




## ASSESSMENT REPORT TITLE PAGE AND SUMMARY

**TITLE OF REPORT: Prospecting and Geochemistry on the Mt. Sicker Property – 2014**

**TOTAL COST: \$6,166.15**

AUTHOR(S): Jacques Houle, P.Eng.

SIGNATURE(S): 

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): none

STATEMENT OF WORK EVENT NUMBER(S)/DATE(S): 5539047 / 2015/JAN/20

YEAR OF WORK: 2014

PROPERTY NAME: Mt. Sicker

CLAIM NAME(S) (on which work was done): 513390, 516629

COMMODITIES SOUGHT: Copper, Lead, Zinc, Silver, Gold

MINERAL INVENTORY MINFILE NUMBER(S): 092B001,-002,-003,-004,-028,-040,-041,-086,-087,-088,-089

MINING DIVISION: Victoria

NTS / BCGS: 092B13W / 092B081,-082

LATITUDE: 48 ° 52 ' 25 "

LONGITUDE: 123 ° 48 ' 22 " (at centre of work)

UTM Zone: 10N EASTING: 441500 NORTHING: 5413000

OWNER(S): Connie McCombs

MAILING ADDRESS: 3061A Matthew Road, Nanoose Bay, BC V6P 9B2

OPERATOR(S) [who paid for the work]: Connary Ventures Inc.

MAILING ADDRESS: 3061A Matthew Road, Nanoose Bay, BC V6P 9B2

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude: chert, siliclastics, volcanoclastics, calc-alkaline volcanics, gabbro, diorite, Mississippian, Permian, Devonian, Triassic, volcanogenic massive sulphides, quartz-sulphide veins

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

00936, 01104, 01714, 03099, 03741, 03950, 03951, 04626, 05164, 06216, 06518, 06548, 06599, 06600, 06699, 06972, 07183, 07273, 07323, 07434, 07714, 07875, 08264, 11329, 12172, 12317, 12379, 13744, 14411, 14735, 15719, 16716, 16871, 17649, 17834, 17836, 18859, 19754, 19765, 20579, 31970, 32278, 34604

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for ...)			
Soil			
Silt			
Rock (13)		513390, 516629	\$ 646.63
Other			
DRILLING (total metres, number of holes, size, storage location)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling / Assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale/area)	1:5,000 / 250 ha	513390, 516629	\$ 3,340.00
PREPATORY / PHYSICAL			
Line/grid (km)			
Topo/Photogrammetric (scale, area)			
Legal Surveys (scale, area)			
Road, local access (km)/trail			
Trench (number/metres)			
Underground development (metres)			
Other	Research, Report	513390, 516629	\$ 2,179.52
		<b>TOTAL COST</b>	<b>\$ 6,166.15</b>

**Assessment Report for  
Prospecting and Geochemistry  
October - December, 2014**

On the

**Mt. Sicker Property**

Victoria Mining Division, British Columbia, Canada

NTS Map Sheet 092B13W

BCGS Map Sheets 092B081,-082

UTM Zone 10N 441500E, 5413000N

For

**Conarry Ventures Inc.**

3061A Matthew Road

Nanoose Bay, B.C. V6P 9B2

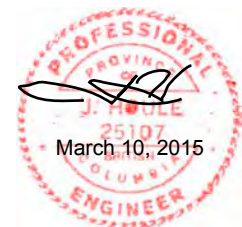
By

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**March 10, 2015**



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<b>Sample Data - 2010-2014 Rock Sample Locations, Descriptions, Geochemistry and Geochemistry Highlights</b>	<b>Appendix 1</b>
<b>Geochemistry Data – 2014 Blue Coast Research Analytical Certificate and 2015 AGAT Labs Analytical Certificate</b>	<b>Appendix 2</b>
<b>Tenure Data - 2014 Assessment Cost Statement, ARIS Title Page, Statement of Work Event</b>	<b>Appendix 3</b>
<b>BC MINFILE Occurrences on or Near Mt. Sicker Property</b>	<b>Appendix 4</b>
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## Introduction

### Property location, access and physiography

The Mt. Sicker Property consists of twelve contiguous cell mineral claims located 10 km. northwest of city of Duncan and straddling the Cowichan River, near the southeast coast of Vancouver Island. The property is located in the Victoria Mining Division, and is centred at NAD 83 UTM Zone 10N 441500E, 5413000N on BCGS map sheets 092B081 & 092B082.

The eastern portion of the Mt. Sicker Property is accessed from the Trans-Canada Highway 1 west along Mt. Sicker Road and various old mining roads and newer logging roads along the east side of the Chemainus River. The western portion of the Property is accessed from Highway 1 west along Copper Canyon Main along the west side of the Chemainus River.

The topography of the Mt. Sicker Property consists of rounded mountains incised by moderately steep canyons, with elevations ranging from less than 100 metres to just over 1000 metres. The climate is mild and wet during the fall to spring period, and warm and dry in the summer, with snow accumulations of several metres generally persisting through the winter at elevations above 500 metres.

### Property definitions, owner, operator, geology and history

The cell mineral claims which constitute the Mt. Sicker Property, with details and status as of the date of this report, are listed in Table 1 below:

**Table 1 – Cell Mineral Claims and Status as of March 10, 2015**

Tenure Number	Claim Name	Owner	Map Number	Issue Date	Good To Date	Status	Area (ha)
<b>Mt. Sicker Property</b>							
501465	L109	131341 (100%)	092B	2005/jan/12	2016/jan/16	GOOD	21.241
501774	L108	131341 (100%)	092B	2005/jan/12	2016/jan/16	GOOD	21.239
510156	055A055D	131341 (100%)	092B	2005/apr/04	2016/jan/16	GOOD	42.48
513291		131341 (100%)	092B	2005/may/25	2016/jan/16	GOOD	84.988
513390		131341 (100%)	092B	2005/may/26	2016/jan/16	GOOD	84.96
516629		131341 (100%)	092B	2005/jul/10	2016/jan/16	GOOD	382.371
516963		131341 (100%)	092B	2005/jul/11	2016/jan/16	GOOD	42.487
516972		131341 (100%)	092B	2005/jul/11	2016/jan/16	GOOD	42.494
516976		131341 (100%)	092B	2005/jul/11	2016/jan/16	GOOD	21.244
516980		131341 (100%)	092B	2005/jul/11	2016/jan/16	GOOD	84.951
517577	LENORATYEE	131341 (100%)	092B	2005/jul/12	2016/jan/16	GOOD	42.496
533072	HOLYOAK	131341 (100%)	092B	2006/apr/26	2016/jan/16	GOOD	127.422
<b>Totals</b>							<b>998.373</b>

The owner of the Mt. Sicker Property is Connie McCombs, and the operator is Connary Ventures Inc., through an agreement with Ms. McCombs. See Figures 1, 2 & 3 for the Property mineral tenure map at 1:50,000 scale, the mineral tenure & crown grant map at 1:10,000 scale, and the infrastructure map at 1:20,000 scale, respectively.

See Figure 4 for the BCGS 2005 Map Place Geology at 1:20,000 scale which shows the geology of the Mt. Sicker Property to be underlain by rock types with map unit colours, nomenclature, lithologies, and structural/stratigraphic relationships as follows:



**uKN** – Upper Cretaceous Nanaimo Group – undifferentiated sedimentary rocks

- **Erosional Unconformity, locally Fault Contact** -



**LTrMH** – Late Triassic Mount Hall – gabbroic to dioritic intrusive rocks

- **Intrusive, locally Fault Contact** -



**MPnBFch** – Mississippian to Permian Buttle Lake Group - Fourth Lake Formation – chert, siliceous argillite, siliclastic rocks

- **Conformity, locally Fault Contact** -



**uDSiM** – Middle to Upper Devonian Sicker Group – McLaughlin Ridge Formation – volcanoclastic rocks

- **Conformable Contact** -



**uDSIN** – Middle to Upper Devonian Sicker Group – Nitinat Formation – calc-alkaline volcanic rocks (Meade Property only)

The main host rocks for volcanogenic massive sulphide mineralization on Vancouver Island are those of the Mississippian to Devonian age Buttle Lake and Sicker Groups. In the area of the Mt. Sicker Property, the McLaughlin Ridge Formation of the Devonian Sicker Group is the main host of volcanogenic massive sulphide (VMS) mineralization; and quartz-sulphide mineralization can also be hosted in the Late Triassic Mount Hall gabbroic to dioritic rocks. The detailed reports for all BC MINFILE occurrences situated on or near the Mt. Sicker Property are listed in Table 2; the BC ARIS reports from historic work in the immediate area of the Mt. Sicker Property are listed in Table 3; and the appropriate BC Mineral Deposit Profile (G-06 Noranda-Kuroko VMS) for the mineral occurrences on the Mt. Sicker Property appears in Appendix 5. It should be noted that much of the historical data for the Mt. Sicker Property was done on crown granted mineral claims and/or predates the ARIS system and is therefore not well documented, but much data is available online in the BC Minister of Mines Reports, and in the BC Property File data.

**Table 2 – BC MINFILE Occurrences situated on or near the Mt. Sicker Property**

<b>MINFILE Number</b>	<b>MINFILE Name</b>	<b>Status</b>	<b>Mineral Deposit Type</b>	<b>Commodities</b>	<b>Stratigraphic Age and Host Rock</b>	<b>Property</b>
092B 001	Lenora	Past Producer	G06 – Noranda-Kuroko VMS	Cu, Au, Ag, Pb, Zn, Cd, Barite	Devonian McLaughlin Ridge - volcanics	Mt. Sicker
092B 002	Tyee	Past Producer	G06 – Noranda-Kuroko VMS	Cu, Au, Ag, Pb, Zn, Cd, Barite	Devonian McLaughlin Ridge - volcanics	Mt. Sicker
092B 003	Richard III	Past Producer	G06 – Noranda-Kuroko VMS	Cu, Au, Ag, Pb, Zn, Cd, Barite	Devonian McLaughlin Ridge - volcanics	Mt. Sicker
092B 004	Victoria	Past Producer	G06 – Noranda-Kuroko VMS	Cu, Au, Ag	Devonian McLaughlin Ridge – volcanics	Mt. Sicker
092B 028	Rose	Showing	Metamorphic	Mica, Sericite	Devonian McLaughlin Ridge – sediments	Mt. Sicker
092B 040	Sharon Copper	Prospect	G06 – Noranda-Kuroko VMS	Cu	Devonian McLaughlin Ridge – volcanics	Mt. Sicker
092B 041	Water Power-Mildred	Showing	G06 – Noranda-Kuroko VMS	Cu, Ag	Devonian McLaughlin Ridge – volcanics	Mt. Sicker
092B 086	Copper Canyon	Showing	none stated	Cu	Devonian McLaughlin Ridge – volcanics	Mt. Sicker
092B 087	Key City	Prospect	none stated	Cu	Devonian McLaughlin Ridge – volcanics	Mt. Sicker
092B 088	Queen Bee	Showing	G06 – Noranda-Kuroko VMS	Cu, Zn, Au	Devonian McLaughlin Ridge – volcanics	Mt. Sicker
092B 089	Belle	Showing	G06 – Noranda-Kuroko VMS	Cu	Devonian McLaughlin Ridge – volcanics	Mt. Sicker

**Table 3 – ARIS Reports publicly available as of March 10, 2015**

<b>Report Number</b>	<b>Year</b>	<b>Author</b>	<b>Owner/Operator</b>	<b>Work Program / MINFILE Number</b>	<b>Property</b>
00936	1967	Tikkanen, G.D.	Cominco Ltd.	Geophysical (ground) / 092B040, 092B041, 092B041	Mt. Sicker
01104	1967	Sheppard, E.P., Basco, D.M.	Mt. Sicker Mines Ltd.	Geological / 092B001, 092B002, 092B003, 092B004, 092B087	Mt. Sicker
01714	1968	Sheppard, E.P.	Mt. Sicker Mines Ltd.	Geophysical (ground) / 092B001, 092B002, 092B003, 092B004, 092B087	Mt. Sicker

03099	1971	Whittles, A.B.L., Loring, F.C.	Kinneard, G., Whittles, A.B.L., Loring, F.C.	Geophysical (ground), Geochemical / 092B004, 092B086	Mt. Sicker
03741	1972	Not specified	Mt. Sicker Mines Ltd.	Linecutting /no MINFILE	Mt. Sicker
03950	1972	Watson, I.M.	Mt. Sicker Mines Ltd. / Ducanex Resources Ltd.	Geological / 092B001, 092B002, 092B003, 092B004, 092B086, 092B087, 092B088, 092B089	Mt. Sicker
03951	1972	Walcott, P.E.	Mt. Sicker Mines Ltd. / Ducanex Resources Ltd.	Geophysical (ground) / 092B001, 092B002, 092B003, 092B004, 092B086, 092B087, 092B088, 092B089	Mt. Sicker
04626	1973	Whittles, A.B.L.	Kinneard, G., Whittles, A.B.L., Loring, F.C.	Geophysical (ground), Geological, Geochemical / 092B004, 092B086	Mt. Sicker
05164	1974	Carter, J.S.	Dresser Minerals Division	Diamond Drilling (4 holes totalling 830 m.) / 092B001, 092B002, 092B003	Mt. Sicker
06216	1976?	Deighton, J.R.	Deighton, J.R.	Geological / 092B028, 092B040, 092B041	Mt. Sicker
06518	1977	Deighton, J.R.	Deighton, J.R.	Geological / 092B028, 092B040, 092B041	Mt. Sicker
06548	1977	Somerville, R.	Imperial Oil Ltd.	Geochemical, Geophysical (ground) / 092B028, 092B040, 092B041	Mt. Sicker
06599	1977	Deighton, J.R.	Deighton, J.R.	Geochemistry / 092B086	Mt. Sicker
06600	1977	Deighton, J.R.	Deighton, J.R.	Geological / 092B004, 092B086	Mt. Sicker
06699	1978	Deighton, J.R., Vyselaar, J.	Deighton, J.R., Utah Mines Ltd.	Geological, Geophysical (ground) / 092B028, 092B041	Mt. Sicker
06972	1978	Whittles, A.B.L.	Loring, F.C.	Geophysical (ground), Geological / 092B004, 092B086	Mt. Sicker
07183	1979	Pauwels, A.	Union Miniere Explorations and Mining Corp. Ltd.	Geophysical (ground) / 092B004, 092B086, 092B110	Mt. Sicker
07273	1979	Pauwels, A.	Union Miniere Explorations and Mining Corp. Ltd.	Geochemical / 092B041	Mt. Sicker
07323	1979	Somerville, R.	Esso Minerals Canada	Diamond Drilling (448 m. in 6 holes) / 092B028, 092B040, 092B041, 092B110	Mt. Sicker
07434	1979	Pauwels, A.	Union Miniere Explorations and Mining Corp. Ltd.	Geochemical / 092B004, 092B086	Mt. Sicker
07714	1979	Ronning, P.A., Allen, G.	Postuk, P., S.E.R.E.M. Ltd.	Geological, Geochemical / 092B088, 092B089	Mt. Sicker
07875	1980	Allen, G., van Houten, C.G., Ronning, P.	S.E.R.E.M. Ltd., Mt. Sicker Mines Ltd.	Geological, Geochemical / 092B001, 092B002, 092B003, 092B004, 092B087, 092B088, 092B089, 092B099	Mt. Sicker
08264	1980	van Houten, C.G., Ronning, P.	S.E.R.E.M. Ltd., Mt. Sicker Mines Ltd.	Diamond Drilling (1,236 m. in 7 holes) / 092B001, 092B002, 092B003, 092B004, 092B087, 092B088, 092B089, 092B099	Mt. Sicker

11329	1983	Sorbara, J.P.	Cominco Ltd.	Geological, Geochemical / 092B028, 092B041	Mt. Sicker
12172	1984	Davidson, A.J.	Corporation Falconbridge Copper	Diamond Drilling (176 m. in 1 hole) / 092B001, 092B002, 092B003, 092B004, 092B087, 092B088, 092B089, 092B090	Mt. Sicker
12317	1984	Davidson, A.J.	Corporation Falconbridge Copper	Diamond Drilling (394 m. in 2 holes) / 092B001, 092B002, 092B003, 092B004, 092B087, 092B088, 092B089, 092B090	Mt. Sicker
12379	1984	Britten, R.	Esso Resources Canada Ltd.	Geological, Geochemical / 092B040, 092B110	Mt. Sicker
13744	1985	Hendrickson, G.A.	Esso Resources Canada Ltd., Kidd Creek Mines Ltd.	Geophysical / 092B040, 092B110	Mt. Sicker
14411	1986	Enns, S.G.	Esso Resources Canada Ltd., Kidd Creek Mines Ltd.	Diamond Drilling (1,534 m. in 7 holes) / 092B040, 092B110	Mt. Sicker
14735	1986	Lefebure, D.V.	Corporation Falconbridge Copper	Diamond Drilling (1,502 m. in 5 holes) / 092B001, 092B002, 092B003, 092B004, 092B087, 092B088, 092B089, 092B090	Mt. Sicker
15719	1987	Gibson, H.L.	Corporation Falconbridge Copper	Diamond Drilling (3,115 m. in 11 holes) / 092B001, 092B002, 092B003, 092B004, 092B087, 092B088, 092B089, 092B090	Mt. Sicker
16716	1987	Wells, G.S.	Minnova Inc.	Diamond Drilling (3,217 m. in 15 holes) / 092B001, 092B002, 092B003, 092B004, 092B086, 092B087, 092B088, 092B089, 092B090	Mt. Sicker
16871	1987	Wells, G.S.	Minnova Inc.	Diamond Drilling (176 m. in 1 hole) / 092B001, 092B002, 092B003, 092B004, 092B086, 092B087, 092B088, 092B089, 092B090	Mt. Sicker
17649	1988	Klemmer, S.G.	Esso Resources Canada Ltd., Falconbridge Ltd.	Diamond Drilling (195 m. in 1 hole) / 092B040, 092B110	Mt. Sicker
17834	1988	Wells, G.S.	Minnova Inc.	Diamond Drilling (477 m. in 1 hole) / 092B001, 092B002, 092B003, 092B004, 092B086, 092B087, 092B088, 092B089, 092B090	Mt. Sicker
17836	1988	Wells, G.S.	Minnova Inc.	Diamond Drilling (151 m. in 1 hole) / 092B001, 092B002, 092B003, 092B004, 092B086, 092B087, 092B088, 092B089, 092B090	Mt. Sicker
18859	1989	Wells, G.S.	Minnova Inc.	Diamond Drilling (3,103 m. in 8 holes) / 092B001, 092B002, 092B003, 092B004, 092B086, 092B087, 092B088, 092B089, 092B090	Mt. Sicker

19754	1990	Wells, G.S.	Minnova Inc.	Diamond Drilling (763 m. in 3 holes / 092B001, 092B002, 092B003, 092B004, 092B086, 092B087, 092B088, 092B089, 092B090)	Mt. Sicker
19765	1989	Stewart, R., Vande-Guchte, M.	Falconbridge Ltd.	Diamond Drilling (1,056 m. in 2 holes) / 092B028, 092B041	Mt. Sicker
20579	1991	Wells, G.S.	Minnova Inc.	Diamond Drilling (172.5 m. in 1 holes) / 092B001, 092B002, 092B003, 092B004, 092B086, 092B087, 092B088, 092B089, 092B090	Mt. Sicker
31970	2010	McLelland, D.	McCombs, V.	Geophysical, Remote Sensing (616 ha.) / 092B004	Mt. Sicker
32278	2011	Houle, J.	McCombs, C. / Rock-Con Resources Inc.	Prospecting, Geochemical / 092B001, 092B002, 092B003, 092B004, 092B028, 092B040, 092B041, 092B086, 092B087, 092B088, 092B089	Mt. Sicker
34604	2013	Houle, J.	McCombs, C. / Connary Ventures Inc.	Prospecting, Geochemical / 092B001, 092B002, 092B003, 092B004, 092B028, 092B040, 092B041, 092B086, 092B087, 092B088, 092B089	Mt. Sicker

The history of the Mt. Sicker Property is long and very complex, and is summarized in the Capsule Geology of the eleven BC MINFILE reports listed in Table 2. Periodic snapshots of early history (pre-1965) are available in the provincial and federal reports and publications referenced in the bibliographies of the MINFILE reports. More detailed recent history (post-1965) for all the Mt. Sicker Property is available in the BC ARIS reports listed in Table 3. A brief summary of the early history for the Mt. Sicker Property is as follows:

**1895 to 1898** – prospecting, discovery, staking and underground mine development of the Mt. Sicker sulphide deposit, including three of the four MINFILE past producers: Lenora, Tye, and Richard 3, (092B001-003) covered by the Mt. Sicker Property.

**1897 to 1903** – prospecting, discovery, staking and underground development of the MINFILE past producer Victoria (092B004), the western continuation of the Mt. Sicker sulphide deposit east of the Chemainus River, covered by the Mt. Sicker Property.

**1898 to 1964** – intermittent, combined production from the 4 past producers covered by the Mt. Sicker Property totalling 277,517 tonnes averaging 3.4% copper, 0.14% lead, 1.6% zinc, 90 g/t silver and 4.2 g/t gold from sulphide ore, shipped to smelters at Crofton, B.C. and Tacoma, U.S.A.

**1897 to 1920** – prospecting, discovery, staking and surface exploration of the MINFILE showing Belle (092B089) located north of the Mt. Sicker sulphide deposit, covered by the Mt. Sicker Property.

**1897 to 1924** - prospecting, discovery, staking and underground exploration of the MINFILE past producer Key City (092B087), a portion of the Mt. Sicker sulphide deposit between the Lenora and Victoria past producers, covered by the Mt. Sicker Property.

**1898 to 1903** – prospecting, discovery, staking and underground exploration of the MINFILE showing Queen Bee (092B088), located near the Belle showing, north of the Mt. Sicker sulphide deposit, and covered by the Mt. Sicker Property.

**1902 to 1928** – prospecting, discovery, staking and underground exploration of the MINFILE showing Copper Canyon (092B086), the western continuation of the Mt. Sicker sulphide deposit located west of the Chemainus River and the Lenora past producer, and covered by the Mt. Sicker Property.

**1903 to 1927** – prospecting, discovery, staking and underground exploration of the MINFILE prospect Sharon (092B040), located northwest of the Mt. Sicker deposit, and covered by the Mt. Sicker Property.

**1903 to 1923** – prospecting, discovery, staking and surface exploration of the MINFILE showing Water Power – Brenton (092B041), located northeast of the Sharon Copper prospect, and covered by the Mt. Sicker Property.

## **List of Claims and Work Completed**

### **Mt. Sicker Property:**

Prospecting, geological mapping, outcrop and float rock sampling, rock geochemistry, data compilation and report writing were completed periodically between October 7, 2014 and February 28, 2015. Field orientation, flag grid installation, geological mapping and rock sampling were completed on October 7, 2014 and November 11, 2014 on cell mineral claim 516629 by Mr. Brant Protasiewicz and Professor Tim Stokes, P.Geol., accompanied by geology students from Vancouver Island University's GEOL 320 class. Prospecting and rock sampling were completed on December 6, 2014 and December 13, 2014 on cell mineral claim 513390 by Mr. Brant Protasiewicz and Mr. Bryan Protasiewicz. Field procedures consisted of traveling by pickup trucks along logging roads, traversing on foot, prospecting and grid installation using hand-held GPS units, and sampling using hand tools.

Thirteen (13) select rock samples were taken from 2 areas: 6 samples from the area of the Puddle Zone near the Belle/Queen Bee occurrences were analyzed at Blue Coast Research in Parksville, B.C.; and 7 samples from the area of the Sharon Copper occurrence were analyzed at AGAT Laboratories in Burnaby, BC. Samples sent to Blue Coast Research were analyzed for silver, copper, lead, zinc and arsenic using Aqua Regia digestion and Atomic Absorption methods; and samples sent to AGAT Laboratories were analyzed using 4 acid digestion and 48 element ICP/MS geochemistry, and gold ICP/MS geochemistry, plus over-limit analyses as required.

Prof. Stokes and his students provided rock sample location data and rock sample descriptions for the 6 samples from the area of the Puddle Zone. Mr. Brant Protasiewicz provided rock sample location data and rock sample descriptions for the 7 samples from the Sharon Copper area. Assessment cost data and the technical data were compiled, maps were plotted, and the report written by the author.

## **Technical data, interpretation, conclusions, recommendations**

### **Rock Sample Highlights – Mt. Sicker Property**

Locations for all rock samples taken between 2010 and 2014 relative to cell mineral claims boundaries appear in Figure 5 at 1:20,000 scale, and detailed sample locations and selected rock geochemistry values for the 2 sampling areas in 2014 (Belle/Queen Bee and Sharon Copper) appear as Figures 6 to 21 inclusive at 1:5,000 scale. Tables of 2014 prospecting time and costs, rock sample locations, descriptions, geochemistry results and geochemistry highlights appear in Appendix 1, and analytical certificates from Blue Coast Research and AGAT Laboratories appear in Appendix 2.

Many of the 13 samples taken in 2014 consisted of sulphide-bearing rocks, with at least 3 of 13 samples exceeding 10% sulphur. Note that the 6 samples sent to Blue Coast Research were not analyzed for sulphur or gold. Many samples yielded elevated values of some of the target (gold, silver, copper, lead, zinc) and/or indicator elements for volcanogenic massive sulphide deposits, including:

- 2 of 13 samples exceeding 1 ppm silver, up to 4.33 ppm silver
- 3 of 13 samples exceeding 1000 ppm copper, up to 1.48% copper
- 1 of 13 samples exceeding 1000 ppm zinc, up to 5.52% zinc
- Multiple samples with elevated values in arsenic, gallium, indium, and/or tellurium

The geochemistry results from the selected rock samples confirm the presence, and elevated base and precious metal grades of volcanogenic massive sulphide mineralization at the two mineral occurrences in similar host rocks as and proximal to

the historic exploration and mine workings on the Mt. Sicker Property. These results are consistent with recent geochemistry results obtained from 72 samples taken from other mineral occurrences on the Property from 2010 to 2013 documented by the author in previous ARIS Reports 32278 and 34604...

