ASSESMENT REPORT
of
ISLAND COPPER PROPERTY

Provincial Grid Cell Number – 41K09K377

AWERES TOWNSHIP
ALGOMA DISTRICT, ONTARIO

BY
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FOR

RICH COPPER EXPLORATION

FEBRUARY 22, 2022

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1. SUMMARY

This Assessment Report on the geology and mineralization of the Island Copper Property has been prepared at the request of the Rich Copper Exploration Corporation (hereafter referred to as the Company). The report describes the geology and mineral potential of the property and presents a summary of the geological, geophysical, and drilling exploration work that has been conducted to date. The report also includes new work completed by the Company in 2021.

The work was completed under Permit Number PR-21-000080. All location references use UTM Coordinates under the NAD 83 datum in Zone 16.

The Island Copper property is located about 23 km north of Sault Ste Marie, Ontario; along Highway 556 and adjacent to a Railway Line and has excellent access via network of paved roads in Aweres Township. The Transition Metals owns 100% of the property, and it was optioned to Rich Copper Exploration. The property contains 8 mining claims with 160 hectares area.

The Island Copper Property is situated in Archean granitic and mafic gneisses that have undergone cataclastic deformation producing mostly micro-breccias with lesser amounts of proto-mylonite and mylonitic schist. The rocks occupy a wedge formed by east and northeast trending crustal structures with a history of normal and reverse movement. During the late Keweenawan period, this area was subjected to crustal shortening from the northwest and southeast due to the onset of Grenvillian orogenesis. This resulted in the development of north-northwest trending tensional structures such as the Island Lake Fault Zone and allowed potential access to deep-sourced mineralizing fluids

The property hosts copper mineralization in altered, hematite-rich albite granitic breccias at and near the contact with Gros Cap granite and granodiorite gneiss of Archean age. The mineralized breccias occur near the intersection of major structures and accompanied by alkali metasomatism/alteration (Na +/- K alkali enrichment), and chlorite, amphibole, and Fe-oxide alteration. The copper occurs as chalcopyrite associated with pyrite and Fe-oxides; mostly specular hematite.

Approximately 37 diamond drill holes had been drilled on the property in the past to a maximum vertical depth of about 137 meters. Copper values are reported for most of the drill holes but results cannot be independently verified due to improper storage of the core.

Results from the detailed geological mapping, structural analysis, channel sampling and assaying by previous exploration work indicate that the copper-gold-silver-iron mineralization can be subdivided into two stages an early period of specularite-albite mineralization & alteration, and a later main period of chalcopyrite-pyrite- specularite-albite mineralization & alteration.

The second and main period of mineralization is closely related to major north-northwest trending brittle faults and fractures and is particularly intense where NNW structures are intersected by ENE and NE trending fractures and faults. The NNW structures comprise the Island Lake Fault Zone, which is approximately 400 meter wide and follows Highway 552. A cross-section of the fault zone displays a step-like pattern produced by a series of mineralized fault scarps on either side of the highway suggestive of a small graben structure.

The relative timing of the main mineralizing event at the Island Copper Property is consistent with the mineralizing episode(s) that gave rise to Keweenawan-age Cu-Ag-Au hydrothermal systems such as at the Copper Corp and Tribag Mines in the Mamainse Point area to the north. As such, the IOCG deposit model provides the best framework to guide exploration for copper-precious metal deposits in the Island Lake and surrounding area.

The work reported in this report includes 3.94 Km of ground VLF-EM geophysical surveys completed by Superior exploration over the claims owed by Transition Metals from March 25th to April 4th , 300 meters of drilling completed by Forages Gylles from November 4th to November 7th, drill core sampling and assaying.

The VLF Survey identified 6 northwesterly trending anomalies across the claims. The final report of the survey recommended further follow-up on these especially the western most anomaly.

The sampling and assaying associated with the drilling failed to identify significant copper mineralization but did further define the breccia zone associated with some of the copper occurrences.

2. INTRODUCTION AND TERMS OF REFERENCE

2.1 Introduction

This report on the Island Copper Property is based on VLF EM geophysical surveys carried out by Superior Exploration between April 4th and May 18th 2021 and exploration drilling completed from November 4th to November 7th 2021 by Forage Gyllis 2021 sample analyses from 51 drill core samples recovered from the November drilling, and compilation of previously published maps, reports, research papers and other historical data.

This report describes the geology, mineralization, structure, alteration, and mineral potential of the property, and presents a summary of the relevant geological work that has been carried out to date. The present geological evaluation is based largely on published reports and historical data, drilling results from the 2021 drilling and 2021 VLF geophysical surveys.

The work completed in this report is described in the table below:

Island Copper Work Summary		
VLF Lines		
Claim Number	Length	Units
508483	0.96	Km
508477	1.13	Km
508480	0.42	Km
508479	1.21	Km
508482	0.22	Km
TOTAL	**3.94**	**Km**
Diamond Drilling		
Claim Number		
508483	300	meters
508483	51	Assays

Detailed geological mapping was also completed during 2004 by D. Tortosa based on two road cuts along Highway 552 and over the exposed outcrop areas in the Caswell Gravel Pit and on all stripped/trenched areas of the Island Copper Occurance. Tortosa previously investigated the property in November 2003 and completed a preliminary 3D-model and analysis of historical diamond drill holes (Moss and Tortosa, 2003). This work forms the bulk of the geological information referenced herein.

Further geological information was obtained from a detailed petrographic report prepared by Camier and Mumin (1999), describing the petrography of selected samples from the Island Copper property (Camier and Mclellan, 2000; Camier and Oosterman, 2001).

2.2. Units of Measurement, Abbreviation and Nomenclature

The units of measurement presented in this report, unless otherwise denoted, are in the metric system. A list of the main abbreviations and terms used throughout the report are presented in Table 1.

Abbreviations	Full Description	Abbreviations	Full Description
-	Minus	Gpt	Gram per tone
GPS	Global Position System	Gn	Galena
%	Percent	Hz	Hertz
+	Plus	K	Potassium
<	Less than	Km	Kilometre
AFRI	Assessment File Research Image	LRIA	Lakes and Rivers Improvement Act
Ag	Silver	M	Metre
As	Arsenic	MDI	Mineral Deposit Inventory
ATV	All Terrain Vehicle	MLAS	Mining Lands Administration System
Au	Gold	MNDM	Ministry of Energy, Northern Development and Mines
Bi	Bismuth	Gn	Galena
C	Celsius		
Cm	Centimetre		
Co	Cobalt	Hz	Hertz
Cu	Copper	K	Potassium
DFO	Department of Fisheries	Km	Kilometre
E	East	LRIA	Lakes and Rivers Improvement Act
Fe	Iron	M	Metre
Ga	Billions of Years	MDI	Mineral Deposit Inventory

TABLE 1. DESCRIPTION OF MEASUREMENT UNIT, SYMBOLS, AND NOMENCLATURE ABBREVIATIONS

3. PROPERTY LOCATION AND DESCRIPTION

3.1 Location and Description

The Island Copper property is located approximately 23 kilometers northeast of Sault Ste. Marie, Ontario, north of the cottage community of Island Lake and northwest of the junction between Highway's 556 and 552. The Island Copper property is easily accessible by paved highway from Sault Ste. Marie by traveling north along the Trans-Canada Highway 17 for about 15 kilometers to Hayden. Then from there northeast on Highway 556 for approximately 5 kilometers to the junction of Highways 552 and 556 in the southeast corner of the property. The property lies west of Highway 552 for approximately 3.5 kilometers NNW of the junction with Highway 556 (Figure 1).

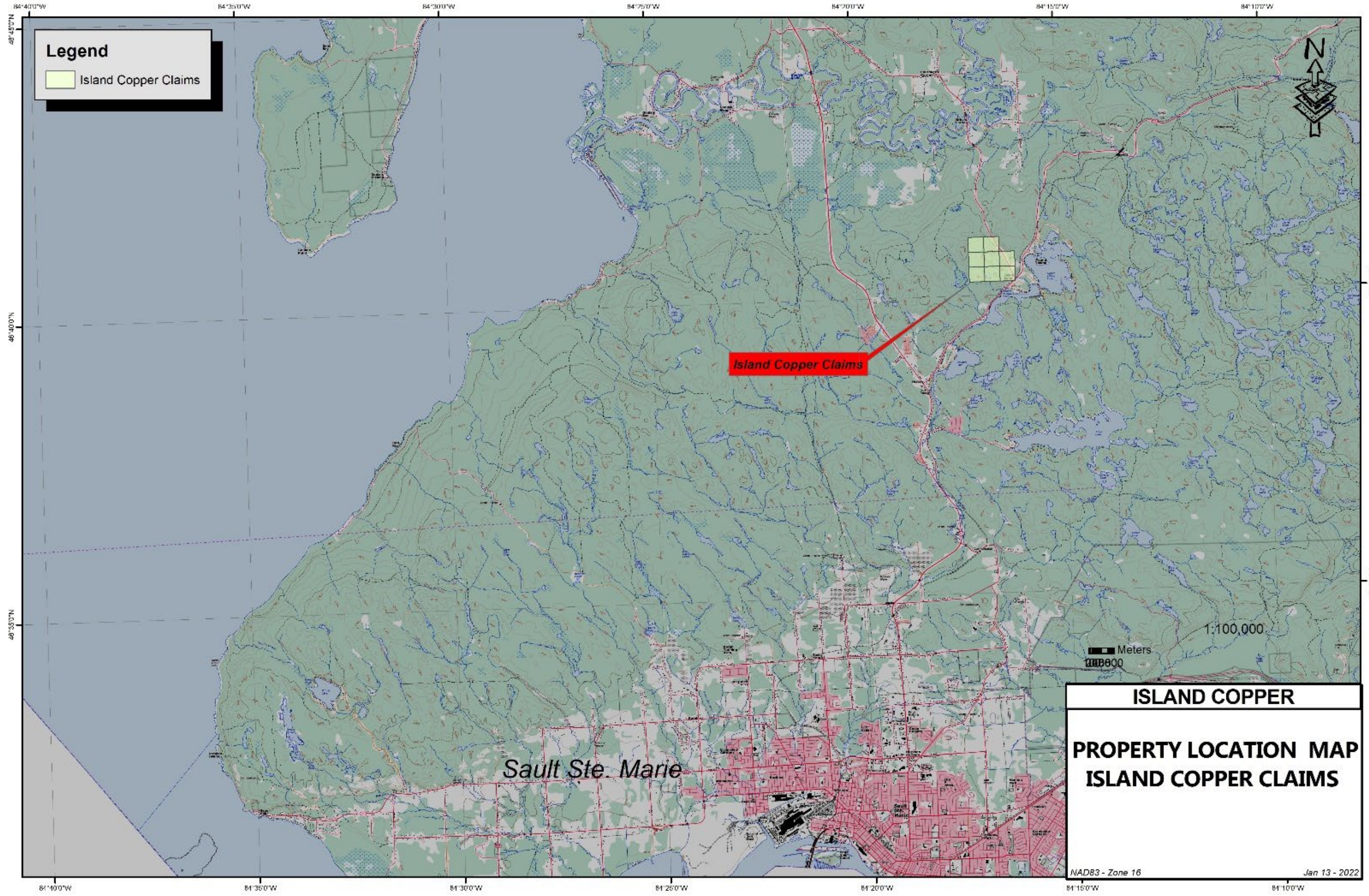

Figure 1. Regional Location Map Showing Island Copper Property Claims in Sault Ste Marie Area, ON

3.2 Mining Tenure

The property consists of eight claims of which five were optioned from Transition Metals and three were staked by Rich Copper Exploration Inc (Figure 2). Most of the surface rights on the property are owned by a private individual. This is indicated by the purple stripped area in Figure 2. There is also Patented mining claims to the north (solid purple in Figure 2). The claims have two due dates as indicated on the Table below. The original claims are due in April 2022, while the additional claims are due in November 2022. Work was completed on 5 of the property's 8 claims belonging to Transition Metals.

Claim Number	Due Date	Owner
508477	10-Apr-22	Transition
508479	10-Apr-22	Transition
508480	10-Apr-22	Transition
508482	10-Apr-22	Transition
508483	10-Apr-22	Transition
619188	15-Nov-22	Rich Copper
619189	15-Nov-22	Rich copper
619190	15-Nov-22	Rick Copper

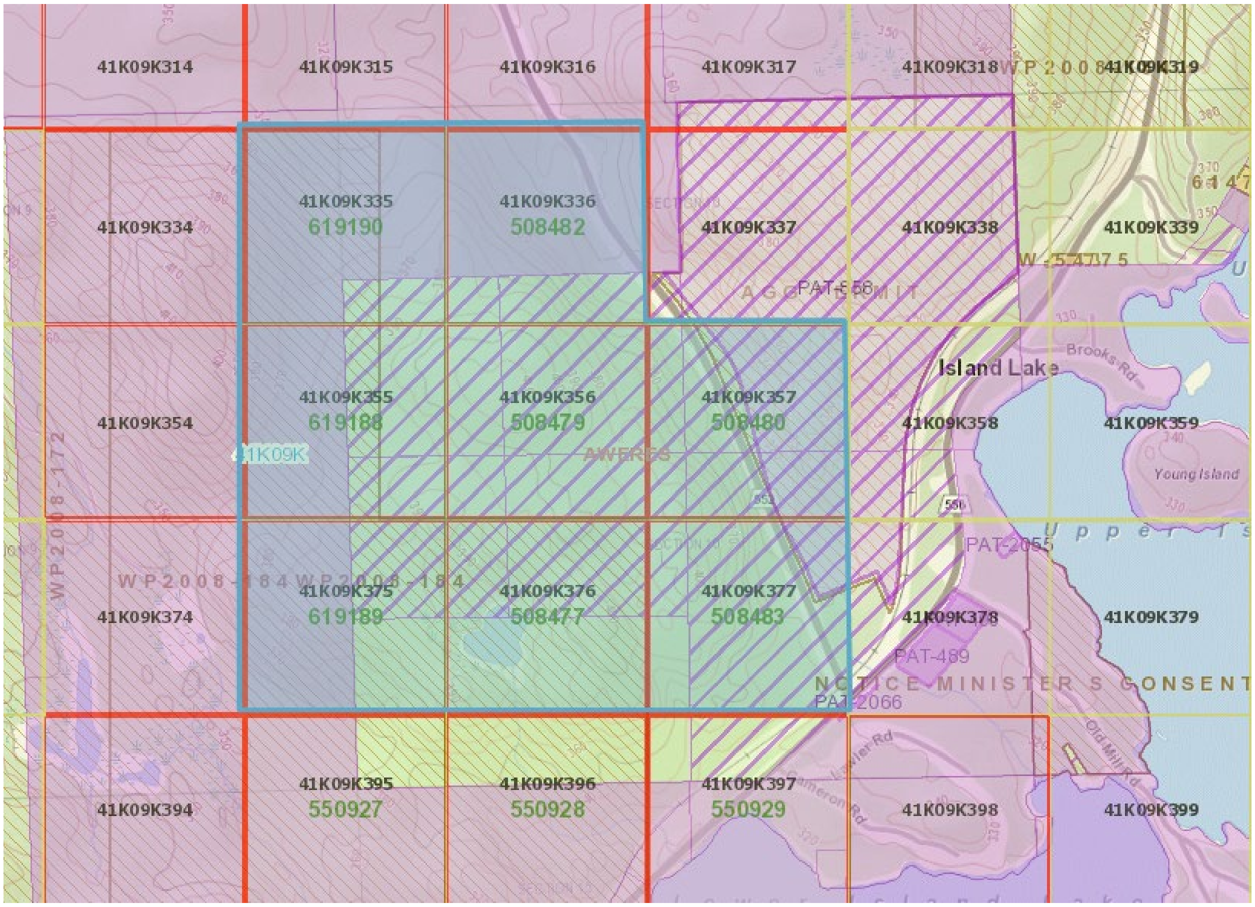

Figure 2: Island Copper Property Claims

4. DISCLAIMER

All statements regarding historical diamond drilling and associated assays data cannot be independently verified since the drill core has not been maintained in a useable condition. Also, historical surface assays have not been independently verified. However, some of the drill logs with assay data are available for review. Petrographic and geochemical analyses were not completed on the rocks in the mapped area by the current author but the results are considered reliable because they were completed by competent companies. Previous reports and research by other authors were reviewed to define the Cataclastic classifications of the rocks by the author and were derived from work in similar terranes and from available reports of work on the property.

5. LOCATION, ACCESSIBILITY, INFRASTRUCTURE, LOCAL RESOURCES,

5.1. Location and Accessibility

The Island Copper property is located approximately 23 kilometers northeast of Sault Ste. Marie, Ontario, north of the cottage community of Island Lake and northwest of the junction between Highways 556 and 552. The Island Copper property is easily accessible by paved highway from Sault Ste. Marie by traveling north along the Trans-Canada Highway17 for about 15 kilometers to Hayden. Then from there northeast on Highway 556 for approximately 5 kilometers to the junction of Highways 552 and 556 in the southeast corner of the property. The property parallels Highway 552 for approximately 3.5 kilometers NNW of the junction with Highway 556 (Fig 1).

The Canadian National Railway (formerly Algoma Central Railway -ACR) line passes near the southeast boundary of the property. A 5-car spur line is located off the gravel quarry on the eastern side of the property immediately east of Highway 552, across from the main Cu-showing of the Island Copper property. Within the project map area itself, access to the Hilltop Prospect and several of the stripped/trenched areas on top of the hill is via a bush road and skidder trail. Additional stripped/trenched areas, road cuts, and the Caswell Gravel Pit are accessible directly from Highway 552 (Fig. 2). The drilling completed by Rich Copper in 2021 was accessed by a drill road that traverses the property from north to south parallel to Highway 552.

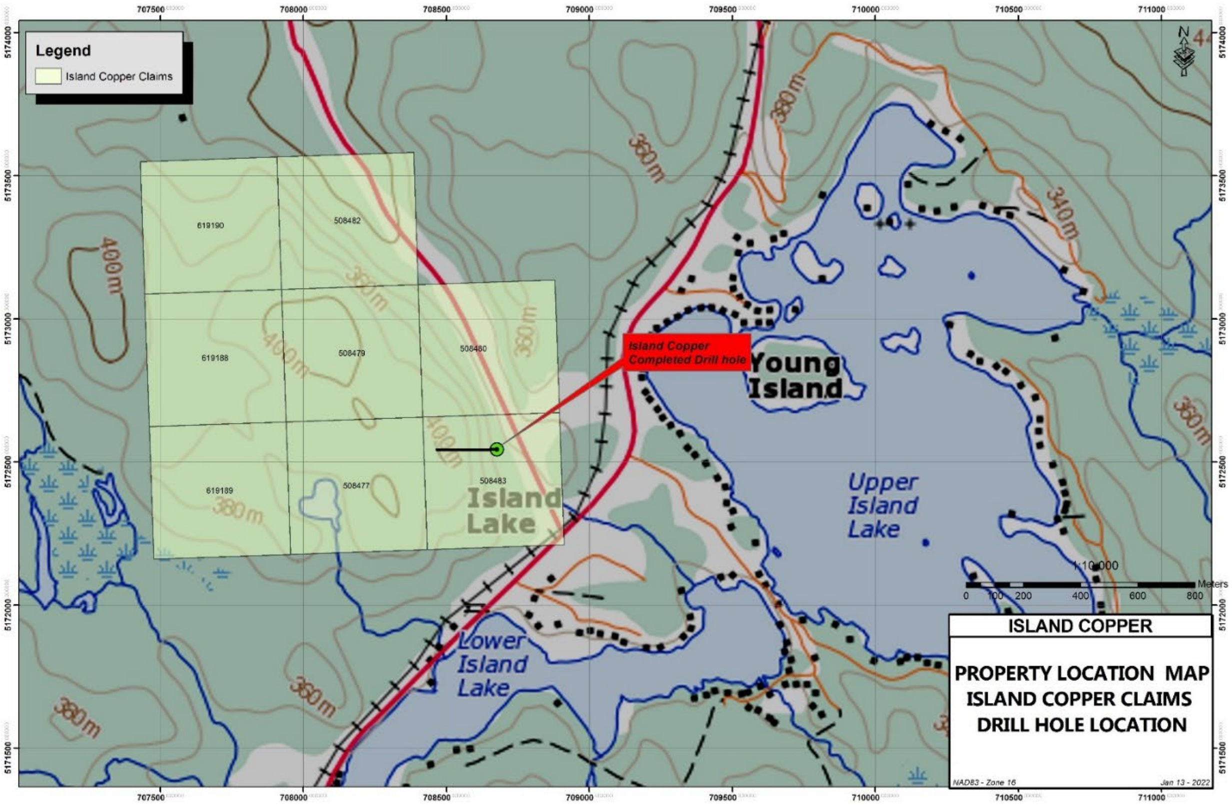

Figure 3. Location Map with Claims Numbers and 2021 Drill Hole Location of Island Copper Property, Sault Ste Marie, ON

5.2. Infrastructure and Local Resources

Infrastructure in the vicinity of the property is excellent. In addition to the above-mentioned CNR railway line and paved highways, electrical power lines run along the highways, and air and port facilities are available in Sault Ste Marie. Sault Ste. Marie is a major commercial and industrial city of approximately 80,000 inhabitants located on the St. Mary's River which connects Lake Superior and Lake Huron. Sault Ste. Marie serves a large portion of north-central Ontario, and is connected by bridge directly to Sault Ste. Marie, Michigan.

5.3. Climate and Physiography

The climate and physiography of the property is typical of the Canadian Shield east of Lake Superior. The climate is northern temperate with warm summers and cold winters with snow approximately from November through to Early April. Annual average temperature range is 15-25 Celsius during summers and as low as -20 degree Celsius during winters.

Moderately steep hilly terrain occupies central portions of the property, while the northern area drops steeply at first, then gently towards the Goulais River valley. The region is covered by a mixture of outcrop and overburden, consisting of glacial sand and gravel till of varying thickness, covered by humus. Outcrop exposure averages approximately 10% and occurs predominantly as rocky ridges, on hilltops and as cliff faces. A thin veneer of glacial overburden and humus occurs along the flanks of rocky ridges and covers small valleys between the ridges in the southern areas of the property. The thickness increases northwards towards the Goulais River valley where outcrop exposure is minimal to non- existent.

Thick stands of maple alternating with cedar and spruce are the main tree species in the area. Drainage along the northern portion of the property is towards the Goulais River to the northwest and forms deep ravines with fast-flowing creeks. However, drainage is relatively poor in the central highland area of the property and forms occasional swamps and beaver ponds between the hills with surface water available for diamond drilling. Water for hydraulic stripping is limited to a small pond at the Caswell Gravel Pit and a small stream that flows out of it, and a small lake on the hilltop 1-2 kilometres from the main areas of mineralization. Within the detailed map area, the area immediately east and west of Highway 552 is characterized by steep cliffs, ridges, and scarps which trend in a NNW direction. These NNW ridges and scarps are transected by northeast trending ridges and topographic lows which reflect dominant fracture orientations in the area. Topographic relief west of Highway 552 is in the order of 80-100 metres with the NNW trending ridges exhibit a step- like nature towards the highways suggestive of block faulting.

6. EXPLORATION HISTORY

Copper mineralization was first discovered in the area over 90 years ago. Very little information about the early exploration history can be found, the exception being an historic adit on the property. The adit has since been backfilled and the length of the drift is unknown with only the top of the adit visible below a horizontal drill hole. The ground was reportedly explored during the 1950's with some diamond drilling. However, detailed assessment research conducted by Highland-Crow Resources Ltd., Falconbridge Limited and the authors could not find any records of this drilling. The Geological Survey of Canada and the Ontario Geological Survey carried out reconnaissance mapping in the region during 1964 and 1965, respectively. This work generated some interest in the potential of the area. A detailed summary of exploration of the area and property is listed in Table 2.

Prospecting in 1965 by Kennco Explorations (Canada) Ltd. near the adit led to the discovery of the hilltop showing. Kennco defined an area of chalcopyrite and hematite mineralization occurring in outcrop over an area of 650 meters by 400 meters. Geochemical analysis coupled with petrographic examinations revealed that host rock for the chalcopyrite and hematite was an albite-rich syenite (also referred to as albite granite in this report). They determined the syenite consisted of 65% albite, 15% orthoclase, and 15% quartz, with minor amounts of chlorite, apatite, pyrite and chalcopyrite. Kennco conducted geophysical surveys over the exposed mineralized zones, which included ground EM, resistivity, and IP (induced polarization). Their geophysical survey delineated a horseshoe-shaped anomaly, which was coincident with the surface mineralization. Further work conducted by Kennco included geochemical assays for copper, geological mapping on a grid cut over the property, and digging and blasting of numerous trenches within mineralized zones. They culminated their exploration of the property with 2,751.4 feet (838.6 meters) of diamond drilling in eighteen drill holes (Figures 4,5,6 and 7). Significant work results from the diamond drilling are listed in Table 3. (after Mumin and Camier, 2002, Carnier and McLellan, 2000 and Tortosa and Moss 2005)

Year of Work	Name of Company	Work Conducted
Pre 1960	Unknown, no records were found of the companies who previously worked the area.	Early prospecting led to the drifting of an historic adit. Diamond drilling was reported to have occurred one in the 1950's., although no records have been recovered.
1964 to 1965	Geological Survey of Canada. Ontario Geological Survey	Regional reconnaissance and mapping.
1965 - 1966	Kennco Explorations (Canada) Ltd.	Prospecting, Geological mapping, Geophysics, Geological sampling and Geochemical assaying, Diamond Drilling Eighteen diamond drill holes, 2700 feet - 822.96 m
1970	H. Nystedt	Prospecting and Diamond Drilling (2 diamond drill holes; 503 feet {153.31 m})
970 - 1971	Copperville Mining Corp.	Diamond Drilling (10 diamond drill holes. 3,558.6 feet {1084.66 m})
981 – 1982	Highland-Crow Resources Ltd.	Geological mapping, Geochemical sampling, line cutting,
2000 – 2001	Falconbridge Limited	Geophysical airborne survey, I.P. survey (Fraser Filtered Chargeability), and Residual Gravity survey, Geological mapping, Geochemical sampling, line cutting

Table 2. Summary of historical mineral exploration work conducted on the Island Copper property, Sault Ste Marie, ON

No further interest in the property is recorded until 1970, when prospector H. Nystedt drilled two holes totaling 503 feet (153.3 meters) southwest of the hilltop showings. This sparked some interest by Copperville Mining Corp. who optioned the property in 1970 and 1971. They conducted a ten-hole drilling program in 1971 totaling 3,558.6 feet (1084.7 metres). Their drill program tested the property to greater depths than Kennco, with the deepest hole extending to 167 metres depth and ending in brecciated granite and chloritized mafic rock. The noteworthy results of the diamond drilling are listed in Table 3.and 4. Detailed drill hole locations are given in Figures 4 to 7.

