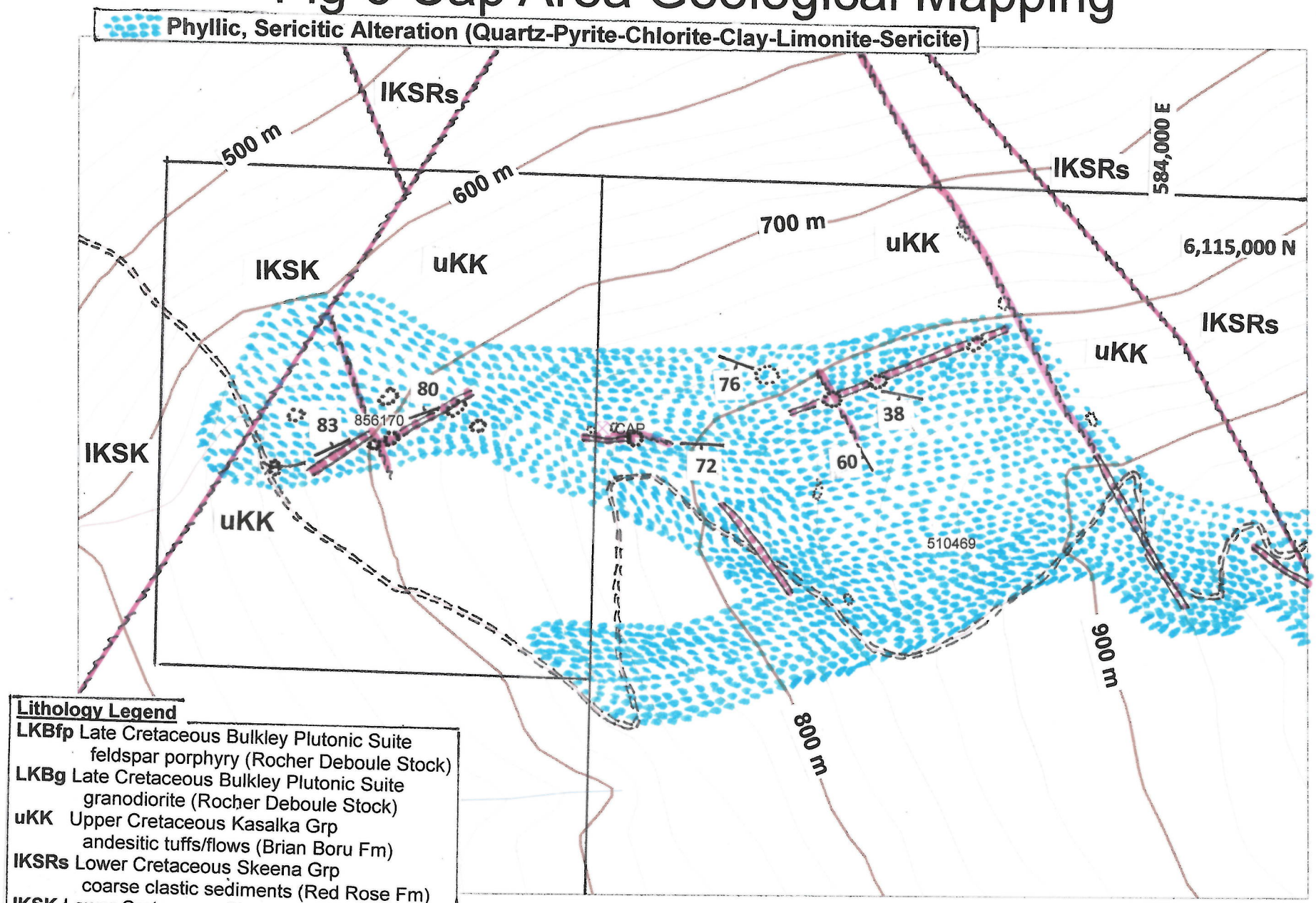


Fig 6 Cap Area Geological Mapping



Lithology Legend

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)