More systematic technical work is warranted on the Mt. Sicker Property, including:

- Geo-referencing, 3-D compilation and modeling of historic underground workings and selected historic exploration data
- Systematic modern exploration, initially from surface and possibly involving rehabilitation and utilization of historic underground workings
- Initiation of baseline environmental studies to determine impacts of historic industrial (including mining and forestry) and residential infrastructure on the property prior to any possible future disturbance by current owners/operators

## **Qualifications of Author**

I, Jacques Houle, P.Eng., do hereby certify that:

I am sole proprietor of:  
Jacques Houle, P.Eng. Mineral Exploration Consulting  
6552 Peregrine Road  
Nanaimo, British Columbia, Canada V9V 1P8

I graduated with a B.A.Sc. degree in Geological Engineering with specialization in Mineral Exploration from the University of Toronto in 1978.

I am a member of the Association of Professional Engineers and Geoscientists of B.C.

I have worked as a geologist for 37 years since graduating from university.

I am the author responsible for the preparation of the Technical Report titled "Assessment Report for Prospecting and Geochemistry on the Mt. Sicker Property" for Connie McCombs and Connary Ventures Inc. dated February 28, 2015.

I have had prior involvement with the Property that is the subject of the Assessment Report, as an acquaintance of the late Mr. Alan Francis, Ms. Connie McCombs, Mr. Brant Protasiewich, Rock-Con Resources Inc., and Connary Ventures Inc.

I am not aware of any material fact or material change with respect to the subject matter of the Assessment Report that is not reflected in the Assessment Report, the omission to disclose which makes the Assessment Report misleading.

I hold no financial interest and no shares, nor do I expect to receive or acquire any interest or shares in Conarry Ventures Inc.

I am independent of Ms. Connie McCombs and Conarry Ventures Inc.

Dated this 10<sup>th</sup> day of March, 2015



Signature of Author



Jacques Houle, P.Eng.  
Printed name of Author

Seal of Author

## References

### B. C. Ministry of Energy and Mines websites:

Assessment Reports

<http://www.empr.gov.bc.ca/Mining/Geoscience/ARIS/Pages/default.aspx>

Geological Survey Publications

<http://www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/Pages/default.aspx>

Landowner Notification

<http://www.empr.gov.bc.ca/Titles/MineralTitles/Admin/Notices/Pages/LandownerNotification.aspx>

MapPlace

<http://www.empr.gov.bc.ca/Mining/Geoscience/MapPlace/Pages/default.aspx>

Mineral Deposit Profiles

<http://www.empr.gov.bc.ca/Mining/Geoscience/MineralDepositProfiles/Pages/default.aspx>

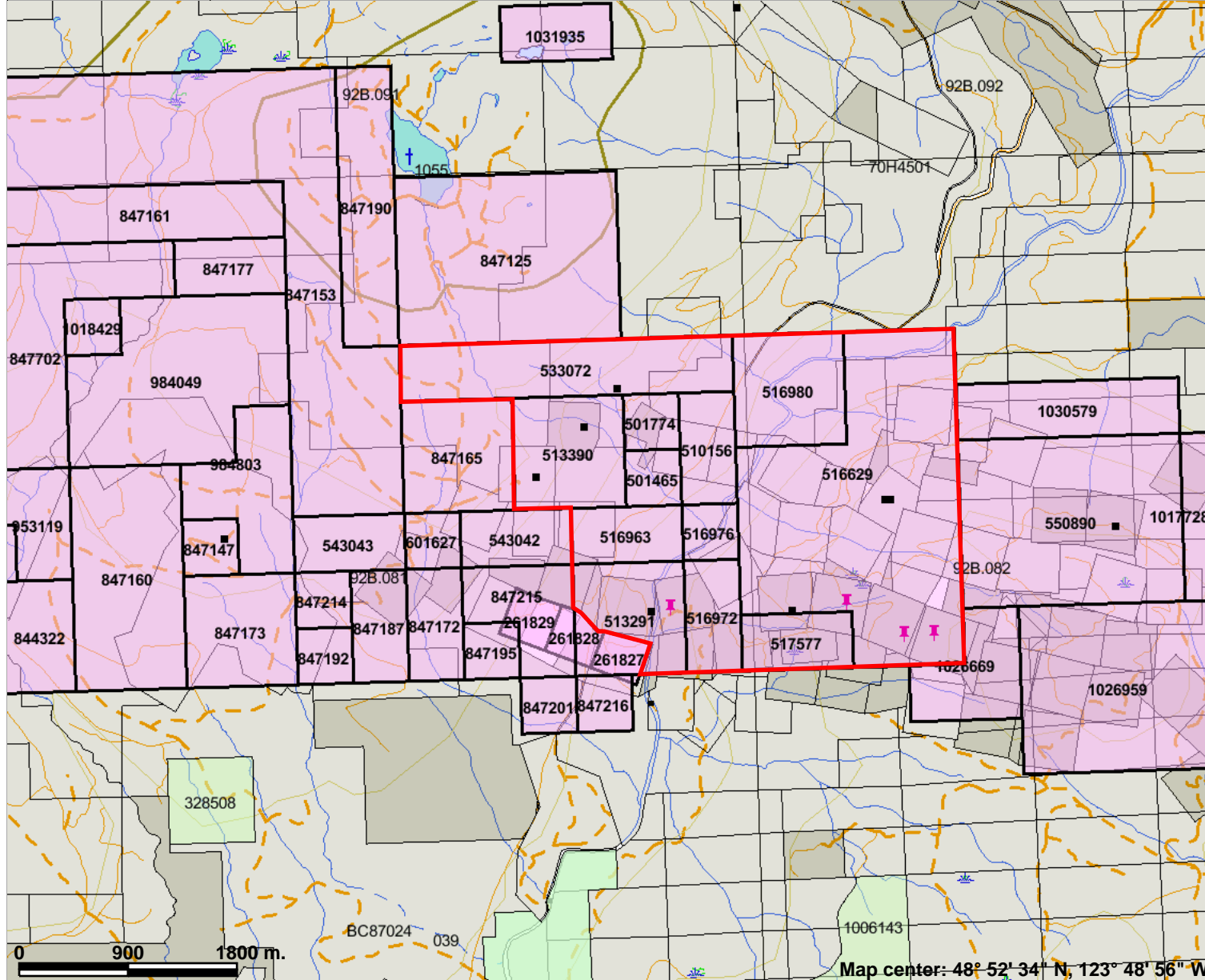
MINFILE

<http://www.empr.gov.bc.ca/Mining/Geoscience/MINFILE/Pages/default.aspx>

Mineral Titles Online

<https://www.mtonline.gov.bc.ca/mtov/home.do>

# Mt. Sicker Property



### Legend

**MINFILE Status**

- ✕ Producer
- ✕ Past Producer
- ✕ Developed Prospect
- All others

**Mineral Tenure (current)**

- Mineral Claim
- Mineral Lease

**Mineral Reserves (current)**

- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- First Nations Treaty Related Lands

**Other Features**

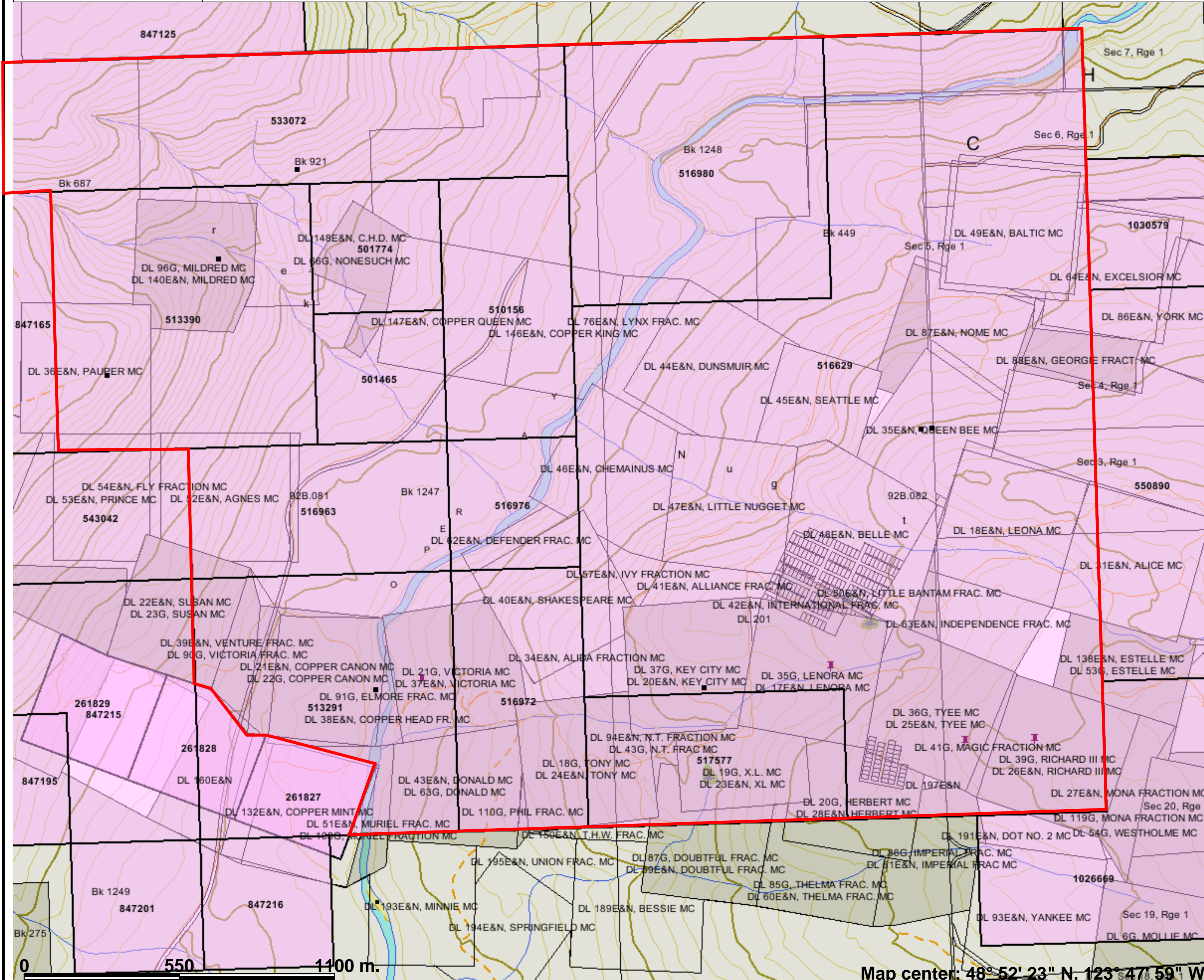
- First Nations Treaty Lands
- Survey Parcels
- BCGS Grid
- Contours (1:250K)
- Contour - Index
- Contour - Intermediate
- Area of Exclusion
- - - Area of Indefinite Contours


Scale: 1:50,000

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.

## Figure 1

# Mt. Sicker Property



## Legend

- MINFILE Status**
  - Producer
  - Past Producer
  - Developed Prospect
  - All others
- Indian Reserves**
- National Parks**
- Conservancy Areas**
- Parks**
- Federal Transfer Lands**
- Mineral Tenure (current)**
  - Mineral Claim
  - Mineral Lease
- Mineral Reserves (current)**
  - Placer Claim Designation
  - Placer Lease Designation
  - No Staking Reserve
  - Conditional Reserve
  - Release Required Reserve
  - Surface Restriction
  - Recreation Area
  - Others
- First Nations Treaty Related Lands**
- First Nations Treaty Lands**
- Integrated Cadastral Fabric**
- Survey Parcels**
- BCGS Grid**
- Contours (TRIM)**
  - Contour - Index
  - Contour - Index, Indefinite
  - Contour - Index, Depression
  - Contour - Index, Depression Indefinite
  - Contour - Intermediate
  - Contour - Intermediate, Indefinite
  - Contour - Intermediate, Depression
  - Contour - Intermediate, Depression Indefinite
- Area of Exclusion**
- Area of Indefinite Contours**
- Annotation (1:20K)**
- Transportation - Points (TRIM)**
  - Helipad
- Transportation - Lines (TRIM)**
  - Airfield
  - Airport
  - Airstrip
  - Airport, Abandoned
  - Ferry Route
  - Road (Gravel Undivided) - 1 Lane
  - Road (Gravel Undivided) - 2 Lanes
  - Road (Gravel Undivided) - U/C - 1 Lane

0 550 1100 m.

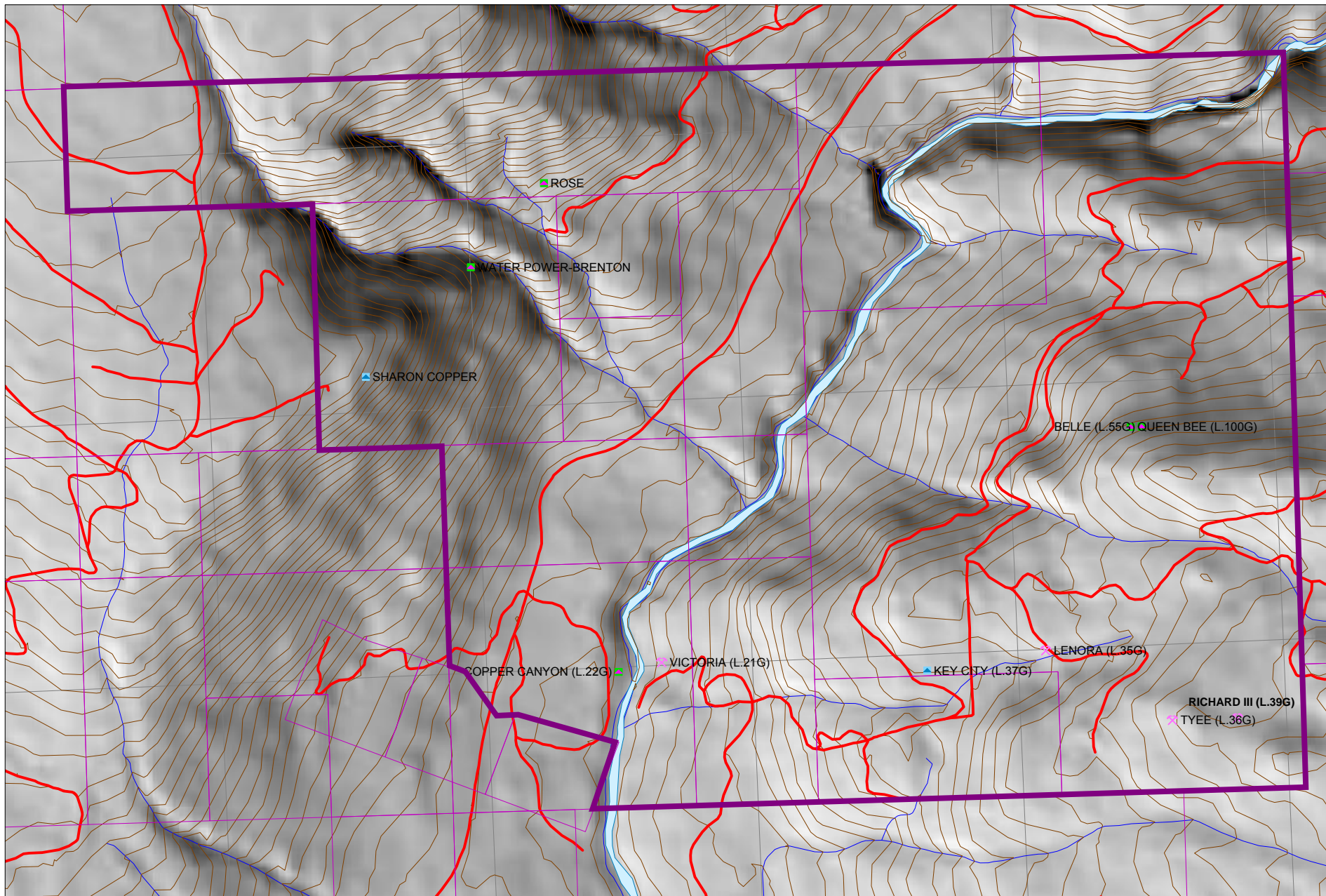
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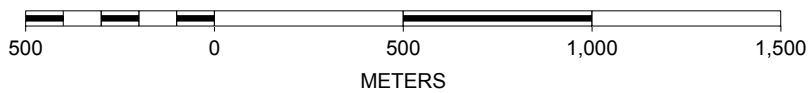
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## Figure 2

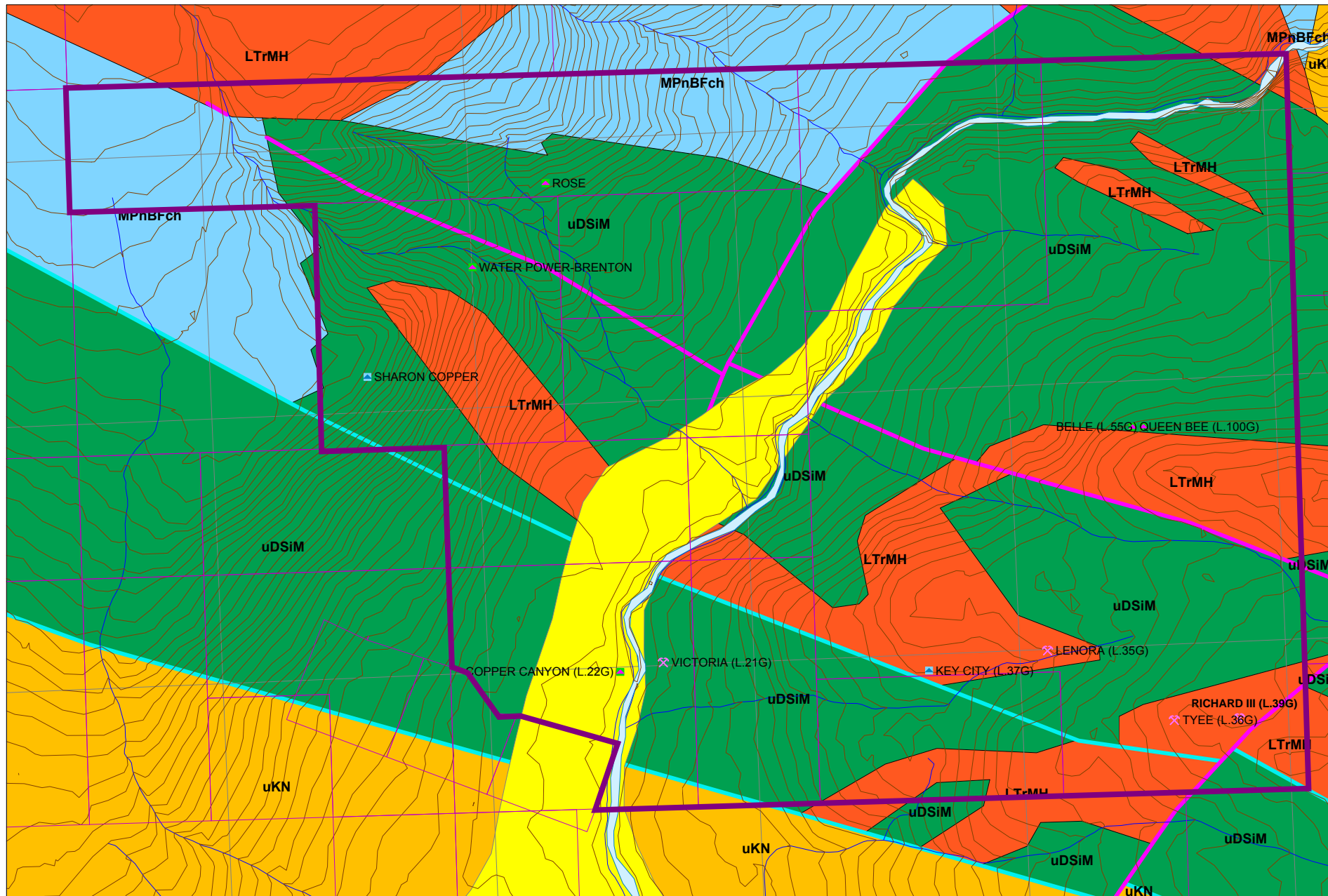


SCALE 1 : 20,000



**Figure 3**





SCALE 1 : 20,000

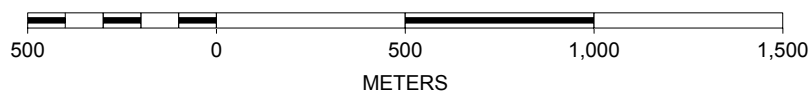
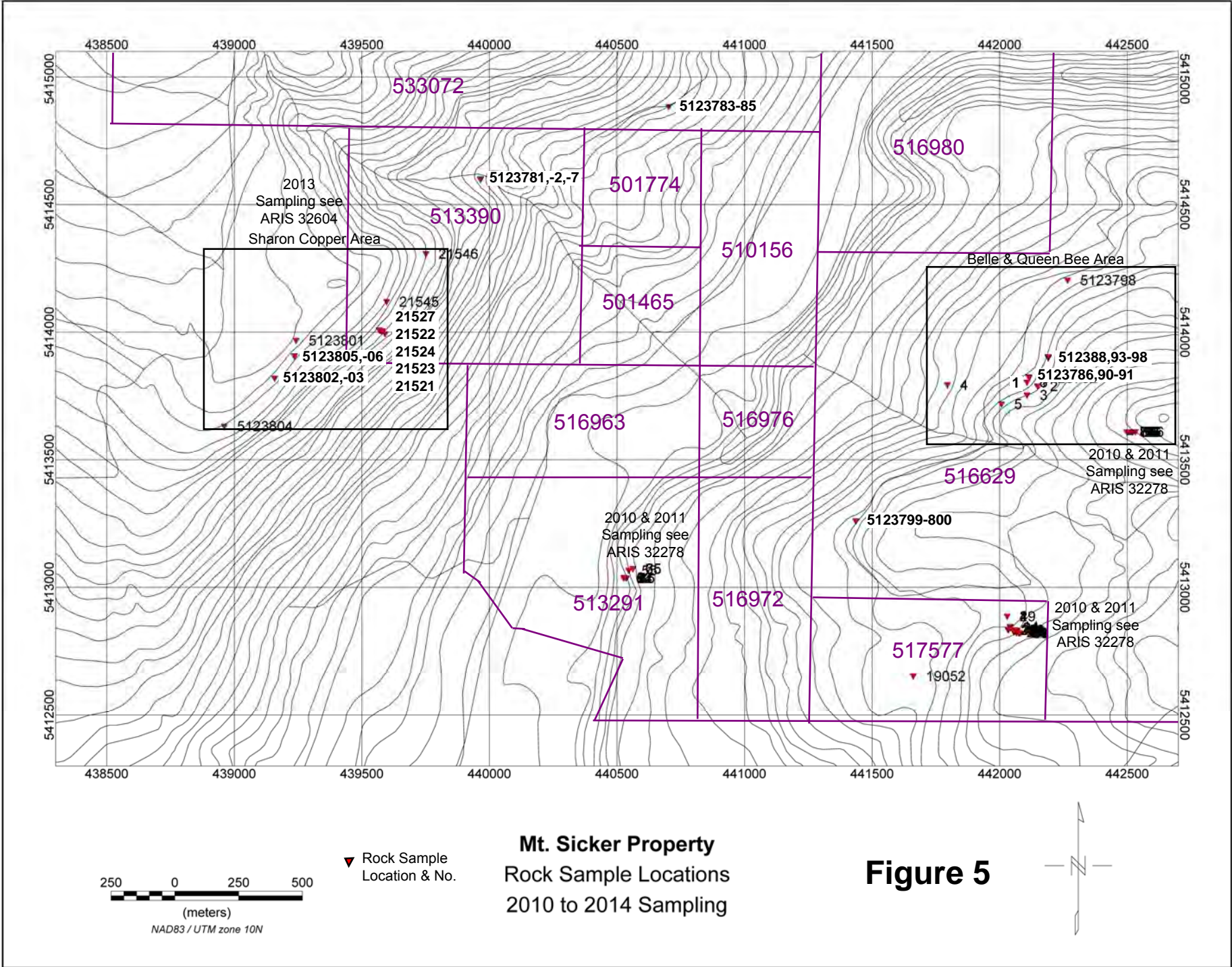
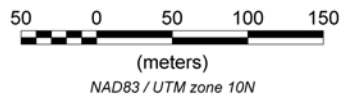
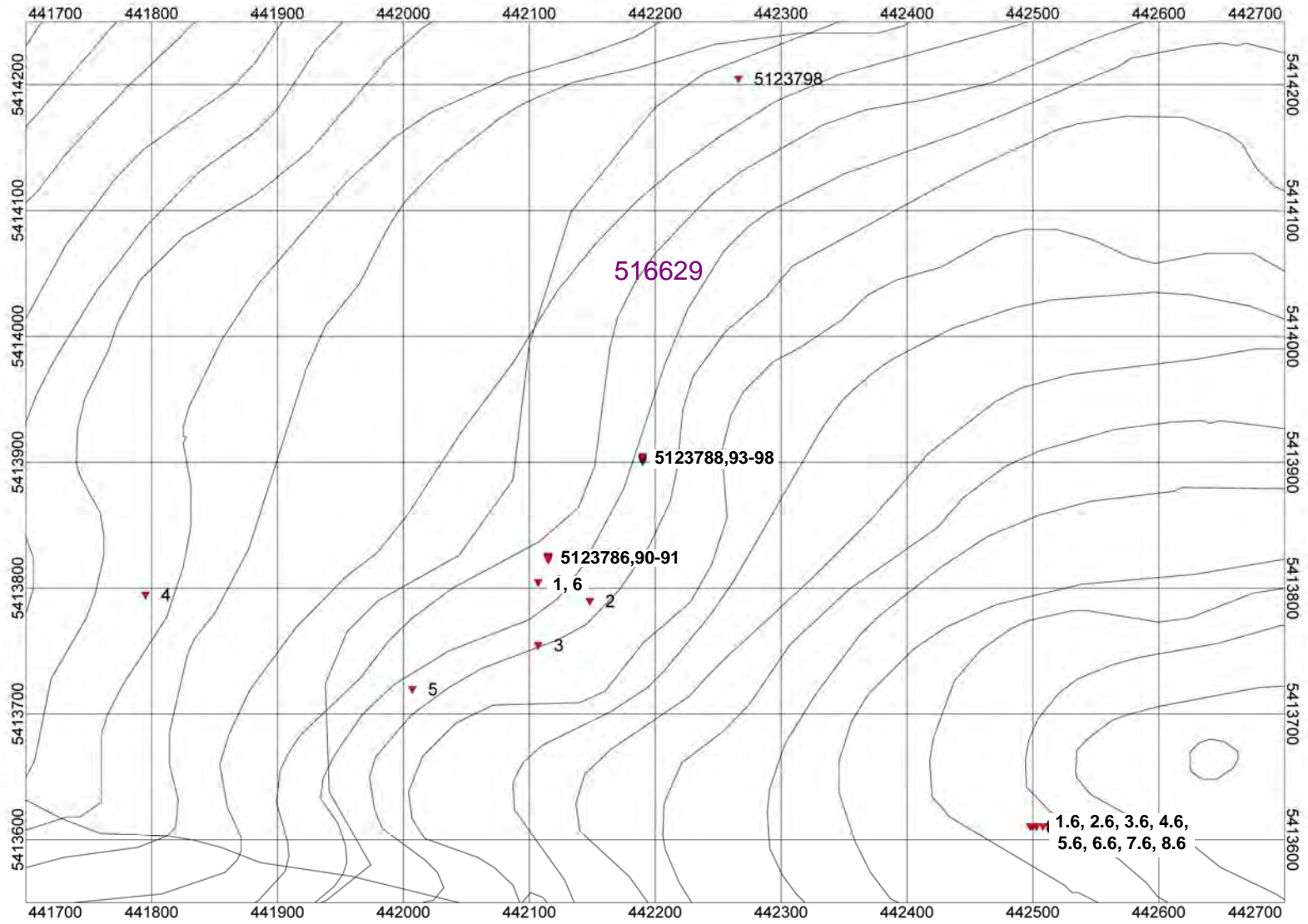