Hole No.	Easting	Northing	Elevation (m)	Date	Azi	Dip	Depth	Drilled by
KO-65-01	708494.5	5172445.68	121.0	05/12/1965	0	90	61.89	Kennco Explorations Ltd.
KO-65-02	708494.43	5172467.68	122.0	08/12/1965	37	45	93.6	Kennco Explorations Ltd
KO-65-03	708515.11	5172517.28	120.0	10/12/1965	127	45	63.41	Kennco Explorations Ltd
KO-65-04	708475.11	5172463.06	122.0	13/12/1965	37	45	46.34	Kennco Explorations Ltd
KO-65-05	708402.16	5172479.88	118.0	14/12/1965	92	45	55.79	Kennco Explorations Ltd
KO-66-06A	708521.59	5172422.94	120.0	09/10/1966	0	90	23.57	Kennco Explorations Ltd
KO-66-06B	708526.59	5172422.9	120.0	10/10/1966	0	90	23.17	Kennco Explorations Ltd
KO-66-06C	708524.17	5172421.69	120.0	11/10/1966	0	90	44.82	Kennco Explorations Ltd
KO-66-07	708582.61	5172529.61	113.0	13/10/1966	0	90	38.87	Kennco Explorations Ltd
KO-66-08	708543.16	5172612.02	108.0	14/10/1966	0	90	45.73	Kennco Explorations Ltd
KO-66-09	708509.84	5172709.76	103.0	16/10/1966	0	45	53.66	Kennco Explorations Ltd
KO-66-10	708613.01	5172452.25	113.0	19/10/1966	0	90	50.3	Kennco Explorations Ltd
KO-66-11	708722.8	5172446.15	96.0	22/10/1966	0	90	41.77	Kennco Explorations Ltd
KO-66-12	708732.84	5172459.07	96.0	23/10/1966	228	45	69.39	Kennco Explorations Ltd
KO-66-13	708674.51	5172722.69	96.0	25/10/1966	0	90	28.05	Kennco Explorations Ltd
KO-66-14	708745.46	5172756.85	107.0	27/10/1966	75	45	18.29	Kennco Explorations Ltd
KO-66-15	708691.92	5172754.88	98.0		75	45	22.26	Kennco Explorations Ltd
KO-66-16	708660.28	5172737.77	94.0		70	45	62.5	Kennco Explorations Ltd
CPP-70-1	708488.71	5172402	123.0	25/09/1970	0	45	76.22	Copperville Min. Corp.
CPP-70-2	708487.4	5172399.96	123.0	03/10/1970	0	65	77.13	Copperville Min. Corp.
CPP-70-3	708574.59	5172551.26	112.0	07/10/1970	280	45	121.95	Copperville Min. Corp.
CPP-70-4	708573.7	5172437.65	118.0	14/10/1970	280	45	92.07	Copperville Min. Corp.
CPP-70-5	708655.37	5172436.24	106.0	19/10/1970	260	45	91.46	Copperville Min. Corp.
CPP-70-6	708775.98	5172473.68	96.0	02/11/1970	280	90	152.44	Copperville Min. Corp.
CPP-70-7	708777.58	5172471.85	96.0	14/12/1970	280	55	167.26	Copperville Min. Corp.
CPP-71-8	708774.82	5172472.08	96.0	06/01/1971	280	65	152.44	Copperville Min. Corp.
CPP-71-9	708617.58	5172581.23	101.0	20/01/1971	255	45	92.99	Copperville Min. Corp.
CPP-71-10	708633.64	5172526.59	104.0	28/01/1971	255	45	60.98	Copperville Min. Corp.
TBG-71-1	707402.97	5171360.41	114.0		270	45	91.46	Tri-Bridge Mines Ltd.

TBG-71-3	707658.04	5171277.3	103.0		270	45	69.21	Tri-Bridge Mines Ltd.
TBG-71-4	707779.23	5171365.8	101.0		270	45	77.44	Tri-Bridge Mines Ltd.
TBG-71-5	707708.82	5171919.7	106.0		270	0	60.98	Tri-Bridge Mines Ltd.
TBG-71-5A	707753.53	5171917.79	106.0		270	45	90.85	Tri-Bridge Mines Ltd.
TBG-71-6	707765.28	5171808.17	108.0		270	45	60.98	Tri-Bridge Mines Ltd.
TBG-71-7	708046.24	5171606.84	114.0		270	45	91.46	Tri-Bridge Mines Ltd.
TBG-71-8	707765.48	5171702.28	106.0		270	45	60.06	Tri-Bridge Mines Ltd.
TBG-71-9	707880.09	5171450.15	104.0		270	45	61.28	Tri-Bridge Mines Ltd.

Table 2. Summary of Historical Diamond Drill Holes with coordinates, Azimuth (Azi), Dips and Depths on the Island Copper property, Sault Ste Marie, ON

Company Name	**Diamond Drill Hole**	**From: metres**	**To: metres**	**Intersection: metres**	**Cu (%)**	**Au (g/tonne)**
Kennco Exploration	KO-65-01	2.135	13.25	11.59	3.4	0.9
	KO-65-02	1.52	6.40	4.88	0.85	trace
	KO-65-04	2.44	15.86	13.42	0.48	
H.Nystedt	2 diamond drill holes	N/A	Total 153.31	N/A	N/A	N/A
Copperville Mining Corporation	Cpp-70-01	14.00	18.30	4.30	3.01	N/A
	Cpp-70-03	42.70	46.79	4.09	1.14	
	Cpp-70-04	19.83	21.35	1.53	0.63	
		36.60	42.70	6.10	1.70	
	Cpp-70-05	22.72	24.16	1.43	0.88	
	Cpp-70-06	6.10	6.86	0.76	1.14	
		15.25	31.23	15.98	0.83	
		35.84	36.60	0.76	0.75	
		86.93	88.02	1.10	0.75	
		96.69	102.79	6.10	1.04	
	Cpp-71-09	38.13	42.70	4.58	1.08	
		54.29	54.90	0.61	1.71	
	Cpp-71-10	44.23	48.80	4.58	0.70	
		57.95	61.00	3.05	0.95	

Table 3. Kennco Exploration and Copperville Mining Corporation assay results of diamond drill intersections.

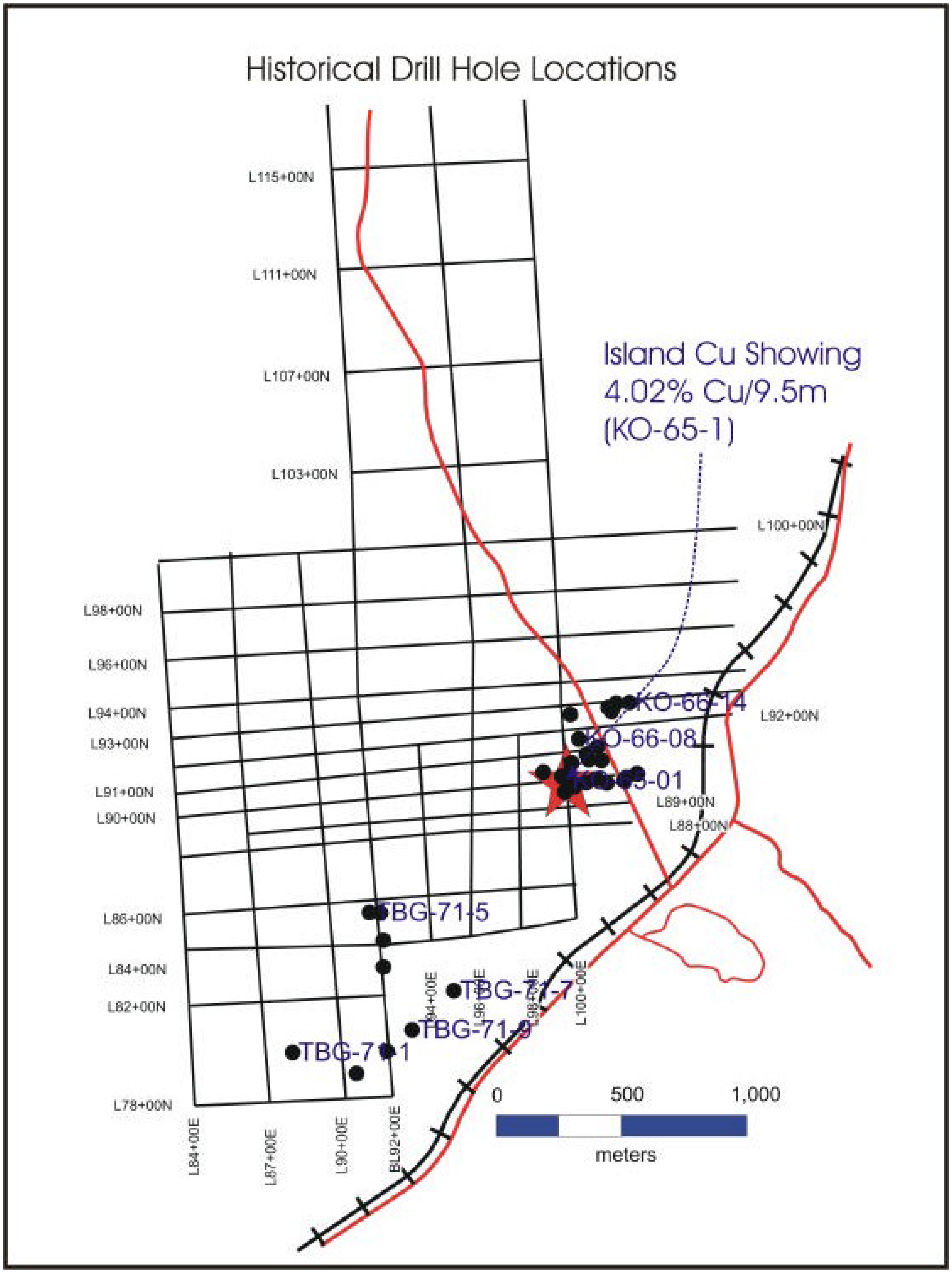

Figure 4. Historical Drill Hole Map on Island Copper Property, Sault Ste Marie, ON

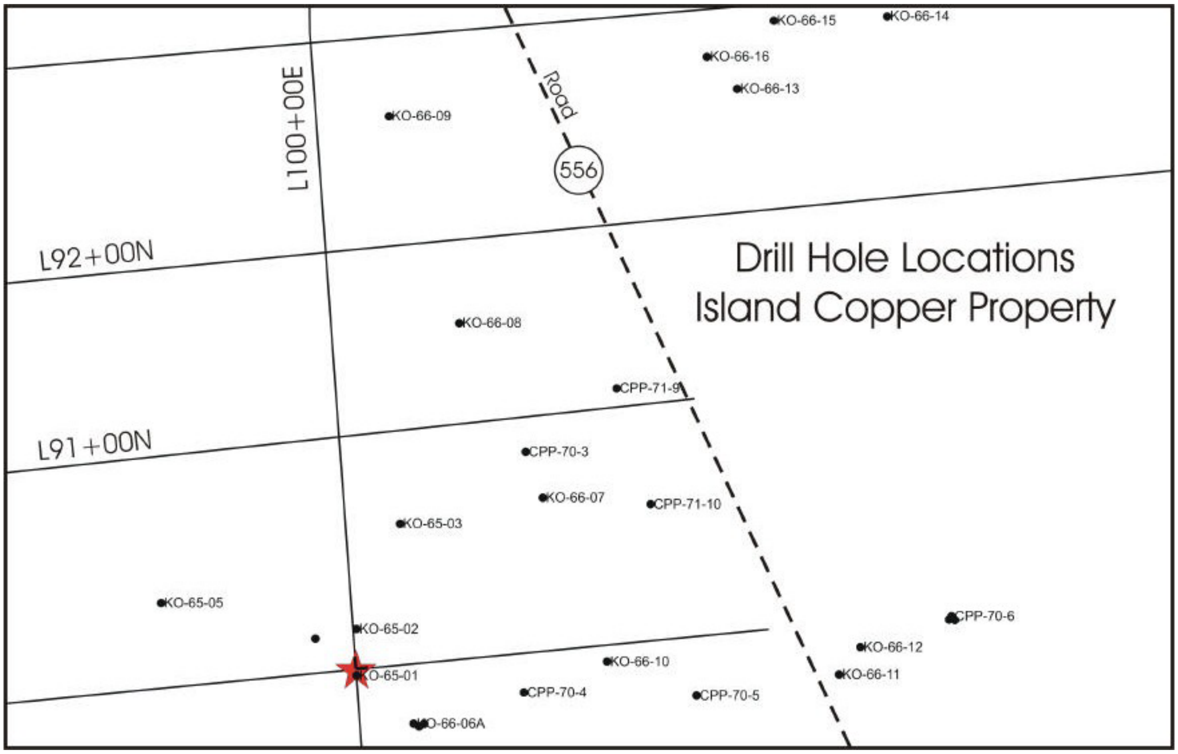

Figure 5. Historic Drill Hole Detailed Location Map of Island Copper, Sault Ste Marie, ON

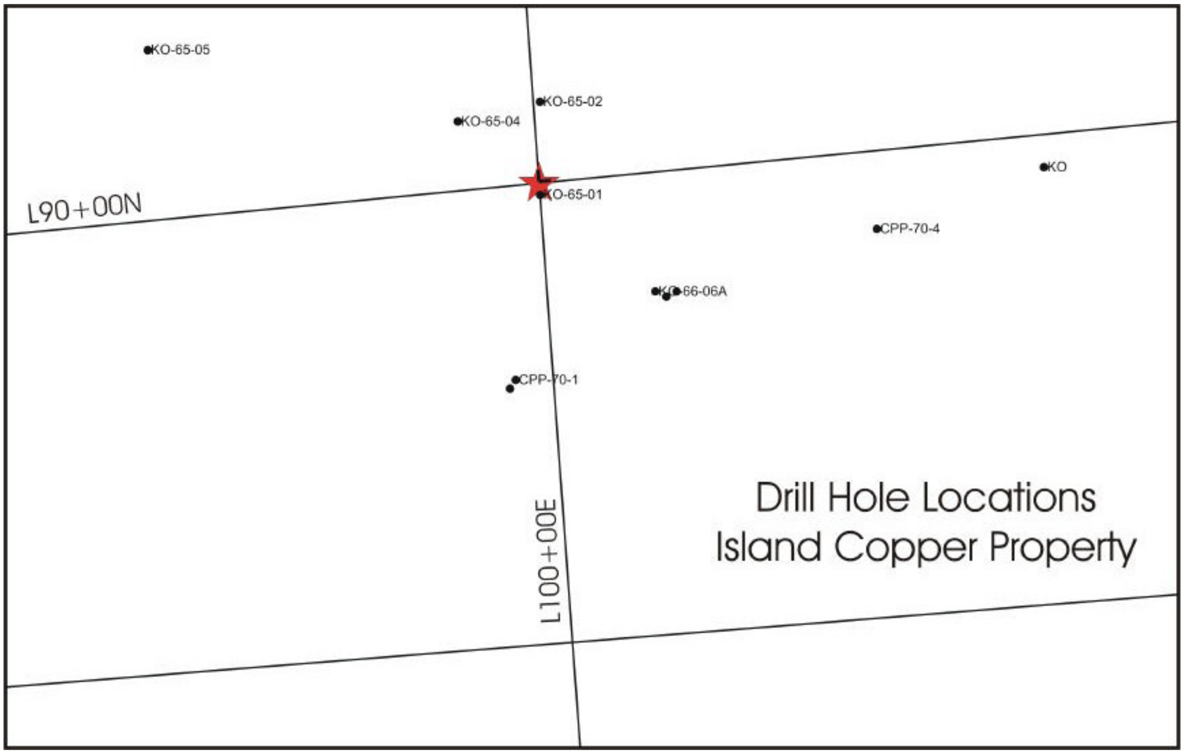

Figure 6. Historic Detail Drill Hole Location Map of Island Copper, Sault Ste Marie, ON

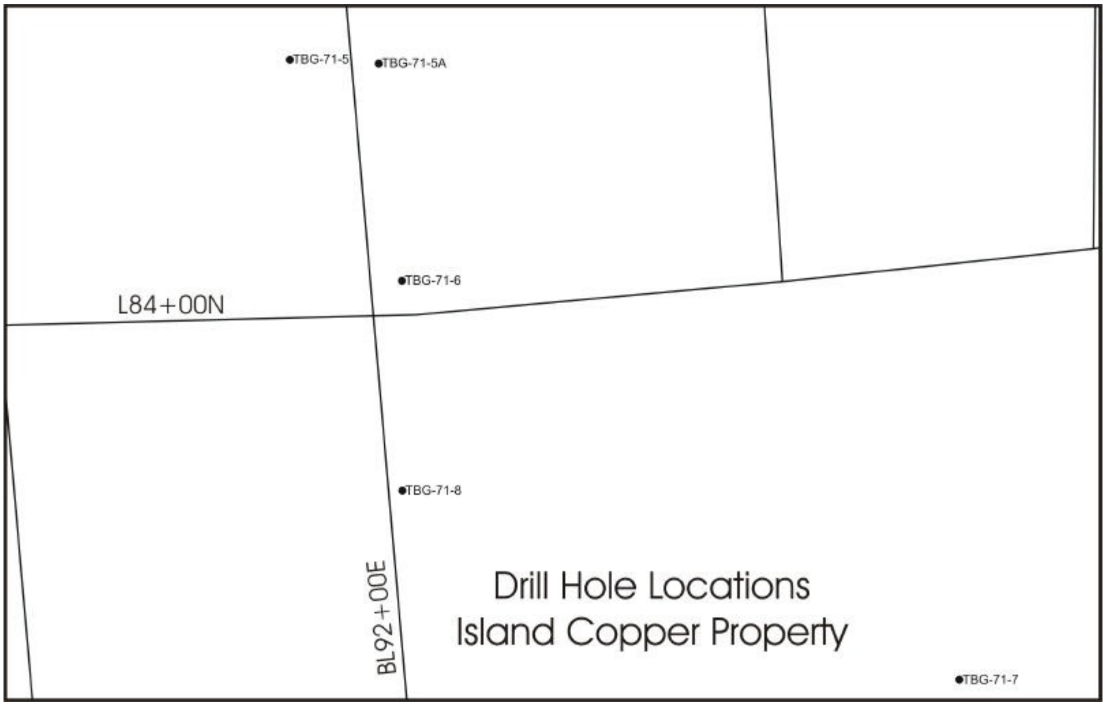

Figure 7: Historical Drill Hole Location Map of Island Copper, Sault Ste Marie, ON

Highland-Crow Resources conducting a regional reconnaissance program during the 1980 to 1981 field seasons and concluded that the area warranted further investigation. They optioned the property from the YMCA of Sault Ste Marie and Mr. Nystedt in 1981. Their first phase of exploration included field mapping over the property to establish geological limits to the alteration, mineralization and extents of brecciation. A proposal for their 1983 exploration program of the property included at least three diamond drill holes, trenching and further geochemical sampling (Highland-Crow, 1983). However, no further information was found in the assessment files, and it is doubtful as to whether this work was completed.

As part of a regional prospecting project, prospector F. Racicot collected four grab samples from the main mineralized zone of the property. His samples averaged greater than 1% Cu and contained between 24 and 373 ppb Au. Other companies that have worked in the region include Tri-Bridge (663.7 meters of drilling on or near the property), Delta Minerals, and Colleen Copper. At least 39 holes have been drilled to date on or adjacent to the property, for an approximate total of 2,740.3 meters.

The most recent work on the property has been conducted by Falconbridge Limited. During a regional exploration program undertaken by Falconbridge the property was visited with the Ontario Geological Survey regional field geologist from Sault Ste. Marie. They determined the area required investigation and optioned the property from the YMCA in February of 2000. Falconbridge staked additional ground around the patent claims, and conducted a detailed airborne Heli-mag survey in early 2000. A grid was cut over the property in the spring of 2000, followed by geological mapping and rock geochemical sampling during the 2000 summer field season. Falconbridge then optioned the Nystedt surface and mining leasehold patents in August of 2000 from the Nystedt family of Sault Ste Marie. A ground gravity survey was conducted over the properties in late fall of 2000. During the 2001 field season a grid line extension was cut over the Nystedt property followed by geological mapping, rock sampling for geochemistry and assay, and a Fraser Filtered IP chargeability survey (Figure 10).

Regional aeromagnetic data are available from both the Geological Survey of Canada (GSC) and the Ontario Geological Survey (OGS) (Figures 8 and 9 , respectively). The Island Copper Property occurs within the intersection of broad, relatively low and poorly defined regional trends of magnetic highs. An NNW trend of moderated magnetic highs stretches from Echo Bay, east of Sault Ste. Marie to west of Mamainse Point on Lake Superior. A second broad ENE trend of moderate magnetic highs intersects the NNW trend in the region of the Island Copper property (Figure 8). An ovoid point-source magnetic anomaly of ~ 500 gammas is centered ~ 3 km NE of the property. A minor ovoid 50 gamma anomaly is located in the SW portion ofthe property (Figure 9).

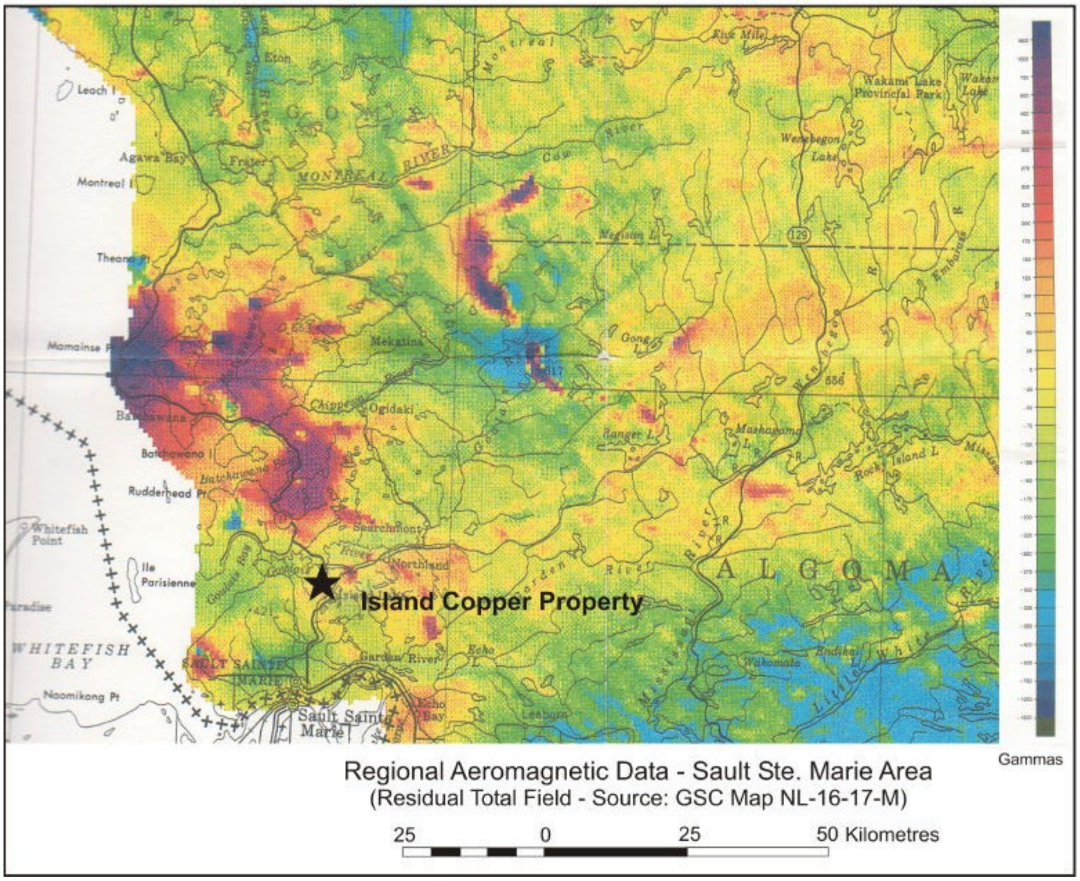

Figure 8. Regional Residual Total Field Aeromagnetic map showing Island Copper, Sault Ste Marie, ON. (Data from Geological Survey of Canada. (after Mumin and Camier 2002)

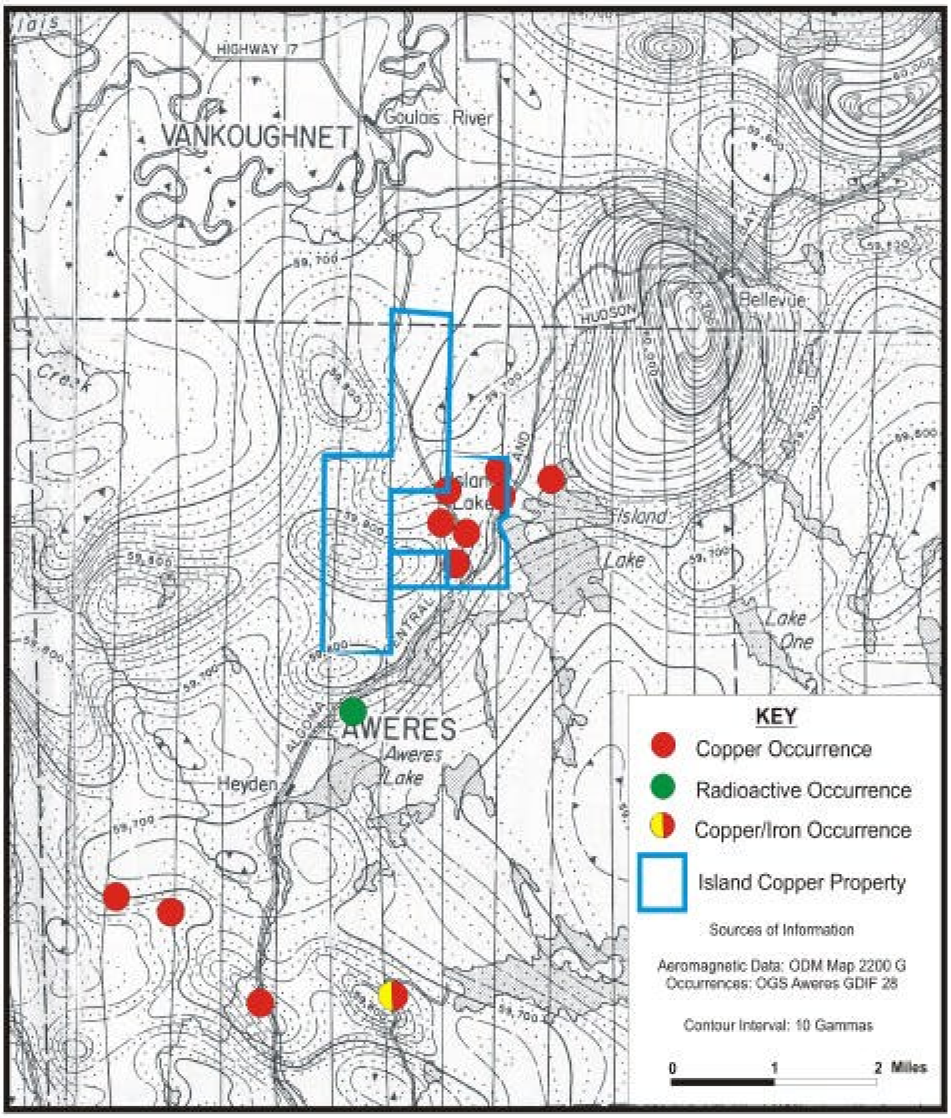

Figure 9 Aeromagnetic Data and Mineral occurrences in Island Copper, Sault Ste Marie, ON (AFTER MUMIN AND CAMIER 2002)

Several geophysical surveys were conducted over the property on behalf of Falconbridge, including detailed heli-mag, ground gravity and induced polarization (IP) as shown in Figures 10 and 11). The gravity and induced polarization surveys resulted in a significant coincident anomaly. A linear gravity high anomaly of up to ~ 1 m Gal extends east-west across the property and is coincident with the mineralized showing on the east side of the property. The induced polarization survey indicates a broad zone of high chargeability (up to ~ 10mV/V) that is partly coincident with the gravity high.