SCALE 1 : 5,000

100 0 100 200 300

METERS

Strike & Dip of Fracture/Fissure Vein

Fault

Fracture/Fissure Vein

Road

Creek

Outline of Outcrop

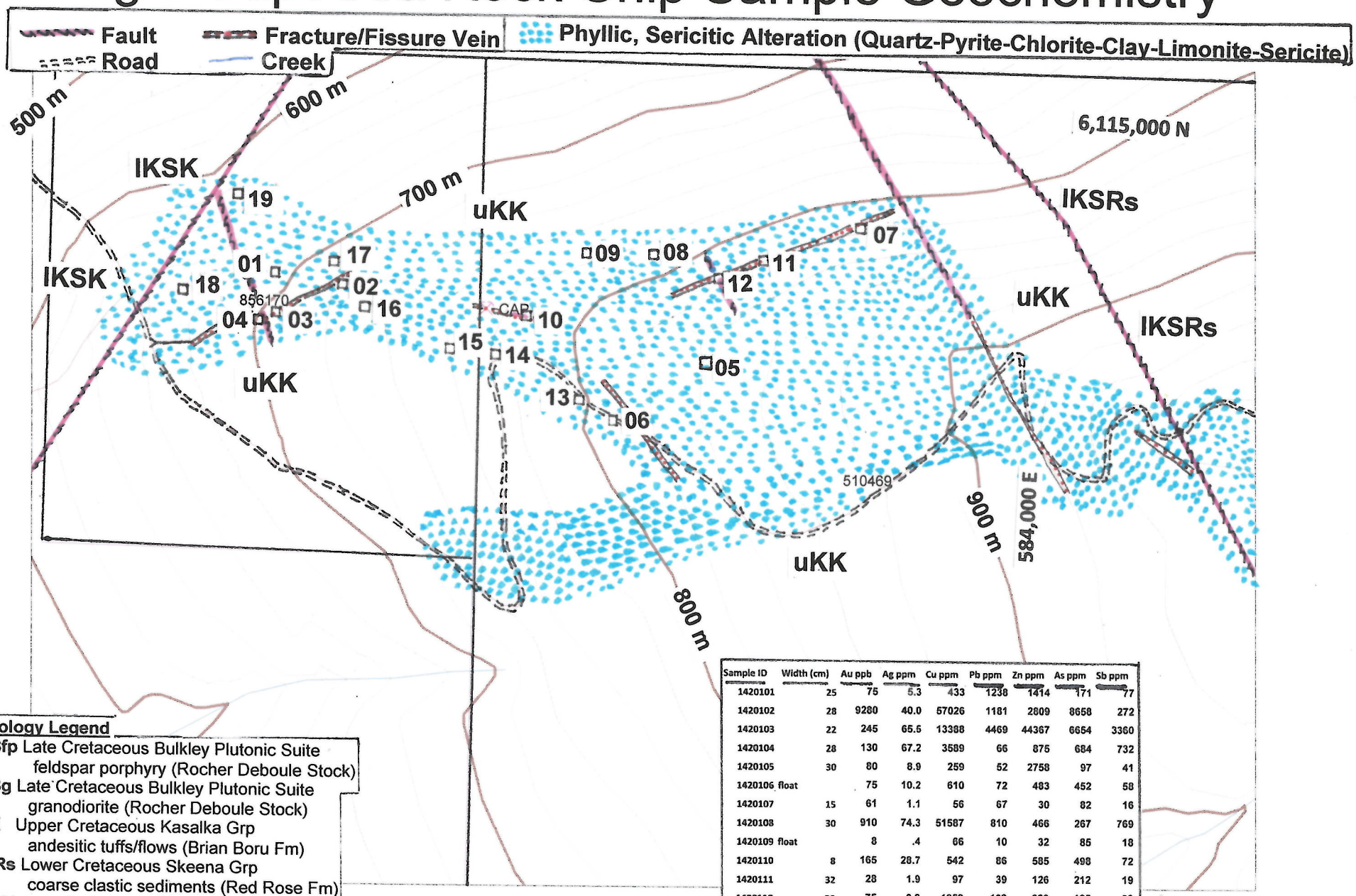
N

Omineca MD

NTS 093 M 04/E

BCGS 093M.012.

Fig 7 Cap Area Rock Chip Sample Geochemistry



Sample ID	Width (cm)	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm
1420101	25	75	5.3	433	1238	1414	171	77
1420102	28	9280	40.0	57026	1181	2809	8658	272
1420103	22	245	65.5	13388	4469	44367	6654	3360
1420104	28	130	67.2	3589	66	875	684	732
1420105	30	80	8.9	259	52	2758	97	41
1420106	float	75	10.2	610	72	483	452	58
1420107	15	61	1.1	56	67	30	82	16
1420108	30	910	74.3	51587	810	466	267	769
1420109	float	8	.4	66	10	32	85	18
1420110	8	165	28.7	542	86	585	498	72
1420111	32	28	1.9	97	39	126	212	19
1420112	28	75	6.9	1959	108	323	125	20
1420113	float	21	2.1	273	52	811	98	19
1420114	float	19	.9	20	79	1448	.35	18
1420115	float	27	2.4	26	351	691	36	19
1420116	45	18	1.1	14	194	271	19	20
1420117	float	245	65.8	14750	587	733	134	55
1420118	25	10	.3	46	44	391	158	24
1420119	float	16	1.8	79	159	159	210	20