Figure 4



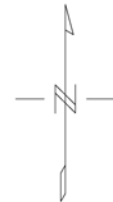


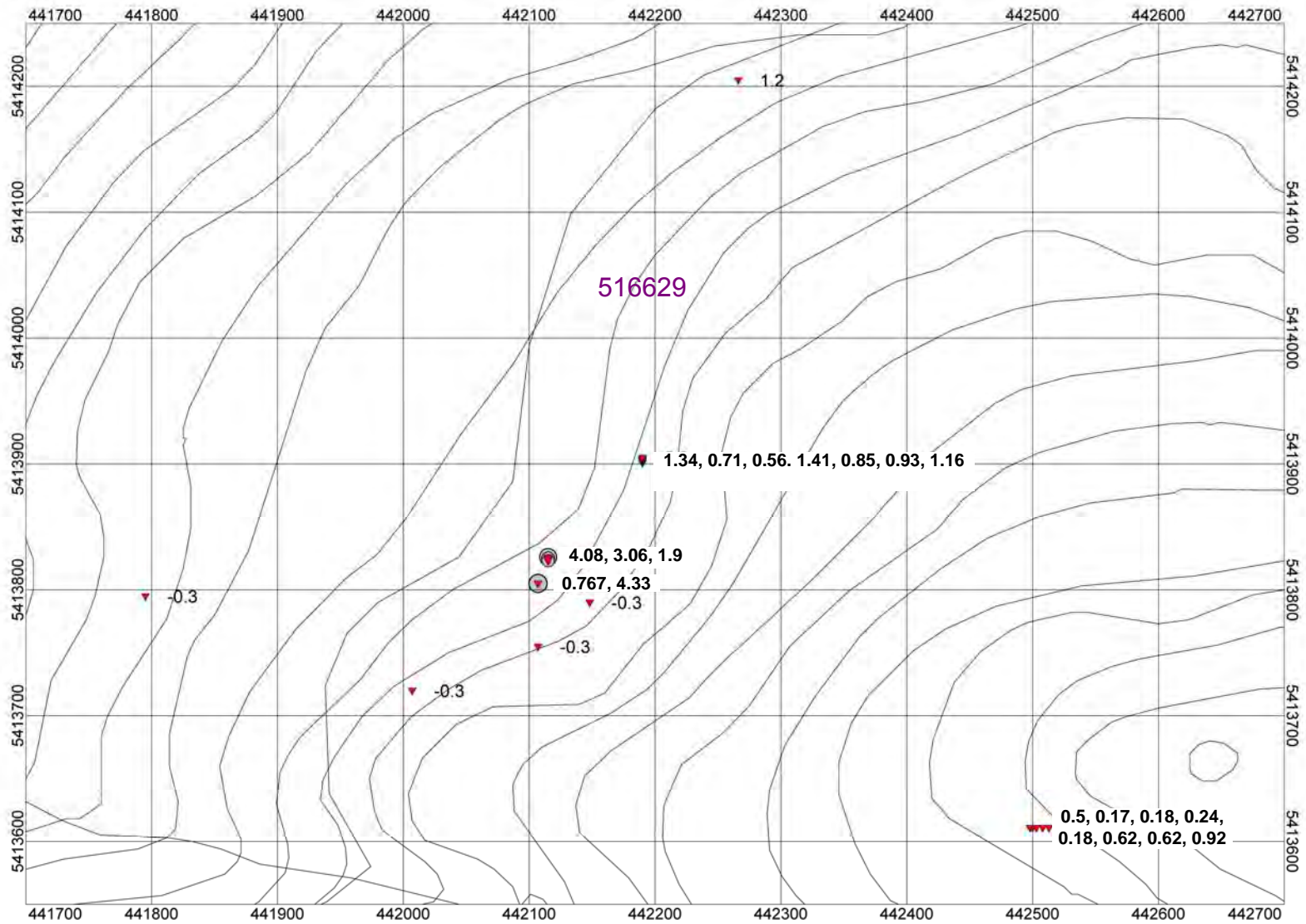


▼ Rock Sample Location & No.

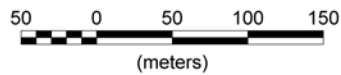
**Mt. Sicker Property**  
**Belle & Queen Bee Area**  
 2010 to 2014 Sample Locations

**Figure 6**





**Figure 7**

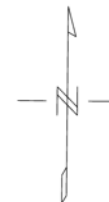


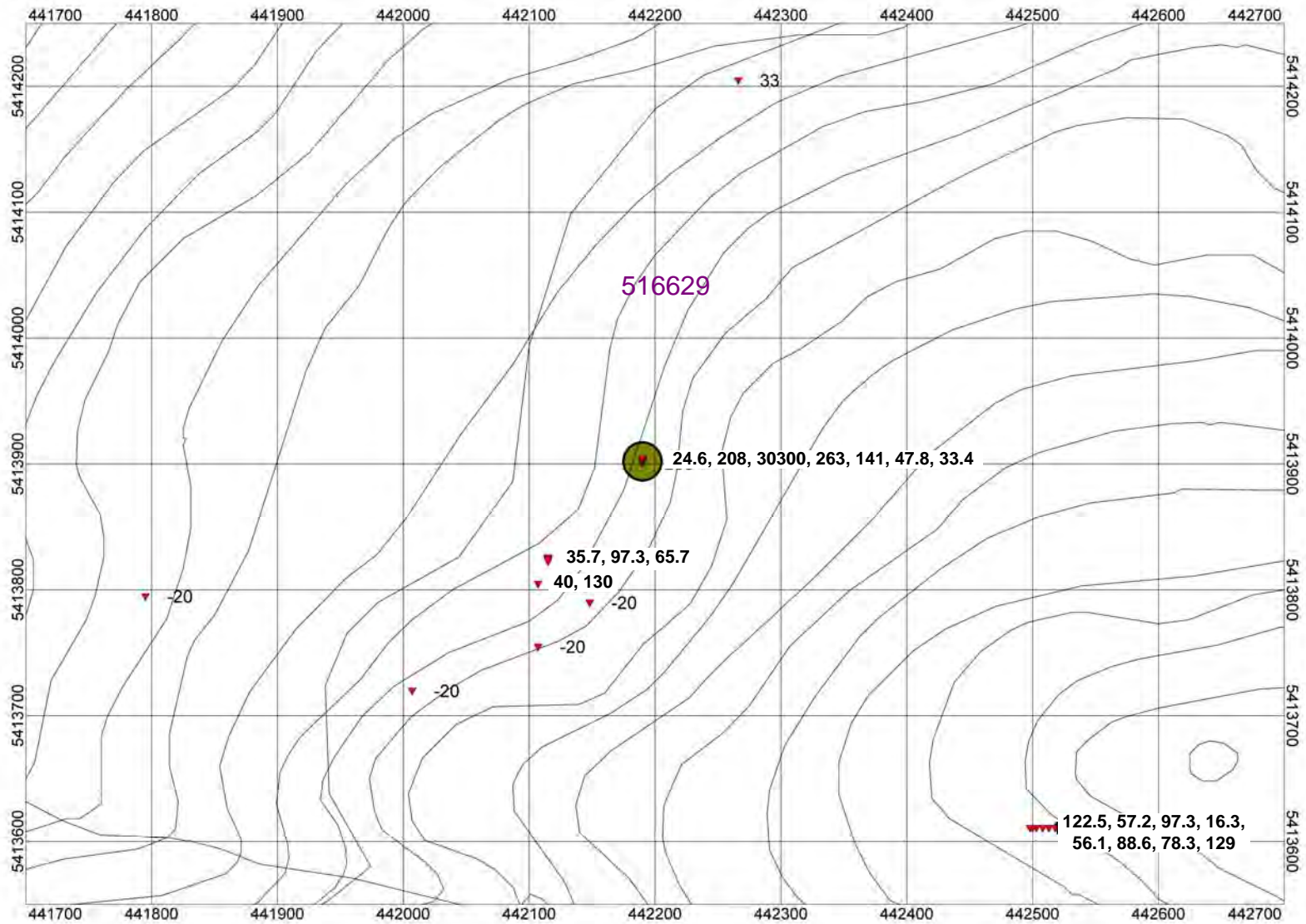
NAD83 / UTM zone 10N

**Mt. Sicker Property**  
 Belle and Queen Bee Area  
 Silver ppm in Rocks

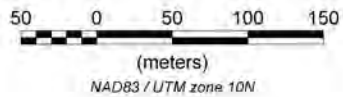
Ag ppm in Rocks

- 6
- 4
- 2





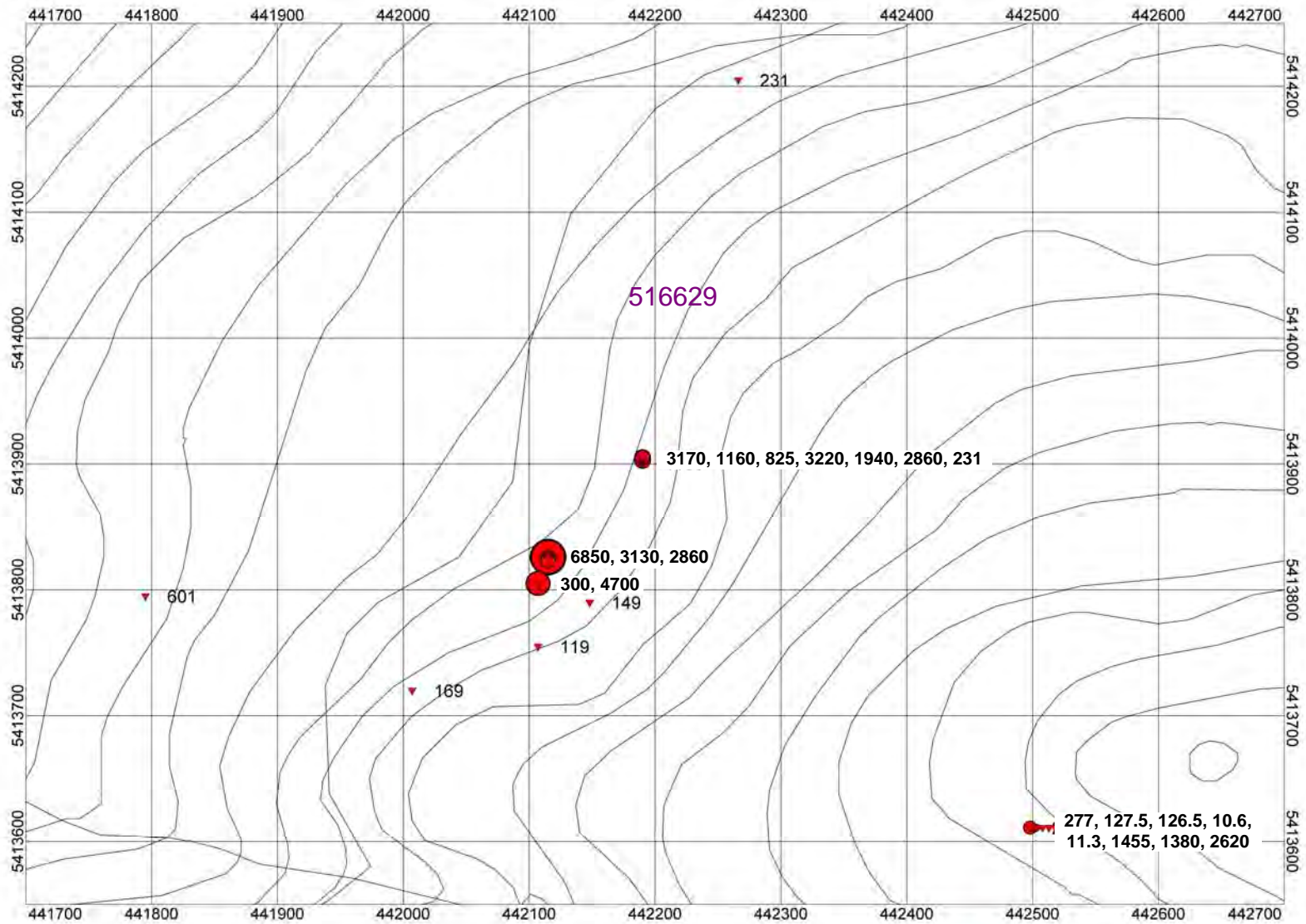
**Figure 8**



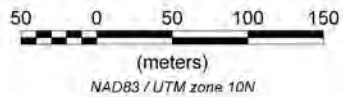
**Mt. Sicker Property**  
 Belle and Queen Bee Area  
 Arsenic ppm in Rocks

As ppm in Rocks





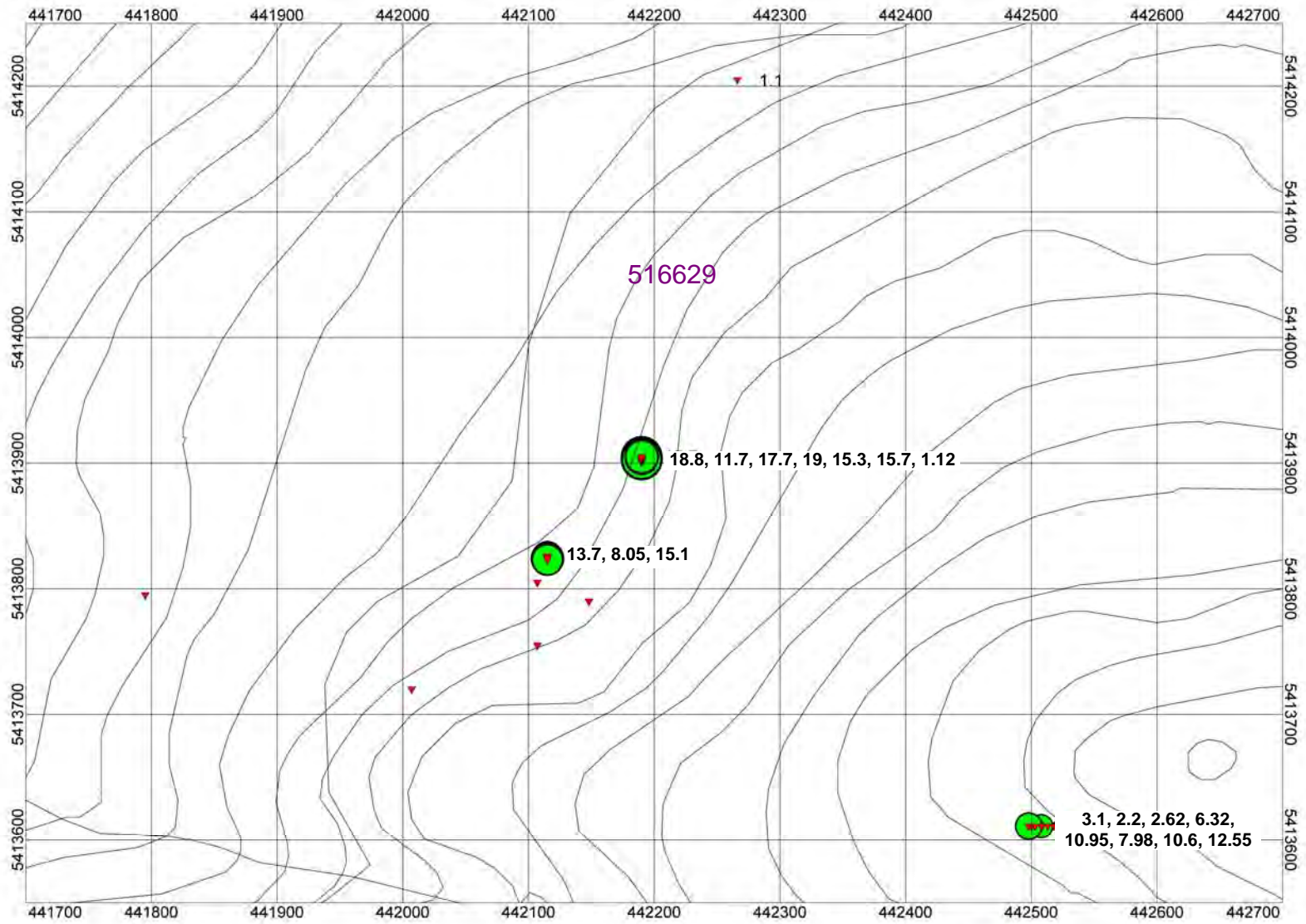
**Figure 9**



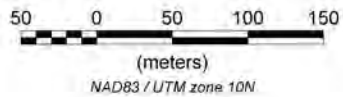
**Mt. Sicker Property**  
 Belle and Queen Bee Area  
 Copper ppm in Rocks

Cu ppm in Rocks



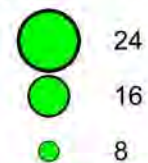


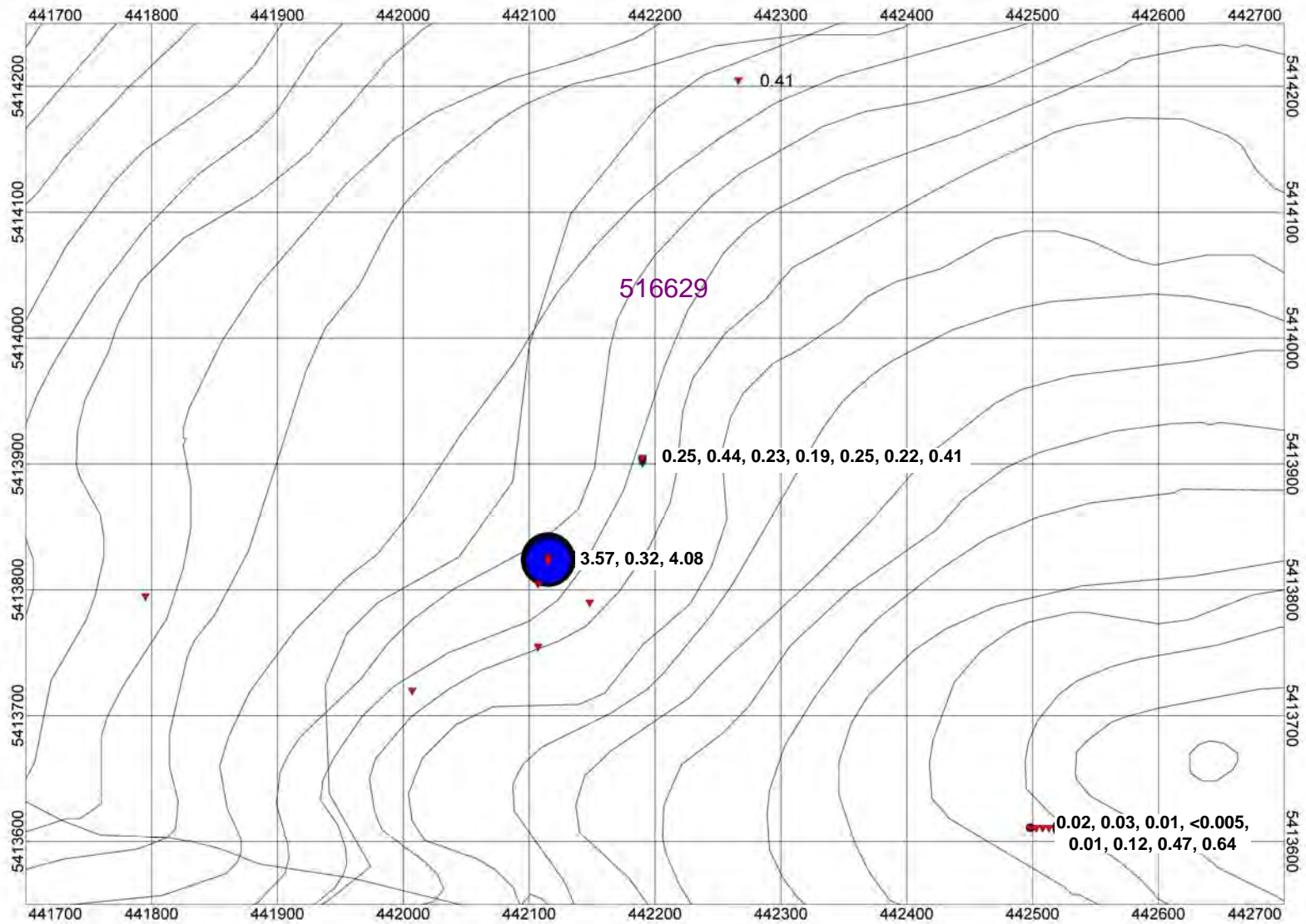
**Figure 10**



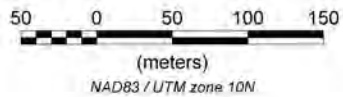
**Mt. Sicker Property**  
 Belle and Queen Bee Area  
 Gallium ppm in Rocks

Ga ppm in Rocks



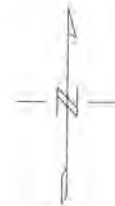
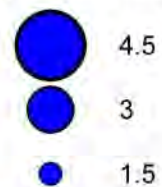


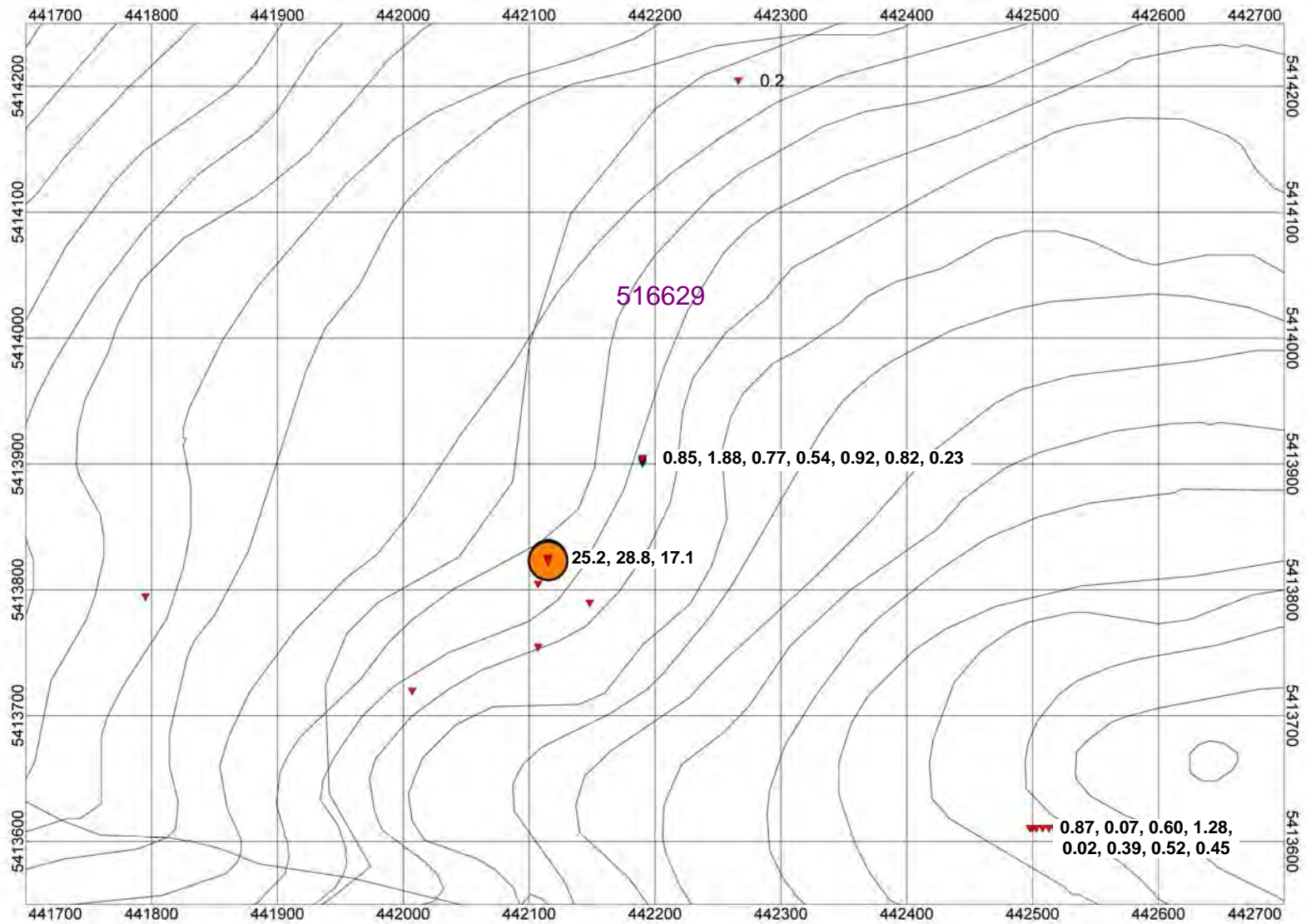
**Figure 11**



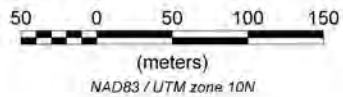
**Mt. Sicker Property**  
 Belle and Queen Bee Area  
 Indium ppm in Rocks