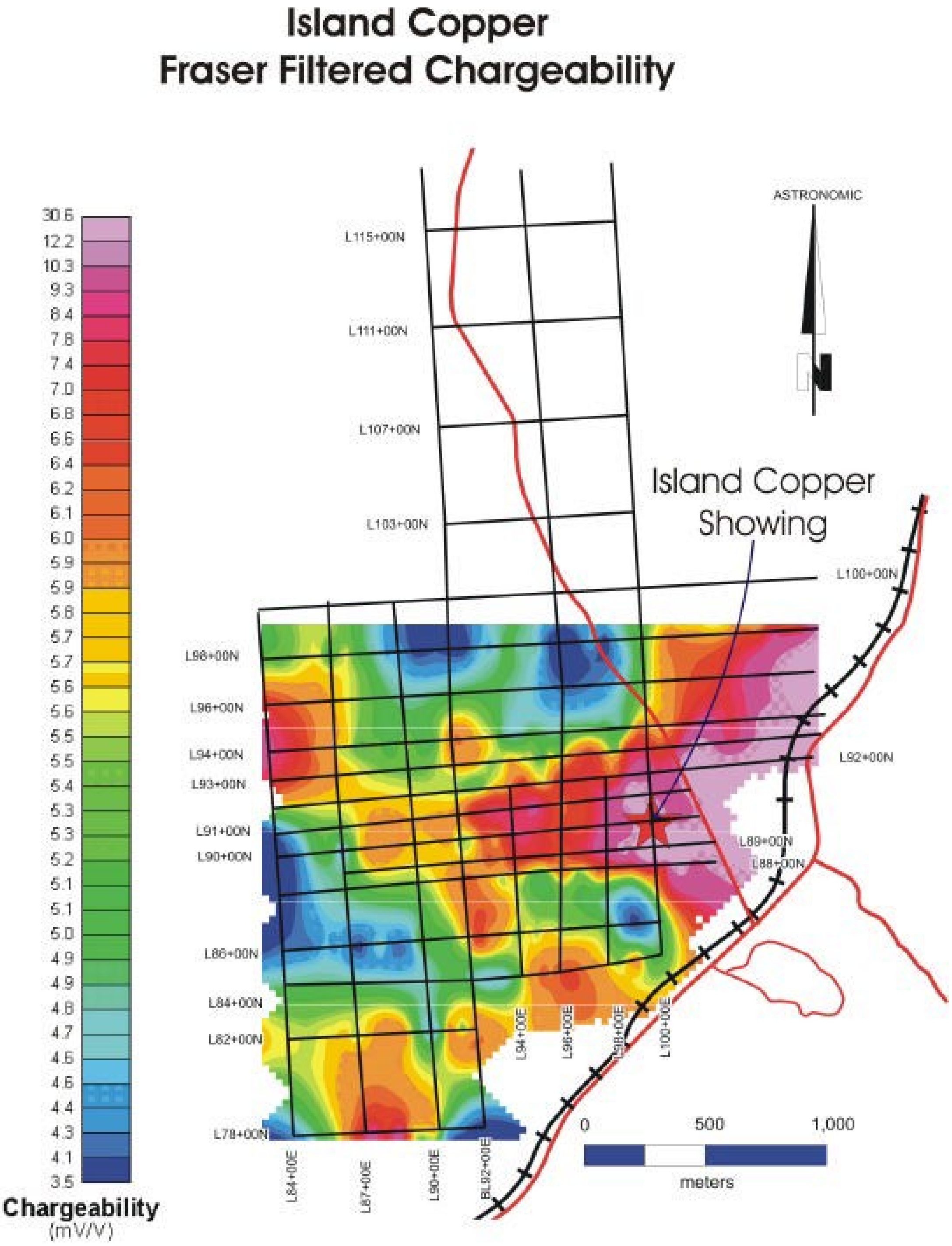

Figure 10. Fraser Filtered Chargeability Map of Island Copper, Sault Ste Marie, ON

(after Mumin and Camier 2002)

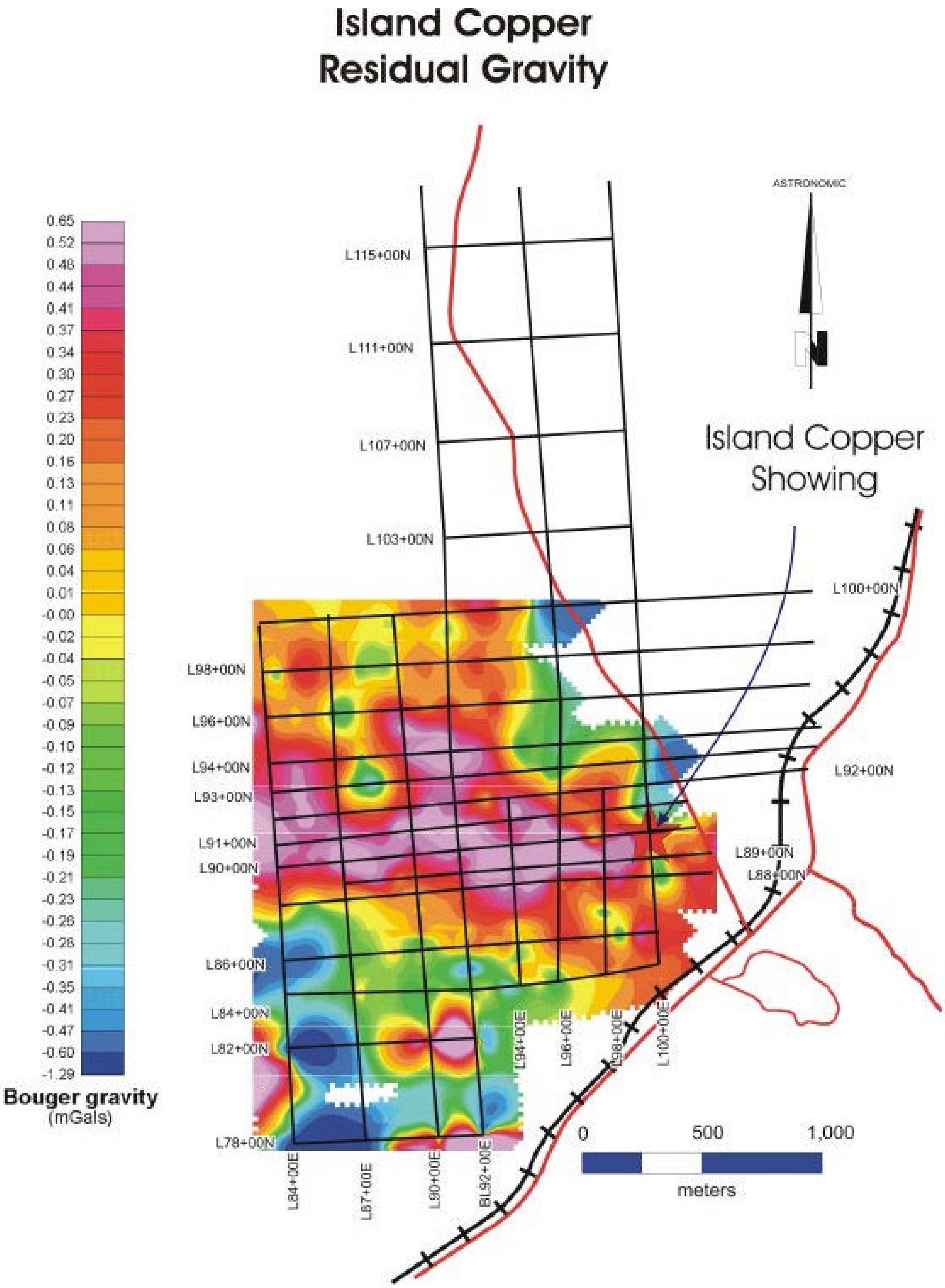

Figure 11. Residual Gravity Map of Island Copper, Sault Ste Marie, ON (After Mumin and Camier 2002)

The only diamond drilling information available for examination is drill logs only. Falconbridge Limited reviewed the historic assessment files and determined that at least 39 diamond drill holes have been drilled on or adjacent to the property for an approximate total of 2,740.3 meters. A list of known drill holes is given in Table 4. The diamond drill core is not available for viewing. A number of the old drillhole collars are still visible at surface. Historical drill logs for 18 Kennco, 10 Copperville and 2 Nystedt holes were reviewed by the authors at the time of writing. They are in acceptable condition with assay results reported for all but the two Nystedt holes.

Kennco Explorations (Canada) Limited conducted the most aggressive drill program on the property, drilling 18 diamond drill holes for a total of approximately 838.6 meters (Table 4). Their activity focused primarily on the main showing, however, they did not test to any great depth. Copperville Mining Corporation conducted a 10-hole diamond drill program for an approximate total of 1,084.7 meters testing the ground to a maximum vertical depth of approximately 137 meters in drill hole CPP-70-7. Tri-Bridge Mines Ltd. drilled 9 diamond drill holes for an approximate total of 663.7 meters on and adjacent to the property. Not listed in Table 4 is the historic drilling conducted prior to 1965.

Nikos Exploration conducted sampling in five areas of Island Copper that showed anomalous copper in soil in a 2003 Mobile Metal Ion (MMI) survey. These were selected for more detailed follow up during the 2004 field season. Infill sampling was conducted with sample spacing reduced from 80 meters to 40 meters within the anomalous areas. Soil sample coverage was also extended to the east.

A total of 345 soil samples (including duplicates) were collected and subsequently analyzed for copper, zinc, cadmium, and lead at SGS Canada Inc. Results showed ranges of <5 ppb to 109,500 ppb copper, 34ppb to 18,220 ppb zinc, < 10 ppb to 398 ppb cadmium and <20ppb to 372,900ppb lead (Tortosa and Moss, 2005)

7. GEOLOGICAL SETTING

The general geology of the property has been described in detail by Camier and McLellan, (2000); Camier and Oosterman, (2001); Mumin and Camier, (2002), and Camier and Moss, 2003 and is summarized below.

7.1 Regional Geology

The Island Copper property situated in moderately to strongly foliated Archean gneissic-granitoid rocks of the Gros Cap Gneissic Complex, a part of the Algoma Gneissic Domain (Card, 1977). The Gros Cap gneisses occur immediately north of the Archean-Proterozoic boundary which is delineated by the Highway fault (Proterozoic boundary fault) that parallels Highway 556 and the CN (formerly ACR) rail line (Figure.12). This fault separates Proterozoic aged clastic rocks of the Aweres Formation in the Upper and Lower Island Lake areas from Archean gneiss. The NNW trending Island Lake Fault follows Highway 552 and appears to be truncated by the Highway Fault at the southern extremity (Mumin and Carmier, (2002).

To the north and northwest of the property, clastic rocks of the late Keweenawan-age Jacobsville Formation unconformably overlie the Archean rocks (Camier and McLellan, 2000) and comprise a down-thrown block that has formed the Goulais River Valley. The valley is bounded on the north by the easterly-trending Van Koughnet Fault and on the south by the east-trending Bellevue Fault (Figure 12). Several east and northeast trending faults along the east shore of Lake Superior have been affected by late Keweenawan reverse movement (Manson and Halls, 1993). This includes major crustal-scale faults to the north and south of the Island Copper Property such as the Mamainse Fault, Haviland Fault, Van Koughnet Fault and Anderson Fault.

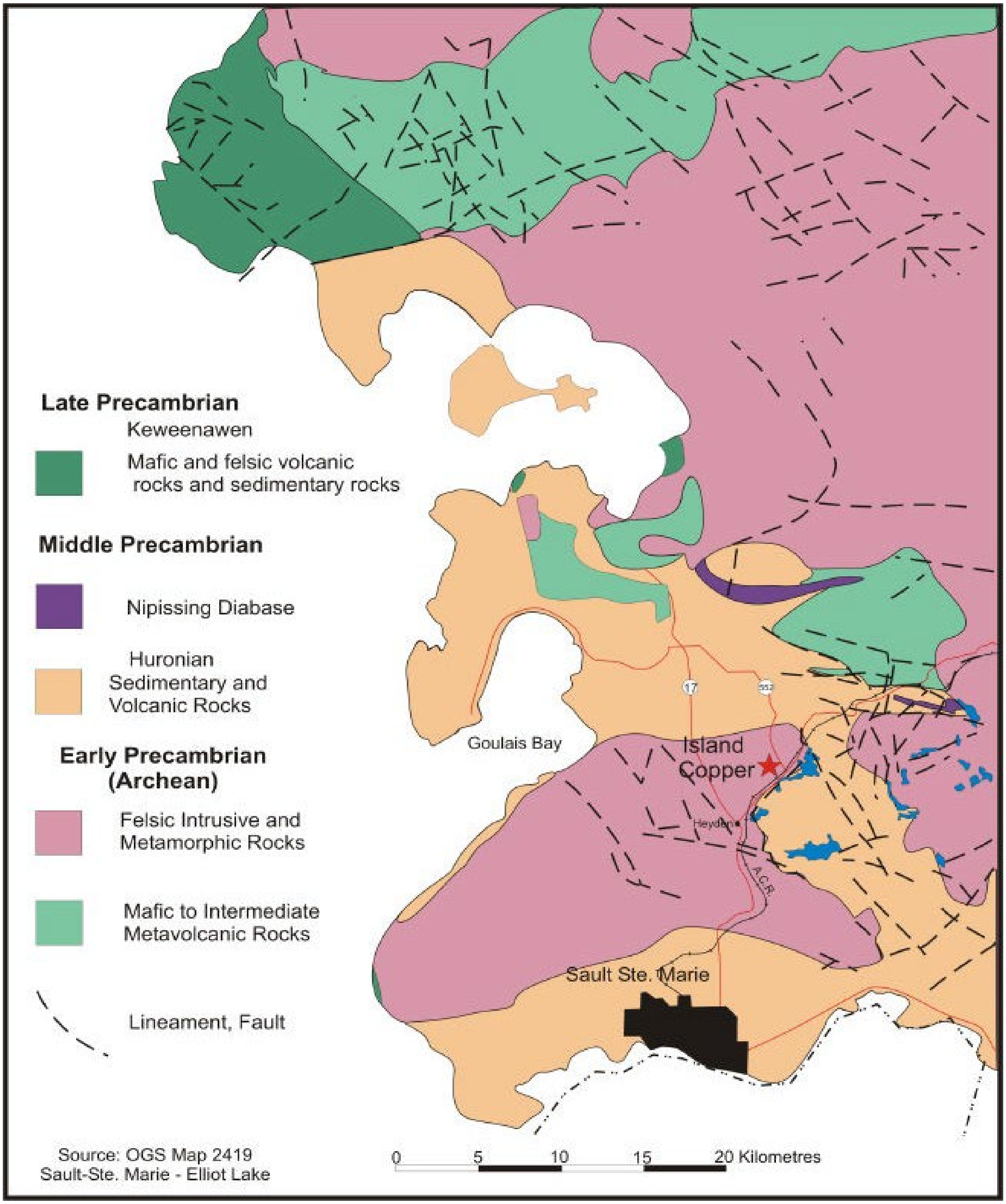

Figure 12. Regional Geological Map showing geology of Island Copper, Sault Ste Marie, ON

The Highway Fault displays reverse movement near the CNR railway crossing, as indicated by minor folds in the shear zone. A Keweenawan felsite sill has intruded the hanging wall, and a flow banded felsite dike intrudes granitic and gneissic microbreccia in the footwall. Reverse movement along the Highway Fault is consistent with others in the immediate area and has been attributed to a late compressional event related to the advent of Grenville Orogenesis from the southeast (Manson and Halls, 1993).

The Gros Cap Batholith forms the majority of the outcrop exposures on the property. These rocks are comprised of gneissic granite, granodiorite and amphibolite that have been strongly to moderately foliated and contain localized migmatite units. The rocks are typically buff to white- brown in color on weathered surfaces with localized zones of white migmatite visible in outcrop along cliff faces in the northern part of the property. On fresh surface, the gneiss is light gray to pink with black blebs or occasional banding of mafic minerals. The gneiss is typically comprised of plagioclase, potassium feldspar, quartz, and biotite hornblende. At several locations, the gneiss appears intensely altered and contains units of east-west trending chloritized-amphibole schist. This schist may reflect intense shear zones related to faulting within the gneiss.

The gneiss has been intruded by numerous gabbroic to fine-grained diabase dikes of at least three different ages, all of which exhibit variably strong to weak magnetism. The larger dikes trend in a west-northwest direction and exhibit gabbroic textures with moderate magnetism and are occasionally weakly chloritized. The finer grained diabase dikes trend in a northwest direction and are strongly magnetic. Several, strongly magnetic, southeast trending, and north-south trending possible biotite-lamprophyre dikes, comprised almost wholly of biotite and other mafic minerals were also observed. They are the youngest mafic intrusive units identified.

The Gros Cap gneiss is locally brecciated in the eastern area of the property adjacent to the north-northwest trending Island Lake fault, and extensively brecciated in the southeastern portion of the property. The breccia is characterized by subangular to rounded, occasionally stretched fragments, which exhibit trains of comminuted material.

The fragments are set in a matrix of occasionally silicified, chloritized-amphibole that contains small-comminuted fragments of gneiss. The fragments are easily identified.

7.2 Local Geology

The Gros Cap Gneiss comprises the majority of the outcrop on the property (Figure 13). The gneissic rocks are composed of granite and granodiorite that have been strongly to moderately foliated and brecciated and contain localized migmatite units. At several locations, the gneiss appears intensely sheared, altered, and crosscut by east-west trending chlorite-altered amphibole schist. The gneiss has been further intruded by numerous gabbroic to fine-grained diabase dikes of at least three different ages. Larger dikes trend in a west-northwest direction and display a gabbroic texture, mod rate to weak magnetism, and weak chloritization. Finer grained, moderately to strongly magnetic diabase dikes trend in a northwest direction. Several, southeast trending, and north-south trending dikes of strongly magnetic biotite-lamprophyre comprise the youngest mafic intrusive units (Camier and McLellan, 2000).

7.1 Aweres Formation

The Aweres formation metasediments (?) consists of red weathering, oxidized, coarse wacke, shale and conglomerate with sub-horizontal layering are fingered into the brecciated gneiss in the southeast, and are exposed in outcrop along the rail line. The Gros Cap Gneiss Breccia is juxtaposed against paraconglomerates and quartzites of the Aweres Formation along the Highway Fault; however, the quartzites and paraconglomerates of the Aweres Formation have not been affected by this cataclastic event suggesting that it ispre-Huronian in age (Tortosa and Moss, 2002)

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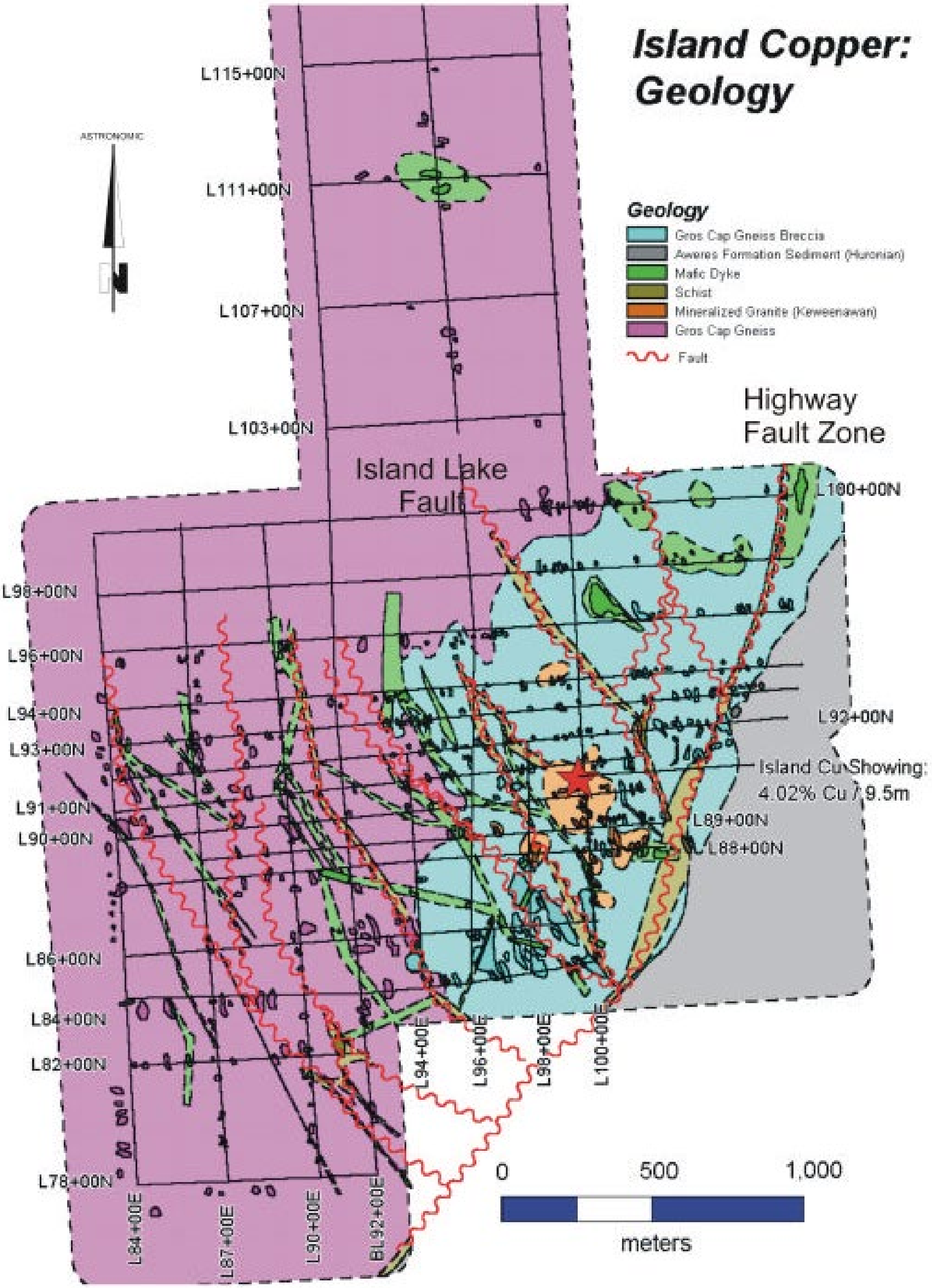

Figure 13. Geological Map of Island Copper Sault Ste Marie, ON

7.2 Mafic Intrusive

The property has been intruded by numerous late mafic dikes cutting the Gros Cap granitic and mafic gneisses and associated veins and mineralization. Diabase dikes trend NNW and NNE and range in width from half-metre to ten metres. Contacts with surrounding rocks are sharp and the dykes exhibit chill zones of several centimeters. The rock is brownish-light green on weathered surface; black and fine-grained on the broken surfaces. The gabbroic dikes and fine-grained diabase dykes of at least three different generations, all of which exhibit strong to weakly variable magnetism. The larger dikes trend in a west-northwest direction and exhibit gabbroic textures with moderate magnetism and are occasionally weakly chloritized. The finer-grained diabase dikes trending in a northwest direction are usually strongly magnetic. Several, strongly magnetic, southeast trending, and north-south trending dikes were observed that are comprised almost wholly of biotite and other mafic minerals and are the youngest mafic intrusive units.