Lithology Legend

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)

SCALE 1 : 5,000 Omineca MD

100 0 100 200 300 METERS

N

NTS 093 M 04/E
BCGS 093M.012

19 Rock Chip Sample
Note- Prefix 14201

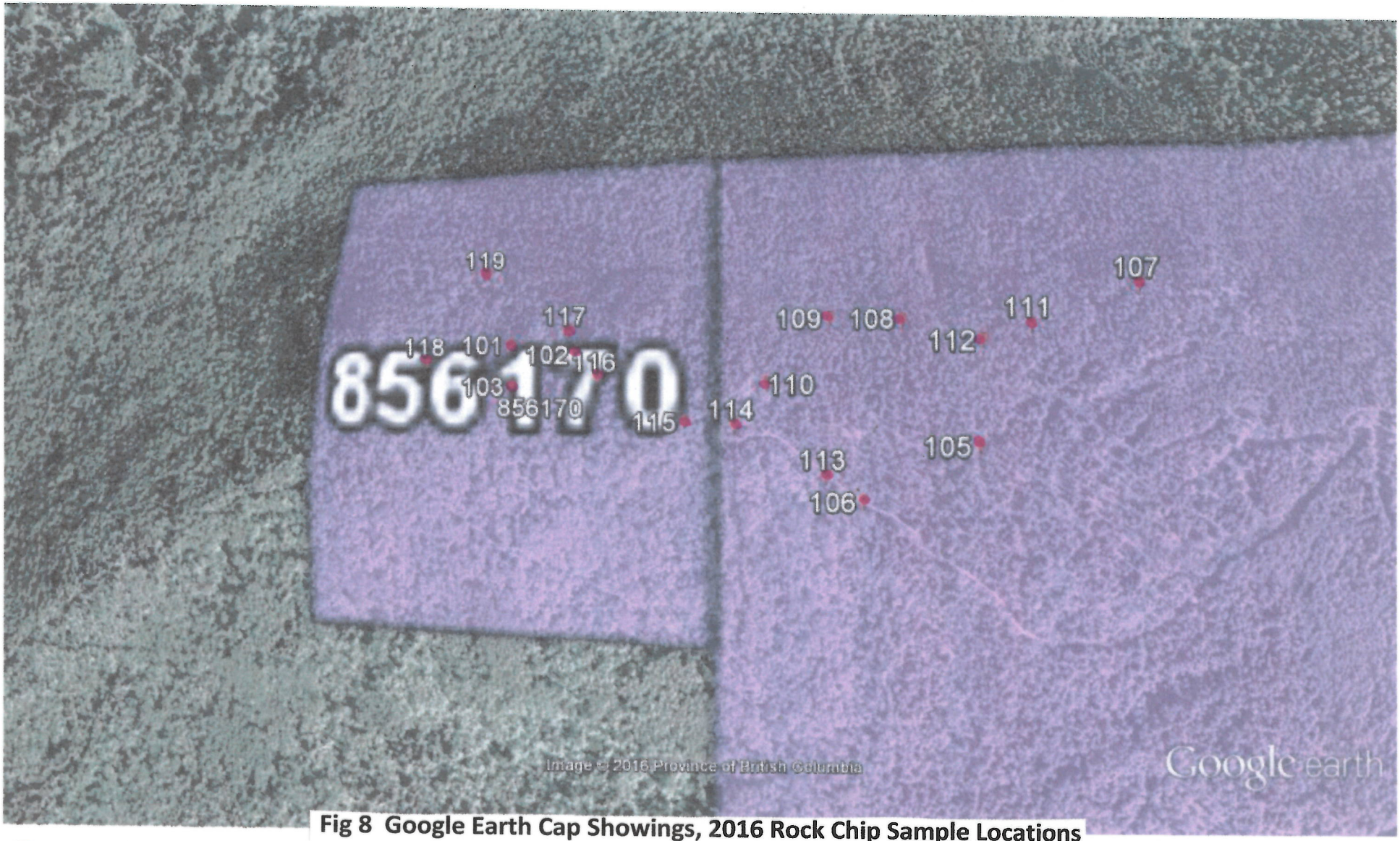


Fig 8 Google Earth Cap Showings, 2016 Rock Chip Sample Locations

Google earth

feet 2000

meters 800

NTS 093M 04/E, TRIM 093M.012, Omineca M.D.

101 Rock Chip Sample (Prefix 1420)

Purple=MTO Mineral Tenure Outline