In ppm in Rocks





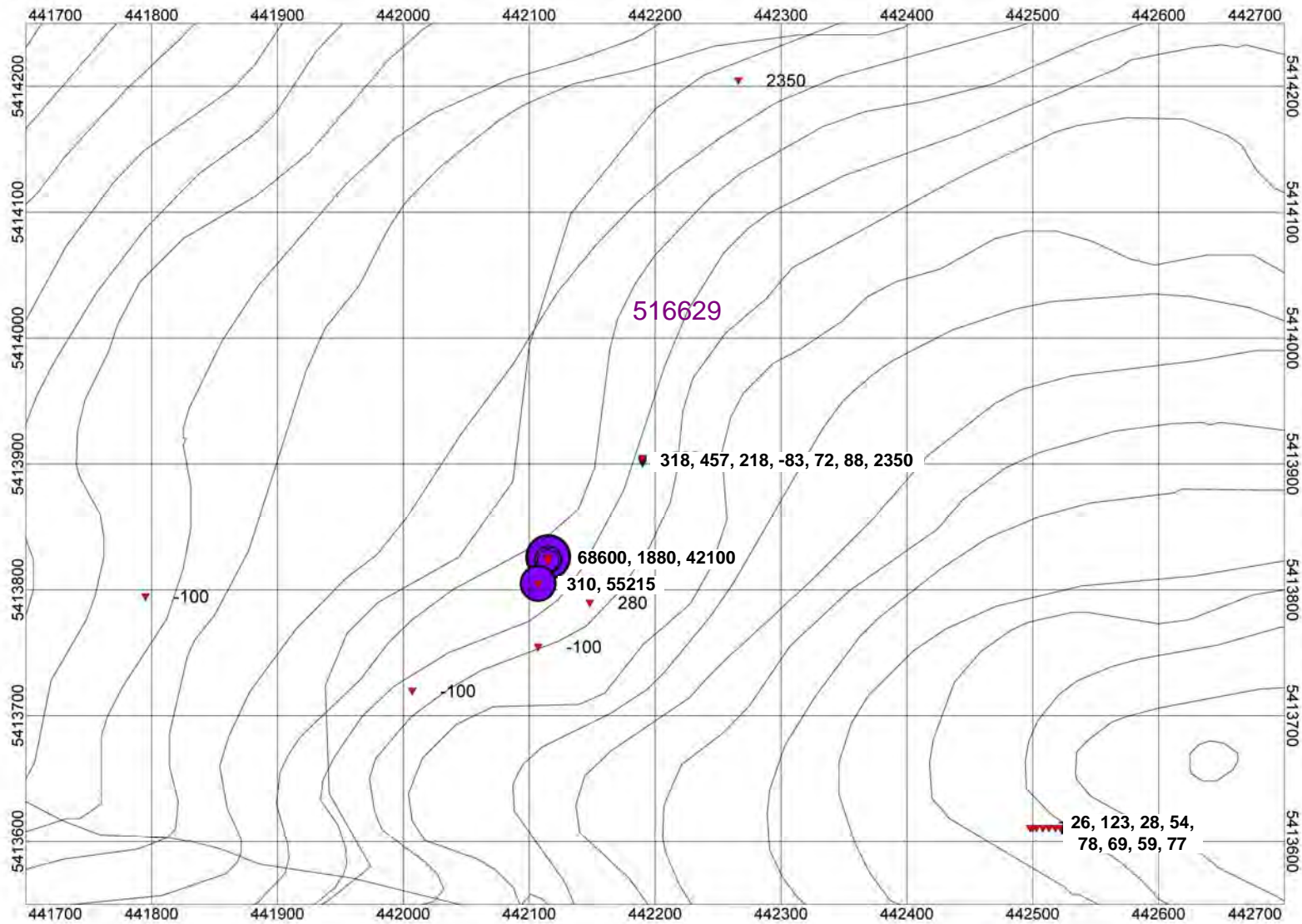
**Figure 12**



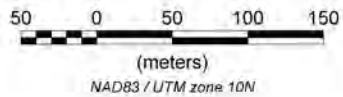
**Mt. Sicker Property**  
 Belle and Queen Bee Area  
 Tellurium ppm in Rocks

Te ppm in Rocks



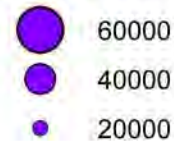


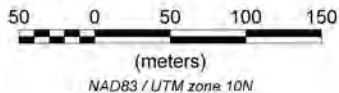
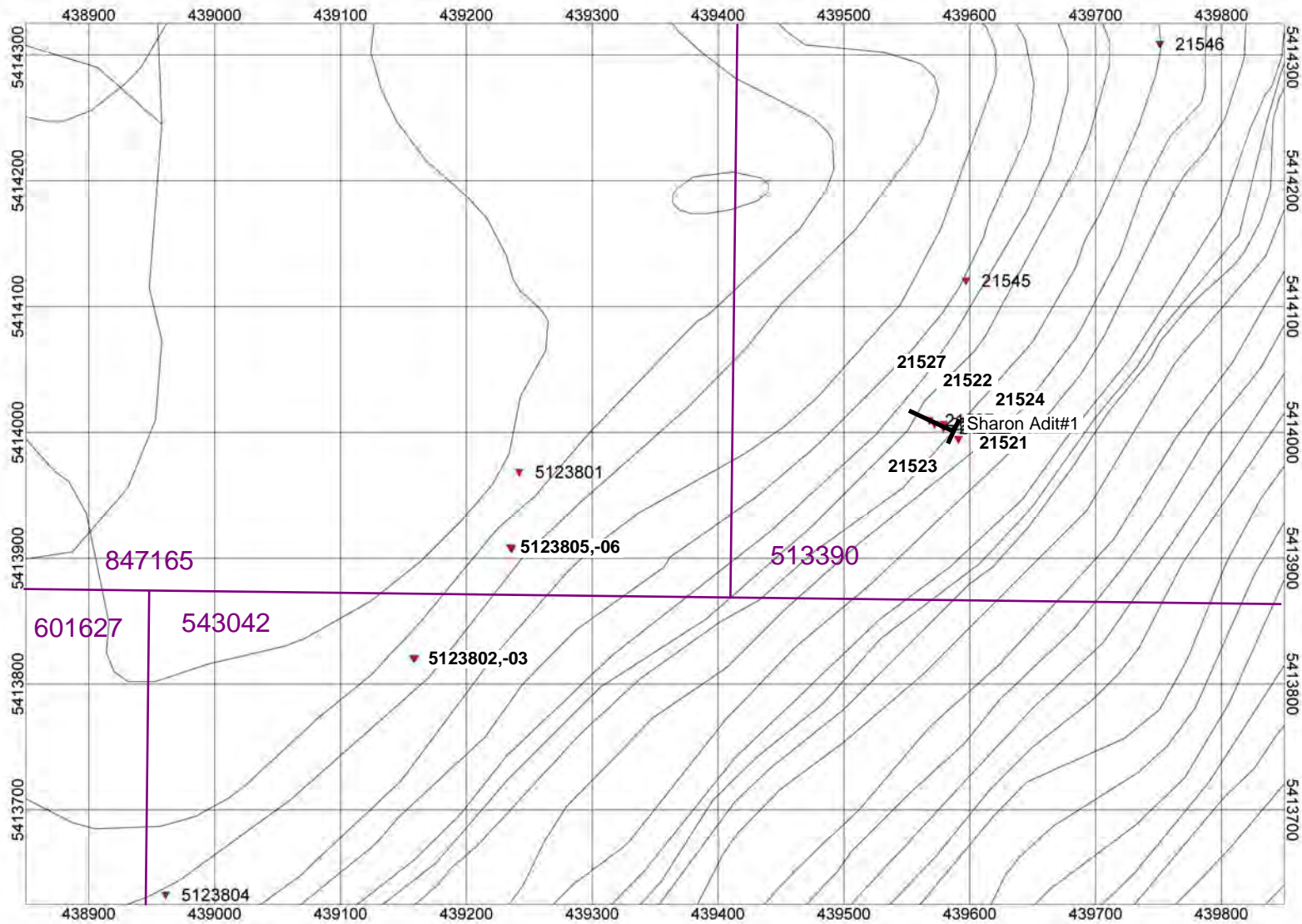
**Figure 13**



**Mt. Sicker Property**  
 Belle and Queen Bee Area  
 Zinc ppm in Rocks

Zn ppm in Rocks



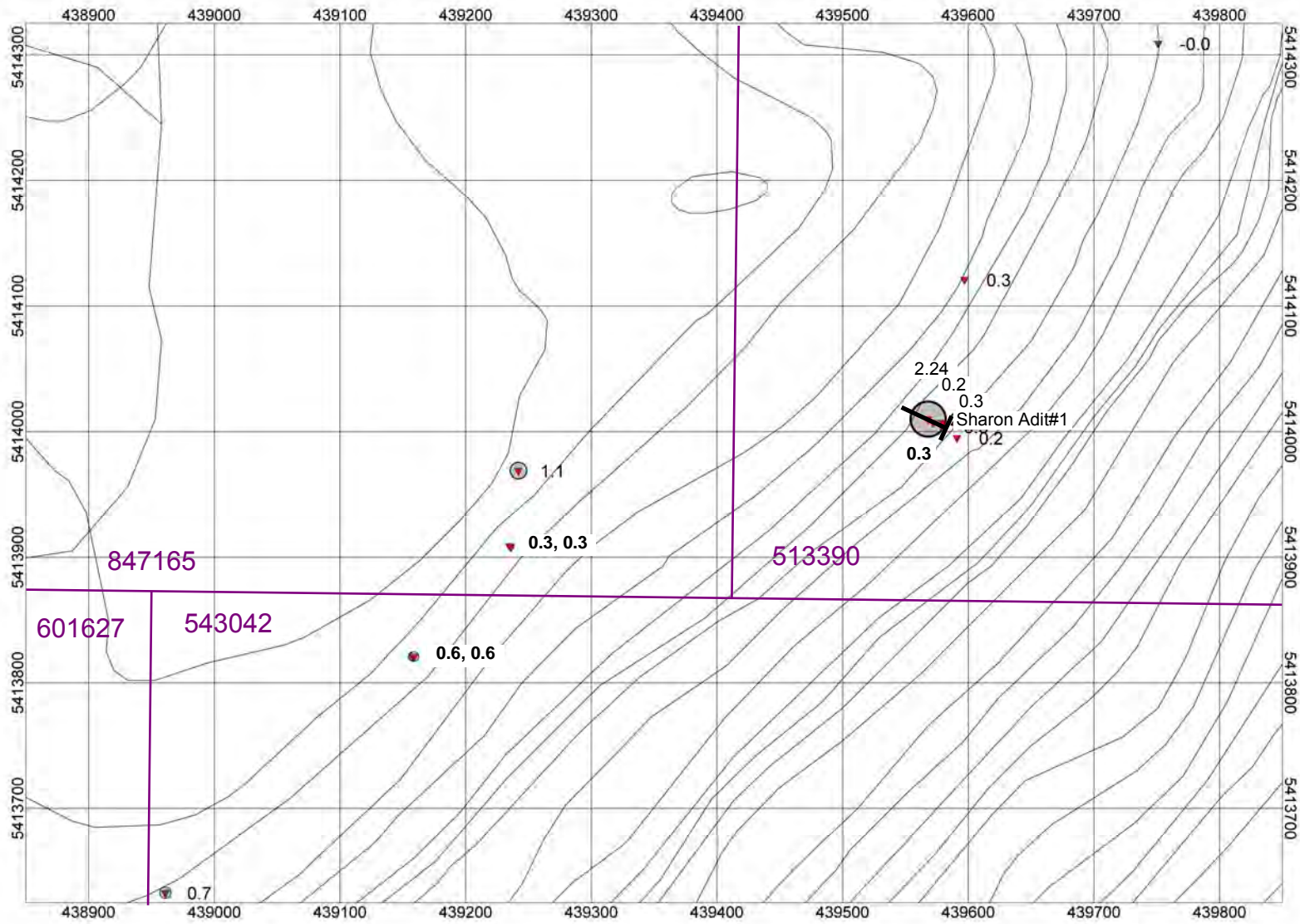


▼ Rock Sample Location & No.

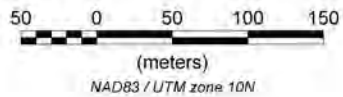
**Mt. Sicker Property**  
**Sharon Copper Area**  
 2013 to 2014 Sample Locations

**Figure 14**



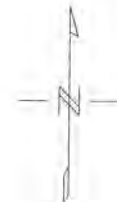
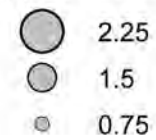


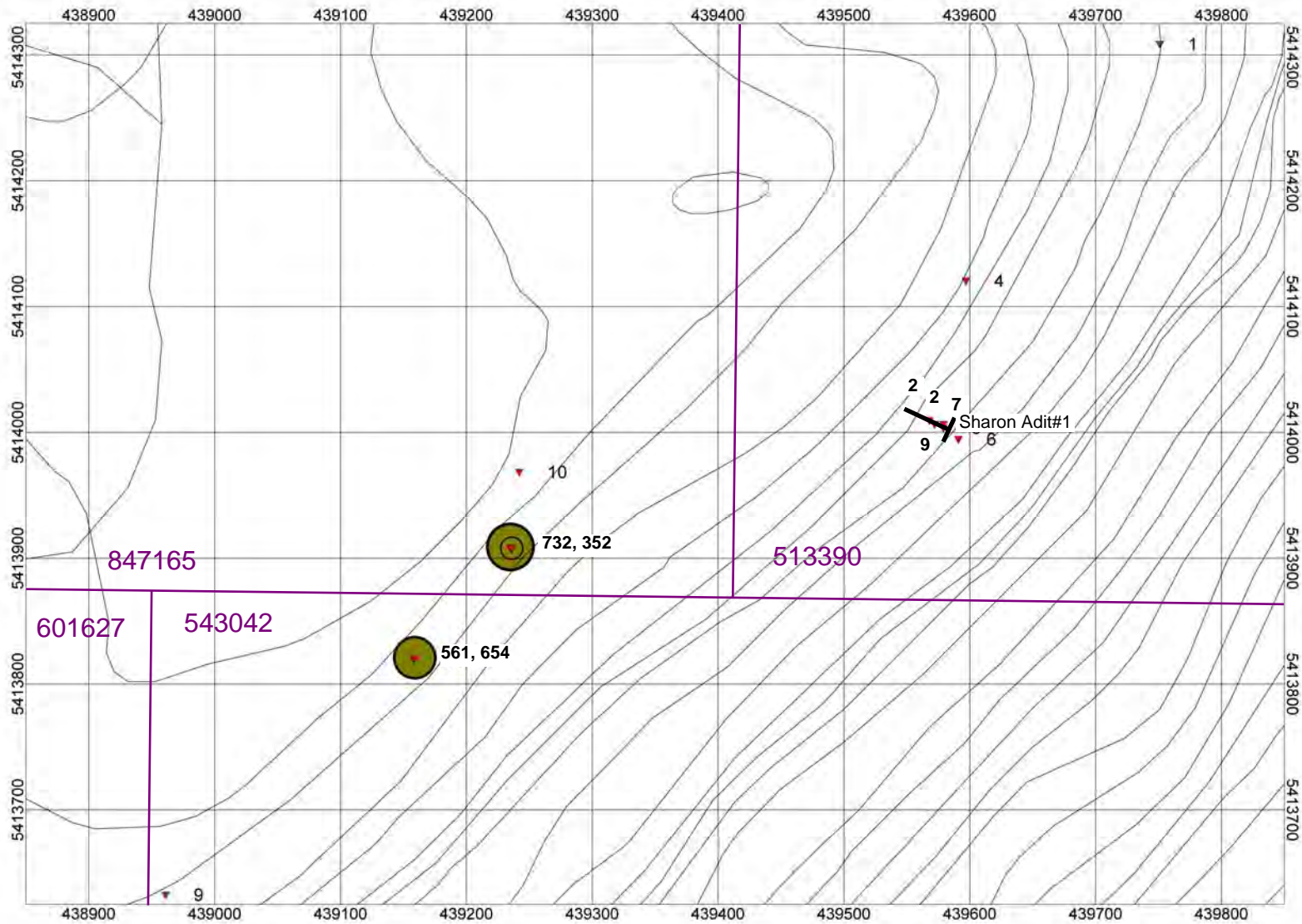
**Figure 15**



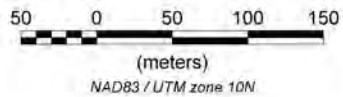
**Mt. Sicker Property**  
**Sharon Copper Area**  
**Silver ppm in Rocks**

**Ag ppm in Rocks**





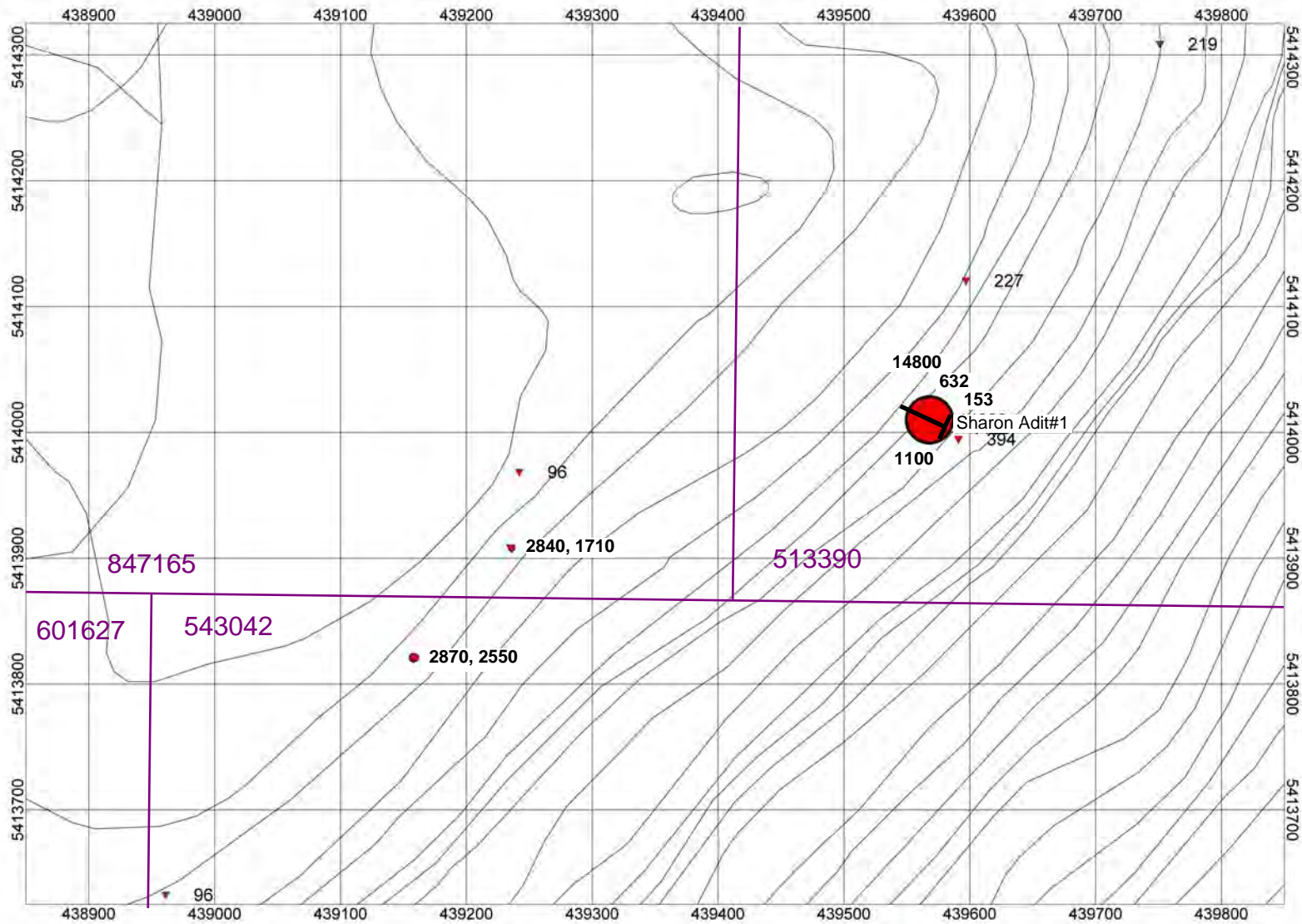
**Figure 16**



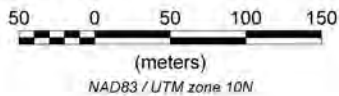
**Mt. Sicker Property**  
**Sharon Copper Area**  
**Arsenic ppm in Rocks**

As ppm in Rocks



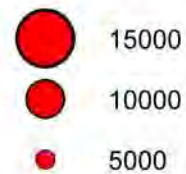


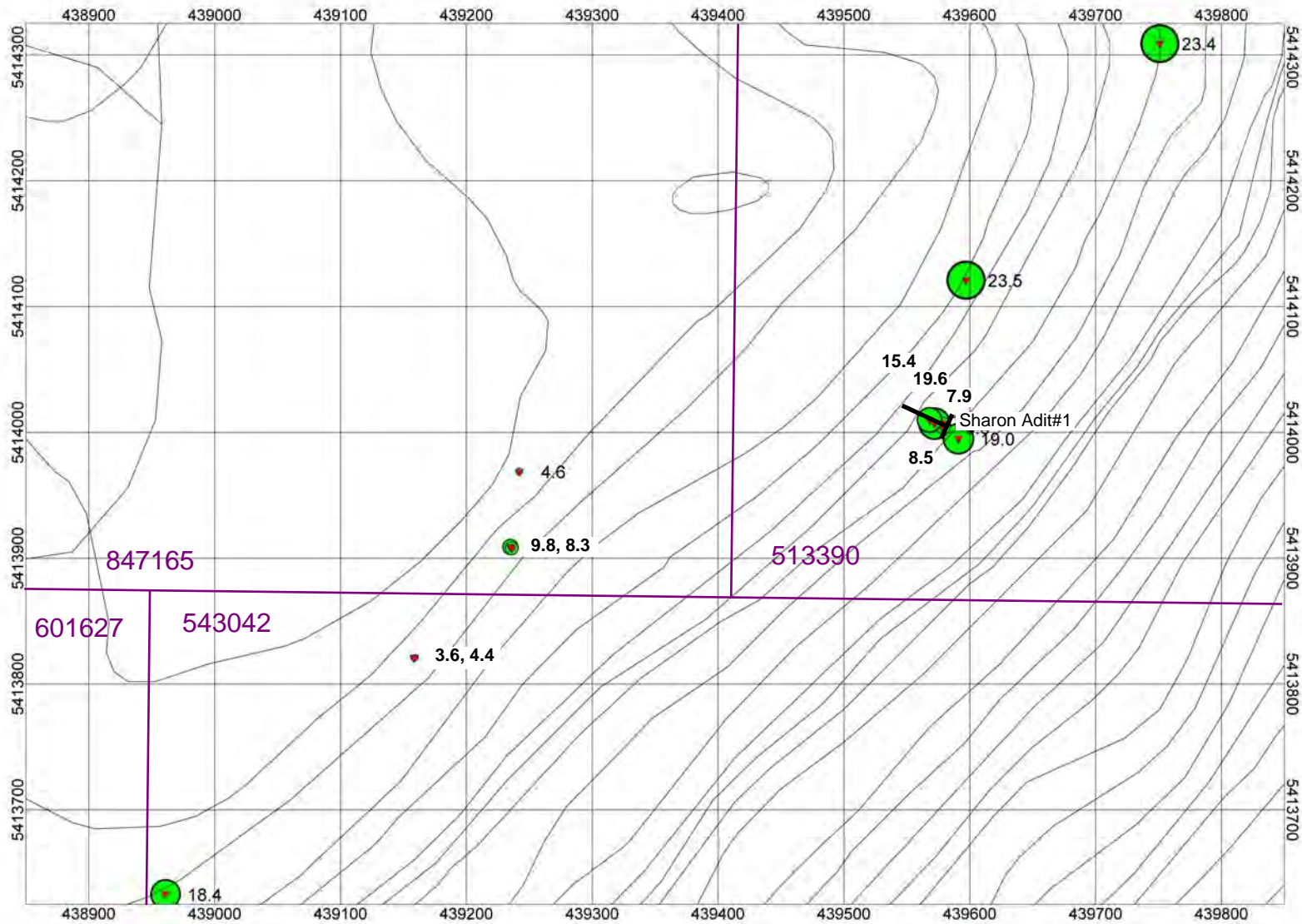
**Figure 17**



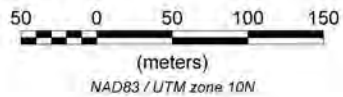
**Mt. Sicker Property**  
**Sharon Copper Area**  
**Copper ppm in Rocks**