Larger dikes trend in a west-northwest direction and display a gabbroic texture, mod rate to weak magnetism, and weak chloritization. Finer grained, moderately to strongly magnetic diabase dikes trend in a northwest direction. Several, southeast trending, and north-south trending dikes of strongly magnetic biotite-lamprophyre comprise the youngest mafic intrusive units (Camier and McLellan, 2000)

7.3Albite-Granite

Hosted within zones of Gros Cap brecciated gneiss are copper-mineralized albite granite breccia bodies that appear intrusive in nature. The pink to orange coloured albite-granite is comprised 85% albite crystals intermixed with potassium feldspar and quartz. This unit contains the bulk of the Fe-oxide and copper mineralization. The unit displays a crackle- or shatter-brecciation with anastomosing veins and veinlets of specular hematite and chalcopyrite forming the matrix. Contacts between the albite-granite and brecciated gneiss are sharp with a very narrow chill margin grading into the albite-granite. Copper mineralization within the albite-granite unit does not continue into the Gros Cap breccia.

Occasional veins and veinlets of specular hematite were observed intruding into the Gros Cap breccia.

7.4 Schist

At several locations throughout the mapped area, the Gross Cap gneiss takes-on a very fine grained to gritty dark grey-green-blue colour and exhibits a weak to very strongly developed shear foliation (Tortosa and Moss, 2002). The schist is composed of chlorite and amphibole and contains a strong cleavage parallel to subparallel to the Island Lake fault oriented between 320 to 335 degrees. The schist unit is interpreted to be a product of intense shearing along the Island Lake Fault and associated fault-splays. Within the schist, comminuted material is observable with the unaided eye. Hand lens examination shows intensely comminuted and fractured, partially altered gneiss fragments are supported in the chlorite amphibole matrix. This suggests the schist is the result of intense brecciation of the gneiss, further supported by the occurrence of angular fragments of unaltered to partially altered gneiss occurring within the schist and observed in outcrop and on cliff faces. Rare ~ 5 cm thick patches of glassy, finely comminuted wall rock (pseudo-tachylite) occur within the schist, probably accumulated in the shadows of protuberances on one or the other fault wall. Thin, discontinuous patches of pseudo-tachylite with flame-like terminations within the gneiss breccia suggest a progression from brecciation to faulting.

7.5 Brecciated Gros Cap Gneiss

Gros Cap gneiss is brecciated in the south-central part of the property adjacent to the north-northwest trending Island Lake fault. The breccia is recognized by subangular to rounded, occasionally stretched gneissic fragments, which contain trains of comminuted material, set in a chlorite-amphibole + silicified matrix that contains small, comminuted fragments of gneiss. The fragments appear to have undergone some transport or movement evidenced by the degree of mixing of the fragments and a faint imbrication or flow fabric in the matrix. Fragments are easily identified by differential weathering of mafic minerals within the matrix, and occasionally by the mineral alignment foliation that has been preserved, suggesting no secondary tectonic overprinting of original foliation. This is particularly so of fragments set in the adjacent strongly chloritized-amphibole schist that is often found in conjunction with the breccia. The fragments are occasionally hematized. Silicification is apparent and often overprints the matrix or forms anastomosing to fragmental quartz veinlets within the matrix and between the fragments. Occasional late fractures within the breccia exhibit an overgrowth of late secondary weathering comprised of limonite-goethite occasionally mixed with calcite and siderite. The brecciated gneiss also occurs within chlorite amphibole schist as rounded to angular fragments that occasionally exhibit snowball or rotational textures. Quartz veins of varying widths occasionally form anastomosing and netted stockworks that crosscut and silicify the breccia. Occasional specular hematite veins up to 2 centimeters in width are often observed parallel to, or intruding, and occasionally being intruded by quartz veins. On the eastern side of Highway 552, the quartz veins appear to be parallel the Island Lake Fault and trend in a north-northeast direction. These veins are larger than on the western side and carry specular hematite with occasional chalcopyrite mineralization.

Geological mapping on the property by Camier (Mumin and Camier, 2002) identified an area of gneissic breccia, referred to as the Gros Cap Gneiss Breccia, up to 1 kilometre in width and over two kilometres in length with the long axis trending in a north-easterly direction parallel to the Highway Fault. The gneissic breccia can be classified as a cataclastic rock varying from a protomylonite with partially developed fluxion (flow) structure, to a microbreccia containing larger granitoid fragments and no flow structure. The composition of the Gros Cap Gneiss Breccia is quite variable ranging from a leucocratic granitoid or gneissic rock to a mesocratic-to melanocratic chlorite amphibole schist.

On a regional scale, rocks within the area have undergone several episodes of structural deformation ranging in age from late Archean to middle Proterozoic which has resulted in a complex block faulting pattern with juxtaposed combinations of mid-Proterozoic, lower Proterozoic and Archean rocks along structures with repeated movement

Tortosa and Moss (2002) mapped geologically on 1;200 scale over a series of trenches. Accordingly they divided Gros Cap Granitic Gneiss into following sub units;

A) Granitic Microbreccia, B). Gneissic Microbreccia, C) Migmatitic Breccia D) Gros Cap Mafic Gneiss Chlorite-Amphibolite. E) Chlorite-Amphibole Schist.

8. GEOLOGIC STRUCTURES

The Gros Cap gneissic complex has been affected by several episodes of brittle-ductile and brittle deformation that have given rise to a variety of cataclastic rocks (Higgins, 1970). Cataclastic rocks produced are primarily those without fluxion (flow) structure such as the granitic and gneissic microbreccia. Where the mafic content increases significantly, the rock develops protomylonite and mylonitic textures with the development of a fluxion structure. In both these cases cataclasis is dominant over recrystallization. In the chlorite- amphibolite, recrystallization dominates cataclasis and the result is a more typical metamorphic rock. In both the microbreccia and protomylonite the rock has deformed without loss of primary cohesion. This is an important consideration when examining the nature of the tectonic events that preceded the mineralizing episodes.

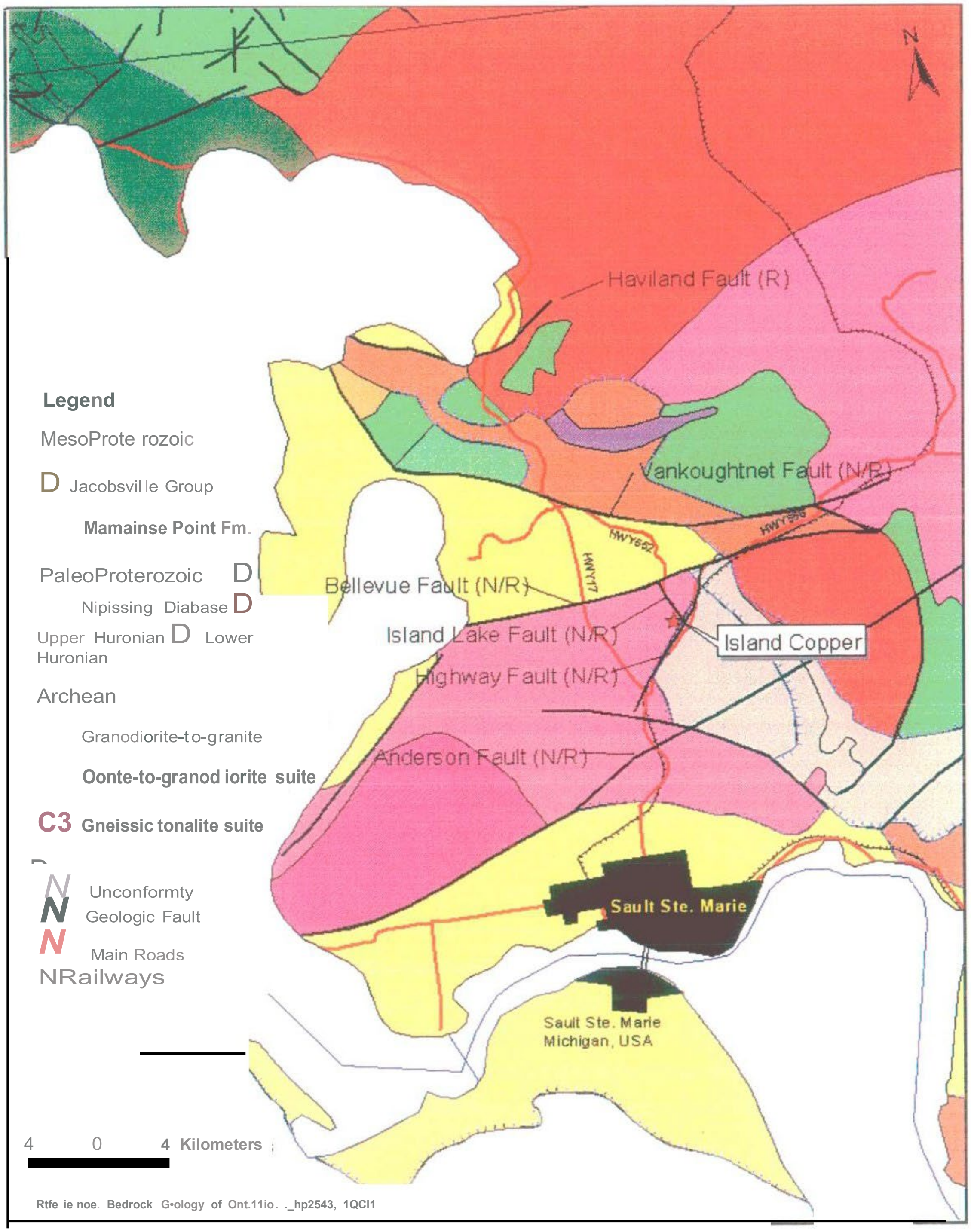

Figure 14. Regional Structural Map with Prominent Faults Island Copper Property, Sault Ste Marie, ON

(Mumin and Camier, 2002)

8.1 Breccia

The early period of brittle-ductile cataclastic deformation was followed by several periods ofbrittle deformation resulting in the development of planar structures in the form of veins, fractures or slips, faults, and various types of breccia, they include,

8.1.1 Micro Breccia Veins

Micorbreccia veins are 5-20 cm wide, discontinuous zones of brecciation consisting of granitoid fragments generally less than 2-3 cm in size and contained in a fine-grained, gray- green chloritic, siliceous matrix (Plate 3 & 12). The veins are north easterly trending, have irregular but sharp contacts with the surrounding granitic and gneissic microbreccia, and limited to a strike length of a few metres. At some locations the microbreccia veins also form the locus for later crosscutting quartz-specularite veins and related stockworks and breccia. Where chloritic fractures (or slips) are abundant and form anastomosing sets, the rock takes on a micro brecciated character, which in places results in the incipient formation of these microbreccia veins

8.1.2. Chaotic Breccia

Chaotic breccia occurs sporadically throughout· the project area and is characterized by irregular areas up to several metres in size consisting of granitic and gneissic microbreccia contained in a green-brown chlorite-amphibole matrix. Fragments are highly unsorted and matrix-supported, ranging in size from less than 1 cm to 20 cm, irregular in shape, and somewhat rounded. The mafic matrix shows no evidence of a fluxion or flow structure. Contacts of the chaotic breccia with adjacent rocks are generally sharp, but highly irregular. At some locations (Caswell Gravel Pit) the chaotic breccia appears to 'intrude' the adjacent rock since there appears to be no obvious source for the rock, i.e., a layered mafic gneiss. At other locations (Hilltop Area) the chaotic breccia appears to be sub-concordant to fractures and fracture surfaces and has similarities to breccia veins - but with much higher mafic content.

At some locations, the development of chaotic breccia seems to be closely linked to the presence of chlorite-amphibolite (Trench Area 6). Tectonic disruption along the contact between chlorite- amphibolite and granitic microbreccia results in the incipient development of chaotic breccia (Plate 16) as the granitic microbreccia is pulled apart by the process of cataclasis.

8.1.3 Microbreccia/Cataclasite

Granitic and gneissic microbreccia rock units represent the cataclastic deformation of the granitic and gneissic protoliths. The cataclastic classification of microbreccia falls into the category of rocks that retain primary cohesion but do not develop a fluxion or flow structure (Table 3, Higgins, 1970). Microbreccia fragments are visible to the eye and constitute greater than 50% of the rock. This contrasts with cataclasite where the fragments are much smaller and generally not visible to the eye. cataclasite, was observed at several locations, and may have been inadvertently mapped as quartz veins in places. Cataclasite occurs as light gray-green, siliceous veins from *5* to 20 cm wide, trending north. At Road Cut 1 the vein is highly siliceous and cherty in appearance and exhibits rapidly gradational contacts with adjacent chlorite-amphibole schist. The vein contains small, disseminated grains of specularite a few millimeters in size. The cherty, siliceous character strongly suggests the development of cataclasite.

8.2 Foliation

Within the Gros Cap granitic and mafic gneisses, the mapped foliation represents both the gneissic layering and the penetrative fabric in the chlorite-amphibolite and chlorite-amphibole schist. Cataclastic fabrics or flow structures are not usually present due to the micro brecciated nature of the granitic and gneissic rocks. Notably the cataclastic deformation has not destroyed the layered nature of some of the gneisses, although on close inspection, layer boundaries are quite diffuse and lack continuity.

The granitic microbreccia lacks foliation and represents both a granitic intrusive protolith as well as areas where gneissic layering is no longer obvious due to tectonic disruption. In general, foliation directions cluster around one main pole with a girdle trending at 330° and dipping 50° NE. This is the orientation of gneissic layering observed throughout the map area. Variations from this orientation reflect the presence of chlorite-amphibolite and chlorite- amphibole schist, where the foliation tends to 'wrap-around' segments of the more competent granitic and gneissic microbreccia.

8.3 Faults

There are no useful marker horizons that can serve to document and quantify fault displacement in the map area. A 5-metre-wide diabase dike exposed in the Road Cut has an apparent left-hand offset of 15 meters across a chlorite-amphibolite unit. This is likely due to some late (post-diabase) movement along chloritic fractures.

At several locations in the Caswell Gravel Pit, small movements of a few centimeters occur along chloritic fractures that displace layered granitic gneisses. At several locations in the project area, chloritic fractures/slips show evidence of movement based on the presence of overlapping shingle patterns (pinnate shear planes - Hills, 1966) and slickensides. Although insufficient data was collected to determine fault kinematics with certainty, four of the five chloritic faults/fractures display features that indicate reverse movement.

8.4. Fractures

Numerous fractures and chloritic slips have crosscut the Gros Cap granitic and mafic gneisses property area. Quite often, rock outcrop will display a pronounced orientation of outcrop ridges and fracture slopes that reflect the dominant fracture direction. This is exhibited in the Caswell Gravel Pit with many outcrop ridges trending in a northeasterly direction. Closer to Highway 552 and the Island Lake Fault, outcrop ridges trend north-northwest, and form cliff faces.

In the broad context of the map area, the fracture pattern reflects three main orientations. A set of chlorite-rich fractures which trend north-northeast dipping moderately to the southeast (030/60), a near vertical fracture set trending east-northeast (060/90), and a near vertical fracture set trending north-northwest (350/90). As noted with the outcrop ridge pattern, there is a change in the dominant fracture pattern towards the Island Lake Fault (Highway 552) resulting in a near perpendicular fracture set at 350 and 060 closer to the fault.

The north-northwest trending Island Lake Fault crosscuts the gneiss on the eastern side of the property and is visible in outcrop along Highway 552. The Island Lake fault appears to be truncated and offset by the Highway Fault. The brecciated gneiss is primarily concentrated along the Island Lake Fault, and probably represents cataclastic brecciation formed in a zone of structural weakness at the intersection of the two faults. The orientation of the Island Lake fault is approximately 330/70°. The fault is characterized by chlorite amphibole schist that contains a strong foliation parallel to the Island Lake Fault. Numerous angular fragments of Gros Cap gneiss were observed within the schist. Veins of silicified mafic material that appears to be silicified chlorite amphibole, crosscuts and locally brecciates the gneiss on the eastern side. This is observed on fresh exposure within the gravel pit quarry. The veins appear to trend in a northeast direction parallel to the Highway Fault. The veins exhibit an intrusive attitude, illustrated by fragments of angular bladed gneiss sloughing off the walls into the mafic material to be trapped in matrix support. Several zones of migmatite are observed along the outcrop north of the quarry. Many of the faults display slickensides but the orientations of the faults and the slickensides are quite variable, perhaps reflecting proximity to the Highway fault (the northeast trending Archean-Proterozoic boundary) to the south.

9. MINERALIZATION

Mineralization on the Island Copper property consists of Fe-oxide (specular hematite and magnetite), chalcopyrite between trace (0.196% and 6.36% Cu, with secondary weathering to malachite and azurite, and pyrite. Up to 4.02% Cu over 9.5 m was intersected in diamond drillhole KO65-1, collared at the top of the hill at the main showing on the west side of Highway 552. Falconbridge grab samples collected from surface showings and historical trenches are consistent with the historical results with samples returning values in excess of 196 Cu and > 1g/t Au (Appendix B). The mineralization occurs as intergranular fillings and anastomosing veins and veinlets of chalcopyrite alternating with veins of specular hematite primarily occurring within crackle or shatter breccia of the intrusive albite-granite unit. Several observations indicate vein-type mineralization in the brecciated Gros Cap gneiss occurs as specular hematite veins associated with quartz veins. The Highland-Crow report indicates assay samples from several quartz veins on the eastern side of the property contain significant concentrations of Zn and Pb. Efforts to locate these mineralized veins by Falconbridge personnel failed.

9.1 Mineralization Deposit Types

The target of exploration at Island Copper is an Fe-oxide copper-gold deposit (IOCG). Iron oxide copper-gold deposits are attractive exploration targets due to their common large size and multi-metal nature. Exploration for these deposit types, especially among junior explorers, has suffered from the lack of rigorously defined models, both empirical and genetic, and well documented case histories. Several recent publications (Vancouver Mining Exploration Group, 2000; Porter, 2000; 2002) have however provided a broad framework of models and case histories that may be used in targeting areas for IOCG potential, and for designing follow-up exploration programs. However, as pointed out by Pollard (2000), IOCG deposits are part of a broad spectrum of copper-gold deposits that include both porphyry and skarn-type deposits and rigid application of deposit specific characteristics to exploration should be avoided.

9.2 Characteristics of IOCG

While IOCG deposits range in age from the Archean to the Neogene, many of the deposits, including most Australian examples such as Olympic Darn and Ernest Henry, are Proterozoic in age. There are many inferred tectonic settings for the deposits, with an anorogenic or rift- related setting being most widely postulated (Barton and Johnson, 1996). However, it appears that regardless of the specific setting, an extensional environment is of fundamental importance (Gandhi and Bell, 1995). A strong structural control is noted in most deposits, with mineralization emplaced along major regional faults or fracture systems, at intersections of faults or in axes of major fold systems (Oreskes & Ritzman, 1993).

Typically, IOCG deposits show spatial and temporal links with igneous rocks, including alkalic granitoids and volcanic rocks, calc-alkalic mafic, intermediate, and felsic suites, continental flood basalts and rift-related basalts (Barton & Johnson, 1996). Many deposits are directly associated with the emplacement of high-level felsic plutons (Ghandi

& Bell, 1995; Wall, 2000), typically occurring in the roof zones of the pluton (Ethridge & Bartsch, 2000). Mineralization is commonly hosted by hydrothermal intrusive breccias or diatreme breccias (Reeve et al., 1990; Pollard, 2000).

IOCG mineralization consists of Ti-poor iron oxide, with lesser phosphates, Cu- and Cu-Fe sulphides, and variable Au, U, Ag and Co (Barton & Johnson, 1996). To some degree it is the low Ti nature of the iron oxide that ties otherwise disparate mineral deposits of the IOCG class together. The most common iron oxides are hematite and magnetite. Magnetite is typically early and occurs in the deeper or more proximal parts of the hydrothermal system, whereas hematite is later, more distal and may overprint the earlier magnetite (Barton & Johnson, 1996; Oreskes & Ritzman, 1993). The magnetite may be accompanied by apatite (e.g. Kiruna) and Cu-Fe-Sulfides (e.g. Ernest Henry, Candelaria) and widespread sodic alteration. Gold and Cu-Fe sulphides are associated with hematite-stage mineralization at Olympic Darn (Reeves et al., 1990; Barton & Johnson, 1996)

A broad range of elements may be associated with the mineralization. Apart from the Fe, Cu and in some cases Au and Ag, comprising the mineralization, deposits may be anomalous in Ba, P, F, Cl, Mn, B, K, REE, U and Na and have elevated Co, Ni, Te, As, Mo and Nb abundances, whereas Ti and Cr tend to be depleted (Foose & Grauch, 1995).

Exploration for IOCG deposits relies heavily on gravity and magnetic surveys, with coincident gravity and magnetic anomalies being the preferred target (Gow et al.,1994). Detailed aeromagnetic surveys are recommended to map structure in the area of interest with likely dilational sites targeted for further follow up using alteration and geochemistry to site drillholes (Etheridge & Bartsch, 2000).

9.4 Mineralization of IOCG relevant to the Island Copper Property:

The following features are considered to be key exploration criteria for IOCG deposits,

- Gold and silver occur along with copper

- Hematite and minor magnetite are associated with the mineralization
- Major crustal-scale faults, including the Highway Fault that divides Archean rocks from Proterozoic rocks, are present on the property
- The presence of both an aeromagnetic anomaly and a gravity anomaly
- Significant sodium- (albite) and iron- (hematite) metasomatism
- The mineralization occurs near the boundary between Archean and Proterozoic rocks, along the margins of a major re-activated graben structure.

9.5 Mineralization at Island Copper Property

Copper mineralization in high concentration occurs at several locations in the map area. Specifically, these are the Hilltop Area IW & 2S, Trench Area IE, and Trench Area 3. Several other locations have lower concentrations of copper but occur in rocks that have been subjected to significant alteration in the form of albitization (Trench Area 7, Trench Area 2N & 8, Hilltop Area 1W & 2S (Tortosa and Moss, 2002))

High-grade mineralized zones are characterized by chalcopyrite-pyrite-specularite assemblage. Mineralization consists of chalcopyrite with pyrite and minor bornite occurring in clusters, veinlets and stockworks, and as disseminated grains in a medium-to coarse- grained, pink, orange (flesh-tone) albite feldspar rock. Host rocks are typically granitic and gneissic microbreccia.

Chalcopyrite is commonly accompanied by specularite occurring as disseminated grains, veinlets and stockworks. On the weathered surface, the mineralized area is characterized by anastomosing, irregular veinlets of sulphides (chalcopyrite and pyrite) and specularite cutting across medium-to coarse-grained, albite feldspar, and exhibiting a 'network ' pattern. Malachite and azurite occur as secondary minerals on fracture surfaces in a few places, but orange-red iron gossan is the most prevalent oxide on fracture surfaces and mineralized outcrop.

Lower-grade mineralized zones are characterized by a specularite-chalcopyrite-pyrite- mineral assemblage, with the sulphides comprising a minor component. The lower-grade mineralized zones are dominated by specularite occurring as veinlets, stockworks, and as disseminated grains in a dominantly albite feldspar rock.

In both high-grade and lower-grade mineralized zones, the style of mineral emplacement appears to be quite similar and characterized by the development of clusters, veinlets, and stockworks or networks of the dominant minerals contained in an albite feldspar rock. Lower-grade zones are dominated by specularite, high-grade zones are dominated by chalcopyrite-pyrite. One substantial difference between the high and lower grade zones is the presence of late, brittle, intersecting structures in the high-grade. These late structures appear to be related to the main copper-bearing mineralizing event. The intense albitization observed in the mineralized zones is the result of hydrothermal replacement of granitic and gneissic microbreccia. The transitional change from granitic and gneissic microbreccia to albitized microbreccia and to an albite feldspar rock was observed at a few locations. This transition boundary can be very short - a few centimeters. For this reason, previous mapping identified the albite feldspar rock as albite granite and considered it to have an intrusive origin. These are the types of mineralization found in Island Copper Property (Tortosa and Moss, 2005)

9.5.1 Specularite-Albite Alteration Zones

In the lower-grade mineralized zones, the albitized rock is light orange, fine-to medium- grained, composed primarily of albite feldspar with lesser amounts of quartz. The rock typically contains disseminated specularite grains and is cut by specularite veinlets and stockworks.

Contacts between these albitized rocks and host rocks are enigmatic in places in that specularite-albite feldspar fragments occur within chlorite-amphibolite schist. The disruption and fragmentation of the specularite-albite feldspar rock is suggestive of brittle-ductile behavior. Specularite veins display a 'boudinage' appearance where the veins cut through chlorite-amphibole schist, whereas the same vein system displays sharp, straight contacts within quartzo-feldspathic sections in the same outcrop.

9.5.2 Chalcopyrite-Pyrite-Specularite-Albite Alteration Zones

In higher-grade mineralized zones, the albitization of the rocks is closely related to the presence of late brittle fractures and faults**.** The albite alteration (and accompanying mineralization) is most intense where these late structures intersect. The altered rock is orange pink (flesh-tone}, varying from fine-grained to coarse crystalline albite feldspar giving the rock a hypidiomorphic-granular ('granitic') texture in places.

Some of the high-grade mineralized veins and stockworks exhibit a light green hue on weathered outcrop that extends several centimeters into the albitized wall rock. This is likely due to finely disseminated epidote, which is usually masked by the iron gossan stain on most outcrops.

Rocks which are moderately altered and mineralized still retain some of the original microbreccia texture consisting of variably sized fragments/porphyroclasts altered to albite and contained in a finer-grained dark matrix which has been partly to completely replaced by specularite +/- sulphides.