**Cu ppm in Rocks**



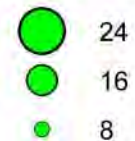


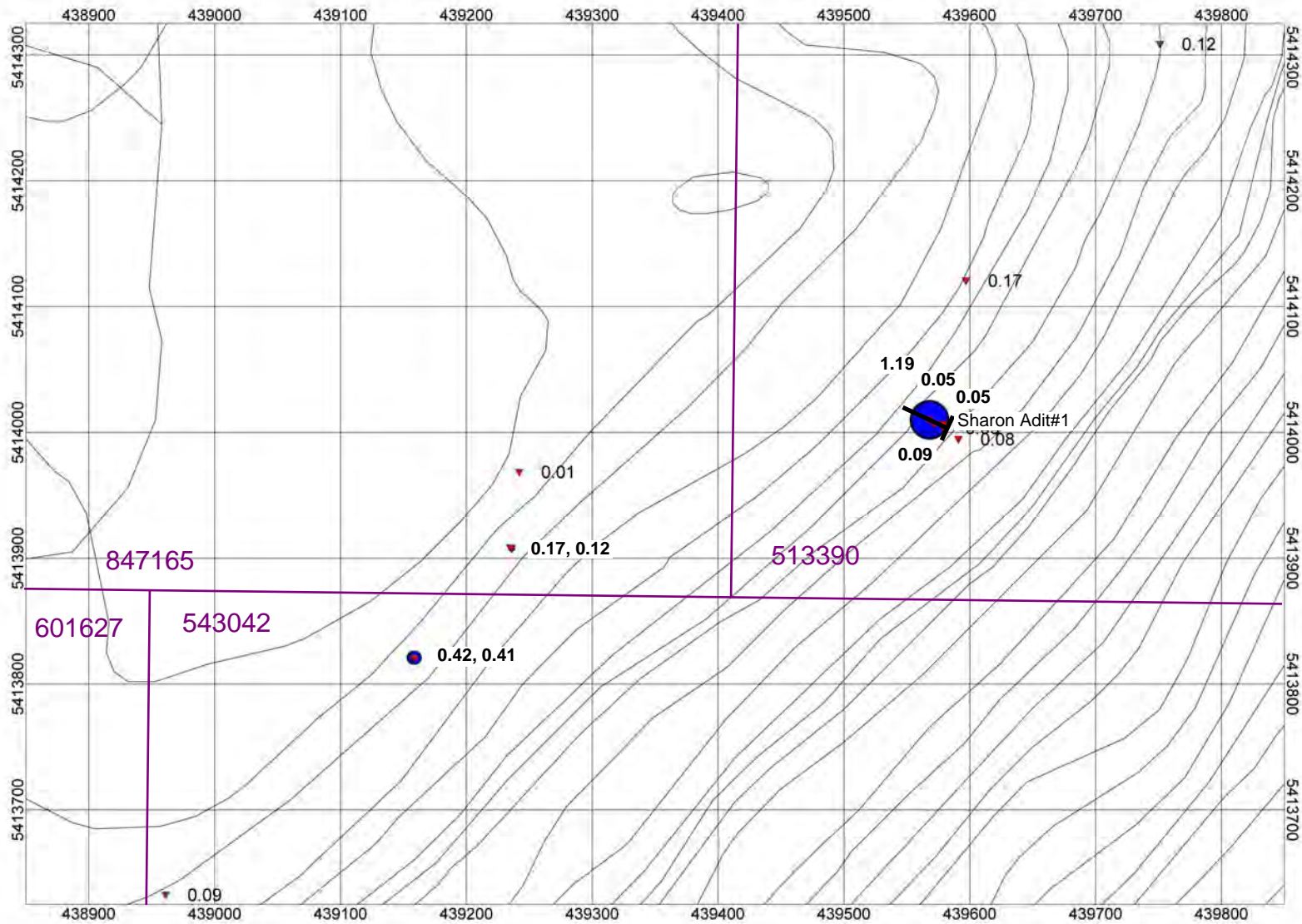
**Figure 18**



**Mt. Sicker Property**  
**Sharon Copper Area**  
**Gallium ppm in Rocks**

Ga ppm in Rocks

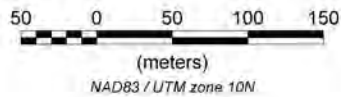
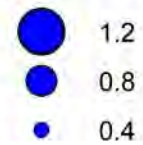


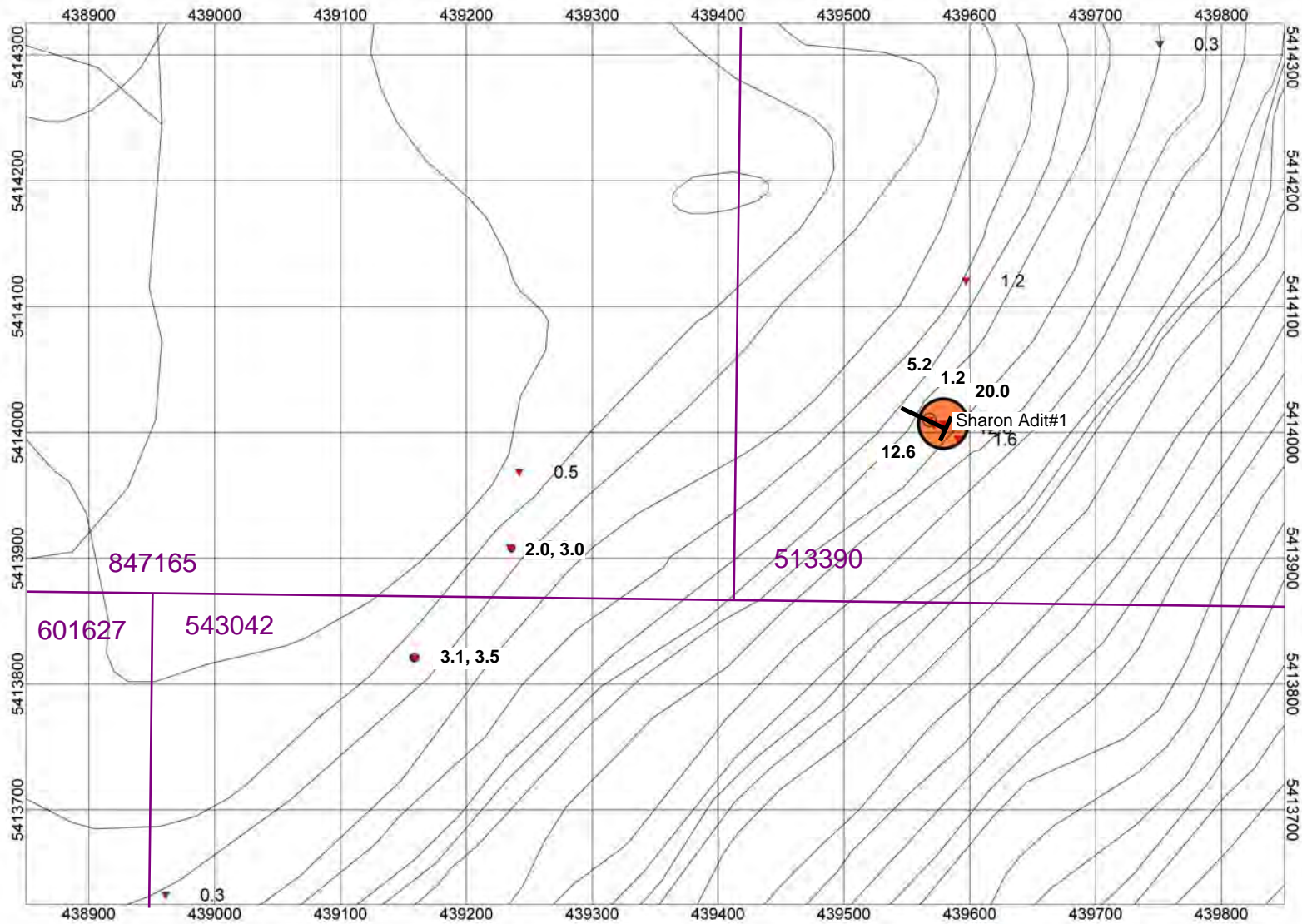


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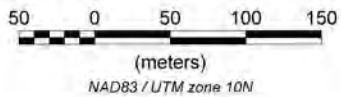
**Mt. Sicker Property  
Sharon Copper Area  
Indium ppm in Rocks**

In ppm in Rocks



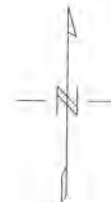


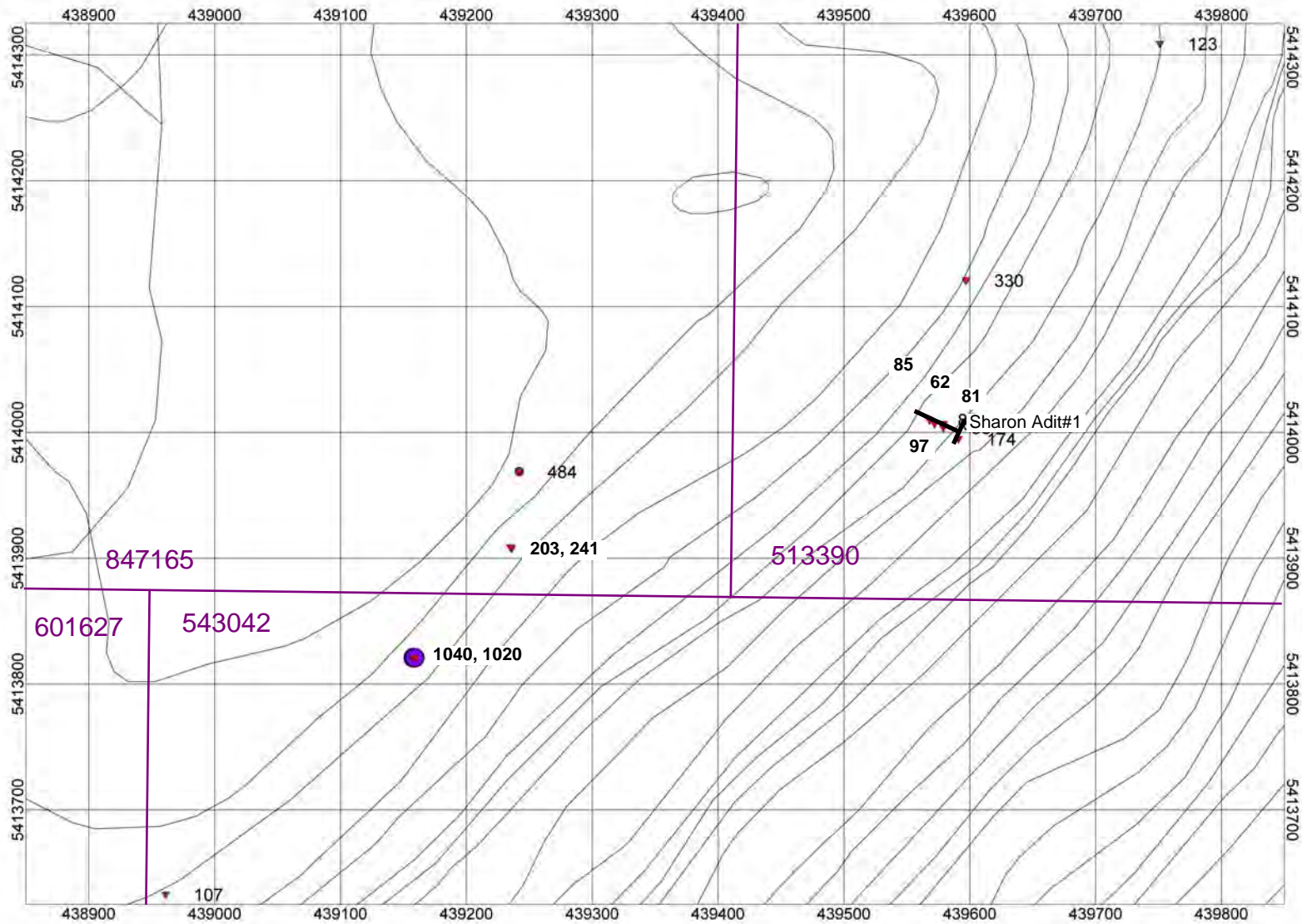
**Figure 20**



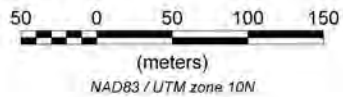
**Mt. Sicker Property**  
**Sharon Copper Area**  
**Tellurium ppm in Rocks**

**Te ppm in Rocks**





**Figure 21**



**Mt. Sicker Property**  
**Sharon Copper Area**  
**Zinc ppm in Rocks**

**Zn ppm in Rocks**

- 1050
- 700
- 350



**Appendix 1**  
**Prospecting Data**

PUDDLE SHOWING SAMPLES, NEAR MOUNT SICKER

SAMPLED TAKEN BY: TIM STOKES & GEOL 302 CLASS

SAMPLE NUMBER	Field Station	Date	UTM East	UTM North	ELEV	GRID N-S	GRID E-W	Outcrop or Float	Chip or Grab	Width	Alteration Types	Mineralization Type	%	Weathering Type	Rock Description	Other Comments
PC-01	SP#1	11-Nov-14	442107	5413805	393	0+00	0+00	Outcrop	Chip	2-3 m	Sericite	Pyrite & trace malchite	<5%	Fe-oxide	Well foliated, light grey, medium grained and friable sericite-quartz schist. Foliation 095/80S	Small (<5 cm) representative chips easily taken every 10-20 cm at main showing.
PC-02	SP#3	11-Nov-14	442148	5413790	408	0+15N	0+15E	Outcrop	Chip	5 m	Silicified with quartz blebs?	Pyrite? & brownish mienral - sphalerite?	1-2%	Fe -oxide	Foliated, dark green and fine grained, mafic schist. Foliation 330/60NE	Large (10 cm) chips taken across outcrop every 0.5-1.0 m
PC-03		11-Nov-14	442107	5413755	?	0+50S	0+00	Outcrop	Chip	5 m		Silvery mineral - galena? Chalcopyrite traces	1%		Non-foliated, green and medium to coarse grained gabbro	Byron sample from slope above road as large chips from outcrop
PC-04	SP#4	11-Nov-14	441795	5413795	367	0+00	1+30W	Outcrop	Chip	10 m	Sericite	Pyrite & chalcopyrite	5%	Fe-oxide	Well foliated, light grey and medium grained, sericite-quartz schist. Foliation 290/60N	Large (10 cm) chip taken from a series of small cuts along edge of road.
PC-05	SP#5	11-Nov-14	442007	5413720	?	0+75S	1+00W	Outcrop	Chip	5 m		No visible sulphides	<1%		Non-foliated, green and medium to coarse grained gabbro	Large 910 cm) chip from outcrop on steep slope every 1 m
PC-06	SP#1	07-Oct-14	442107	5413805	393	0+00	0+00	Outcrop	Chip	1 m	Sericite	Pyrite & chalcopyrite	40%	Fe-oxide	Soft, foliated/bedded massive sulphide. One fragement with more veined and mafic? Foliation 095/80S	

Location Data

2014 Mt. Sicker Property Sample Location Data

Date	Sampler(s)	Easting	Northing	Elevation	Sample No.	Outcrop or Float	Chip or Grab	Width	Alteration Types	Mineralization Type	Mineralization %	Weathering Type	Rock Description	Other Comments
7-Oct-14	Tim Stokes & VIU Geol 302 Class	442107	5413805	393	PC-06	Outcrop	Chip	1 m	Sericite	Pyrite & chalcopyrite	0.4	Fe-oxide	Soft, foliated/bedded massive sulphide. One fragement with more veined and mafic? Foliation	
11-Nov-14	Tim Stokes & VIU Geol 302 Class	442107	5413805	393	PC-01	Outcrop	Chip	2-3 m	Sericite	Pyrite & trace malchite	<5%	Fe-oxide	Well foliated, light grey, medium grained and friable sericite-quartz schist. Foliation 095/80S	Small (<5 cm) representative chips easily taken every 10-20 cm at main showing.
11-Nov-14	Tim Stokes & VIU Geol 302 Class	442148	5413790	408	PC-02	Outcrop	Chip	5 m	Silicified with quartz blebs?	Pyrite? & brownish mienral - sphalerite?	1-2%	Fe-oxide	Foliated, dark green and fine grained, mafic schist. Foliation 330/60NE	Large (10 cm) chips taken across outcrop every 0.5-1.0 m
11-Nov-14	Tim Stokes & VIU Geol 302 Class	442107	5413755	?	PC-03	Outcrop	Chip	5 m		Silvery mineral - galena? Chalcopyrite traces	0.01		Non-foliated, green and medium to coarse grained gabbro	Byron sample from slope above road as large chips from outcrop
11-Nov-14	Tim Stokes & VIU Geol 302 Class	441795	5413795	367	PC-04	Outcrop	Chip	10 m	Sericite	Pyrite & chalcopyrite	0.05	Fe-oxide	Well foliated, light grey and medium grained, sericite-quartz schist. Foliation 290/60N	Large (10 cm) chip taken from a series of small cuts along edge of road.
11-Nov-14	Tim Stokes & VIU Geol 302 Class	442007	5413720	?	PC-05	Outcrop	Chip	5 m		No visible sulphides	<1%		Non-foliated, green and medium to coarse grained gabbro	Large 910 cm) chip from outcrop on steep slope every 1 m
6-Nov-14	Brant Protasiewich	439751	5414309	744	21546	Outcrop	Chip	12 m					Mafic volcanic	Massive 33 m. lens
6-Nov-14	Brant Protasiewich	439597	5414121	798	21545	Outcrop	Chip		Sericite				Sericite schist foliation 120/80S	
13-Dec-14	Brant Protasiewich	439579	5414004	727	21523	Outcrop	Chip	1.5 m	Sericite				Sericite schist foliation 110/85S	Adit No.1
13-Dec-14	Brant Protasiewich	439579	5414007	727	21524	Outcrop	Chip	1.5 m	Sericite				Sericite schist foliation 110/85S	Adit No.1
13-Dec-14	Brant Protasiewich	439591	5413995	703	21521	Float	Grab							Tailings below adit
13-Dec-14	Brant Protasiewich			727	21522	Outcrop	Chip							5 m. in from adit portal
13-Dec-14	Brant Protasiewich			727	21527	Outcrop	Chip							10 m. in from adit portal

**2010-2014 Rock Sample Locations for Rock-Con Properties**

Sample #	Date	Sampler	Property	Location	Details	UTM Zone	Easting	Northing	Elevation
PC-01	11-Nov-14	Tim Stokes	Mt.Sicker	Puddle Zone near Belle & Queen Bee claims on cell claim 516629	Outcrop chip sample over 2-3m. Width from m.g. sericite-quartz schist foliated at 095/80S with <5% pyrite, trace malachite	10N	442107	5413805	393
PC-02	11-Nov-14	Tim Stokes	Mt.Sicker	Puddle Zone near Belle & Queen Bee claims on cell claim 516629	Outcrop chip sample over 5 m. width from dark green, silicified, f.g. mafic schist foliated at 33/60NE with 1-2% pyrite, possible sphalerite	10N	442148	5413790	408
PC-03	11-Nov-14	Tim Stokes	Mt.Sicker	Puddle Zone near Belle & Queen Bee claims on cell claim 516629	Outcrop chip sample over 5 m. width from massive, green, m.g. to c.g. gabbro with trace chalcocopyrite, possible galena	10N	442107	5413755	
PC-04	11-Nov-14	Tim Stokes	Mt.Sicker	Puddle Zone near Belle & Queen Bee claims on cell claim 516629	Outcrop chip sample over 10 m. width from light grey, m.g., sericite-quartz schist foliated at 290/60N with 0.05% pyrite and chalcocopyrite	10N	441795	5413795	367
PC-05	11-Nov-14	Tim Stokes	Mt.Sicker	Puddle Zone near Belle & Queen Bee claims on cell claim 516629	Outcrop chip sample over 5 m. width from massive, non-mineralized, green, m.g. to c.g. gabbro	10N	442007	5413720	
PC-06	11-Nov-14	Tim Stokes	Mt.Sicker	Puddle Zone near Belle & Queen Bee claims on cell claim 516629	Outcrop chip sample over 1 m. width from soft, bedded sericitic, massive sulphide and quartz veining with 0.4% pyrite and chalcocopyrite	10N	442107	5413805	393
21521	13-Dec-14	Brant Protasiewich	Mt.Sicker	Sharon Adit area near Pauper claim on cell claim 513390	Float grab sample of tailings below Sharon Adit	10N	439591	5413995	703
21522	13-Dec-14	Brant Protasiewich	Mt.Sicker	Sharon Adit area near Pauper claim on cell claim 513390	Outcrop chip sample from 5 m. inside Sharon Adit portal at 290 Az.	10N	439572	5414007	727
21523	13-Dec-14	Brant Protasiewich	Mt.Sicker	Sharon Adit area near Pauper claim on cell claim 513390	Outcrop chip sample over 1.5 m. from sericite schist foliated 110/85S near Sharon Adit No.1 portal	10N	439579	5414004	727
21524	13-Dec-14	Brant Protasiewich	Mt.Sicker	Sharon Adit area near Pauper claim on cell claim 513390	Outcrop chip sample over 1.5 m. from sericite schist foliated 110/85S near Sharon Adit No.1 portal	10N	439579	5414007	727
21527	13-Dec-14	Brant Protasiewich	Mt.Sicker	Sharon Adit area near Pauper claim on cell claim 513390	Outcrop chip sample from 10 m. inside Sharon Adit #1 portal at 290 Az.	10N	439568	5414010	727
21545	06-Nov-14	Brant Protasiewich	Mt.Sicker	Sharon Adit area near Pauper claim on cell claim 513390	Outcrop chip sample from sericite schist foliated at 120/80S	10N	439597	5414121	798
21546	06-Nov-14	Brant Protasiewich	Mt.Sicker	Sharon Adit area near Pauper claim on cell claim 513390	Outcrop schip sample over 12 m. from massive mafic volcanics exposed over 33 m.	10N	439751	5414309	744

### 2010-2014 Rock Sample Geochemistry Highlights

Sample #	Property	Easting	Northing	Elevation	Ag ppm	As ppm	Cu ppm	Ga ppm	In ppm	Te ppm	Zn ppm	Fe %	S %
PC-01	Mt. Sicker	442107	5413805	393	0.767	40	300				310		
PC-02	Mt. Sicker	442122	5413820	408	<0.3	<20	149				280		
PC-03	Mt. Sicker	442107	5413755		<0.3	<20	119				<100		
PC-04	Mt. Sicker	441795	5413795	367	<0.3	<20	601				<100		
PC-05	Mt. Sicker	442007	5413720		<0.3	<20	169				<100		
PC-06	Mt. Sicker	442107	5413805	393	4.33	130	4700				55215		
21521	Mt. Sicker	439591	5413995	703	0.23	5.9	394	19	0.081	1.61	174	12.1	5.5
21522	Mt. Sicker	439572	5414007	727	0.2	2.5	632	19.6	0.053	1.17	61.8	11.2	3.76
21523	Mt. Sicker	439579	5414004	727	0.34	8.8	1100	8.55	0.093	12.6	97.5	25.5	>10
21524	Mt. Sicker	439579	5414007	727	0.35	7	153	7.9	0.053	19.7	80.7	26.4	>10
21527	Mt. Sicker	439568	5414010	727	2.24	2.4	14800	15.4	1.19	5.24	85.3	15.7	>10
21545	Mt. Sicker	439597	5414121	798	0.33	4.2	227	23.5	0.166	1.22	330	8.34	0.69
21546	Mt. Sicker	439751	5414309	744	<0.01	0.8	219	23.4	0.116	0.34	123	11.8	0.09

Time&Costs

2014 Mt. Sicker Property Time and Costs for Assessment

Date	Prospecting Done On		Brant Protasiewich		Bryan Protasiewich		Tim Stokes, P.Geo.		Jacques Houle, P.Eng.		Brant's Truck Use		Laboratory	Total	Total	Statement
Worked	Tenure 1	Tenure 2	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate	Geochem.	Costs	Filed	of Work #
07-Oct-14	516629		10	\$35.00			10	\$50.00			10	\$11.00		\$960.00		
11-Nov-14	516629		10	\$35.00			10	\$50.00			10	\$11.00		\$960.00		
6-Dec-14	513390		10	\$35.00	10	\$25.00					10	\$11.00		\$710.00		
13-Dec-14	513390		10	\$35.00	10	\$25.00					10	\$11.00		\$710.00		
<b>SUBTOTAL FIELD</b>			<b>40</b>		<b>20</b>		<b>20</b>		<b>0</b>		<b>40</b>	<b>SUBTOTAL</b>		<b>\$3,340.00</b>		
6-Nov-14			5	\$35.00										\$175.00		
20-Nov-14			5	\$35.00										\$175.00		
15-22-Jan-15									15	\$83.16				\$1,247.40		
8-11-Mar-15									7	\$83.16				\$582.12		
<b>SUBTOTAL RESEARCH/REPORT</b>			<b>10</b>		<b>0</b>		<b>0</b>		<b>22</b>		<b>0</b>	<b>SUBTOTAL</b>		<b>\$2,179.52</b>		
Freight													\$25.82	\$25.82		
AGAT													\$410.81	\$410.81		
Blue Coast													\$210.00	\$210.00		
<b>SUBTOTAL GEOCHEMISTRY</b>														<b>\$646.63</b>		
<b>TOTALS</b>			<b>50</b>		<b>20</b>		<b>20</b>		<b>22</b>		<b>40</b>	<b>TOTAL</b>		<b>\$6,166.15</b>	<b>\$5,453.22</b>	<b>5539047</b>

**Appendix 2**  
**Geochemistry Data**



Sample Tracking	
Date:	24-Dec-14
BCR Project:	PJ 5139 VIX
Project Name:	VIU Tim Stokes
Secondary Identifier:	Puddle Showing Mt Sicker
Total Samples	6

Sample Description			Ag g/t	Cu %	Pb %	Zn %	As %	Method
			Ag-Ar-AA	Cu-AR-AA	Pb-AR-AA	Zn-AR-AA	As-AR-AA	
1	PJ 5139 VIU-Tim Stokes	PC-01 SP#1	0.8	0.03	<0.01	0.03	0.004	Aqua Regia/AA
2	PJ 5139 VIU-Tim Stokes	PC-02 SP#3	<0.3	0.01	<0.01	0.03	<0.002	Aqua Regia/AA
3	PJ 5139 VIU-Tim Stokes	PC-03	<0.3	0.01	<0.01	<0.01	<0.002	Aqua Regia/AA
4	PJ 5139 VIU-Tim Stokes	PC-04 SP#4	<0.3	0.06	<0.01	<0.01	<0.002	Aqua Regia/AA
5	PJ 5139 VIU-Tim Stokes	PC-05 SP#5	<0.3	0.02	<0.01	<0.01	<0.002	Aqua Regia/AA
6	PJ 5139 VIU-Tim Stokes	PC-06 SP#1	4.3	0.47	<0.01	5.52	0.013	Aqua Regia/AA

Quality Control		Ag g/t	Cu %	Pb %	Zn %	As %
<b>SAMPLE PREP</b>						
Prep Blank		<0.3	0.02	<0.01	<0.01	<0.002
PC-03		<0.3	0.012	<0.01	<0.01	<0.002
Prep Dup		<0.3	0.012	<0.01	<0.01	<0.002
<b>ANALYTICAL</b>						
BLK		<0.3		<0.01	<0.01	<0.002
PC-02 SP#3		<0.3	0.015	<0.01		<0.002
RPL		<0.3	0.015	<0.01		<0.002
PC-06 SP#1					5.51	
RPL					5.53	
CH4	Measured	2.0				
CH4	Certified	2.1				
Oreas 131A	Measured				2.84	
Oreas 131A	Certified				2.83	

CLIENT NAME: BRANT PROTASIEWICH  
677 BARKLEY CRES  
PARKSVILLE, BC V9P1X7  
(250) 468-7423

ATTENTION TO: BRANT PROTASIEWICH

PROJECT: SICKER

AGAT WORK ORDER: 15V939319

SOLID ANALYSIS REVIEWED BY: Kevin Motomura, Data Review Supervisor

DATE REPORTED: Mar 06, 2015

PAGES (INCLUDING COVER): 9

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

\*NOTES

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.

# Certificate of Analysis

AGAT WORK ORDER: 15V939319

PROJECT: SICKER

CLIENT NAME: BRANT PROTASIEWICH

ATTENTION TO: BRANT PROTASIEWICH

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Jan 28, 2015

DATE RECEIVED: Jan 21, 2015

DATE REPORTED: Mar 06, 2015

SAMPLE TYPE: Rock

Analyte:	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe
Unit:	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%
RDL:	0.01	0.01	0.2	1	0.05	0.01	0.01	0.02	0.01	0.05	0.5	0.01	0.2	0.01
21521 (6277594)	0.23	7.26	5.9	103	0.41	2.27	4.38	0.07	15.3	24.4	56.9	0.09	394	12.1
21522 (6277595)	0.20	7.88	2.5	183	0.40	0.73	1.71	<0.02	17.3	30.3	33.1	0.29	632	11.2
21523 (6277596)	0.34	2.99	8.8	52	0.08	7.59	0.30	0.03	6.04	101	72.3	0.06	1100	25.5
21524 (6277597)	0.35	2.54	7.0	56	0.07	9.79	0.18	0.02	5.43	131	115	0.07	153	26.4
21527 (6277598)	2.24	6.10	2.4	100	0.24	2.24	2.31	0.18	11.9	53.9	42.0	0.15	>10000	15.7
21545 (6277599)	0.33	9.16	4.2	857	0.55	1.64	0.81	0.03	21.8	12.0	18.9	0.30	227	8.34
21546 (6277600)	<0.01	5.93	0.8	125	0.57	0.08	6.49	0.17	29.7	47.4	26.0	0.70	219	11.8

Analyte:	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P
Unit:	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RDL:	0.05	0.05	0.1	0.005	0.01	0.5	0.1	0.01	1	0.05	0.01	0.1	0.2	10
21521 (6277594)	19.0	0.96	1.1	0.081	0.22	6.9	9.8	4.20	2970	3.91	0.07	3.0	17.3	463
21522 (6277595)	19.6	0.43	1.0	0.053	0.95	7.4	11.7	5.08	2450	3.38	1.29	3.4	15.9	751
21523 (6277596)	8.55	0.33	0.4	0.093	0.18	3.0	5.6	2.49	1540	3.88	0.01	1.0	22.1	75
21524 (6277597)	7.90	0.46	0.5	0.053	0.23	2.8	4.8	2.15	1260	4.58	0.01	1.1	26.6	93
21527 (6277598)	15.4	0.47	0.5	1.19	0.55	5.1	8.5	3.90	2330	3.35	0.09	1.8	26.7	613
21545 (6277599)	23.5	0.60	1.4	0.166	1.95	9.2	22.1	6.25	4090	3.72	0.83	4.6	19.8	2910
21546 (6277600)	23.4	1.01	2.5	0.116	0.48	12.3	4.7	2.62	1650	3.54	1.44	21.8	66.3	874

Analyte:	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
RDL:	0.1	0.1	0.002	0.01	0.05	0.1	0.5	0.2	0.2	0.05	0.01	0.1	0.01	0.01
21521 (6277594)	7.8	6.8	<0.002	5.50	0.82	36.8	2.1	0.6	326	1.13	1.61	0.6	0.26	0.02
21522 (6277595)	4.7	24.7	<0.002	3.76	0.33	35.7	2.1	1.1	150	1.01	1.17	0.6	0.40	0.08
21523 (6277596)	5.2	4.9	<0.002	>10	0.25	18.2	11.7	0.3	30.7	0.28	12.6	0.2	0.13	0.02
21524 (6277597)	6.6	6.3	<0.002	>10	0.28	17.2	11.7	0.4	19.1	0.32	19.7	0.2	0.15	0.02
21527 (6277598)	6.7	13.6	<0.002	>10	0.32	26.7	5.8	0.7	161	0.70	5.24	0.4	0.23	0.06
21545 (6277599)	5.5	38.7	<0.002	0.69	0.39	49.6	4.1	0.8	63.4	1.69	1.22	1.1	0.74	0.14
21546 (6277600)	3.2	15.0	<0.002	0.09	0.24	38.9	1.5	1.5	233	1.28	0.34	0.9	2.14	0.06

Certified By:



# Certificate of Analysis

AGAT WORK ORDER: 15V939319

PROJECT: SICKER

 5623 McADAM ROAD  
 MISSISSAUGA, ONTARIO  
 CANADA L4Z 1N9  
 TEL (905)501-9998  
 FAX (905)501-0589  
<http://www.agatlabs.com>

CLIENT NAME: BRANT PROTASIEWICH

ATTENTION TO: BRANT PROTASIEWICH

**(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish**

DATE SAMPLED: Jan 28, 2015

DATE RECEIVED: Jan 21, 2015

DATE REPORTED: Mar 06, 2015

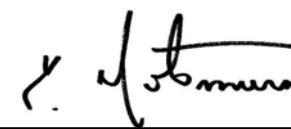
SAMPLE TYPE: Rock

Analyte:	U	V	W	Y	Zn	Zr	Cu-OL
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	%
Sample ID (AGAT ID)	RDL:						
21521 (6277594)	0.836	292	3.4	18.7	174	27.8	
21522 (6277595)	0.832	307	3.5	24.7	61.8	23.5	
21523 (6277596)	0.282	111	1.7	5.0	97.5	11.0	
21524 (6277597)	0.283	103	2.0	3.6	80.7	9.6	
21527 (6277598)	0.696	226	2.4	16.4	85.3	12.4	1.48
21545 (6277599)	3.34	462	2.5	27.2	330	38.9	
21546 (6277600)	0.215	925	0.5	27.1	123	64.2	

Comments: RDL - Reported Detection Limit

6277594-6277600 As, Sb values may be low due to digestion losses.

Certified By:





## Certificate of Analysis

AGAT WORK ORDER: 15V939319

PROJECT: SICKER

5623 McADAM ROAD  
 MISSISSAUGA, ONTARIO  
 CANADA L4Z 1N9  
 TEL (905)501-9998  
 FAX (905)501-0589  
<http://www.agatlabs.com>

CLIENT NAME: BRANT PROTASIEWICH

ATTENTION TO: BRANT PROTASIEWICH

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Jan 28, 2015

DATE RECEIVED: Jan 21, 2015

DATE REPORTED: Mar 06, 2015

SAMPLE TYPE: Rock

Sample ID (AGAT ID)	Analyte:	Sample Login Weight	Au
	Unit:	kg	ppm
	RDL:	0.01	0.001
21521 (6277594)		1.07	0.009
21522 (6277595)		0.88	<0.001
21523 (6277596)		0.8	0.026
21524 (6277597)		0.70	0.025
21527 (6277598)		0.76	0.080
21545 (6277599)		0.88	0.005
21546 (6277600)		0.78	0.004

Comments: RDL - Reported Detection Limit

Certified By:



CLIENT NAME: BRANT PROTASIEWICH

ATTENTION TO: BRANT PROTASIEWICH

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

Parameter	REPLICATE #1				RPD													
	Sample ID	Original	Replicate	RPD														
Ag	6277594	0.23	0.25	8.3%														
Al	6277594	7.26	7.53	3.7%														
As	6277594	5.9	6.1	3.3%														
Ba	6277594	103	109	5.7%														
Be	6277594	0.41	0.40	2.5%														
Bi	6277594	2.27	2.31	1.7%														
Ca	6277594	4.38	4.42	0.9%														
Cd	6277594	0.07	0.08	13.3%														
Ce	6277594	15.3	14.8	3.3%														
Co	6277594	24.4	25.1	2.8%														
Cr	6277594	56.9	58.1	2.1%														
Cs	6277594	0.089	0.080	10.7%														
Cu	6277594	394	389	1.3%														
Fe	6277594	12.1	12.3	1.6%														
Ga	6277594	19.0	19.5	2.6%														
Ge	6277594	0.96	0.75	24.6%														
Hf	6277594	1.1	0.8															
In	6277594	0.081	0.079	2.5%														
K	6277594	0.22	0.22	0.0%														
La	6277594	6.87	6.65	3.3%														
Li	6277594	9.8	9.9	1.0%														
Mg	6277594	4.20	4.21	0.2%														
Mn	6277594	2970	2990	0.7%														
Mo	6277594	3.91	3.64	7.2%														
Na	6277594	0.07	0.07	0.0%														
Nb	6277594	2.95	2.31	24.3%														
Ni	6277594	17.3	18.0	4.0%														
P	6277594	463	488	5.3%														
Pb	6277594	7.82	8.10	3.5%														
Rb	6277594	6.8	5.7	17.6%														
Re	6277594	< 0.002	< 0.002	0.0%														



CLIENT NAME: BRANT PROTASIEWICH

ATTENTION TO: BRANT PROTASIEWICH

S	6277594	5.50	5.63	2.3%															
Sb	6277594	0.82	0.82	0.0%															
Sc	6277594	36.8	36.6	0.5%															
Se	6277594	2.1	1.9	10.0%															
Sn	6277594	0.6	0.6	0.0%															
Sr	6277594	326	330	1.2%															
Ta	6277594	1.13	0.88	24.9%															
Te	6277594	1.61	1.80	11.1%															
Th	6277594	0.59	0.50	16.5%															
Ti	6277594	0.26	0.26	0.0%															
Tl	6277594	0.02	0.02	0.0%															
U	6277594	0.836	0.808	3.4%															
V	6277594	292	297	1.7%															
W	6277594	3.4	3.6	5.7%															
Y	6277594	18.7	18.2	2.7%															
Zn	6277594	174	173	0.6%															
Zr	6277594	27.8	20.8	28.8%															

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

REPLICATE #1																			
Parameter	Sample ID	Original	Replicate	RPD															
Au	6277594	0.0085	0.0068	22.2%															



CLIENT NAME: BRANT PROTASIEWICH

ATTENTION TO: BRANT PROTASIEWICH

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

Parameter	CRM #1 (ref.GTS-2a)														
	Expect	Actual	Recovery	Limits											
Al	6.96	6.34	91%	90% - 110%											
Ba	186	171	92%	90% - 110%											
Ca	4.01	3.94	98%	90% - 110%											
Co	22.1	20.8	94%	90% - 110%											
Cu	88.6	90.3	102%	90% - 110%											
Fe	7.56	6.93	92%	90% - 110%											
K	2.021	1.91	95%	90% - 110%											
Mg	2.412	2.202	91%	90% - 110%											
Mn	1510	1482	98%	90% - 110%											
Na	0.617	0.58	94%	90% - 110%											
Ni	77.1	77.6	101%	90% - 110%											
P	892	955	107%	90% - 110%											
S	0.348	0.33	95%	90% - 110%											
Sr	92.8	87.4	94%	90% - 110%											
Zn	208	203	97%	90% - 110%											

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

Parameter	CRM #1 (ref.1P5k)														
	Expect	Actual	Recovery	Limits											
Au	1.44	1.4	97%	90% - 110%											

## Method Summary

CLIENT NAME: BRANT PROTASIEWICH  
 PROJECT: SICKER  
 SAMPLING SITE:

AGAT WORK ORDER: 15V939319  
 ATTENTION TO: BRANT PROTASIEWICH  
 SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Ag	MIN-200-12020		ICP-MS
Al	MIN-200-12020		ICP/OES
As	MIN-200-12020		ICP-MS
Ba	MIN-200-12020		ICP-MS
Be	MIN-200-12020		ICP-MS
Bi	MIN-200-12020		ICP-MS
Ca	MIN-200-12020		ICP/OES
Cd	MIN-200-12020		ICP-MS
Ce	MIN-200-12020		ICP-MS
Co	MIN-200-12020		ICP-MS
Cr	MIN-200-12020		ICP/OES
Cs	MIN-200-12020		ICP-MS
Cu	MIN-200-12020		ICP-MS
Fe	MIN-200-12020		ICP/OES
Ga	MIN-200-12020		ICP-MS
Ge	MIN-200-12020		ICP-MS
Hf	MIN-200-12020		ICP-MS
In	MIN-200-12020		ICP-MS
K	MIN-200-12020		ICP/OES
La	MIN-200-12020		ICP-MS
Li	MIN-200-12020		ICP-MS
Mg	MIN-200-12020		ICP/OES
Mn	MIN-200-12020		ICP/OES
Mo	MIN-200-12020		ICP-MS
Na	MIN-200-12020		ICP/OES
Nb	MIN-200-12020		ICP-MS
Ni	MIN-200-12020		ICP-MS
P	MIN-200-12020		ICP/OES
Pb	MIN-200-12020		ICP-MS
Rb	MIN-200-12020		ICP-MS
Re	MIN-200-12020		ICP-MS
S	MIN-200-12020		ICP/OES
Sb	MIN-200-12020		ICP-MS
Sc	MIN-200-12020		ICP-MS
Se	MIN-200-12020		ICP-MS
Sn	MIN-200-12020		ICP-MS
Sr	MIN-200-12020		ICP-MS
Ta	MIN-200-12020		ICP-MS
Te	MIN-200-12020		ICP-MS
Th	MIN-200-12020		ICP-MS
Ti	MIN-200-12020		ICP/OES
Tl	MIN-200-12020		ICP-MS
U	MIN-200-12020		ICP-MS
V	MIN-200-12020		ICP/OES
W	MIN-200-12020		ICP-MS
Y	MIN-200-12020		ICP-MS
Zn	MIN-200-12020		ICP-MS
Zr	MIN-200-12020		ICP-MS
Cu-OL	MIN-200-12002/12020		ICP/OES

## Method Summary

CLIENT NAME: BRANT PROTASIEWICH

AGAT WORK ORDER: 15V939319

PROJECT: SICKER

ATTENTION TO: BRANT PROTASIEWICH

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Sample Login Weight	MIN-12009		BALANCE
Au	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP-OES

**Appendix 3**  
**Tenure Data**



**Appendix 4**  
**BC MINFILE Data**



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### SUMMARY

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Name	LENORA (L.35G), TWIN J MINE, MOUNT SICKER, LENORA-TYEE, TYEE, RICHARD III, BARITE ORE	NMI Mining Division	<a href="#">092B13 Cu1</a> Victoria
Status	Past Producer	BCGS Map	092B082
Latitude	<a href="#">48° 52' 02" N</a>	NTS Map	092B13W
Longitude	<a href="#">123° 47' 22" W</a>	UTM	10 (NAD 83)
Commodities	Copper, Gold, Silver, Lead, Zinc, Cadmium, Barite	Northing	5412996
Tectonic Belt	Insular	Easting	442105
Capsule Geology	The Lenora past-producer is located on the western slopes of Mount Sicker, approximately 1.5 kilometres east of the Chemainus River.	Deposit Types	G06 : Noranda/Kuroko massive sulphide Cu-Pb-Zn
		Terrane	Wrangell

Several past-producers are located on Mount Sicker in the Cowichan uplift, one of three geanticlinal uplifts that expose rocks of the Paleozoic Sicker and Buttle Lake groups on Vancouver Island. Cretaceous sediments of the Nanaimo Group unconformably overlie the Paleozoic rocks; the contact is marked by a basal conglomerate containing volcanic fragments derived from the Sicker Group. The local stratigraphy is disrupted by folding, faulting (pre-Triassic as well as Tertiary) and the intrusions of two gabbro sills (informally known as the Mount Hall Gabbro) that are coeval with the Upper Triassic Karmutsen Formation. The target of exploration activity has been the volcanogenic, polymetallic massive sulphides that are hosted within felsic volcanic tuffs of the McLaughlin Ridge Formation (Sicker Group) and restricted to a belt running from Chipman Creek to Mount Richards, in the hangingwall of the Fulford fault.

Massive sulphides were discovered on Mount Sicker in the late 1800's and production issued from three separate underground mines (Lenora - 092B 001, Tyee - 092B 002 and Richard III - 092B 003) for several years. These mines were later held as one operating mine, the Twin J mine (1942-1952). The Twin J mine was examined by J.S. Stevenson in the 1940's and the following description is derived from his paper (Geology of the Twin J Mine; Structural Geology of Canadian Ore Deposits, Volume 1, The Canadian Institute of Mining and Metallurgy, 1948). The rocks in the mine, and nearby, include cherty tuffs, graphitic schists, rhyolite porphyry and diorite. The chert and graphitic schists together form a band of sediments 30 to 45 metres wide that near the workings are at least 640 metres long. The trend of the band and the strike of the sediments are 110 degrees. The dip of the sediments is 50 degrees southwest. Where relatively undeformed, the rocks are slaty, where moderately deformed their laminae are bent into small canoe-shaped folds, and where intensely deformed, either by close folding or shearing, they are highly schistose.

Rhyolite porphyry and diorite are the two most widespread rocks in the area. Rhyolite porphyry sills follow the folding of the sediments and dykes cut early phases of the diorite. Two phases of the diorite, fine grained and coarse grained, are present. Fine-grained diorite occurs as sills in the sediments; coarse-grained diorite is found as irregular intrusive bodies, and as well-defined dykes. Although all phases of the diorite are younger than the sediments, some phases are older and others younger than the rhyolite porphyry.

Two types of ore are found in association with cherty tuffs and graphitic schists: a barite ore consisting of a fine grained mixture of pyrite, chalcopyrite, sphalerite and a little galena in a gangue of barite, quartz and calcite; and a quartz ore consisting of mainly quartz and chalcopyrite.

The two main orebodies, known as the North orebody and the South orebody, are long, lenticular bodies lying along two main dragfolds in the band of sediments. The North orebody measures about 500 metres along strike, 37 metres down dip and from 0.3 to 3 metres in thickness. The South orebody, which is 46 metres from the North, and has its upper limit 45 metres higher, measures 640 metres along the strike, 45 metres down dip and is about 6 metres in thickness. Most of the ore mined in the early period came from the South orebody, but most of that mined by Twin J came from the North orebody.

Two main faults, striking east and nearly vertical, displace the orebodies. The north fault is between the two orebodies, and in going westward strikes into the South orebody at a small angle. This fault displaces the south orebody about 60 metres upward and an unknown distance eastward with respect to the North orebody. Long sections of barite drag-ore may be seen in the north fault below the South orebody. The south fault is south of the South orebody. Several diagonal faults cut the orebodies, but displace them only slightly horizontally and vertically. A few flat, or very gently dipping faults also cut the orebodies; but these displace the ore even less than most of the diagonal faults. In addition to movement along well-defined faults, considerable slippage has occurred between sharply folded beds in the graphitic schists.

A regional silicified and pyritized fracture zone can be traced by widely separated, mineralized outcrops, from Mount Richards on the east through the Twin J on Mount Sicker To Mount Brenton on the west, a total of 13 kilometres. The displacement along this break is unknown. At the Twin J, the fracture zones are manifested by vertical silicified zones on the south sides of both the North and South orebodies and by post-mineral breaks such as the north and south faults.

The first claim in the area was staked in 1895 by F.L. Sullivan, T. McKay and Henry Buzzard. The partners were later joined by Harry Smith.

The Lenora mine, worked between 1898 and 1903 (inclusive) and in 1907, produced 321,886 grams of gold, 8,706,817 grams of silver and 3,226,034 kilograms of copper from a total of 71,650 tonnes mined. The Tyee mine was worked intermittently from 1901 to 1909 producing 762,553 grams of gold, 13,725,069 grams of silver and 5,840,593 kilograms of copper from a total of 152,668 tonnes mined. The Richard III mine produced, in three years between 1903 and 1907, 22,830 grams of gold, 522,714 grams of silver and 113,604 kilograms of copper from a total of 4,903 tonnes of ore mined (Mineral Policy data).

The three mines were amalgamated and operated intermittently between 1942 and 1952 as the Twin J mine. From a total of 48,082 tonnes mined, the operation produced 63,730 grams of gold, 2,002,971 grams of silver, 364,755 kilograms of copper, 164,587 kilograms of lead, 1,926,111 kilograms of zinc and 4,546 kilograms of cadmium (Mineral Policy data). The property has undergone steady exploration by various companies from 1964 to present. Based on mapping, geochemical and geophysical surveys, trenching and diamond drilling from 1967 to 1970, ore reserves were estimated at 317,485 tonnes grading 1.6 per cent copper, 4.11 grams per tonne gold, 140.54 grams per tonne silver, 0.65 per cent lead and 6.6 per cent zinc (Northern Miner - September 25, 1969).

In 2010 and 2011, Rock-Con Resources completed a program of prospecting and rock sampling on the Mount Sicker property. A 6.0 metre chip sample (7D) from the Lenora pit, near the adit, assayed 4.8 grams per tonne gold, 176 grams per tonne silver, 2.78 per cent lead, 1.19 per cent copper and 13.85 per cent zinc. Other chip samples assayed up to 16.9 grams per tonne gold, 155 grams per tonne silver, 10.9 per cent copper, 2.78 per cent lead and greater than 30.0 per cent zinc over 6.0 metres (Assessment Report 32278).

Bibliography EMPR AR 1897-567; 1898-809,852; 1900-928,929,944; 1901-1117,1112;  
 \*1902-238-250; \*1903-206-209; 1904-252; 1905-216; 1906-207;

1907-154; 1916-311; \*1924-252,368; 1925-303; 1926-334; 1927-339;  
1928-365; 1929-371; 1930-289; 1931-264; 1935-G46; 1936-F63;  
1939-90; 1940-74; 1942-70; 1943-69; 1944-67; 1946-191; 1947-183;  
1949-224; 1950-180; 1951-199; 1952-214; 1964-A53,168; 1967-79;  
1968-107  
EMPR ASS RPT [1104](#), [1714](#), [3741](#), [3950](#), [3951](#), [5164](#), [8264](#), [12317](#), [14735](#),  
[16716](#), [17834](#), [18859](#), [19754](#), \*[32278](#)  
EMPR BC METAL MM00051, MM00058  
EMPR EXPL 1978-E119; 1980-153  
EMPR FIELDWORK 1982, p. 46; \*1987, pp. 81-91  
EMPR GEM 1969-224; 1970-291; 1972-240; 1974-163  
EMPR INDEX 3-203,217; 4-123  
EMPR OF 1988-8; 1998-10; 1999-2  
EMPR P 1991-4, pp. 102,104,105  
EMPR PF (The Tyee Mines, Report by Pacific Tidewater Mines, April  
1928; Geology map of Mount Sicker mines area by J.S. Stephenson,  
Scale 1:1200, 1940's(?) Nelson, N.E. (1940): Report on the Tyee  
Consolidated Gold Mines; The Geology and Mineralization of the  
Lenora-Tyee Mine, Preliminary notes by J.S. Stephenson, Feb.13,  
1942; Tyee-Lenora, Report by H. Sargent, June 26, 1942; Summary  
of Monthly Report, Twin J Mines, April 1944; General Comments by  
R.B. Gayer, May and April 1944; Twin J Mines, Report by V.  
Dolmage, April or May 1945; Report on the Mount Sicker Mine,  
Feb.7, 1945; Suggestions on Future Explorations by J.S. Stephen-  
son, Aug.7, 1945; Various mine plans, 1940's; Sheppard, E.P.  
(1966) Geology - Mount Sicker Mines; Sunday Reader (Times  
Colonist?) February 16, 1997 "The Town That Sleeps")  
EMR MP CORPFILE (Tyee Copper Company Limited; Ladysmith Smelting  
Corporation Limited; Ladysmith Tidewater Smelters Limited; Pacific  
Tidewater Mines Limited; Tyee Consolidated Mining Company Limited;  
Tyee Mining and Milling Company Limited; The Twin J Mines Limited;  
Jason Mines Limited; Vancouver Island Base Metals Limited; Base  
Metals Mining Corporation Limited; Mount Sicker Mines Limited)  
EMR MIN BULL MR 223 (1989) B.C. 88  
EMR MP Metal Controller File 167-Z1-2-17 C  
GSC MAP 42A; 1386A; 1553A  
GSC MEM \*13, pp. 180-187; 36; \*96, pp. 387-390  
GSC OF 463  
GSC P 1972-44; 1975-1A, p. 23; 1979-30  
CIM Transactions \*Vol.XLVIII, 1945, pp. 294-308  
CIM \*Vol.1, pp. 88-93  
CMH 1972-1973, p. 232  
GCNL #64,#218, 1984; #136,#157,#215, 1985; #83, 1986  
N MINER Sept.25, 1969  
Carson, D.J.T. (1968): Metallogenic Study of Vancouver Island with  
Emphasis on the Relationship of Plutonic Rocks and Mineral  
Deposits, Ph.D. Thesis, Carleton University  
Holbek, P. (1980): Geology and Geochronometry of the Sharron  
Volcanogenic Prospect, Mt. Brenton Area, Southwestern B.C., B.Sc.  
Thesis, University of British Columbia  
Hudson, R. (1997): A Field Guide to Gold, Gemstone and Mineral Sites  
of British Columbia, Vol. 1: Vancouver Island, pp. 92-93  
Times Colonist, Feb.16, 1997, p. C8  
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### SUMMARY

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Name	TYEE (L.36G), TWIN J, MOUNT SICKER, RICHARD III, LENORA, LENORA-TYEE	NMI Mining Division	<a href="#">092B13 Cu1</a> Victoria
Status	Past Producer	BCGS Map	092B082
Latitude	<a href="#">48° 51' 53" N</a>	NTS Map	092B13W
Longitude	<a href="#">123° 46' 59" W</a>	UTM	10 (NAD 83)
Commodities	Copper, Gold, Silver, Zinc, Lead, Cadmium, Barite	Northing	5412713
Tectonic Belt	Insular	Easting	442571
Capsule Geology	The Tyee (L.36G) past-producer is located on the western slopes of Mount Sicker, approximately 2 kilometres east of the Chemainus River.	Deposit Types	G06 : Noranda/Kuroko massive sulphide Cu-Pb-Zn
		Terrane	Wrangell

Volcanogenic massive sulphides were discovered on Mount Sicker in the late 1800's with production from one main orebody issuing from three independent underground mines (Lenora - 092B 001, Tyee - 092B 002 and Richard III - 092B 003) for several years. These mines were later amalgamated and operated as the Twin J mine (1942-1952). The massive sulphides are hosted within rhyolitic tuffs and associated sediments of the McLaughlin Ridge Formation, Sicker Group. The rocks in the mine include cherty tuffs and graphitic schists which together form a band of folded and/or sheared sediments 30 to 45 metres wide that near the workings are at least 640 metres long. The trend of the band and the strike of the sediments are 110 degrees. The dip of the sediments is 50 degrees southwest. See the Lenora deposit for further details of the geology.