The transition between the albitized microbreccia and more mafic units, such as chlorite amphibole schist, are very short - in the order of centimeters. This is likely due to the lack of permeability in the mafic rocks and the lack of easily identifiable Na-rich mafic minerals.

9.5.3. Red-Altered Feldspar

At a number of locations throughout the project area, the gneissic and granitic microbreccia contain zones of red to brick red, medium-to coarse-grained feldspar ranging in size from less than 0.5 to 2 meters. These zones are generally irregular and gradational into microbreccia. On a broken surface the red feldspar can occur together with white quartz and comprise up to 10% of the porphyroclasts contained in a fine-grained gray-green siliceous, chloritic matrix.

At a few locations, the red feldspar with white quartz occurs as thin veinlets parallel to microfractures and may outline fragments in microbreccia. Within gneissic microbreccia thered feldspar forms 50-75% of the quartzo-feldspatic layers over short distances. Areas that have closely spaced chloritic fractures appear to contain more quartz veinlets and red feldspar.

10. EXPLORATION

10.1. VLF Surveys

A series of ground VLF surveys were conducted between March 25 and April 4, 2021 on the Island Copper Property on behalf of Rich Copper Exploration by Superior Exploration, Adventure & Climbing Co. Ltd. (Superior Exploration) of Batchewana Bay. A total of 3.94 kilometers of VLF was completed over 6 reconnaissance grid lines over the claims held by Transition Metals. The survey was completed using a VLF EM-16 unit and a handheld Garmin GPS-60CSX. TX transmitters were read at each station, TX NAA 24.0 KHz, Cutler Maine and TX NML 25.2 KHz, LaMoure, North Dakota (Parent 2021). Approximately 3.94 kilometers of lines were completed over the Island Copper claims owned by Transition Metals with the following lengths:

Island Copper Project Work Performed			
VLF Lines			
Claim Number	Length	Units	
508483	0.96	Km	
508477	1.13	Km	
508480	0.42	Km	
508479	1.21	Km	
508482	0.22	Km	
TOTAL	**3.94**	**Km**	
Diamond Drilling			
Claim Number			
508483	300	meters	
508483		Assays	

The objective of the survey was to determine if the property would have a good VLF response which could represent copper-gold mineralization. The location of survey lines completed on the Transition Claims is given in Figure 15.

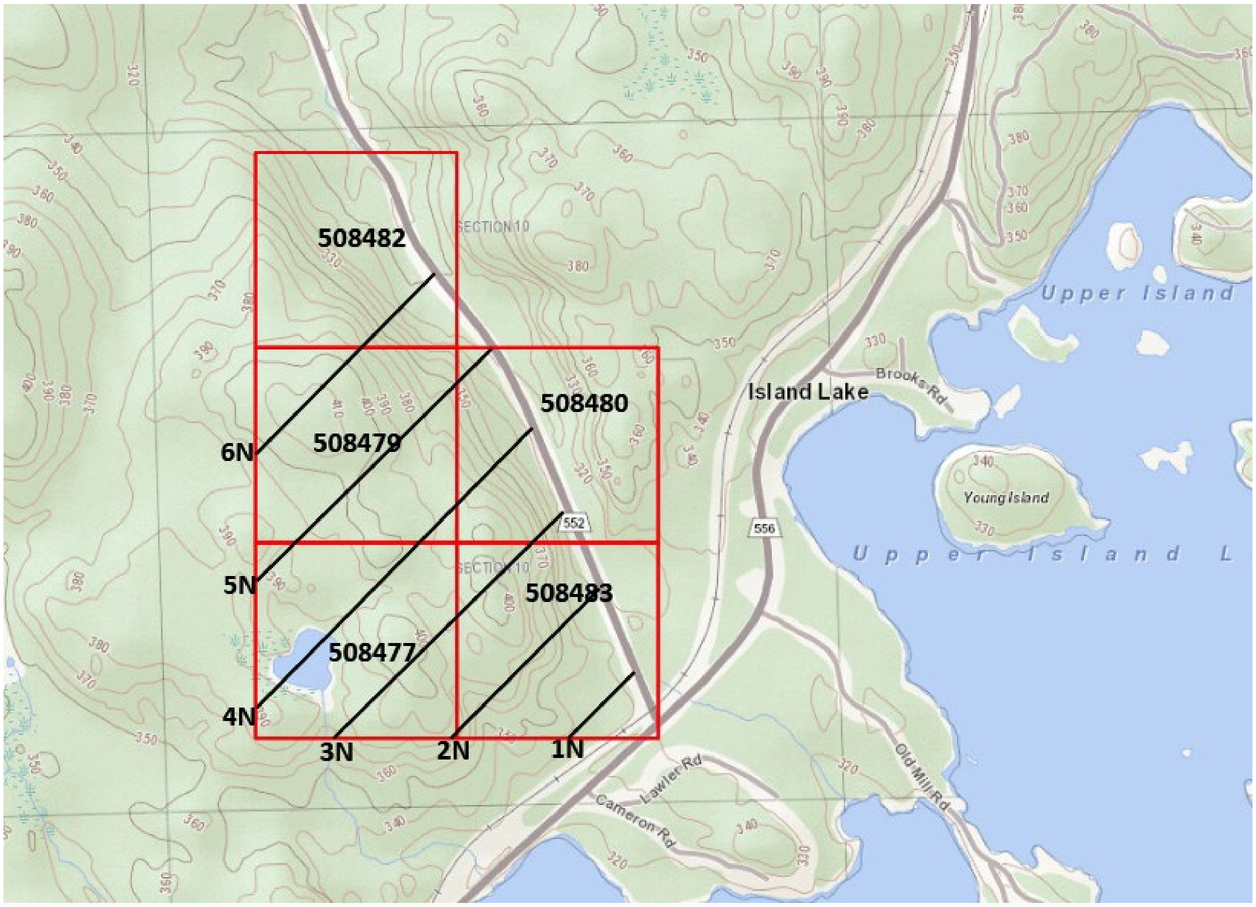

Figure 15. Map showing VLF grid Lines on Island Copper Claims.

The following set of maps outline the location of anomalies detected during the survey of the Island Copper property (Superior Exploration Report in Appendix C).

Figure 16. All NAA VLF Picks and the most significant NAA VLF trends are shown on this google image. Areas of overlap on adjacent claims not included in expenditures.

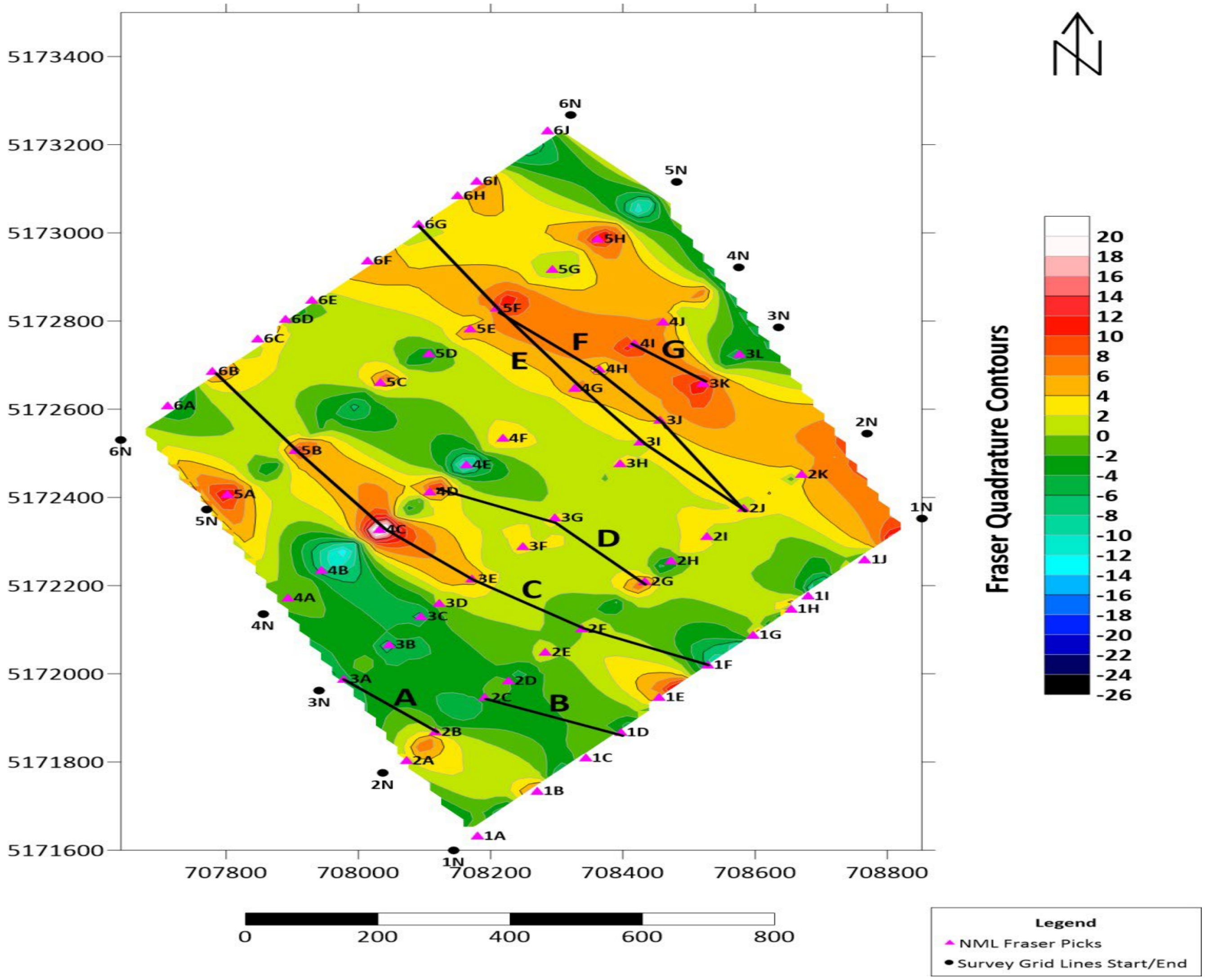

Figure 17. NML Fraser Quadrature Contours with Fraser Picks & Trends

Fraser Filter quadrature values were contoured and compared with the In-Phase contours. There is good correlation between the In-Phase positive contour trends and the Quadrature positive/negative contour trends

Plan Maps outline NAA Fraser Picks & Trends.

Based on those studies followings are the concluding details.

This Ground VLF Interpretation was successful in:

- Defining Several VLF bedrock trends using both TX NAA and TX NML
- Using a bedrock background resistivity of 4000 ohms gave modeled sections to 204 meters in depth with TX NAA.

- Using a bedrock background resistivity of 4000 ohms gave modeled sections to 199 meters in depth with TX NML.
- There were 8 significant VLF trends identified using TX NAA, 4 of which are suggested for ground follow up.
- There were 7 significant VLF trends identified using TX NML, 6 of which are suggested for ground follow up.
- Line 1N ran parallel to the highway, a powerline and the Algoma Central Railway. The powerline and railway caused some noise in the VLF survey.

10.2. Drilling

This report summarizes conclusions from a diamond drilling program completed in November 2021 on Island Copper property, Algoma District, Ontario by Rich Copper Exploration, Toronto, Ontario. The location of the drilling was chosen to undercut the known adit and exposures of copper mineralization and to test the property to depth for indications of a porphyry system or other source for the copper mineralization found in the area. The drilling program consisted of one hole totaling 300 meters. It commenced on November 1, 2021, with the mobilization of the drill to the site and was completed on November 07, 2021. Drilling was carried out by a drilling company named Forage Gyllis, Val D'or Quebec.

The Drill plan is in Appendix

10.3. Core Logging and Sampling

The core was NQ size. After the drilling was complete the casing was left in place and the hole was capped.

The core recovered from drill hole was shipped to core logging facility at 282B Whispering Pines Road Batchawana, ON P0S 1A0 where core was logged for lithology, alteration, mineralization, structure, core recovery and rock quality determination (RQD). The core was cut in half using a diamond saw with half of the core taken as a sample and submitted to ALS Labs in Sudbury, ON. In addition to the core samples, control samples were inserted into the shipments at the approximate rate of one standard, one blank, one duplicate and one pulp duplicate (with sample number tag for pulp) per 20 core samples.

A total of 51 samples were collected from the drill core and analysed for copper, gold, silver and 32 elements (Appendix B). A series of QA/QC samples were submitted along with the core samples including reference standards, blanks, split core samples and pulp duplicates. The ratio was four QA/QC samples in very 24 sample batch. After the core was logged, cut, and sampled, the remaining half of all the core was properly stored at the logging facility on core racks in an orderly manner at logging facility.

QA/QC for core logging and sampling protocols were strictly followed. All drill core sampled were cut in half with diamond saw and resultant samples placed into plastic bags with a sample tag attached by staple. Then samples put in pails/rice bags and were under control of the project geologist all the time before shipment and handed over to Shaun Parent P. Geo for shipping to ALS Lab Sudbury.

All the batches of samples shipped to the lab mainly consisted of 24 samples include 20 samples of core plus one OREAS standard alternating between 4230 ppm Cu and 0.65% Cu, one blank (this was unmineralized beach sand from local area), one pulp duplicate created by the lab (included empty bag with tag), and one sample duplicate comprised a sawn split ¼ of core.

Details of the sample numbers and analytical methods were recorded on the ALS sample submission form. Sample reception notifications, and results were directly sent to project supervisor, Jim Atkinson P.Geo, VP Exploration for Rich Copper.

10.4. Drill Hole Geology

Most of the local geology of Island Copper property consists of Archean age Gros Cap Gneiss which is well exposed in majority of the outcrops in the property. The gneissic rocks are composed of granite and granodiorite (?) that have been moderately to strongly foliated, brecciated and contain localized migmatite units. At several locations, the gneiss appears intensely sheared, altered, and crosscut by east-west trending chlorite-altered amphibole schist. The gneiss has been further intruded by numerous fine to medium grained diabase/gabbroic dikes of three different ages. Larger dikes trend in a west-northwest direction and display a gabbroic texture, with weak to moderate to magnetism, and weak chlorite alteration. Fine grained, moderately to strongly magnetic diabase dikes trend in a northwest direction whereas several southeast and north-south trending strongly magnetic lamprophyre dikes are the youngest mafic intrusive units (Camier and McLellan, 2000).

Similar geology, in part, is exhibited in core of diamond drill hole IC-21-01. The rocks are consistent and monotonous in nature and composition. Predominant rock types are granite (gneiss), granite breccia, breccia with quartz-carbonate veins and mafic diabase dykes (See Drill Log Hole IC-21-01 - Appendix A).

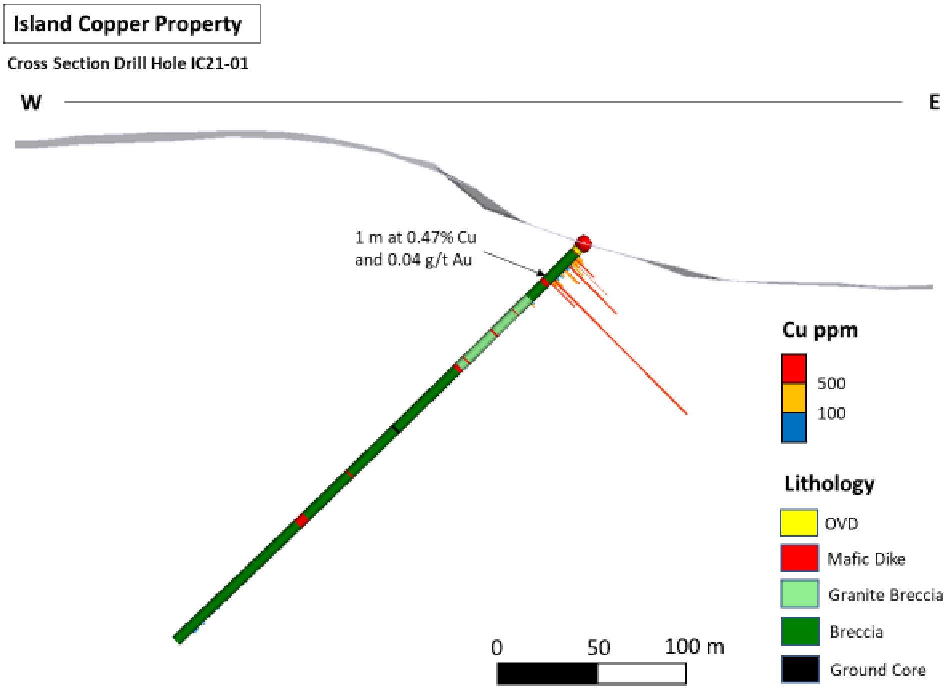

Figure 18: Drill Hole IC21-01 Cross Section. Note all significant copper values occur in the upper parts of the drill hole.

10.4.1. Granite Breccia

The granite breccia is light grey to light pink color, fine to medium grained, with granite/granodiorite fragments set in a foliated, to moderately deformed chlorite/amphibole rich matrix. Locally many centimeter-long, deformed mafic rock fragments are stretched in the foliation direction. Unaltered, small lenses of pink colored granite are composed of plagioclase, potassic feldspar and quartz. Brecciated granitic fragments a few mm to many cm in size are angular to sub angular and are aligned parallel to the core axis. Occasional fine to coarse grained disseminated pyrite up to 2 % occurs locally, rarely along hairline fractures, and rarely as blebby pyrite in granitic breccia. Rarely traces of fine-grained chalcopyrite along hairline fractures is observed. Along the contact with diabase dikes, he granitic breccia is mostly sheared, deformed, and fragments of granitic breccia and dyke lenses are intermixed . These brecciated granitic units contain intermixed chlorite altered mafic lenses up to 50 cm in size.

10.4.2. Breccia

The breccia unit is dominantly composed of light a greenish brown chlorite amphibole rich matrix with long deformed lenses of granitic fragments. Fragments are unsorted and distributed randomly and range in size from less than 1 cm to 1/2 meter in length. These granitic fragments are irregular to somewhat rounded in shape. The mafic matrix shows no evidence of a fluxion or flow structure. These granitic/granodiorite fragments are foliated, deformed, are locally mineralized with up to 1% pyrite/

10.4.3. Diabase Dikes

Light to dark grey colored diabase dikes are fine to medium grained, chlorite altered, foliated, and occasionally amygdaloidal near the borders where amygdules are altered by carbonates. In places granitic breccia is deformed and /or sheared at the contacts and shows evidence of thermal metamorphism. The diabase dike contacts are generally at 25-to-45-degree angles to granitic breccia. Hairline calcite veins a few mm in thickness are locally present. Rarely up to 2 cm barren quartz veins are seen. Pyrite mineralization rarely is found in fine grained, homogenous equigranular dark grey diabase. Late mafic dikes cut across granitic and mafic gneisses. Contacts with surrounding rocks are sharp and exhibit chill zones of several centimeters.

In places contacts with adjacent rocks are sharp and follow pre-existing fractures. Some of the fractures in the diabase are mineralized with pyrite where the diabase intrudes altered granitic microbreccia. The diabase is weakly to moderately magnetic.

10.4.4. Quartz Veins

There are two types of quartz veins present in drill hole IC-21-01.

Barren Quartz veins which are white in color, massive and 5-25 cm thick and Mineralized quartz veins which appear as microbreccia veins 5-20 cm wide comprising discontinuous quartz-carbonate zones with brecciated granitic fragments generally 2-3 cm in size and contained in a fine-grained, gray-green chloritic, siliceous matrix. Fragments generally have irregular contacts. Locally these veins contain specular hematite + pyrite with traces of chalcopyrite in clusters, veinlets and stockworks.

10.4.5. Mineralization.

Mineralization occurs at several intervals in drill hole # IC-21-01 mostly in quartz carbonate veins and silicified sections with epidote, albitized altered granitic breccia. However, chalcopyrite content is generally low in the drill hole.

Mineralization consists of pyrite, specular hematite and minor chalcopyrite and occurs in clusters, veinlets and stockworks, and as disseminated grains in a medium-to coarse-grained host. Host rocks are granitic breccia and quartz carbonate veins. Pyrite-chalcopyrite-hematite mineralization mostly occurs disseminated in silicified granitic lenses, blebby quartz-carbonate veins in brecciated granitic gneiss and occasional encrustations along fracture surfaces, and rarely fine-grained mineralization along hairline fracture. Mineralization is dominantly specular hematite and pyrite but chalcopyrite is occasionally found in carbonate-quartz veins. At depth of 16.7 m up to 2% pyrite is seen as blebs with brecciated granite fragments along with up to 10% fracture-controlled hematite. Locally fracture filled specular hematite increases to 4.5%. An example of this is at 90-91.3m depth. In places light to dark grey, fine to medium grained foliated deformed chlorite-amphibole matrix with granitic/granodiorite fragments contains disseminated pyrite up to 1%. Some of the silicified granitic breccia lenses show fracture control specular hematite mineralization up to 10% and fine-grained disseminated pyrite as much as 2-3%.

A number of centimeter wide quartz veins at 161m depth with silicified bands of granite breccia have fine grained disseminated and blebby pyrite up to 1%. Disseminated fine to coarse grained pyrite is limited to breccia. Rarely pyrite occurs as encrustations along fracture plans are present.

Tiny veinlets and veins predominantly composed of specularite occur associated with granitic breccia. The specular hematite forms hairline to cm veins and occasionally forms stockworks and networks. Locally highly altered bands also contain disseminated specular hematite as much as 4%. Silicified lenses of granite breccia with pervasive epidote altered fractures filled reddish iron oxides, rare quartz veins, disseminated pyrite 1%

Chalcopyrite is least abundant of all the economic minerals present in this hole and in general is disseminated, blebby, lamellae and hairline fracture filling. The presence of hematite or iron is present along fractures where pyrite mineralization is present is noted as well. The best results obtained form analyses occur at

11. INTERPRETATION

11.1Regional Structural Architecture

The tectonic and structural development in the region which caused copper mineralization can be divided into two following phases, Neo-Archean and Proterozoic.

11,2 Neo-Archean

The Algoma Gneiss Domain of Archean-age granitic and gneissic terranes in the Sault Ste. Marie and surrounding area are characterized by the presence of quartzo-feldspathic gneisses with lesser amounts of mafic gneiss and migmatite (Tortosa, 1986). These gneisses have been intruded by a granodiorite-tonalite suite of rocks that display varying levels of fabric development. Both these lithologies have been intruded by the post-tectonic granodiorite-diorite-monzonite suite and massive granodiorite to granite suite (figure 2). Some areas contain gneissic domal complexes that are characterized by a granodiorite-tonalite core wrapped by layered quartzo-fedspathic gneisses with mafic gneiss xenoliths and mafic enclaves at the amphibolite rank of metamorphism. There is widespread development of migmatite and agmatite near the boundaries of greenstone belts and associated with greenstone enclaves (Tortosa and Moss, 2005)

The Gros Cap Gneiss Complex covers much of the area from Sault Ste. Marie east to the Elliot Lake area (Card, 1977). Within the project area, the Gros Cap

Gneissic Complex has been further affected by a series of later structural events that have resulted in the cataclastic deformation of these rocks. A lithologic and cataclastic classification of the Gros Cap Granitic Gneiss Complex in the project area is summarized in Table 5.

The cataclastic event affecting the Gros Cap Gneissic Complex consisted of the development of micro-breccias without fluxion structure, and some proto-mylonites and mylonitic schist where there were sufficient mafic minerals to produce a tectonic fabric. The cataclastic deformation can be classified as being in a brittle-ductile regime. The presence of chlorite, amphibole and silica forming the groundmass to fragments and porphyroclasts in the microbreccia is suggestive that deformation took place in at least the greenschist metamorphic stage.

The area of rnicrobrecciation and protomylonitization is quite large, extending several kilometers in a northeasterly direction and up to one kilometer in width, with the long axis sub-parallel to the Highway Fault. The granitic and gneissic microbreccias are truncated by the Highway Fault exposed near the intersection of the CN (formerly ACR) railway crossing and Highway 556. The quartzite and para conglomerates of the Aweres formation occur in the hanging wall side of the fault and exhibit no evidence of extensive micro brecciation or mylonitization anywhere in the surrounding area. From these observations one can infer that the cataclastic event leading to the development of microbreccias, protomylonites and mylonitic schists is pre-lower Huronian in age and is likely late neo-Archean.

Lithologic Class	Lithologic Unit	Possible Protolith	Cataclastic Class
Gros Cap Granitic Gneiss	Granitic Microbreccia	Agmatite & Post-Tectonic Intrusions	Microbreccia
	Gneissic Microbreccia	Layered quartzo-feldspathic meisses	Microbreccia
Gros Cap Mafic Gneiss	Chlorite-Amphibolite	Mafic intrusive or mafic enclaves	(Partially) myloniticschist
	Chlorite-amphibole schist	Mafic gneiss	Protomylonite and mylonite schist
Brecciated Rocks	Migmatite Breccia	Migmatite/Agmatite	Protomylonite andmicrobreccia
	Chaotic Breccia	Mafic Gneiss? Mafic intrusive?	Microbreccia and breccia
	Breccia Veins	Not applicable	Microbreccia and cataclasite

Table 4. Lithologic and cataclastic classification of rock units on the property

Proterozoic

As noted previously, the quartzites and para conglomerates of the lower Huronian AweresFormation are juxtaposed against the cataclastic equivalents of the Gros Cap Gneissic Complex by the northeast trending Highway Fault. The Highway Fault has been interpreted as representing the northern margin of the Lake Huron Graben Structure reflecting the Archean-Proterozoic boundary (Bennett and Innes, 1977).

Reverse movement on the Highway Fault is indicated by major and minor folds in the shear fabric, with east side up and to the northwest. The presence of a felsite sill in the immediate hanging wall of the fault suggests that at least some of the fault movement occurred during mid-Proterozoic time (Keweenawan-age felsite). The presence of flow- banded Keweenawan felsite intruding the footwall granitic and gneissic microbreccias also supports a Keweenawan age for reverse movement.