Two types of ore are found in association with the cherty tuffs and graphitic schists: a barite ore consisting of a fine grained mixture of pyrite, chalcopyrite, sphalerite and a little galena in a gangue of barite, quartz and calcite; and a quartz ore consisting of mainly quartz and chalcopyrite.

The two main orebodies, known as the North orebody and the South orebody, are long, lenticular bodies lying along two main dragfolds in the band of sediments. The North orebody measures about 500 metres along strike, 37 metres downdip and from 0.3 to 3 metres in thickness. The South orebody, which is 46 metres from the North, and has its upper limit 45 metres higher, measures 640 metres along the strike, 45 metres downdip and is about 6 metres in thickness. Two main faults, striking east and nearly vertical, displace the orebodies. A fracture zone is manifested by vertical silicified zones on the south sides of both the North and South orebodies.

The area was staked by Harry Smith in 1897. The Tyee mine was worked intermittently from 1901 to 1909 producing 762,553 grams of gold, 13,725,069 grams of silver and 5,840,593 kilograms of copper from a total of 152,668 tonnes mined (Mineral Policy data). See Lenora (092B 001) for the combined production and reserve figures that were derived after the three mines were amalgamated as the Twin J mine. Zinc, lead and cadmium are also reported in the Twin J production records.

In 2010 and 2011, Rock-Con Resources completed a program of prospecting and rock sampling on the Mount Sicker property.

**Bibliography** EMPR AR 1897-567; 1898-809,852; 1900-928,929,944; 1901-1117,1112; \*1902-238-250; \*1903-206-209; 1904-252; 1905-216; 1906-207; 1907-154; 1916-311; \*1924-252,368; 1925-303; 1926-334; 1927-339; 1928-365; 1929-371; 1930-289; 1931-264; 1935-G46; 1936-F63; 1939-90; 1940-74; 1942-70; 1943-69; 1944-67; 1946-191; 1947-183; 1949-224; 1950-180; 1951-199; 1952-214; 1964-168; 1967-79; 1968-107  
 EMPR ASS RPT [1104](#), [1714](#), [3741](#), [3950](#), [5164](#), [8264](#), [12317](#), [14735](#), [16716](#), [17834](#), [18859](#), [19754](#), [32278](#)  
 EMPR BC METAL MM00058  
 EMPR EXPL 1978-E119; 1980-153  
 EMPR FIELDWORK 1982, p. 46; \*1987, pp. 81-91  
 EMPR GEM 1969-224; 1970-291; 1972-240; 1974-163  
 EMPR INDEX 3-216  
 EMPR OF 1988-8; 1998-10; 1999-2  
 EMPR P 1991-4, pp. 102,105  
 EMPR PF (The Tyee Mines, Report by Pacific Tidewater Mines, April 1928; Nelson, N.E. (1940): Report on the Tyee Consolidated Gold Mines; The Geology and Mineralization of the Lenora-Tyee Mine, Preliminary notes by J.S. Stephenson, Feb.13, 1942; Tyee-Lenora, Report by H. Sargent, June 26, 1942; Summary of Monthly Report, Twin J Mines, April 1944; General Comments by R.B. Gayer, May and April 1944; Twin J Mines, Report by V. Dolmage, April or May 1945; Report on the Mount Sicker Mine, Feb.7, 1945; Suggestions on Future Explorations by J.S. Stephenson, Aug.7, 1945; Various mine plans, 1940'S; Sheppard, E.P. (1966) Geology - Mount Sicker Mines)  
 EMR MP CORPFILE (Tyee Copper Company Limited; Ladysmith Smelting Corporation Limited; Ladysmith Tidewater Smelters Limited; Pacific Tidewater Mines Limited; Tyee Consolidated Mining Company Limited; Tyee Mining and Milling Company Limited; The Twin J Mines Limited; Jason Mines Limited; Vancouver Island Base Metals Limited; Base Metals Mining Corporation Limited; Mount Sicker Mines Limited)  
 EMR MP Metal Controller File 167-Z1-2-17 C  
 GSC MAP 42A; 1386A; 1553A  
 GSC MEM \*13, pp. 180-187; 36; \*96, pp. 387-390  
 GSC OF 463  
 GSC P 1972-44; 1975-1A, p. 23; 1979-30  
 CIM Transactions \*Vol.XLVIII, 1945, pp. 294-308  
 CIM \*Vol.1, pp. 88-93  
 CMH 1972-1973, p. 232  
 GCNL #64,#218, 1984  
 Carson, D.J.T. (1968): Metallogenic Study of Vancouver Island with

Emphasis on the Relationship of Plutonic Rocks and Mineral Deposits, Ph.D. Thesis, Carleton University  
Hudson, R (1997): A Field Guide to Gold, Gemstone and Mineral Sites of British Columbia, Vol. 1: Vancouver Island, pp. 92-93  
Times Colonist, Feb.16, 1997, p. C8  
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### SUMMARY

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<p><b>Name</b> RICHARD III (L.39G), TWIN J, MOUNT SICKER, LENORA, TYEE</p> <p><b>Status</b> Past Producer</p> <p><b>Latitude</b> <a href="#">48° 51' 53" N</a></p> <p><b>Longitude</b> <a href="#">123° 46' 47" W</a></p> <p><b>Commodities</b> Copper, Gold, Silver, Lead, Zinc, Cadmium, Barite</p> <p><b>Tectonic Belt</b> Insular</p> <p><b>Capsule</b> The Richard III past-producer is located on the western slopes of Mount Sicker, approximately 2.3 kilometres east of the Chemainus River.</p> <p><b>Geology</b> Volcanogenic massive sulphides were discovered on Mount Sicker in the late 1800's with production from one main orebody issuing from three independent underground mines (Lenora - 092B 001, Tyee - 092B 002 and Richard III - 092B 003) for several years. These mines were later amalgamated and operated as the Twin J mine (1942-1952). The massive sulphides are hosted within rhyolitic tuffs and associated sediments of the McLaughlin Ridge Formation, Sicker Group. The rocks in the mine include cherty tuffs and graphitic schists which together form a band of folded and/or sheared sediments 30 to 45 metres wide that near the workings is at least 640 metres long. The trend of the band and the strike of the sediments are 110 degrees. The dip of the sediments is 50 degrees southwest. See the Lenora occurrence for further details of the geology.</p> <p>Two types of ore are found in association with the cherty tuffs and graphitic schists: a barite ore consisting of a fine grained mixture of pyrite, chalcocopyrite, sphalerite and a little galena in a gangue of barite, quartz and calcite; and a quartz ore consisting of mainly quartz and chalcocopyrite.</p> <p>The two main orebodies, known as the North orebody and the South orebody, are long, lenticular bodies lying along two main dragfolds in the band of sediments. The North orebody measures about 500 metres along strike, 37 metres downdip and from 0.3 to 3 metres in thickness. The South orebody, which is 46 metres from the North, and has its upper limit 45 metres higher, measures 640 metres along the strike, 45 metres downdip and is about 6 metres in thickness. Two main faults, striking east and nearly vertical, displace the orebodies. A fracture zone is manifested by vertical silicified zones on the south sides of both the North and South orebodies.</p> <p>The Richard III mine operated in three years between 1903 and 1907, producing 22,830 grams of gold, 522,714 grams of silver and 113,604 kilograms of copper from a total of 4903 tonnes of ore mined (Mineral Policy data). See Lenora (092B 001) for the combined production and reserve figures that were derived after the three mines were amalgamated as the Twin J mine. Zinc, lead and cadmium are also reported in the Twin J production records.</p>	<p><b>NMI</b> <a href="#">092B13 Cu1</a></p> <p><b>Mining Division</b> Victoria</p> <p><b>BCGS Map</b> 092B082</p> <p><b>NTS Map</b> 092B13W</p> <p><b>UTM</b> 10 (NAD 83)</p> <p><b>Northing</b> 5412711</p> <p><b>Easting</b> 442815</p> <p><b>Deposit Types</b> G06 : Noranda/Kuroko massive sulphide Cu-Pb-Zn</p> <p><b>Terrane</b> Wrangell</p>
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In 2010 and 2011, Rock-Con Resources completed a program of prospecting and rock sampling on the Mount Sicker property.

**Bibliography** EMPR AR 1897-567; 1898-809,852; 1900-928,929,944; 1901-1117,1112; \*1902-238-250; \*1903-206-209; 1904-252; 1905-216; 1906-207; 1907-154; 1916-311; \*1924-252,368; 1925-303; 1926-334; 1927-339; 1928-365; 1929-371; 1930-289; 1931-264; 1935-G46; 1936-F63; 1939-90; 1940-74; 1942-70; 1943-69; 1944-67; 1946-191; 1947-183; 1949-224; 1950-180; 1951-199; 1952-214; 1964-168; 1967-79; 1968-107  
 EMPR ASS RPT [1104](#), [1714](#), [3741](#), [3950](#), [3951](#), [5164](#), [8264](#), [12317](#), [14735](#), [16716](#), [17834](#), [18859](#), [19754](#), [32278](#)  
 EMPR BC METAL MM00055  
 EMPR EXPL 1978-E119; 1980-153  
 EMPR FIELDWORK 1982, p. 46; \*1987, pp. 81-91  
 EMPR GEM 1969-224; 1970-291; 1972-240; 1974-163  
 EMPR INDEX 3-210  
 EMPR OF 1988-8; 1998-10; 1999-2  
 EMPR P 1991-4, pp. 102,105  
 EMPR PF (The Tyee Mines, Report by Pacific Tidewater Mines, April 1928; Nelson, N.E. (1940): Report on the Tyee Consolidated Gold Mines; The Geology and Mineralization of the Lenora-Tyee Mine, Preliminary notes by J.S. Stephenson, Feb.13, 1942; Tyee-Lenora, Report by H. Sargent, June 26, 1942; Summary of Monthly Report, Twin J Mines, April 1944; General Comments by R.B. Gayer, May and April 1944; Twin J Mines, Report by V. Dolmage, April or May 1945; Report on the Mount Sicker Mine, Feb.7, 1945; Suggestions on Future Explorations by J.S. Stephenson, Aug.7, 1945; Various mine plans, 1940'S; Sheppard, E.P. (1966): Geology - Mount Sicker Mines)  
 EMR MP CORPFILE (Tyee Copper Company Limited; Ladysmith Smelting Corporation Limited; Ladysmith Tidewater Smelters Limited; Pacific Tidewater Mines Limited; Tyee Consolidated Mining Company Limited; Tyee Mining and Milling Company Limited; The Twin J Mines Limited; Jason Mines Limited; Vancouver Island Base Metals Limited; Base Metals Mining Corporation Limited; Mount Sicker Mines Limited)  
 EMR MP Metal Controller File 167-Z1-2-17 C  
 GSC MAP 42A; 1386A; 1553A  
 GSC MEM \*13, pp. 180-187; 36; \*96, pp. 387-390  
 GSC OF 463  
 GSC P 1972-44; 1975-1A, p. 23; 1979-30  
 CIM Transactions \*Vol. XLVIII, 1945, pp. 294-308  
 CIM \*Vol.1, pp. 88-93  
 CMH 1972-1973, p. 232  
 GCNL #64,#218, 1984  
 Carson, D.J.T. (1968): Metallogenic Study of Vancouver Island with Emphasis on the Relationship of Plutonic Rocks and Mineral

Deposits, Ph.D. Thesis, Carleton University  
Hudson, R. (1997): A Field Guide to Gold, Gemstone & Mineral Sites of  
British Columbia, Vol. 1: Vancouver Island, pp. 92-93  
Times Colonist, Feb.16, 1997, p. C8  
Chevron File

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## MINFILE Record Summary

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 Last Edit: 25-Jun-13 by Karl A. Flower(KAF)

### SUMMARY

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Name	VICTORIA (L.21G), ELMORE FRACTION, CANAMERA, COPPER CANYON (L.22G)	NMI Mining Division	Victoria
Status	Past Producer	BCGS Map	092B081
Latitude	<a href="#">48° 52' 02" N</a>	NTS Map	092B13W
Longitude	<a href="#">123° 48' 33" W</a>	UTM	10 (NAD 83)
Commodities	Copper, Gold, Silver	Northing	5413011
Tectonic Belt	Insular	Easting	440659
Capsule Geology	The Victoria past-producer is located on the east bank of the Chemainus River, west of, and along the strike of, the Lenora-Tyee volcanogenic massive sulphide past-producers on Mount Sicker (see 92B 001).	Deposit Types	G06 : Noranda/Kuroko massive sulphide Cu-Pb-Zn
		Terrane	Wrangell

The deposit is located within the Cowichan uplift, one of three geanticlinal uplifts that expose rocks of the Paleozoic Sicker and Buttle Lake groups on Vancouver Island. Cretaceous sediments of the Nanaimo Group unconformably overly the Paleozoic rocks; the contact is marked by a basal conglomerate containing volcanic fragments derived from the Sicker Group. The local stratigraphy is disrupted by folding, faulting (pre-Triassic as well as Tertiary) and the intrusions of gabbro and diabase sills and dykes (informally known as the Mount Hall Diorite) that are coeval with the Upper Triassic Karmutsen Formation.

The Sicker Group rocks mainly comprise felsic volcanic tuffs of the McLaughlin Ridge Formation. The rocks in the mine, and nearby, include graphitic schists and cherty sediments and tuffs which form a band within the rhyolitic volcanics. This is the same band of sediments which hosts the massive sulphides of the Lenora-Tyee deposit to the east. The strike of the sediments along the Chemainus River is about 080 degrees and the dip is 70 degrees south.

On the property a tunnel has been driven in for 46 metres at 110 degrees. From the end of the tunnel a crosscut has been run to the south for about 8 metres ending in diorite. Another crosscut was made to the north for about 11 metres in the schist, of which about 3 metres is mineralized with pyrite and chalcopyrite. A sample of this assayed 17.1 grams per tonne silver and trace copper and gold (Minister of Mines Annual Report 1902, page 253). On the steep banks of the river, outcrops of massive iron sulphides with a small amount of copper were exposed and tested by adits. Small pits have exposed quartz veins and stringers up to 75 centimetres wide mineralized with iron sulphides and chalcopyrite.

The mine has a combined production from 1904, 1905 and 1907 totalling 115 tonnes of ore, from which was recovered 124 grams of gold, 3,452 grams of silver and 4,346 kilograms of copper (Mineral Policy data). Details of the deposit and workings were not reported after 1902.

In 1998, a self potential geophysical survey was completed. In 2010 and 2011, Rock-Con Resources completed a program of prospecting and rock sampling on the Mount Sicker property. Chip samples, taken near the mouth of the adit, assayed up to 16.85 grams per tonne silver and 5.61 per cent copper (1E; Assessment Report 32278).

**Bibliography** EMPR AR 1897-567; 1901-1118; \*1902-239,252; 1905-250; 1907-221; 1916-312; 1920-222; 1928-365  
 EMPR ASS RPT [3099](#), [4626](#), [6600](#), [6599](#), [6972](#), [7183](#), [7435](#), [16871](#), [17836](#), [25714](#), [29537](#), [29840](#), [31970](#), \*[32278](#)  
 EMPR BC METAL MM00059  
 EMPR EXPL 1977-E104; 1978-E120; 1979-122; 1988-C71  
 EMPR FIELDWORK 1987, pp. 81-91  
 EMPR GEM 1973-224  
 EMPR INDEX 3-217  
 EMPR OF 1988-8; 1999-2  
 GSC MAP 42A; 1386A; 1553A  
 GSC MEM 13; 36; 96  
 GSC OF 463  
 GSC P 1972-44; 1975-1A, p. 23; 1979-30  
 Carson, D.J.T. (1968): Metallogenic Study of Vancouver Island with Emphasis on the Relationship of Plutonic Rocks and Mineral Deposits, Ph.D. Thesis, Carleton University  
 Hudson, R. (1997): A Field Guide to Gold, Gemstone & Mineral Sites of British Columbia, Vol. 1: Vancouver Island, p. 92

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## MINFILE Record Summary

MINFILE No 092B 028

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by BC Geological Survey (BCGS)  
by Karl A. Flower(KAF)

### SUMMARY

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Name	ROSE	NMI	
Status	Showing	Mining Division	Victoria
Latitude	<a href="#">48° 53' 01" N</a>	BCGS Map	092B081
Longitude	<a href="#">123° 48' 52" W</a>	NTS Map	092B13W
Commodities	Mica, Sericite	UTM	10 (NAD 83)
Tectonic Belt	Insular	Northing	5414837
		Easting	440291
		Deposit Types	
		Terrane	Wrangell

**Capsule Geology** The Rose occurrence is located on the southern slopes of Mount Brenton, approximately 2.2 kilometres south east of Holyoak Lake.

The area is underlain mainly by volcanic rocks of the Late Devonian McLaughlin Ridge Formation (Sicker Group) and by sediments of the Mississippian to Pennsylvanian Fourth Lake Formation (Buttle Lake Group). The local stratigraphy is disrupted by folding, faulting, (pre-Triassic as well as Late Tertiary) and the intrusions of gabbro and diabase sills and dykes (informally called the Mount Hall Gabbro) that are coeval with the Upper Triassic Karmutsen Formation.

Most of the original rock textures and structures have been obliterated by extensive faulting, shearing and polyphase deformation, resulting in the formation of cataclastic schists. About 70 metres of sericite and graphitic schists, as well as non-schistose argillite have been exposed along the north side of a road. In the rocks a strongly developed schistosity strikes 065 degrees and dips 79 degrees north (Minister of Mines Annual Report 1965, page 268).

In 2007, Laramide Resources completed a regional program of geochemical sampling and airborne geophysical surveys on the area as apart of the Lara property.

**Bibliography** EMPR AR \*1965-268  
EMPR ASS RPT [29840](#), [31970](#)  
EMPR FIELDWORK 1979, pp. 49-51  
EMPR IND MIN FILE (Mica Occurrences in BC (in Ministry Library))  
EMPR OF 1988-8  
GSC MAP 42A; 1386A; 1553A  
GSC MEM 13; 36; 96  
GSC OF 463; 701  
GSC P 72-44; 75-1A, p. 23; 79-30

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## MINFILE Record Summary

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 Last Edit: 25-Jun-13 by Karl A. Flower(KAF)

### SUMMARY

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<p><b>Name</b> SHARON COPPER, PAUPER (L.31G), BRENT, OAK, MONS, SHARRON</p> <p><b>Status</b> Prospect</p> <p><b>Latitude</b> <a href="#">48° 52' 38" N</a></p> <p><b>Longitude</b> <a href="#">123° 49' 26" W</a></p> <p><b>Commodities</b> Copper</p> <p><b>Tectonic Belt</b> Insular</p> <p><b>Capsule Geology</b></p>	<p><b>NMI Mining Division</b> Victoria</p> <p><b>BCGS Map</b> 092B081</p> <p><b>NTS Map</b> 092B13W</p> <p><b>UTM</b> 10 (NAD 83)</p> <p><b>Northing</b> 5414134</p> <p><b>Easting</b> 439591</p> <p><b>Deposit Types</b> G06 : Noranda/Kuroko massive sulphide Cu-Pb-Zn</p> <p><b>Terrane</b> Wrangell</p>	<p>The Sharon Copper prospect is located on the western side of the Chemainus River, approximately 14 kilometres north west of Duncan.</p> <p>Several past-producers are located on Mount Sicker in the Cowichan uplift, one of three geanticlinal uplifts that expose Paleozoic Sicker and Buttle Lake Group rocks on Vancouver Island. Cretaceous sediments of the Nanaimo Group unconformably overlies the Paleozoic rocks; the contact is marked by a basal conglomerate containing volcanic fragments derived from the Sicker Group. The local stratigraphy is disrupted by folding, faulting (pre-Triassic as well as Tertiary) and the intrusions of diabase and gabbro sills (informally called the Mount Hall Gabbro) that are coeval with the Upper Triassic Karmutsen Formation (Vancouver Group). The target of exploration activity has been the volcanogenic, polymetallic massive sulphides that are hosted within felsic volcanic tuffs of the McLaughlin Ridge Formation (Sicker Group) and restricted to a belt running from Chipman Creek to Mount Richards, in the hangingwall of the Fulford fault.</p> <p>There are four main units underlying the Sharon area: andesitic feldspar porphyry, tuff breccia and rhyolite porphyry of the McLaughlin Ridge Formation intruded by a dyke or sill of metadiorite. The stratigraphic sequence is poorly exposed. Textures and assemblages indicate that the area has undergone regional greenschist metamorphism.</p> <p>Most of the original rock textures and structures have been obliterated by late shearing and extensive faulting. Structural styles are different between the lower volcanics and the upper sediments of the Paleozoic rock. The volcanics exhibit polyphase deformation, resulting in cataclastic schists. Adjacent sediments, interbedded cherts, siltstones and cherty tuffs, appear undeformed with only tilting or broad open folding. A major portion of the volcanic rocks exhibit strong, steeply dipping axial plane cleavage. Severe alteration has removed most indications of bedding, but isoclinal folding can be inferred from fold structures and extension joints perpendicular to lineations. An additional phase of folding, or a continuation of the first phase, is shown by small, tight isoclinal folding of axial plane cleavage. A possible third phase is indicated by box folds displayed by well foliated units in Copper Canyon.</p> <p>Sulphides are hosted by extremely sheared chlorite-sericite schist. Slabbed and polished rock surfaces have revealed that the schists were coarse lapilli tuffs. The sulphides are concentrated in two 10-metre wide horizons, forming the core of an antiform. Adjacent to the chlorite schists is the intrusive quartz-albite porphyry, which appears to be conformable. Sulphides, pyrite with very minor chalcocopyrite, are generally semi-massive to coarsely disseminated. The sulphides are recrystallized after deformation but appear to have undergone some later shearing. Similar sulphides are also encountered in fractures and quartz stringers in chlorite schist and in white quartz veins in gabbro.</p> <p>The Sharon prospect is believed to have originally been covered by the Pauper Crown grant (Lot 31G), a Crown grant that was issued in 1903. Underground development over the years has included three parallel adits 46 metres, 1.5 metres and 11 metres in length, respectively. The longer adit also has two crosscuts, totalling about 23 metres. The crosscuts averaged 1.45 per cent copper over 11 metres, 0.71 per cent over 7 metres and 0.92 per cent over 5.5 metres (Property File - Sharon Copper Mines, Plan of workings and drill holes, 1963).</p> <p>From 1977 through 1983, Esso completed various exploration programs in the area including soil sampling and geophysical surveys. In 1985, Kidd Creek Mines Limited drilled the property, intersecting 9.2 metres (4.6 metres true width) of 0.55 per cent copper, with up to 1.44 per cent copper over 2 metres (Assessment Report 14411).</p> <p>In 1990, Falconbridge Ltd. completed a four hole diamond drilling program, totalling 1801.7 metres. Hole CH90-126 intersected a 5.64 metres zone of chlorite-chalcocopyrite-pyrite stringers returning up to 0.57 per cent copper over 0.35 metres (Assessment Report 20957).</p> <p>In 2007, Laramide Resources completed a regional program of geochemical sampling and airborne geophysical surveys on the area as part of the Lara property.</p>
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**Bibliography** EMPR AR 1903-250; 1923-274; 1924-368; 1927-339  
 EMPR ASS RPT [936](#), [6548](#), [7323](#), [11116](#), [12379](#), [13744](#), \*[14411](#), [17649](#), \*[20957](#), [29840](#), [31970](#)  
 EMPR EXPL 1977-E105; 1978-E121  
 EMPR FIELDWORK 1987, pp. 81-91  
 EMPR OF 1988-8; 1999-2  
 EMPR PF (Drill logs, and plans of Sharon workings, Sharon Copper Mines, 1963; See various related documents in the Lara file (092B 129))  
 GSC MAP 42A; 1386A; 1553A  
 GSC MEM 13; 96  
 GSC OF 463  
 GSC P 1972-44; 1975-1A, p. 23; 1979-30  
 Carson, D.J.T. (1968): Metallogenic Study of Vancouver Island with Emphasis on the Relationship of Plutonic Rocks and Mineral Deposits, Ph.D. Thesis, Carleton University  
 Falconbridge File  
 \*Holbek, P. (1980): Geology and Geochronometry of the Sharron Volcanogenic Prospect, Mt. Brenton Area, Southwestern B.C., B.Sc. Thesis, University of British Columbia