Many of the northeast-trending faults along the east shore of Lake Superior have been affected by late Keweenawan reverse movement (Manson and Halls, 1993). This includes major crustal-scale faults north and south of the property such as, the Mamainse Fault, Van Koughnet Fault, Anderson Fault, Haviland Fault, and the Ivanhoe Lake - Montreal River Fault. Late Keweenawan movement along the Highway Fault is consistent with others in the area and has been attributed to a late compressional event related to the advent of Grenville Orogenesis from the southeast (Manson and Halls, 1993).

To the north and south of the Island Copper Property, elastic rocks of the Jacobsville Group unconformably overlie Archean and mid-Proterozoic (Mamainse Formation) rocks, and form the down-thrown blocks that created the Goulais River Valley and the Sault Ste. Marie Basin. The Goulais River Valley is bounded to the north by the easterly-trending Van Koughnet Fault and on the south by the east-trending Bellevue Fault. These faults reflect early normal block faulting followed by later reverse movement, which typify the major tectonic events related to the Mid-Continental Rift (MCR) (Johns,G.W, et al, 2003; Manson & Halls, 1993).

Rocks in the project area form part of the wedge of rocks produced by the intersection of the Bellevue Fault (east-trending, normal & reverse movement), the Highway Fault (northeast-trending, early normal and late reverse movement), and the Island Lake Fault (north-northwest trending, normal and possible reverse movement) (Figure 3). Copper mineralization at the Island Copper property is most closely associated with NNW trending fractures and scarps that define the Island Lake Fault zone and with associated crosscutting structures.

In the immediate map area, the topographic relief immediately east and west of Highway 552 is in the order of 80-100 meters, with NNW trending ridges and scarps exhibiting step-like pattern down towards the highway, which is suggestive of normal block faulting. However, slickensides at various locations around the map area suggest a reverse sense of movement along some structures. These conflicting observations may be explained as due to normal block faulting followed by late reverse movement, which is consistent with the kinematic history of the fault systems in the immediate area.

11.4. Sequence of Structural Events

The cataclastic event that resulted in the formation of microbreccias, protomylonites, and mylonite schist is thought to be neo-Archean in age. The lower Huronian rocks of the Aweres and Thessalon Formations (-2450 Ma) show no evidence of being affected by a similar cataclastic event. Established geochronological ages for the Algoma Gneiss Domain are about 2700 Ma (Grunsky, 1984).

The granitic and gneissic microbreccias are crosscut by a series of fractures, chloritic slips, microbreccia veins, quartz veins, and quartz-specularite veins. It appears that this early period of brittle deformation was followed by the development of specularite-quartz veins and stockworks with associated albitization of the granitic and gneissic microbreccias. The main mineralizing episode is most closely associated with NNW and NW oriented, generally steeply dipping structures that define the Island Lake Fault zone, and with ENE and NE trending cross-structures. The intersections of these two structural sets are the locus for the higher grades of copper mineralization.

Many of the specularite-albite alteration zones reflect lower grade mineralization with specularite being the primary mineral accompanied by lesser amounts of chalcopyrite and pyrite. It is only where the later NNW fractures and faults transect these rocks, that higher-grade copper mineralization occurs, particularly where NE and ENE structures intersect and result in good ground preparation for mineralizing hydrothermal fluids.

The specularite-albite alteration/mineralization may represent an early period of fracturing, mineralization and alteration (i.e. Stage I) that was later followed by the main mineralizing event (Stage II), consisting of chalcopyrite-pyrite-specularite and albite alteration.

Relative Timing of Planar Structure	Major Orientation	Mineralizing Event
chlorite slips and related fractures	(NNE)	
microbreccia and cataclasite (pseudotachilite?) veins	(NNE)	
quartz veining with associated red feldspar alteration	(NS)	
Quartz-specularite veins and stockworks	(NNE&ENE)	
Specularite veins and stockworks + albitization	(NNE&ENE)	Stage I Mineralization
Chalcopyrite-pyrite-specularite+albitization	(NNW&ENE,NE)	Stage II Mineralization

Table 5. Relative timing of planar structures and mineralizing events

A more precise timing of events requires further field analysis and geochronological age dating. Based on field observations, the specularite-albite mineralizing event (Stage I) displays characteristics that are suggestive of brittle-ductile behaviour (Trench Area 7). The timing of this episode is difficult to ascertain without further investigation. The main mineralizing episode (Stage II), however, is characterized by the brittle deformation of the rocks and is closely linked to mid-Proterozoic tectonic activity and the development of the Island Lake Fault zone.

11.5. Structural Model

The primary control for the chalcopyrite-pyrite-specularite mineralization and accompanying albitization are the NNW trending structures that parallel Highway 552 and comprise the Island Lake Fault Zone. Crosscutting structures trending NE and ENE served to localize mineralizing hydrothermal fluids resulting in higher grades of copper mineralization. A true-scale, composite cross-section across the Island Lake Fault Zone shows the mineralized NNW trending scarps that occur on both sides of Highway 552. The width of the fault zone is roughly 400 metres. A step-like pattern is evident towards the highway and suggests normal block faulting. Copper mineralization with accompanying albitization of the rock is closely related to these major fractures/faults and as such is depicted accordingly. The intersection between sets of crosscutting structures issteeply dipping such that much of the copper mineralization is likely to occur as steeply plunging shoots.

The widely separated, higher-grade Stage II mineralized zones occur over a width of about 400 metres (reflecting the Island Lake Fault Zone) and over a known distance of about 400 metres (NNW) and attest to the widespread nature of this hydrothermal event. Many of the NNW ridges, rocks faces/scarps have iron gossan stain, malachite, sulphides, and albitized wall rocks.

From the current and previous mapping, the earlier Stage I mineralizing event is irregularly distributed over an area of about 600 by 800 metres as irregular zones of albitized rock dominated by specularite veinlets, stockworks and disseminations. There isa spatial association with the intersection area between the Island Lake Fault zone and theHighway Fault (Mumin and Carmier, 2002).

The Island Lake Fault Zone is situated at a high angle to the Beilevue Fault and the Highway Fault, both of which are characterized by late Keweenawan reverse movement. The NW-SE horizontal compression required to create these reverse movements would result in the creation of a tensional regime within the intervening wedge of rock resulting in normal block faulting as witnessed in the Island Lake Fault Zone. Progressive deformation of the rocks could result in these structures exhibiting some late reverse movement. A tensional, block-faulting regime would be conducive to allowing access to deep sourced mineralizing hydrothermal fluids. The relative timing of this mineralizing event is consistent with the extensive mineralizing episode(s) that gave rise to the Keweenawan-age Cu-Ag-Au hydrothermal systems in the Mamainse Point area as represented by deposits such as the Copper Corp Mine and the Tribag Mine. As such, the IOCG deposit model provides the best framework to guide mineral exploration for copper-precious metal deposits in the Island Copper Property and surrounding area (Tortosa and Moss, 2005)

12. CONCLUSIONS

It is apparent from the historical and current work that a significant amount of felsic-intrusion-hosted Fe-oxide, copper +/- gold mineralization is present in locally on the Island Copper property. Most of the mineralization occurs in an albite-rich granite breccia that intrudes the Gros Cap Gneiss, as illustrated in the schematic model shown in Figure 17. The mineralization is concentrated at and near the contact with the gneiss, in a region of extensive faulting and brecciation. However, present work showed that brecciated granite continues to at least 300 m depth with albite and epidote alteration masked locally with silicification. It has also shown that that the brecciated units continue to greater depth than proposed by earlier authors (Mumin and Carmier, 2002). The main area of brecciation may be much wider and associated more with the Highway 522 fault zone than previously thought and therefore, a mineralizing source, could be situated much deeper (Figure 18).

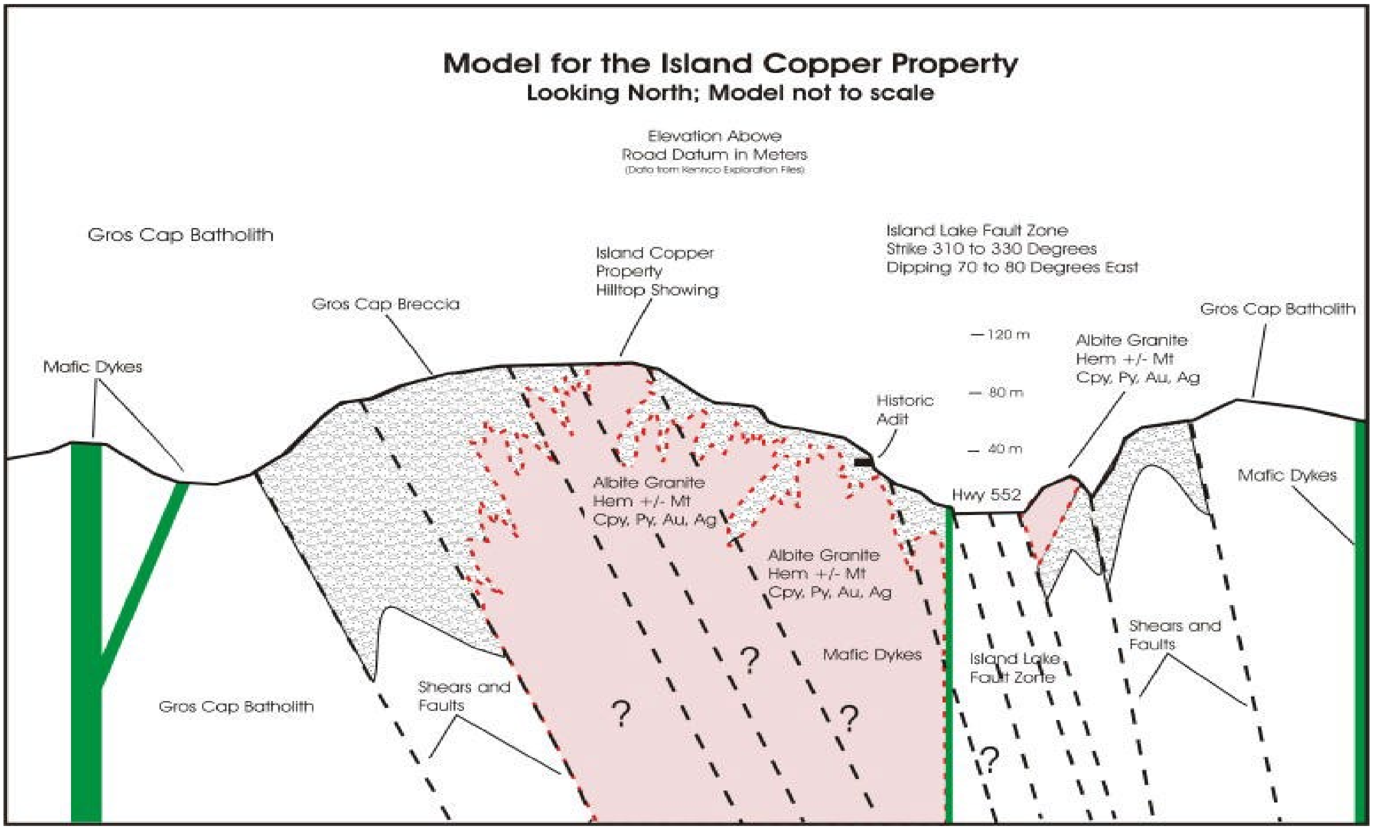

Figure 19 Schematic Geological Model for Mineralization on Island Copper, Sault Ste Marie, ON from (Mumin and Carmier, 2002 -revised)

13. WORK PERFORMED

The project included completion of approximately 4 km of VLF-EM lines across claims 508483,508477, 508480, 508479 and 508482 as detailed in Figure 15 and one diamond drill hole was completed to a depth of 300m on claim 508483. The work completed on each claim are detailed in the table below:

Island Copper Work Summary		
VLF Lines		
Claim Number	Length	Units
508483	0.96	Km
508477	1.13	Km
508480	0.42	Km
508479	1.21	Km
508482	0.22	Km
TOTAL	**3.94**	**Km**
Diamond Drilling		
Claim Number		
508483	300	meters
508483	51	Assays

The recommendations for follow-up could include further examination and prospecting of the VLF-EM anomalies identified in the recent survey. The adjacent claims to the west and south should be acquired to fully cover the VLF EM anomalies identified. While the current drilling did not identify significant copper mineralization further geophysical investigations, such as borehole EM or IP could be used to identify near-by mineralization.

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14. CERTIFICATE OF QUALIFICATIONS

This Report was prepared by James Atkinson P.Geo.

- I am a Registered Geoscientist in the Province of Ontario
- I am a graduate of Brock University with a BSc in 1972 and the University of Toronto with a M.Sc. in 1992
- I have been practising my profession since graduation for over 50 years.
- I have no interest in Transition Metals
- I am VP Exploration for Rich Copper which optioned the property from Transition Metals and performed and supervised all of the work reported in this report.

Signed and dated February 22, 2022.

Diamond Drill Hole Log for IC-21-01

Assay Results for Diamond Drill Hole IC-21-01

Superior Exploration VLF-EM Report

Drill Plan

DIAMOND DRILL LOG

DRILLING COMPANY		COLLAR ELEVATION	@	DIP	BEARING	@	DIP	BEARING	CLAIM NO.		LOCATION (ZONE 15 UTM N		HOLE NO.	Page
Forages Gyllis			COLLAR	45	270	M	°	°	508483		5172544 E		**IC-21-01**	1 of 3
START DATE	COMPLETION DATE	DATE LOGGED	291.2	43.7		M	°	°	MAP NO.		704677 N	COMMENTS		
November 4, 2021	November 6, 2021	November 15, 2021	M			M	°	°				Magnetic Field 55026 @291.2m		
EXPLORATION CO.; OWNER; OPTIONEE		LOGGED BY	M			M	°	°	TOTAL FOOTAGE		TARGET NAME			
Rich Copper Exploration		Wazir Khan	M	°		M	°	°	300 m.					

FOOTAGE		ROCK TYPE	DESCRIPTION	SAMPLE FOOTAGE			SAMPLE LENGTH	VISUAL % ESTIMATES / ASSAYS					
FROM	TO			Sample No.	FROM	TO		Py	Hem	Cpy	Cu ppm	Au ppm	
0.00	5.75	OVB	Overburden										
5.75	6.15	Mafic Dike	Fine grained, gray colored deformed mafic dike, containg ~ 2% specular Hematite ~2% and ~ 1% fine grained disseminated Py. Contact angle										
			with underlying breccia is about 30 degree .										
6.15	27.30	Breccia	Grey to light pink chlorite altered granite/granodiorite breccia with fragments set in foliated moderately deformed chlorite/amphibole rich matrix,										
			contains many cm elongated deformed mafic rock lenses. Pink color granite is composed of plagioclase, potassic feldspar and quartz.	E539502	6.15	7.00	0.85	1%	3%		142.5	<0.001	
			Locally these deformed lenses could be granodiorite. Breccia fragments mm to many cm in size are angular to subangular, stretched at	E539503	7.00	8.00	1.00	1%	4%		220.0	0.002	
			places, fractures are occupied by chlorite/amphibole, locally fractures are filled with specular Hematite up to ~ 4% @ 12m. Py is	E539504	8.00	9.00	1.00	1%	1%		647.0	0.004	
			fine to coarse grained, disseminated, occasional fine grained pyrite occupies hairline fractures, and rarely blebby @ 16.7m.	E539505	9.00	10.00	1.00	2%	2%		130.0	0.002	
			Py ~ traces to 2% locally. Traces of Chalcopyrite fine grained and occur in hairline fractures. The lower contact with the diabase dyke is	E539507	10.00	10.45	0.45	2%	1%		1195.0	0.006	
			sheared, deformed and fragments of granitic breccia and dyke lenses are intermixed.	E539508	10.45	11.10	0.65	2%	1%		218.0	0.001	
				E539509	11.10	11.50	0.40	2%	2%		126.0	0.003	
				E539510	11.50	12.35	0.85	1%	4%		413.0	0.002	
				E539512	12.35	13.00	0.65	1%	1%	Tr	97.4	0.001	
				E539513	13.00	14.00	1.00	2%	1%	Tr	1705.0	0.004	
				E539514	14.00	15.00	1.00	1%	4%		46.4	<0.001	
				E539515	15.00	16.00	1.00	1%	4%	Tr	70.9	0.001	
				E539517	16.00	16.45	0.45	1%	1%	Tr	503.0	0.001	
				E539518	16.45	17.45	1.00	2%	1%		444.0	0.002	
				E539519	17.45	18.30	0.85	1%	1%		12.4	<0.001	
				E539520	18.30	19.00	0.70	Tr	Tr	Tr	10.8	<0.001	
				E539522	19.00	20.00	1.00	1%	Tr		106.0	0.001	
				E539523	20.00	21.00	1.00	1%	2%		94.3	0.001	
				E539524	21.00	22.00	1.00	Tr	Tr		11.2	<0.001	
				E539525	22.00	23.00	1.00	Tr	Tr		70.3	0.001	

				E539526	23.00	24.00	1.00	1%	1%		243.0	0.002	
				E539527	24.00	25.00	1.00	2%	2%	Tr	4720.0	0.037	
				E539528	25.00	26.20	1.20	1%	2%		143.0	0.001	
				E539529	26.20	27.00	0.80	1%			823.0	0.002	
27.30	29.70	Mafic Dike	Fine grained chlorite altered light to dark gray colored diabase, foliated, amygdaloidal near to lower contact, amygdule altered to carbonates,										
			45 degree contact angle with the upper lying granite breccia.										
29.70	40.30	Breccia	Light to dark grey, fine to medium grained predominant matrix with granitic/granodiorite fragment, mo										
			with pyrite up to 1%. A number of 1-2 cm thick quartz veins 30-45 degree to core axis, mafic chlorite										
			intermixed with breccia. Pyrite around @ 37.4 m is fine grained disseminated and around 37.7m pyrit										
			along fracture.										
40.30	50.60	Granite Breccia	Pink altered granitic breccia with up to 10 cm long lenses of chlorite/amphibole altered mafic. Breccia granite fragments are set in fine grained	E539530	40.30	41.30	1.00	1%	4%		52.4	0.011	
			matrix, pink fragments are subrounded, mm to few cm in size, composed of plagioclase, k-feldspar and quartz, bright pink colored lenses	E539531	41.30	42.15	0.85	1%	2%		109	0.003	
			in fine to medium grained rich matrix grey colored contained fracture control hematite ~ 10% @ 40m where as pyrite is ~ 1%.										
			A number of cm wide qtz veins along with hairline size carbonate veins.	E539533	42.15	43.10	0.95	2%	1%		7.6	0.002	
			From 46.65 to 46.85 breccia gauge, vuggy with carbonate encrustations, fracture controlled calcite and angular pieces of mafic rocks.										
50.60	51.00	Mafic Dike	Fine grained deformed grey colored foliated lense of diabase dike										
51.00	65.70	Granite Breccia	Light grey to dark grey colored foliated matrix containing granite breccia pink altering fragments. Pink altered fragments contain fine to										
			coarse graine disseminated pyrite ~ 1%. Irregular quartz nodules @ 56.3 m and 30 degree TCA quartz veins around 57.3m.										
65.70	67.00	Mafic Dike	Fine grained dark grey moderately foliated diabase dyke at 25 degree with upper granitic breccia and 30 degree with lower one.										
			Calcite veins hairline to few mm in thickness . Irregular 2 cm barren quartz vein closer to the lower contact										
67.00	86.60	Granite breccia	Pinkish grey to pink colored granite breccia with up to 20 cm lenses of deformed mafic rocks@ 80.5 and 82 m. Pink to pinkish grey fragments										
			set in chlorite rick dark grey matrix which deformed, moderately foliated. Locally silicified containing stretched quartz nodules up to 2 cm thick and										
			elongated in core direction. Pyrite is fine to coarse grained, disseminated ~ 1% locally.										

86.60	87.30	Mafic Dike	Fine grained, homogenous equigranular dark grey,contains fine to medium grained Py ~ 1%.										
87.30	92.00	Granite Breccia	Dark pink to greyish pink with light grey to grey colored mafic, chlorite rich matrix. Granitic angular to subangluar fragments are a few mm to	E539534	89.65	90.65	1.00	1%	4%		7.1	<0.001	
			a few cm in diameter are fractured, locally fractures are hematite filled @ 90 m &91.3 m ~ 4-5% with very fine grained pyrite ~ 1% locally.	E539535	90.65	91.45	0.80	1%	5%		6.8	0.001	
92.00	94.25	Mafic Dike	Fine medium coarse graine foliated grey to dark grey, foliated and deformed, upper part contains grey colored breccia silicified lenses.										
94.25	138.50	Breccia	Light grey to grey, locally pinkish silicified breccia with occasional quartz veins up to 2 cm thick at 30 cm to sub parallel to core axis. Mafic										
			deformed lenses locally. Granitic breccia contains plagioclase, potassium feldspar and quartz. Locally pinkish color could be due potassic										
			alteration or iron oxidation. Fine to coarse grained pyrite ~ traces to 1% locally. After 123.3m chlorite/amphibole rich mafic lenses are										
			predominant which are deformed, and brecciated containg carbonate veins and lenses.										
			123.3-130.9m mostly deformed mafic deformed containing chlorite and amphibole with secondary carbonate										
123.30	130.90		Mostly deformed mafic deformed containing chlorite and amphibole with secondary carbonate										
138.50	139.80	CNR	Grind, core not recovered										
139.80	172.50	Breccia	Light grey to dark grey, locally pinkish grey silicified granitic breccia with deformed mafic lenses. Granite lenses occur in dark grey colored matrix	E539536	171.5	172.5	1	1%	Tr		5.8	0.001	
			Silicified bands contains quartz deformed lenses and occasional up to cm size barren quartz veins subparallel to at 30 TCA. Pyrite mostly	E539537	173.5	174.5	1	1%			3.1	<0.001	
			disseminated from fine to coarse grained and occurs in coarse grained granular texture lenses of granite breccia. @161m, silicified bands of	E539539	174.5	175.5	1	2%			4.9	0.001	
			granite breccia have fine grained disseminated and blebby pyrite ` 1%.	E539540	175.5	176.5	1	3%			2	0.002	
			171.5-177.5m: Granite breccia is broken, fractured with 10-15% quartz vein ~ 1-3 cm thick, irregular as well as subparallel to CA. Granite	E539541	176.5	177.5	1	2%			2.7	0.002	
			breccia lenses are coarse grained, granular in texture, mostly containing plagioclase and quartz with minor potassic feldspar. Disseminated fine	E539542	177.5	178.5	1	1%			4.1	0.001	
			to coarse grained pyrite is limited to breccia. Py ~ 1-2 %, Rarely Py encrustations along quartz fracture plans.										
172.50	173.50	Mafic Dike	Dark grey fine to medium grained equigranular mafic diabase (?) dike.										
173.50	205.00	Breccia	Light grey to pinkish white, coarse grained , pink color fragments mm to few cm in size, angular to subangular, locally vuggy, mostly composed of										
			plagioclase, quartz and k feldspars, granular texture fine to occasional coarse grained disseminated pyrite ~ 1%										
205.00	211.10	Mafic Dike	Fine grained dark brown, equigranular containg biotite, could be Lamprophyre Dike, upper and lower contact with breccia 60 degree.										

211.10	245.00	Breccia	Dark grey to light grey chlorite/amphibole altered mafic matrix containg granitic breccia, locally broken, quartz veins up to 3 cm in thickness in										
			silicified lenses of granite breccia.										
			221-228m, Chlorite rich mafic lenses are in abundance which are sheared and deformed. Py ~ traces										
			228-245m, Pink colored baren lenses up to 15 cm long are associated locally with a few cm irregular barren quartz nodules/lenses and veins										
			Pyrite ~ traces.										
245.00	300.00	Breccia	Silicified greenish grey epidotized granite breccia with up to 5 cm quartz veins, epidote alteration common, with occasional reddish oxidized										
			lenses, locally unaltered grey colored granite breccia. Silicified epidote altered lenses fracture controlled iron oxidized reddish streaks and bands										
			About 1% pyrite mineralization is mostly in the silicified granite breccia lenses, it is fine to coarse grained.										
			253-262.5m, Predominantly silicified epidotized granite breccia with pervasive epidote, fractures filled with reddish iron oxides,	E539544	257.0	258.0	1	1%			*1.1*	*<0.001*	
			rare quartz veins, disseminated pyrite 1%	E539545	258.0	259.0	1	1%			*0.5*	*<0.001*	
			270-279m, Granite breccia, silicified, granular with iron oxides along fractures, disseminated fine to coarse grained, locally coarse grained	E539546	271.5	272.5	1	1%			*28*	*0.004*	
			euhedral pyrite ~ 1-2%	E539547	274.0	275.0	1	1%			*0.8*	*<0.001*	
			279-300m, Pinkish red silicified granite breccia containg about 5% quartz veins, nodules and lenses. Pinkish red coloration could be due	E539549	282.6	283.6	1	2%			*56.9*	*<0.001*	
			oxidation of pyrite, mostly in silicified sections, fine to coarse grained pyrite 1-2%.	E539550	287.0	288.0	1	2%			*24*	*0.001*	
				E539551	288.0	289.0	1	2%			*43.2*	*0.001*	
			EOH:300m	E539552	289.0	290.0	1	1%			*64.8*	*0.001*	

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Page: 1
Total # Pages: 3 (A - D)
Plus Appendix Pages
Finalized Date: 18-DEC-2021
This copy reported on
30-DEC-2021
Account: RCEKPSSI

CERTIFICATE SD21321730

Project: Island Copper

This report is for 51 samples of 1/2 Core submitted to our lab in Sudbury, ON, Canada on 22-NOV-2021.

The following have access to data associated with this certificate:

JAMES ATKINSON	DAVID MCDONALD	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
LOG-21d	Sample logging - ClientBarCode Dup
LOG-23	Pulp Login - Rcvd with Barcode
SPL-34	Pulp Splitting Charge
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
AuME-TL43	25g Trace Au + Multi Element PKG	

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

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

Signature:
Saa Traxler, General Manager, North Vancouver

CERTIFICATE OF ANALYSIS SD21321730

Sample Description Method	WEI-21	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43
Analyte	Recvd Wt.	Au	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs
Units	kg	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
LOD	0.02	0.001	0.01	0.01	0.1	10	10	0.05	0.01	0.01	0.01	0.02	0.1	1	0.05
E539502	1.48	<0.001	0.04	2.67	0.2	<10	20	0.42	0.02	0.07	0.02	41.8	20.6	6	0.38
E539503	1.70	0.002	0.10	3.02	0.4	<10	20	0.53	0.03	0.14	0.01	31.7	49.6	60	0.33
E539504	2.12	0.004	0.06	3.44	0.2	<10	10	0.48	0.04	0.12	0.01	39.3	36.5	16	0.26
E539505	1.76	0.002	0.02	3.91	0.3	<10	10	0.44	0.03	0.09	0.01	25.1	37.0	4	0.29
E539506	<0.02	<0.001	2.97	2.77	9.4	<10	50	0.74	35.1	0.29	0.64	54.6	23.2	38	1.66
E539507	1.36	0.006	0.09	2.40	0.3	<10	20	0.34	0.23	0.25	0.02	22.4	28.5	4	0.31
E539508	1.20	0.001	0.04	2.82	0.3	<10	10	0.32	0.02	0.19	0.01	26.8	17.4	4	0.24
E539509	0.50	0.003	0.55	8.15	5.1	<10	20	1.66	0.09	0.88	0.11	13.70	43.6	3	0.60
E539510	1.76	0.002	0.08	4.00	0.6	<10	10	0.59	0.06	0.20	0.04	11.10	36.2	4	0.36
E539511	1.59	<0.001	0.02	0.57	1.2	<10	20	0.20	0.08	0.28	0.05	12.35	4.0	10	0.22
E539512	1.01	0.001	0.06	2.12	0.9	<10	10	0.30	0.04	0.19	0.02	30.9	22.1	19	0.28
E539513	1.67	0.004	0.03	2.20	0.3	<10	10	0.24	0.08	0.15	0.02	42.0	42.8	4	0.21
E539514	1.73	<0.001	0.02	1.95	0.2	<10	30	0.28	0.02	0.20	0.01	36.9	22.1	6	0.20
E539515	1.90	0.001	0.01	2.28	0.1	<10	10	0.32	0.02	0.13	0.01	69.7	26.3	8	0.27
E539516	<0.02	0.001	0.01	2.21	0.2	<10	10	0.28	0.02	0.13	<0.01	62.2	25.0	8	0.26
E539517	0.78	0.001	0.03	5.74	1.4	<10	10	0.80	0.07	0.34	0.01	170.5	81.3	164	0.79
E539518	2.23	0.002	0.06	2.25	5.5	<10	10	0.36	0.07	0.13	<0.01	21.4	26.5	11	0.31
E539519	1.18	<0.001	0.03	1.02	0.2	<10	20	0.30	0.02	0.25	<0.01	22.4	4.4	4	0.28
E539520	0.61	<0.001	0.05	1.17	0.1	<10	10	0.19	0.03	0.07	<0.01	24.1	5.5	3	0.23
E539521	0.49	0.001	0.03	1.18	<0.1	<10	10	0.26	0.02	0.08	0.01	25.4	5.5	4	0.22
E539522	2.33	0.001	0.09	2.43	1.2	<10	10	0.54	0.03	0.77	0.03	30.7	14.1	9	0.35
E539523	2.12	0.001	0.03	1.75	0.5	<10	10	0.20	0.03	0.11	<0.01	26.7	12.3	3	0.22
E539524	2.24	<0.001	0.01	1.35	0.1	<10	10	0.18	0.01	0.18	<0.01	15.40	9.3	2	0.17
E539525	2.15	0.001	0.01	1.39	<0.1	<10	10	0.20	0.03	0.13	<0.01	46.1	29.1	4	0.20
E539526	2.23	0.002	0.02	3.30	0.5	<10	10	0.36	0.03	0.19	0.01	27.9	35.6	12	0.34
E539527	2.28	0.037	0.18	2.05	5.3	<10	10	0.37	0.35	0.29	0.05	36.4	49.5	7	0.27
E539528	2.72	0.001	0.02	1.67	0.5	<10	10	0.27	0.09	0.09	<0.01	84.0	59.7	7	0.22
E539529	1.56	0.002	0.04	7.02	0.3	<10	10	1.03	0.03	0.09	<0.01	53.1	38.5	628	0.67
E539530	2.40	0.011	0.20	0.87	25.8	<10	10	0.18	0.27	0.17	0.01	9.76	42.4	17	0.17
E539531	1.75	0.003	0.05	1.80	0.6	<10	10	0.26	0.06	0.18	0.03	19.40	27.5	21	0.25
E539532	<0.02	0.006	2.06	2.76	7.4	<10	50	0.53	21.8	0.31	0.37	60.5	21.8	39	1.72
E539533	2.10	0.002	0.02	1.86	0.4	<10	10	0.26	0.15	0.29	<0.01	49.9	54.4	41	0.20
E539534	1.62	<0.001	0.07	1.39	0.4	<10	30	0.73	0.04	0.33	<0.01	20.4	13.4	5	0.41
E539535	2.32	0.001	0.17	0.91	3.2	<10	10	0.32	0.12	0.49	0.02	8.96	19.0	5	0.19
E539536	2.23	0.001	0.05	0.54	11.0	<10	20	0.25	0.06	0.39	0.02	7.25	21.6	5	0.11
E539537	1.90	<0.001	0.02	1.25	3.8	<10	10	0.34	0.07	0.34	0.01	3.56	45.0	3	0.29
E539538	1.85	0.001	0.02	0.51	1.0	<10	20	0.18	0.08	0.25	0.05	12.70	4.1	10	0.22
E539539	2.02	0.001	0.07	1.78	1.0	<10	20	0.87	0.18	0.41	0.01	9.91	65.8	4	0.98
E539540	1.77	0.002	0.05	1.72	0.5	<10	10	0.56	0.09	0.19	<0.01	8.60	47.0	3	0.32
E539541	1.79	0.002	0.04	0.97	0.5	<10	<10	0.36	0.08	0.21	<0.01	7.13	35.5	5	0.18

CERTIFICATE OF ANALYSIS SD21321730

Sample Description	Method Analyte Units LOD	AuME-TL43 Cu ppm 0.2	AuME-TL43 Fe % 0.01	AuME-TL43 Ga ppm 0.05	AuME-TL43 Ge ppm 0.05	AuME-TL43 Hf ppm 0.02	AuME-TL43 Hg ppm 0.01	AuME-TL43 In ppm 0.005	AuME-TL43 K % 0.01	AuME-TL43 La ppm 0.2	AuME-TL43 Li ppm 0.1	AuME-TL43 Mg % 0.01	AuME-TL43 Mn ppm 5	AuME-TL43 Mo ppm 0.05	AuME-TL43 Na % 0.01	AuME-TL43 Nb ppm 0.05
E539502		142.5	5.14	13.75	0.11	0.07	<0.01	0.015	0.02	20.8	17.8	2.89	263	0.45	0.05	<0.05
E539503		220	6.56	16.60	0.14	0.08	<0.01	0.021	0.02	15.8	22.0	3.27	331	0.29	0.04	<0.05
E539504		647	6.34	19.95	0.16	0.07	0.01	0.021	0.01	20.1	23.6	3.75	309	0.15	0.05	<0.05
E539505		130.0	6.80	22.4	0.15	0.04	<0.01	0.020	0.01	12.4	28.1	4.14	335	0.10	0.04	<0.05
E539506		6510	6.49	8.42	0.16	0.48	0.03	0.665	0.27	24.9	26.3	1.49	882	0.83	<0.01	0.41
E539507		1195	6.34	13.55	0.11	0.10	<0.01	0.018	0.02	11.2	16.4	2.58	345	0.19	0.06	<0.05
E539508		218	5.47	13.75	0.10	0.06	<0.01	0.015	0.02	13.4	13.0	3.11	411	0.09	0.05	<0.05
E539509		126.0	13.55	43.3	0.18	<0.02	<0.01	0.057	0.01	6.0	51.2	8.47	1435	0.15	0.01	<0.05
E539510		413	7.60	20.8	0.14	0.08	<0.01	0.029	0.01	4.9	23.3	4.10	704	0.31	0.04	<0.05
E539511		5.4	1.18	2.55	<0.05	0.11	<0.01	0.007	0.06	5.9	7.1	0.26	153	0.15	0.05	0.26
E539512		97.4	4.59	12.05	0.09	0.12	<0.01	0.013	0.02	15.1	13.6	2.06	368	0.14	0.06	<0.05
E539513		1705	4.45	12.35	0.10	0.09	<0.01	0.024	0.02	21.1	14.6	2.20	241	0.14	0.05	<0.05
E539514		46.4	5.02	10.95	0.10	0.18	<0.01	0.011	0.02	18.7	13.6	1.96	211	0.19	0.06	<0.05
E539515		70.9	6.22	13.75	0.16	0.09	<0.01	0.011	0.02	34.6	17.2	2.25	205	0.21	0.04	<0.05
E539516		68.3	5.63	13.00	0.15	0.10	<0.01	0.009	0.02	29.9	15.4	2.20	200	0.20	0.04	<0.05
E539517		503	11.00	31.9	0.35	0.14	<0.01	0.032	0.01	86.6	39.8	5.79	420	0.12	0.01	<0.05
E539518		444	4.26	12.95	0.07	0.14	<0.01	0.016	0.03	10.6	17.4	2.25	226	0.19	0.06	<0.05
E539519		12.4	1.80	5.45	<0.05	0.08	<0.01	0.010	0.09	10.9	8.8	0.95	259	0.31	0.04	<0.05
E539520		10.8	2.05	6.15	<0.05	0.08	<0.01	0.006	0.06	12.2	9.7	1.05	126	0.28	0.04	<0.05
E539521		6.9	2.07	6.02	<0.05	0.07	<0.01	0.007	0.08	12.4	9.7	1.02	131	0.44	0.05	<0.05
E539522		106.0	4.38	12.90	0.07	0.11	<0.01	0.016	0.04	15.5	20.9	2.69	638	0.23	0.03	<0.05
E539523		94.3	3.73	9.74	0.08	0.09	<0.01	0.007	0.02	13.7	14.1	1.68	242	0.15	0.06	<0.05
E539524		11.2	2.53	7.59	0.05	0.10	<0.01	0.005	0.03	6.9	11.4	1.27	171	0.10	0.06	<0.05
E539525		70.3	2.60	8.41	0.08	0.15	<0.01	0.007	0.02	23.1	11.4	1.28	173	0.17	0.08	<0.05
E539526		243	5.66	18.25	0.12	0.14	<0.01	0.016	0.02	13.3	27.5	3.39	305	0.12	0.04	<0.05
E539527		4720	7.55	10.55	0.12	0.20	0.01	0.041	0.01	18.6	14.8	2.12	394	0.28	0.05	<0.05
E539528		143.0	3.67	9.93	0.13	0.22	0.01	0.009	0.02	41.4	10.3	1.61	166	0.44	0.05	<0.05
E539529		823	12.25	38.4	0.20	0.06	<0.01	0.050	0.01	25.9	47.1	6.98	496	0.33	0.01	<0.05
E539530		52.4	4.82	4.78	0.06	0.16	0.01	0.012	0.01	4.5	5.7	0.76	277	0.30	0.06	<0.05
E539531		109.0	3.49	9.22	0.06	0.12	<0.01	0.034	0.02	9.3	11.8	1.62	431	0.15	0.06	<0.05
E539532		4400	6.06	8.49	0.15	0.56	0.05	0.497	0.29	27.3	24.4	1.40	847	0.88	<0.01	0.42
E539533		7.6	4.07	10.85	0.10	0.11	<0.01	0.010	0.02	26.6	11.2	1.78	288	0.19	0.05	<0.05
E539534		7.1	5.45	6.43	0.07	0.11	<0.01	0.005	0.04	10.0	12.8	1.17	235	0.25	0.08	<0.05
E539535		6.8	3.57	5.07	0.05	0.14	<0.01	0.008	0.01	4.3	10.3	0.96	338	0.32	0.05	<0.05
E539536		5.8	1.18	3.54	<0.05	0.06	<0.01	<0.005	0.01	3.5	4.7	0.54	145	0.80	0.05	<0.05
E539537		3.1	2.35	8.48	0.06	0.10	<0.01	0.007	0.02	1.7	9.8	1.28	174	0.56	0.04	<0.05
E539538		5.0	1.08	2.51	<0.05	0.10	<0.01	0.008	0.05	6.3	7.4	0.26	140	0.18	0.05	0.27
E539539		4.9	3.51	11.40	0.07	0.14	0.01	0.013	0.06	4.6	17.1	1.81	254	0.86	0.04	<0.05
E539540		2.0	3.22	11.45	0.07	0.08	<0.01	0.011	0.02	4.1	17.4	1.88	218	0.64	0.04	<0.05
E539541		2.7	1.94	6.43	<0.05	0.10	<0.01	0.005	0.01	3.5	9.9	1.03	150	0.77	0.06	<0.05

Project: Island Copper

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Method	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43
Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Sample Description LOD	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
E539502	22.2	220	1.4	1.5	<0.001	0.06	<0.05	3.4	<0.2	0.3	7.0	<0.01	0.02	2.9	0.007
E539503	34.9	240	1.0	1.0	<0.001	0.18	<0.05	4.9	0.3	0.4	5.6	<0.01	0.02	4.7	0.019
E539504	36.4	300	1.3	0.8	<0.001	0.15	<0.05	4.4	0.3	<0.2	6.3	<0.01	<0.01	9.7	0.011
E539505	37.5	210	0.9	1.0	<0.001	0.11	<0.05	5.0	0.3	<0.2	4.8	<0.01	0.01	4.0	0.007
E539506	33.9	600	113.0	17.9	0.002	1.00	0.84	3.2	9.4	7.9	12.4	0.01	<0.01	13.6	0.075
E539507	22.3	210	1.8	1.5	<0.001	0.17	<0.05	3.0	<0.2	0.5	6.7	<0.01	0.03	4.3	0.028
E539508	23.1	240	1.7	1.0	<0.001	0.06	<0.05	3.2	<0.2	<0.2	5.1	<0.01	<0.01	3.4	0.013
E539509	81.4	340	6.0	1.2	<0.001	0.13	<0.05	11.2	<0.2	0.2	24.5	<0.01	0.03	4.4	<0.005
E539510	36.6	490	3.4	0.9	<0.001	0.12	<0.05	6.0	<0.2	0.4	5.0	<0.01	0.01	4.4	0.008
E539511	7.9	200	2.9	3.6	<0.001	<0.01	<0.05	1.4	0.3	0.3	19.4	<0.01	0.01	1.5	0.075
E539512	20.7	350	1.2	1.8	<0.001	0.06	<0.05	3.4	<0.2	0.2	5.9	<0.01	0.02	3.1	0.010
E539513	20.7	260	1.0	1.1	<0.001	0.29	<0.05	3.4	0.2	<0.2	4.8	<0.01	0.01	2.4	0.007
E539514	16.4	540	0.8	1.5	<0.001	0.07	<0.05	3.3	<0.2	0.2	6.3	<0.01	0.03	3.7	0.022
E539515	20.5	420	0.7	1.4	<0.001	0.05	<0.05	4.1	0.3	0.5	6.7	<0.01	0.02	3.2	0.029
E539516	19.5	410	0.7	1.3	<0.001	0.04	<0.05	3.8	0.2	0.4	6.3	<0.01	0.01	2.9	0.023
E539517	83.4	1390	0.8	1.0	<0.001	0.32	<0.05	11.8	<0.2	0.2	10.8	<0.01	0.01	4.2	0.014
E539518	19.0	420	1.2	1.8	<0.001	0.22	0.06	3.9	0.2	<0.2	6.1	<0.01	0.02	4.1	<0.005
E539519	3.5	180	1.0	5.2	<0.001	0.02	<0.05	0.6	<0.2	<0.2	5.3	<0.01	<0.01	5.0	<0.005
E539520	3.2	250	1.2	3.6	<0.001	0.03	<0.05	0.6	0.2	<0.2	4.4	<0.01	0.01	3.8	<0.005
E539521	3.5	270	1.2	4.4	<0.001	0.04	<0.05	0.6	<0.2	<0.2	4.8	<0.01	<0.01	4.0	<0.005
E539522	16.4	650	2.7	2.4	<0.001	0.19	<0.05	3.2	<0.2	<0.2	11.2	<0.01	0.01	4.5	<0.005
E539523	14.6	240	1.0	1.4	<0.001	0.14	<0.05	2.9	0.2	0.2	5.3	<0.01	0.01	2.8	0.007
E539524	10.7	550	0.7	1.6	<0.001	0.02	<0.05	2.0	<0.2	<0.2	6.0	<0.01	0.02	1.8	<0.005
E539525	13.1	350	0.9	1.5	0.001	0.08	<0.05	2.3	<0.2	<0.2	6.5	<0.01	0.01	4.5	<0.005
E539526	34.7	760	1.4	1.1	<0.001	0.09	<0.05	8.7	0.2	<0.2	6.3	<0.01	<0.01	4.3	0.005
E539527	21.5	280	6.0	0.8	<0.001	1.32	<0.05	4.9	0.3	1.5	6.0	<0.01	0.03	8.0	0.021
E539528	12.6	330	1.4	1.1	<0.001	0.26	<0.05	2.8	0.3	0.2	6.9	<0.01	0.03	14.6	0.006
E539529	201	410	0.5	0.9	<0.001	0.10	<0.05	25.2	<0.2	0.2	5.8	<0.01	0.06	2.9	0.008
E539530	11.8	320	2.4	0.8	<0.001	0.49	0.15	2.2	0.3	1.3	6.0	<0.01	<0.01	4.3	0.023
E539531	19.1	550	1.7	1.5	<0.001	0.09	<0.05	2.7	<0.2	<0.2	6.3	<0.01	<0.01	4.0	<0.005
E539532	34.7	610	84.2	19.5	<0.001	0.72	0.78	3.2	4.9	6.3	14.3	<0.01	<0.01	14.2	0.081
E539533	18.4	860	0.9	1.1	<0.001	0.19	<0.05	3.4	0.2	<0.2	8.0	<0.01	0.02	3.5	0.010
E539534	10.1	930	2.4	2.5	0.001	0.07	<0.05	2.4	<0.2	1.3	10.6	<0.01	0.01	2.3	0.029
E539535	8.1	380	3.6	0.7	0.001	0.28	<0.05	2.2	0.3	1.1	7.9	<0.01	<0.01	4.4	0.015
E539536	4.6	160	54.1	0.4	<0.001	0.04	<0.05	1.3	<0.2	<0.2	8.1	<0.01	0.01	1.0	<0.005
E539537	10.8	300	2.7	1.3	0.001	0.12	<0.05	2.8	0.4	<0.2	8.2	<0.01	0.01	1.7	<0.005
E539538	8.1	200	3.0	3.6	<0.001	<0.01	<0.05	1.3	0.2	0.2	15.9	<0.01	<0.01	1.6	0.059
E539539	15.8	390	1.7	4.4	0.001	0.28	<0.05	4.4	0.5	<0.2	11.5	<0.01	0.03	1.7	0.007
E539540	15.6	260	1.2	1.6	<0.001	0.14	<0.05	3.7	0.3	<0.2	8.1	<0.01	0.02	2.4	<0.005
E539541	9.1	310	2.0	0.7	<0.001	0.11	<0.05	2.3	<0.2	0.2	9.3	<0.01	0.01	1.5	<0.005

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Sample Description	Method	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	CRU-QC	PUL-QC
	Analyte	Tl	U	V	W	Y	Zn	Zr	Pass2mm	Pass75um
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	LOD	0.02	0.05	1	0.05	0.05	2	0.5	0.01	0.01
E539502		<0.02	0.58	29	0.20	1.26	31	3.4	80.5	97.4
E539503		<0.02	1.02	44	0.22	1.53	31	4.0		97.4
E539504		<0.02	0.90	38	0.11	1.48	31	4.3		
E539505		<0.02	0.48	38	0.05	1.36	47	2.3		
E539506		0.12	1.63	28	3.14	9.84	435	19.4		
E539507		0.02	0.50	35	0.86	2.35	45	3.9	77.1	
E539508		<0.02	0.48	30	0.19	1.88	71	2.7		
E539509		<0.02	1.79	73	<0.05	2.34	330	0.5		
E539510		<0.02	0.73	50	0.27	1.28	156	4.6		
E539511		0.02	0.33	22	0.09	2.99	26	4.5		
E539512		0.02	0.56	33	0.28	1.10	54	4.8		
E539513		<0.02	0.38	30	0.07	1.04	32	3.6		
E539514		<0.02	0.42	35	0.35	1.34	17	9.1		
E539515		<0.02	0.30	43	0.56	1.26	17	4.3		
E539516		<0.02	0.27	39	0.44	1.14	16	3.9		
E539517		<0.02	1.08	84	0.13	3.13	46	5.4		
E539518		0.02	0.49	33	0.05	1.51	23	5.9		
E539519		0.03	0.41	13	<0.05	1.26	15	4.1		
E539520		0.02	0.30	13	<0.05	1.01	20	3.1		
E539521		0.03	0.32	12	<0.05	1.06	19	3.0		
E539522		0.02	0.39	33	<0.05	2.83	55	5.2		
E539523		<0.02	0.20	34	0.25	1.32	22	3.7		
E539524		<0.02	0.24	20	0.08	2.01	13	4.1		
E539525		<0.02	0.68	21	<0.05	1.54	13	6.3		
E539526		<0.02	0.83	56	<0.05	2.26	51	5.9		
E539527		<0.02	0.65	80	1.71	3.46	36	8.2		
E539528		<0.02	0.83	29	0.23	2.59	14	10.6		
E539529		<0.02	0.34	110	<0.05	3.53	54	4.4		
E539530		0.03	0.52	36	1.51	1.42	33	6.9		
E539531		<0.02	0.61	26	0.05	1.78	67	5.3		
E539532		0.12	1.81	28	2.14	11.25	340	20.0		
E539533		<0.02	0.35	32	0.15	1.62	31	4.9		
E539534		0.02	5.21	48	2.01	2.05	22	4.9		
E539535		<0.02	1.60	37	2.05	1.95	16	5.7		
E539536		<0.02	0.45	8	0.08	1.41	12	3.3		
E539537		0.02	0.39	19	0.05	1.78	15	3.5		
E539538		0.02	0.30	20	0.10	3.00	24	4.3		
E539539		0.05	0.79	32	0.06	3.08	25	6.6		
E539540		<0.02	0.69	25	0.05	2.01	22	4.5		93.8
E539541		<0.02	0.76	18	0.08	2.04	14	5.5	74.7	94.9

CERTIFICATE OF ANALYSIS SD21321730

Sample Description	Method	WEI-21	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43
	Analyte	Recvd Wt.	Au	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs
	Units	kg	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
	LOD	0.02	0.001	0.01	0.01	0.1	10	10	0.05	0.01	0.01	0.01	0.02	0.1	1	0.05
E539542		1.96	0.001	0.03	1.57	0.2	<10	<10	0.95	0.11	0.16	<0.01	28.4	46.5	3	0.16
E539543		<0.02	0.002	0.03	1.63	0.2	<10	<10	1.06	0.11	0.16	<0.01	33.2	47.8	3	0.17
E539544		1.16	<0.001	0.01	0.78	0.3	<10	20	0.36	0.05	1.28	0.01	39.8	0.7	29	0.20
E539545		2.30	<0.001	0.01	0.95	0.2	<10	20	0.38	0.04	1.16	<0.01	17.80	1.1	51	0.32
E539546		2.25	0.004	0.26	1.99	3.5	<10	10	0.78	2.99	1.57	5.01	32.0	9.5	179	0.16
E539547		1.14	<0.001	0.01	1.19	0.3	<10	20	0.58	0.15	0.94	0.01	25.1	2.0	32	0.23
E539548		1.29	0.001	0.24	1.56	0.3	<10	20	0.64	0.67	1.24	0.43	30.1	2.7	46	0.27
E539549		2.31	<0.001	0.06	0.79	0.3	<10	30	0.42	0.07	0.38	0.05	227	6.7	8	0.15
E539550		2.53	0.001	0.07	1.40	0.2	<10	30	0.17	0.06	0.59	0.02	16.35	17.4	58	0.20
E539551		2.16	0.001	0.04	1.99	0.6	<10	20	0.24	0.10	0.62	0.08	20.6	27.0	54	0.30
E539552		2.30	0.001	0.14	1.44	0.4	<10	20	0.28	0.11	0.70	0.22	21.3	14.1	67	0.46

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

Method	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43	AuME-TL43
Analyte	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
Sample Description / LOD	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05
E539542	4.1	2.82	10.70	0.09	0.11	<0.01	0.007	0.01	15.8	15.3	1.66	172	0.41	0.05	<0.05
E539543	4.3	2.95	11.40	0.09	0.12	<0.01	0.009	0.01	18.6	16.2	1.76	179	0.47	0.05	<0.05
E539544	1.1	0.55	4.63	<0.05	0.08	<0.01	0.012	0.11	22.2	5.9	0.30	75	0.28	0.03	0.16
E539545	0.5	0.75	5.17	<0.05	0.07	<0.01	0.012	0.11	9.9	10.2	0.74	105	0.25	0.03	0.09
E539546	28.0	4.03	9.59	0.08	0.11	<0.01	0.520	0.07	16.6	20.6	1.68	595	0.15	0.04	<0.05
E539547	0.8	1.16	6.33	0.06	0.11	<0.01	0.024	0.08	13.3	13.2	0.77	181	0.16	0.02	0.09
E539548	2.6	1.56	8.20	0.07	0.12	<0.01	0.046	0.09	16.0	17.8	1.06	256	0.22	0.02	0.09
E539549	56.9	1.07	5.47	0.19	0.04	<0.01	0.006	0.10	131.5	8.1	0.76	132	0.42	0.04	0.06
E539550	24.0	1.83	5.95	<0.05	0.10	0.01	0.006	0.10	9.2	14.8	1.68	285	0.50	0.05	<0.05
E539551	43.2	2.97	8.23	0.09	0.13	<0.01	0.006	0.06	10.6	19.1	2.52	417	0.48	0.03	<0.05
E539552	64.8	2.16	6.77	0.06	0.08	<0.01	0.007	0.06	11.6	16.4	1.74	327	0.40	0.05	<0.05