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## MINFILE Record Summary

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### SUMMARY

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<p><b>Name</b> WATER POWER-BRENTON, MILDRED (L.96)</p> <p><b>Status</b> Showing</p> <p><b>Latitude</b> <a href="#">48° 52' 51" N</a></p> <p><b>Longitude</b> <a href="#">123° 49' 06" W</a></p> <p><b>Commodities</b> Copper, Silver</p> <p><b>Tectonic Belt</b> Insular</p> <p><b>Capsule Geology</b></p>	<p><b>NMI</b></p> <p><b>Mining Division</b> Victoria</p> <p><b>BCGS Map</b> 092B081</p> <p><b>NTS Map</b> 092B13W</p> <p><b>UTM</b> 10 (NAD 83)</p> <p><b>Northing</b> 5414532</p> <p><b>Easting</b> 440003</p> <p><b>Deposit Types</b> G06 : Noranda/Kuroko massive sulphide Cu-Pb-Zn</p> <p><b>Terrane</b> Wrangell</p>	<p>The Water Power-Brenton occurrence is located on Holyoak Creek, approximately 1.5 kilometres north west of its junction with the Chemainus River.</p> <p>The area is within the Cowichan uplift, is located in an area underlain mainly by andesitic to rhyolitic volcanics of the McLaughlin Ridge Formation, Sicker Group. The local stratigraphy is disrupted by folding, faulting (pre-Triassic as well as Tertiary) and the intrusions of gabbro and diabase sills and dykes (informally called the Mount Hall Gabbro) that are coeval with the Upper Triassic Karmutsen Formation (Vancouver Group). The showing is in the vicinity of the Lenora-Tyee (092B 001) and Lara (092B 110) volcanogenic massive sulphide deposits and may be considered to be of related origin.</p> <p>The Sicker rocks on the Mildred Crown grant (Lot 96) have been locally metamorphosed to sericitic and chloritic schists which have a general northwest trending strike and foliation. Pyrite, with minor chalcopyrite, occurs as stringers, elongate masses or as disseminations within the schistose units. Sulphide content varies within the units but is generally between 2 and 5 per cent. Lenses of massive sulphides up to 2 metres thick occur throughout some of the schistose units.</p> <p>On the old Water Power-Brenton claims on Holyoak Creek, down stream from the Mildred claim, a selected sample assayed 20.5 per cent copper, 103 grams per tonne silver and a trace of gold (Minister of Mines Annual Report 1923, page 274).</p> <p>In 2007, Laramide Resources completed a regional program of geochemical sampling and airborne geophysical surveys on the area as apart of the Lara property.</p>
<p><b>Bibliography</b> EMPR AR 1903-250; *1923-275  EMPR ASS RPT *<a href="#">6216</a>, <a href="#">6518</a>, <a href="#">6699</a>, <a href="#">7273</a>, <a href="#">7434</a>, <a href="#">11329</a>, <a href="#">19765</a>, <a href="#">29840</a>, <a href="#">31970</a>  EMPR EXPL 1977-E105; 1978-E122; 1979-122  EMPR FIELDWORK 1987, pp. 81-91  EMPR OF 1988-8; 1999-2  GSC MAP 42A; 1386A; 1553A  GSC MEM 13; 36; 96  GSC OF 463  GSC P 1972-44; 1975-1A, p. 23; 1979-30  Carson, D.J.T. (1968): Metallogenic Study of Vancouver Island with Emphasis on the Relationship of Plutonic Rocks and Mineral Deposits, Ph.D. Thesis, Carleton University</p>		

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## MINFILE Record Summary

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by Karl A. Flower(KAF)

### SUMMARY

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<p><b>Name</b> COPPER CANYON (L.22G), VICTORIA, ELMORE FRACTION</p> <p><b>Status</b> Showing</p> <p><b>Latitude</b> <a href="#">48° 52' 01" N</a></p> <p><b>Longitude</b> <a href="#">123° 48' 41" W</a></p> <p><b>Commodities</b> Copper, Silver</p> <p><b>Tectonic Belt</b> Insular</p> <p><b>Capsule Geology</b> The Copper Canyon showing is located on the west bank of the Chemainus River, west and along strike of the volcanogenic-type Victoria (092B 004) past-producer, located on the opposite bank of the river.</p>	<p><b>NMI</b></p> <p><b>Mining Division</b> Victoria</p> <p><b>BCGS Map</b> 092B081</p> <p><b>NTS Map</b> 092B13W</p> <p><b>UTM</b> 10 (NAD 83)</p> <p><b>Northing</b> 5412982</p> <p><b>Easting</b> 440495</p> <p><b>Deposit Types</b></p> <p><b>Terrane</b> Wrangell</p>
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The area is underlain mainly by felsic volcanic tuffs of the McLaughlin Ridge Formation, Sicker Group. The rocks at the showing include graphitic schists and cherty sediments and tuffs which form a band within the rhyolitic volcanics. This is the same band of sediments which host the massive sulphides at the Lenora-Tyee (092B 001) deposit to the east. The strike of the sediments along the Chemainus River is about 080 degrees and the dip is 70 degrees south.

An adit has been driven on a quartz vein which varies in width from 2.5 to 46 centimetres, averaging about 33 centimetres. The tunnel follows the vein for 41 metres at which point it stops (Minister of Mines Annual Report 1902). The vein is reported to contain mostly pyrite with some chalcopyrite and traces of sphalerite and galena. Gold values are reported to be low. A 91 metre shaft was later put down on the Copper Canyon group (presumably on the claim of the same name) with drifts driven off it. Some attractive copper showings were reported. Assessment Report 4626 (Figure 3) shows a shaft on the claim near the Chemainus River.

In 1998, a self potential geophysical survey was completed. In 2010 and 2011, Rock-Con Resources completed a program of prospecting and rock sampling on the Mount Sicker property. Chip samples, taken near the mouth of the adit, assayed up to 12.25 grams per tonne silver and 3.11 per cent copper (Assessment Report 32278).

**Bibliography** EMPR AR 1897-567; 1898-1148; 1901-1118; \*1902-239,252; 1905-216; 1907-254; 1916-312; 1928-365  
 EMPR ASS RPT [3099](#), [4626](#), [6600](#), [6599](#), [6972](#), [7183](#), [7435](#), [16871](#), [17836](#), [25714](#), [31970](#), \*[32278](#)  
 EMPR EXPL 1977-E104; 1978-E120; 1979-122; 1988-C71  
 EMPR FIELDWORK 1987, pp. 81-91  
 EMPR GEM 1973-224  
 EMPR OF 1988-8  
 GSC MAP 42A; 1386A; 1553A  
 GSC MEM 13; 36; 96  
 GSC OF 463  
 GSC P 1972-44; 1975-1A, p. 23; 1979-30  
 Carson, D.J.T. (1968): Metallogenic Study of Vancouver Island with Emphasis on the Relationship of Plutonic Rocks and Mineral Deposits, Ph.D. Thesis, Carleton University  
 \*Holbek, P. (1980): Geology and Geochronometry of the Sharron Volcanogenic Prospect, Mt. Brenton Area, Southwestern B.C., B.Sc. Thesis, University of British Columbia

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## MINFILE Record Summary

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### SUMMARY

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<p><b>Name</b> KEY CITY (L.37G)</p> <p><b>Status</b> Prospect</p> <p><b>Latitude</b> <a href="#">48° 52' 00" N</a></p> <p><b>Longitude</b> <a href="#">123° 47' 44" W</a></p> <p><b>Commodities</b> Copper</p> <p><b>Tectonic Belt</b> Insular</p> <p><b>Capsule Geology</b></p>	<p><b>NMI</b></p> <p><b>Mining Division</b> Victoria</p> <p><b>BCGS Map</b> 092B082</p> <p><b>NTS Map</b> 092B13W</p> <p><b>UTM</b> 10 (NAD 83)</p> <p><b>Northing</b> 5412939</p> <p><b>Easting</b> 441656</p> <p><b>Deposit Types</b></p> <p><b>Terrane</b> Wrangell</p>	<p>The Key City occurrence is located on the western slopes of Mount Sicker, approximately 1.2 kilometres east of the Chemainus River.</p> <p>The area is within the Cowichan uplift; one of three geanticlinal uplifts that expose Paleozoic Sicker and Buttle Lake Group rocks on Vancouver Island. Cretaceous sediments of the Nanaimo Group unconformably overlie the Paleozoic rocks; the contact is marked by a basal conglomerate containing volcanic fragments derived from the Sicker Group. The local stratigraphy is disrupted by folding, faulting (pre-Triassic as well as Tertiary) and the intrusions of gabbro and diabase sills and dykes (informally known as the Mount Hall Gabbro) that are coeval with the Upper Triassic Karmutsen Formation.</p> <p>The Sicker Group rocks mainly comprise felsic volcanic tuffs of the McLaughlin Ridge Formation. The rocks in the area include graphitic schists and cherty sediments and tuffs which form a band within the rhyolitic volcanics. This is the same band of rock which hosts the massive sulphides on the Lenora-Tyee mines (092B 001) to the immediate east.</p> <p>The property was first explored by an adit run from south to north for about 160 metres in order to intersect the projected extension of the Lenora orebody. Overall the adit cuts about 60 metres of diorite and 100 metres of schist. A shaft runs 30 metres from the surface to intersect the adit about 100 metres from the portal. The shaft then continues down to the 60 metre-level where a crosscut is made 60 metres to the south. There are several places in the schists where a small amount of pyrite and chalcopyrite show in small stringers or disseminations but no orebody was intersected.</p> <p>In 2010 and 2011, Rock-Con Resources completed a program of prospecting and rock sampling on the Mount Sicker property.</p>
<p><b>Bibliography</b> EMPR AR 1897-567; 1900-995; *1902-240,251; 1916-312; 1924-252          EMPR ASS RPT <a href="#">1104</a>, <a href="#">1714</a>, <a href="#">3950</a>, <a href="#">3951</a>, <a href="#">5164</a>, <a href="#">12371</a>, <a href="#">14735</a>, <a href="#">15719</a>,  <a href="#">18859</a>, <a href="#">19754</a>, <a href="#">32278</a>          EMPR EXPL 1978-E119; 1980-153          EMPR FIELDWORK 1982, p. 46; 1987, pp. 81-91          EMPR GEM 1969-224; 1970-291; 1972-240; 1974-163          EMPR OF 1988-8          EMPR PF (See Lenora - 92B 001 for related material)          GSC MAP 42A; 1386A; 1553A          GSC MEM 13; 36; 96          GSC OF 463          GSC P 1972-44; 1975-1A, p. 23; 1979-30          CIM Transactions Vol.XLVIII, 1945, pp. 294-308          CIM Vol.1, pp. 88-93          Carson, D.J.T. (1968): Metallogenic Study of Vancouver Island with          Emphasis on the Relationship of Plutonic Rocks and Mineral          Deposits, Ph.D. Thesis, Carleton University</p>		

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### SUMMARY

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Name	QUEEN BEE (L.100G)	NMI	
Status	Showing	Mining Division	Victoria
Latitude	<a href="#">48° 52' 29" N</a>	BCGS Map	092B082
Longitude	<a href="#">123° 47' 05" W</a>	NTS Map	092B13W
Commodities	Copper, Zinc, Gold	UTM	10 (NAD 83)
Tectonic Belt	Insular	Northing	5413826
Capsule	The Queen Bee occurrence is located on the western slopes of Mount Sicker, north of Nugget Creek.	Easting	442460
Geology	The area is within the Cowichan uplift and is underlain mainly by andesitic and rhyolitic volcanics of the McLaughlin Ridge Formation, Sicker Group. The local stratigraphy is disrupted by folding, faulting (pre-Triassic as well as Tertiary) and the intrusions of gabbro and diabase sills and dykes (informally known as the Mount Hall Gabbro) that are coeval with the Upper Triassic Karmutsen Formation. The showing lies 1 kilometre to the north of the Lenora-Tyee volcanogenic massive sulphide deposit (092B 001) and is of related origin.  By 1898, a 20-metre tunnel had been driven into a reef (quartz vein) that contained free milling gold. Two shafts were reported in 1900; one 21 metres deep with 37 metres of drifting and the other almost 11 metres deep with 24 metres of opencut.  In 1986, Corporation Falconbridge Copper (Minnova) drilled two holes on the old Queen Bee Crown grant, in order to test the "Mine Package". Both holes (MTS-25,26) intersected a mineralized, chloritized and locally barium enriched package consisting of well-bedded dacitic ash, tuff and chert. The package contained up to 20 per cent pyrite and 6 per cent chalcocopyrite. One sample assayed 0.99 per cent copper and 1.18 per cent zinc over 1.45 metres (Assessment Report 15719). Pyrite-pyrrhotite-chalcocopyrite stringer mineralization was encountered in epidotized andesitic volcanics stratigraphically above the "Mine Package" in both holes.  In 2010 and 2011, Rock-Con Resources completed a program of prospecting and rock sampling on the Mount Sicker property. Chip samples, taken from the adit, assayed up to 0.26 per cent copper (Assessment Report 32278).	Deposit Types	G06 : Noranda/Kuroko massive sulphide Cu-Pb-Zn
Bibliography	EMPR AR *1898-1148; 1900-929; 1901-1232A; 1903-250 EMPR ASS RPT <a href="#">3950</a> , <a href="#">3951</a> , <a href="#">4904</a> , <a href="#">5164</a> , <a href="#">7714</a> , * <a href="#">7875</a> , <a href="#">8264</a> , <a href="#">12172</a> , <a href="#">14735</a> , * <a href="#">15719</a> , <a href="#">16716</a> , <a href="#">17834</a> , <a href="#">19754</a> , * <a href="#">32278</a> EMPR EXPL 1977-E104; 1978-E121; 1979-121 EMPR FIELDWORK 1987, pp. 81-91 EMPR GEM 1972-240; 1974-163; 1977-E104; 1978-E121 EMPR OF 1988-8; 1999-2 GSC MAP 42A; 1386A; 1553A GSC MEM 13; 36; 96 GSC OF 463 GSC P 1972-44; 1975-1A, p. 23; 1979-30 Carson, D.J.T. (1968): Metallogenic Study of Vancouver Island with Emphasis on the Relationship of Plutonic Rocks and Mineral Deposits, Ph.D. Thesis, Carleton University		

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### SUMMARY

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<p><b>Name</b> BELLE (L.55G), LITTLE NUGGET (L.33G), SEATTLE (L.57G), SCOTCH, L.55G</p> <p><b>Status</b> Showing</p> <p><b>Latitude</b> <a href="#">48° 52' 29" N</a></p> <p><b>Longitude</b> <a href="#">123° 47' 03" W</a></p> <p><b>Commodities</b> Copper</p> <p><b>Tectonic Belt</b> Insular</p> <p><b>Capsule Geology</b></p>	<p><b>NMI Mining Division</b> Victoria</p> <p><b>BCGS Map</b> 092B082</p> <p><b>NTS Map</b> 092B13W</p> <p><b>UTM</b> 10 (NAD 83)</p> <p><b>Northing</b> 5413826</p> <p><b>Easting</b> 442501</p> <p><b>Deposit Types</b> G06 : Noranda/Kuroko massive sulphide Cu-Pb-Zn</p> <p><b>Terrane</b> Wrangell</p>
<p>The Belle occurrence is located on the western slopes of Mount Sicker, north of Nugget Creek.</p> <p>The area is located within the Cowichan uplift and is underlain mainly by andesitic to rhyolitic tuffs of the McLaughlin Ridge Formation, Sicker Group. The local stratigraphy is disrupted by folding, faulting (pre-Triassic as well as Late Cretaceous) and the intrusions of gabbro and diabase sills and dykes that are coeval with the Upper Triassic Karmutsen Formation. The showing lies about 1 kilometre to the north of the Lenora-Tyee volcanogenic massive sulphide deposit (092B 001) and is of related origin.</p> <p>In 1897, it was reported that two very large veins 6 to 12 metres in width occur about 30 metres apart in dioritic rock. No work was done on them at that time.</p> <p>In 1980, Serem Limited drilled four diamond drill holes in order to test a package of variably siliceous schists that originated as tuffs and flows and which are similar in nature to the package hosting the Lenora-Tyee deposit. The schists, locally chlorite and sericite altered, appear to form a south dipping panel having a hanging wall and footwall of gabbro. North of the drill holes there is a transition to andesitic rock. Pyrite and chalcopyrite occur as disseminations or in association with quartz-calcite veins. It is common to see the sulphides concentrated along the schistosity as fine to coarse grains. In drill hole SRM 18 an average grade of 0.37 per cent copper occurs over 4.6 metres (Assessment Report 8264).</p> <p>In 2010 and 2011, Rock-Con Resources completed a program of prospecting and rock sampling on the Mount Sicker property.</p>	
<p><b>Bibliography</b> EMPR AR 1897-567; 1920-222          EMPR ASS RPT <a href="#">3950</a>, <a href="#">3951</a>, <a href="#">4904</a>, <a href="#">5164</a>, <a href="#">7714</a>, *<a href="#">7875</a>, *<a href="#">8264</a>, <a href="#">12172</a>, <a href="#">14735</a>, <a href="#">15719</a>, <a href="#">16716</a>, <a href="#">19754</a>, <a href="#">32278</a>          EMPR FIELDWORK 1987, pp. 81-91          EMPR GEM 1972-240; 1974-163          EMPR OF 1988-8; 1999-2          GSC MAP 42A; 1386A; 1553A          GSC MEM 13; 36; 96          GSC OF 463          GSC P 1972-44; 1975-1A, p. 23; 1979-30          Carson, D.J.T. (1968): Metallogenic Study of Vancouver Island with Emphasis on the Relationship of Plutonic Rocks and Mineral Deposits, Ph.D. Thesis, Carleton University</p>	

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Mt. Sicker Property Production Summary

MINFILE No.	MINFILE Name	Year From	Year To	Tonnes Mined	Copper kilograms	Copper Grade %	Lead kilograms	Lead Grade %	Zinc kilograms	Zinc Grade %	Cadmium kilograms	Cadmium Grade %	Silver grams	Silver Grade g/t	Gold grams	Gold Grade g/t
092B 001	Lenora	1898	1964	119,831	3,595,397	3.00%	164,587	0.14%	1,926,111	1.61%	4,546	0.004%	10,721,545	89.47	386,145	3.22
092B 002	Tyee	1901	1909	152,668	5,840,593	3.83%		0.00%		0.00%		0.000%	13,725,069	89.90	762,553	4.99
092B 003	Richard 3	1903	1907	4,903	113,604	2.32%		0.00%		0.00%		0.000%	522,717	106.61	22,830	4.66
092B 004	Victoria	1904	1907	115	4,346	3.78%		0.00%		0.00%		0.000%	3,452	30.02	124	1.08
TOTALS/AVERAGES		1898	1964	277,517	9,553,940	3.44%	164,587	0.14%	1,926,111	1.61%	4,546	0.004%	24,972,783	89.99	1,171,652	4.22

## **Appendix 5**

### **BC Mineral Deposit Profiles**

# NORANDA/KUROKO MASSIVE SULPHIDE Cu-Pb-Zn

## G06

by Trygve Höy  
British Columbia Geological Survey

Høy, Trygve (1995): Noranda/Kuroko Massive Sulphide Cu-Pb-Zn, in Selected British Columbia Mineral Deposit Profiles, Volume 1 - Metallics and Coal, Lefebure, D.V. and Höy, T., Editors, British Columbia Ministry of Employment and Investment, Open File 1995-20, pages 53-54.

### IDENTIFICATION

**SYNONYM:** Polymetallic volcanogenic massive sulphide.

**COMMODITIES (BYPRODUCTS):** Cu, Pb, Zn, Ag, Au (Cd, S, Se, Sn, barite, gypsum).

**EXAMPLES (British Columbia - Canada/International):** Homestake ([082M 025](#)), Lara ([092B 001](#)), Lynx ([092B 129](#)), Myra ([092F 072](#)), Price ([092F 073](#)), H-W ([092F 330](#)), Ecstall ([103H 011](#)), Tulsequah Chief ([104K 011](#)), Big Bull ([104K 008](#)), Kutcho Creek ([104J 060](#)), Britannia ([092G 003](#)); Kidd Creek (Ontario, Canada), Buchans (Newfoundland, Canada), Bathurst-Newcastle district (New Brunswick, Canada), Horne-Queumont (Québec, Canada), Kuroko district (Japan), Mount Lyell (Australia), Rio Tinto (Spain), Shasta King (California, USA), Lockwood (Washington, USA).

### GEOLOGICAL CHARACTERISTICS

**CAPSULE DESCRIPTION:** One or more lenses of massive pyrite, sphalerite, galena and chalcopyrite commonly within felsic volcanic rocks in a calcalkaline bimodal arc succession. The lenses may be zoned, with a Cu-rich base and a Pb-Zn-rich top; low-grade stockwork zones commonly underlie lenses and barite or chert layers may overlie them.

**TECTONIC SETTING:** Island arc; typically in a local extensional setting or rift environment within, or perhaps behind, an oceanic or continental margin arc.

**DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING:** Marine volcanism; commonly during a period of more felsic volcanism in an andesite (or basalt) dominated succession; locally associated with fine-grained marine sediments; also associated with faults or prominent fractures.

**AGE OF MINERALIZATION:** Any age. In British Columbia typically Devonian; less commonly Permian-Mississippian, Late Triassic, Early (and Middle) Jurassic, and Cretaceous.

**HOST/ASSOCIATED ROCK TYPES:** Submarine volcanic arc rocks: rhyolite, dacite associated with andesite or basalt; less commonly, in mafic alkaline arc successions; associated epiclastic deposits and minor shale or sandstone; commonly in close proximity to felsic intrusive rocks. Ore horizon grades laterally and vertically into thin chert or sediment layers called informally "exhalites".

**DEPOSIT FORM:** Concordant massive to banded sulphide lens which is typically metres to tens of metres thick and tens to hundreds of metres in horizontal dimension; sometimes there is a peripheral apron of "clastic" massive sulphides; underlying crosscutting "stringer" zone of intense alteration and stockwork veining.

**TEXTURE/STRUCTURE:** Massive to well layered sulphides, typically zoned vertically and laterally; sulphides with a quartz, chert or barite gangue (more common near top of deposit); disseminated, stockwork and vein sulphides (footwall).

**ORE MINERALOGY (Principal and subordinate):** Upper massive zone: pyrite, sphalerite, galena, chalcopyrite, pyrrhotite, tetrahedrite-tennantite, bornite, arsenopyrite. Lower massive zone: pyrite, chalcopyrite, sphalerite, pyrrhotite, magnetite.

**GANGUE MINERALOGY:** Barite, chert, gypsum, anhydrite and carbonate near top of lens, carbonate quartz, chlorite and sericite near the base.

**ALTERATION MINERALOGY:** Footwall alteration pipes are commonly zoned from the core with quartz, sericite or chlorite to an outer zone of clay minerals, albite and carbonate (siderite or ankerite).

**ORE CONTROLS:** More felsic component of mafic to intermediate volcanic arc succession; near centre of felsic volcanism (marked by coarse pyroclastic breccias or felsic dome); extensional faults.

**ASSOCIATED DEPOSIT TYPES:** Stockwork Cu deposits; vein Cu, Pb, Zn, Ag, Au.

### EXPLORATION GUIDES

**GEOCHEMICAL SIGNATURE:** Zn, Hg and Mg halos, K addition and Na and Ca depletion of footwall rocks; closer proximity to deposit - Cu, Ag, As, Pb; within deposit - Cu, Zn, Pb, Ba, As, Ag, Au, Se, Sn, Bi, As.

**GEOPHYSICAL SIGNATURE:** Sulphide lenses usually show either an electromagnetic or induced polarization signature depending on the style of mineralization and presence of conductive sulphides. In recent years borehole electromagnetic methods have proven successful.

**OTHER EXPLORATION GUIDES:** Explosive felsic volcanics, volcanic centres, extensional faults, exhalite (chert) horizons, pyritic horizons.

#### **ECONOMIC FACTORS**

**GRADE AND TONNAGE:** Average deposit size is 1.5 Mt containing 1.3% Cu, 1.9 % Pb, 2.0 % Zn, 0.16 g/t Au and 13 g/T Ag (Cox and Singer, 1986). British Columbia deposits range from less than 1 to 2 Mt to more than 10 Mt. The largest are the H-W (10.1 Mt with 2.0 % Cu, 3.5 % Zn, 0.3 % Pb, 30.4 g/t Ag and 2.1 g/t Au) and Kutcho (combined tonnage of 17 Mt, 1.6 % Cu, 2.3 % Zn, 0.06 % Pb, 29 g/t Ag and 0.3 g/t Au).

**IMPORTANCE:** Noranda/Kuroko massive sulphide deposits are major producers of Cu, Zn, Ag, Au and Pb in Canada. Their high grade and commonly high precious metal content continue to make them attractive exploration targets.

#### **REFERENCES**

**Cox, D.P. and Singer, D.A., Editors (1986):** Mineral Deposit Models; U.S. Geological Survey, Bulletin 1693, 379 pages.

**Höy, T. (1991):** Volcanogenic Massive Sulphide Deposits in British Columbia: in Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera, W.J. McMillan, Coordinator, British Columbia Ministry of Energy, Mines and Petroleum Resources, Paper 1991-4, pages 89-123.

**Franklin, J.M., Lydon, J.W. and Sangster, D.M. (1981):** Volcanic-associated Massive Sulphide Deposits; Economic Geology, 75th Anniversary Volume, pages 485-627.

**Hutchinson, R.W. (1980):** Massive Base Metal Sulphide Deposits as Guides to Tectonic Evolution; in The Continental Crust and its Mineral Deposits, D.W. Strangway, Editor, Geological Association of Canada, Special Paper 20, pages 659-684.

**Lydon, J.W. (1984):** Volcanogenic Massive Sulphide Deposits, Part 1: A Descriptive Model, Geoscience Canada, Volume 11, No. 4, pages 195-202.

**Ohmoto, H. and Skinner, B.J., Editors (1983):** The Kuroko and Related Volcanogenic Massive Sulfide Deposits; Economic Geology, Monograph 5, 604 pages.

**Scott, S.D. (1985):** Seafloor Polymetallic Sulfide Deposits: Modern and Ancient; Marine Geology, Volume 5, pages 191-212.

**Sangster, D.F. (1972):** Precambrian Volcanogenic Massive Sulphide Deposits in Canada: a Review; Geological Survey of Canada; Paper 72-22, 44 pages.