CERTIFICATE OF ANALYSIS SD21321730

Sample Description	Method Analyte Units LOD	AuME-TL43 Ni ppm 0.2	AuME-TL43 P ppm 10	AuME-TL43 Pb ppm 0.2	AuME-TL43 Rb ppm 0.1	AuME-TL43 Re ppm 0.001	AuME-TL43 S % 0.01	AuME-TL43 Sb ppm 0.05	AuME-TL43 Sc ppm 0.1	AuME-TL43 Se ppm 0.2	AuME-TL43 Sn ppm 0.2	AuME-TL43 Sr ppm 0.2	AuME-TL43 Ta ppm 0.01	AuME-TL43 Te ppm 0.01	AuME-TL43 Th ppm 0.2	AuME-TL43 Ti % 0.005
E539542		14.4	510	1.8	0.9	<0.001	0.14	<0.05	4.3	0.2	<0.2	7.9	<0.01	0.03	6.9	<0.005
E539543		15.2	520	1.8	1.0	<0.001	0.14	<0.05	4.6	<0.2	<0.2	8.3	<0.01	0.04	7.2	<0.005
E539544		2.1	310	2.3	5.4	<0.001	<0.01	0.08	1.9	0.2	0.2	83.4	<0.01	0.01	7.7	0.101
E539545		1.6	690	1.2	6.2	<0.001	<0.01	0.08	2.4	0.2	0.2	68.5	<0.01	0.01	2.2	0.091
E539546		60.7	800	56.7	4.4	<0.001	0.76	0.08	6.5	0.3	15.7	80.3	<0.01	0.01	4.2	0.092
E539547		3.8	510	2.2	4.1	<0.001	<0.01	0.07	2.2	0.3	0.8	96.2	<0.01	<0.01	3.0	0.119
E539548		4.4	620	80.4	5.0	<0.001	0.01	0.09	2.7	<0.2	1.2	120.0	<0.01	<0.01	3.3	0.135
E539549		13.4	290	22.3	5.1	0.001	0.07	0.06	1.0	<0.2	0.2	25.5	<0.01	0.01	26.9	0.041
E539550		57.1	250	7.4	4.8	<0.001	0.06	<0.05	2.3	<0.2	0.3	38.0	<0.01	0.01	2.6	0.107
E539551		86.2	270	16.2	3.1	0.001	0.15	0.05	2.7	0.4	0.3	38.5	<0.01	0.01	2.5	0.232
E539552		55.9	180	46.6	3.1	<0.001	0.07	0.05	2.8	0.4	0.2	36.1	<0.01	0.01	3.1	0.086

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119 PINEWOOD AVE.
CAMBRIDGE ON N3H 2M3

Finalized Date: 18-DEC-2021
Account: RCEKPSSI

Project: Island Copper

CERTIFICATE OF ANALYSIS SD21321730

Sample Description	Method Analyte Units LOD	AuME-TL43 Tl ppm 0.02	AuME-TL43 U ppm 0.05	AuME-TL43 V ppm 1	AuME-TL43 W ppm 0.05	AuME-TL43 Y ppm 0.05	AuME-TL43 Zn ppm 2	AuME-TL43 Zr ppm 0.5	CRU-QC Pass2mm % 0.01	PUL-QC Pass75um % 0.01
E539542		<0.02	0.62	31	0.08	5.66	17	4.0		
E539543		<0.02	0.68	32	0.07	6.62	18	4.9		
E539544		0.02	0.33	14	0.09	2.41	7	1.9		
E539545		0.03	0.32	13	0.11	2.70	17	1.2		
E539546		0.03	0.39	46	0.57	3.89	1165	2.7		
E539547		0.02	0.29	26	0.39	2.20	36	2.4		
E539548		0.04	0.38	34	0.49	2.92	151	3.1		
E539549		0.02	0.60	10	0.13	3.84	21	1.1		
E539550		0.03	1.62	36	0.18	2.22	43	2.4		
E539551		0.02	1.54	75	0.25	3.15	70	3.2		
E539552		0.02	2.23	37	0.21	2.39	66	2.2		

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Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 18-DEC-2021
Account: RCEKPSSI

Project: Island Copper

CERTIFICATE OF ANALYSIS SD21321730

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Sudbury located at 1351-B Kelly Lake Road, Unit #1, Sudbury, ON, Canada.

Applies to Method:	CRU-31	CRU-QC	LOG-21	LOG-21d
	LOG-23	PUL-31	PUL-QC	SPL-21
	SPL-34	WEI-21		

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

Applies to Method: AuME-TL43

VLF EM-16 Survey / Interpretation Report

Over the

Island Lake Project

Island Lake, Ontario

Prepared For

Rich Copper Exploration
By

Shaun Parent

Superior Exploration, Adventure & Climbing Co. Ltd.

May 18, 2021

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Introduction

Superior Exploration completed a ground VLF survey over the Island Lake Property which is located 23 kilometers northeast of Sault Ste. Marie.

The VLF survey fieldwork was carried out between March 25 and April 4, 2021. A total of 6.24 km. of VLF was completed over 6 reconnaissance grid lines using a VLF EM-16 unit and a handheld Garmin GPS-60CSX. 2 TX transmitters were read at each station.

- TX NAA 24.0 KHz - Cutler Maine
- TX NML 25.2 KHz - LaMoure, North Dakota

The main objective of the survey was to determine if the property would have a good VLF response which could represent copper mineralization.

Property Access

The property is easily accessible from Sault Ste. Marie by following Highway 17 North for 17 Kilometers to Highway 556 (East towards Searchmont). Follow Highway 556 for 5 kilometers to the junction of Highway 552. The property is located on the northwest side of this intersection.

About the Geophysics Used

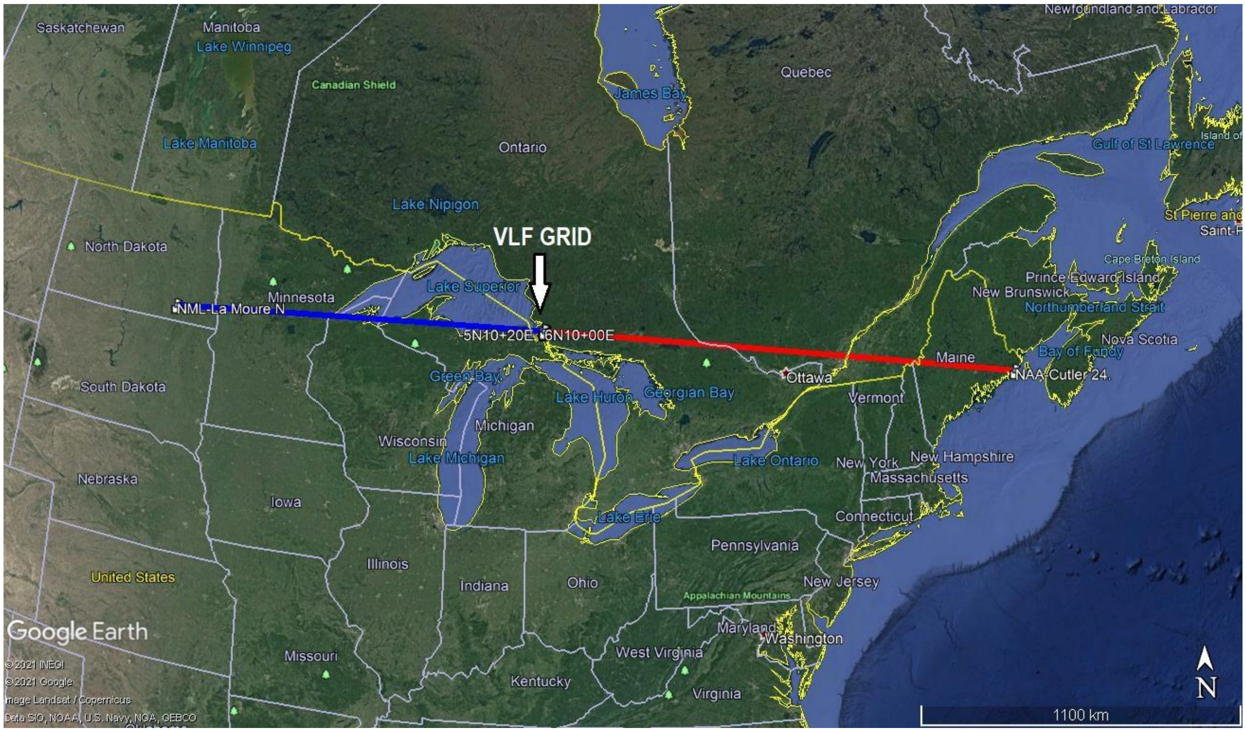
VLF

- VLF surveying is the most widely used electromagnetic geophysical instrument of all time. Local tilt and ellipticity of VLF broadcasts from Naval Antennas worldwide are measured and resolved into in-phase and quadrature components of VLF response.
- A Ground VLF survey is a relatively simple and economic geophysical survey that is used to better understand shallow, vertical and sub vertical bedrock conductors.
- This report describes the findings and results of the survey utilizing our Inversion processing software. It enables the processing and inversion of electromagnetic (EM) induction data acquired along a survey area using a Very Low Frequency (VLF) (Santos 2013)

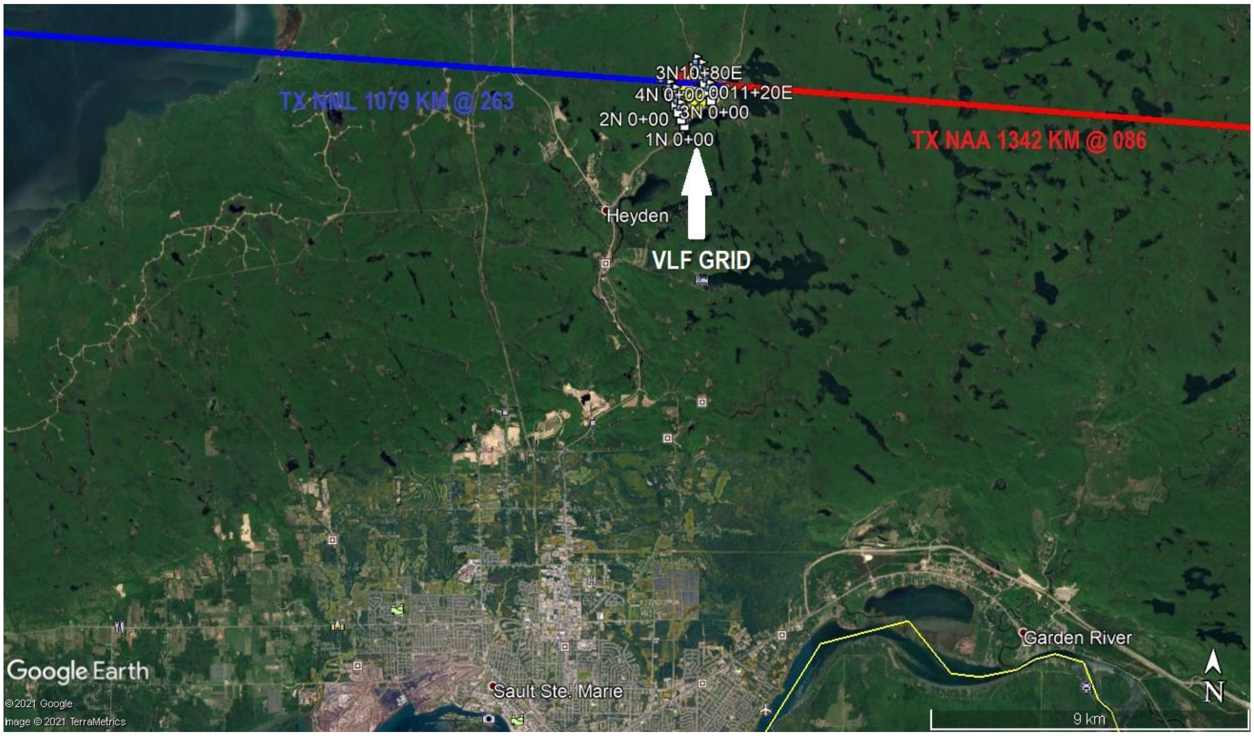
Personnel

The VLF EM-16 operator and GPS field navigator responsible for the collection of all raw data was Shaun Parent.
Processing, Modelling and Interpretation of the VLF data using was completed by Sandra Slater and Shaun Parent.

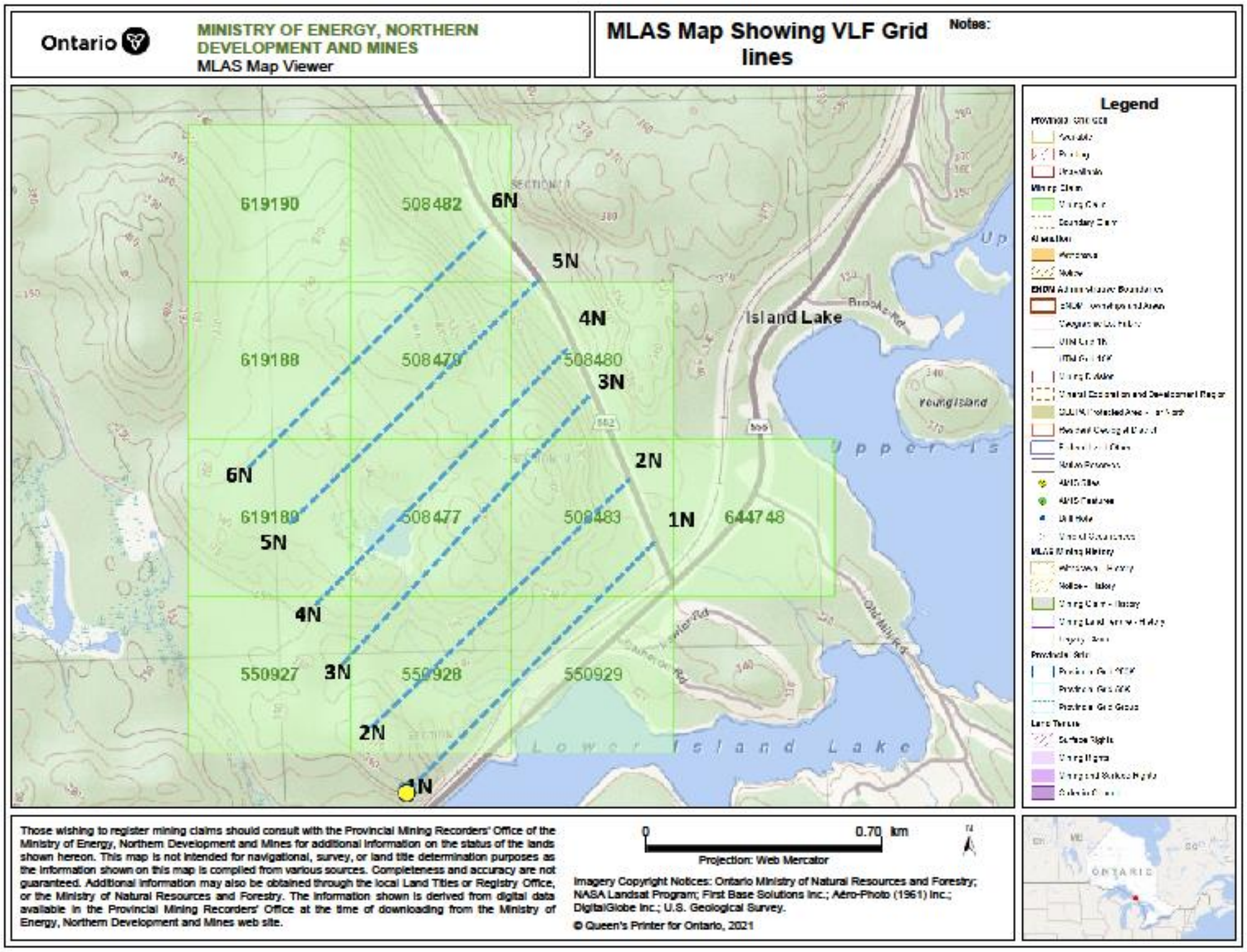
Map 1 Location of VLF Transmitter Stations NAA and NML



Map 2 Location of Survey Grid Relative to the Heyden and Searchmont Highway



Map 3 VLF grid on MLAS Claim Map



Those wishing to register mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Energy, Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources and Forestry. The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Energy, Northern Development and Mines web site.

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Work Performed

Fieldwork

The VLF EM-16 survey consisted of running 6 reconnaissance grid lines, 100 meters apart. Basic prospecting and mapping of pertinent findings such as outcrops and was attempted during the survey fieldwork, however, snow cover hindered this.

The following parameters were used throughout the survey

Equipment Used: VLF EM-16 unit and a handheld Garmin 60-CSX PS

VLF Transmitters Used:
NAA: 24.0 KHz. Cutler, Maine (East)@ Azimuth 112 degrees and a distance of 1447 Km.
NML: 25.2 KHz. La Moure, North Dakota (West) @ Azimuth 255 degrees and a distance of 993 Km.

VLF survey direction: The VLF Em-16 receiver faced a direction of 45 degrees true azimuth for each reading taken.

VLF survey stations: VLF readings began at the south west end of each line and were taken approximately 20 meters apart along each survey line.

Parameters of Measurement: In-phase and Quad-phase components of a vertical magnetic field is measured as a percentage of horizontal primary fields. (Tangent of tilt angle and ellipticity). VLF transmitter NAA (East), NML (West) The transmitters are chosen so that the direction to the transmitting station is as close to the orientation of the bedrock strike.

VLF Data Collection Process

Field data was collected as follows on each surveyed line.

- Each station was saved onto the Handheld Garmin 60CSX GPS Unit (including any local features such as power lines, fences and geological structures)
- VLF readings for each station were recorded on the GPS as In-Phase and Quadrature corresponding to the line number and station number. (See example in Table 1)
  - Garmin and VLF data were compiled and processed. All UTM Values are NAD 83.
- Data processing, profiling & modeling of individual line VLF data was completed and merged together forming a survey grid.
- Various Plan maps were created.
- Review of data was done and an interpretation report completed.

Table 1 Example of VLF Data Collection

Line 6E	NAA In phase	NAA Quadrature	NML In phase	NML Quadrature	Notes
0+00	10	6	4	5	swamp
0+20E	8	4	2	4	oc

Survey Parameters

Survey direction: The VLF faced a direction of 45 degrees true azimuth for each reading taken.

Survey line/stations: readings began at the south end of each line and were taken approximately 20 meters apart along virtual GPS lines spaced 100 meters from line 1N to 6N

Datum: Data was collected using UTM NAD 83

Equipment Used: Geonics EM-16 # 282

VLF Transmitters Used:

NAA: 24.0 KHz. Cutler Maine, (East)@ Azimuth 086 degrees with a distance of 1342 Km.

NML 25.2 Khz. La Moure, North Dakota (West) @ Azimuth 223 degrees with a distance of 1079 Km.

Parameters of Measurement:

VLF: In-phase and Quadrature components of a vertical magnetic field is measured as a percentage of horizontal primary fields. (Tangent of tilt angle and ellipticity). Transmitters should be chosen so that the direction to the transmitting station is aligned with the strike of the rock units.

Interpretation & Modelling

Data Processing

The following filters, inversions, profiling and modelling were completed and used in the interpretation process, however, only the Combined Raw VLF and 2D Modelled Inversions @ 4000 Ohms are included in the Appendices at the end of this report.

Raw Data Profiles

The raw data for each frequency was plotted for each line surveyed. No filtering or smoothing of the raw data was done. (see Example page 8)
(NAA-Appendix A) (NML-Appendix B)

VLF Fraser Filter Profile with Fraser Peaks

Raw VLF data was run through the Fraser filter. This filter transforms In-Phase cross-overs and inflections into positive peak anomalies. (Fraser 1969) In-Phase inflections and cross-overs are usually plus to minus, while Quadrature responses are negative to positive giving a negative peak anomaly when the Fraser Filter is applied. Fraser filter data from the lines was compiled to produce Plan Maps.

VLF Fraser Pseudo Section

Fraser Filter pseudo section is built by applying the Fraser Filter of various lengths along the survey line. Conductive zones are identified as orange/red.

VLF KH Profiles

Raw Data was run through the Karous-Hjelt (KH) filter. The filter is applied to obtain a section of current density. (Karous, Hjelt 1983) The higher values are generally associated with conductive structure and are identified as orange/red.

VLF Resistivity Profiles: 2000 & 4000 Ohm's

The apparent resistivity was calculated. The resistivity can be calculated if the mean environmental resistivity is known at the beginning of the VLF profile. A mean resistivity of 2000 ohm's and 4000 ohm's was used for all lines. Resistivity data from each profile was combined to produce Plan Maps. This report contains the Resistivity Plan Map results at 4000 Ohm's only.

VLF JY Section Model:

A 2D inversion that looks for the best distribution of the density of current (JY). The output is the apparent current density with positive values associated with conductors (orange/red) and negative values associated to resistive units (blue)

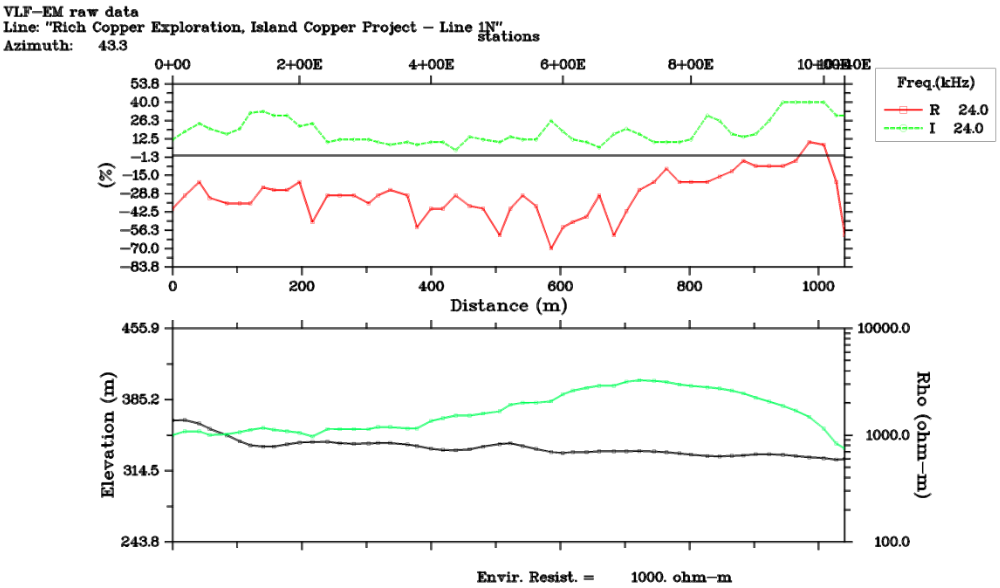
VLF 2D Inversion Resistivity Models 2000 Ohm's & 4000 Ohm's (see example page 8)

A resistivity of 2000 Ohm's and 4000 Ohm's was used to build initial models used in the inversion to obtain a realistic cross section of the line surveyed. Conductive zones are orange/red while resistive zones are blue. A depth scale is found on the left side of model profiles. Surface conductive zones show little depth extent, have a horizontal display and are limited in depth.

The maximum depth slice with a bedrock resistivity of 2000 Ohms is 144 meters and 4000 Ohms is 204 meters for transmitter NAA (24.0 KHz.)
The maximum depth slice with a bedrock resistivity of 2000 Ohms is 140 meters and 4000 Ohms is 199 meters for transmitter NML (25.2 KHz.)

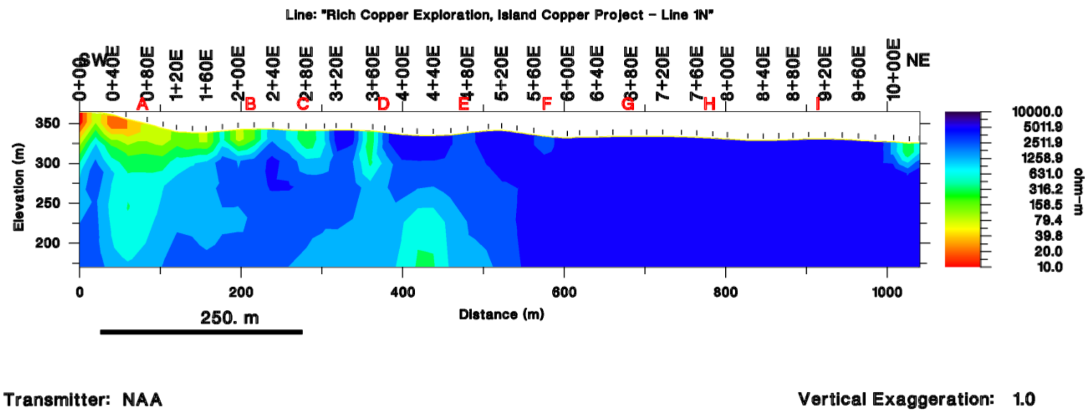
All Inversion models have the same color scaling using a minimum resistivity of 10 and a maximum of 10000. The vertical exaggeration of all models is 1.0
Models with a resistivity of 4000 Ohm's are included in the appendices in this report.

Example 1 VLF & Mag Raw Data Profile



- The top profile shows the VLF In-Phase and Quadrature profile in Red and quadrature in Green.
- The lower profile shows the Elevation in black and the resistivity is shown in Green.

Example 2 2D Model @ 4000 Ohm with Fraser Picks



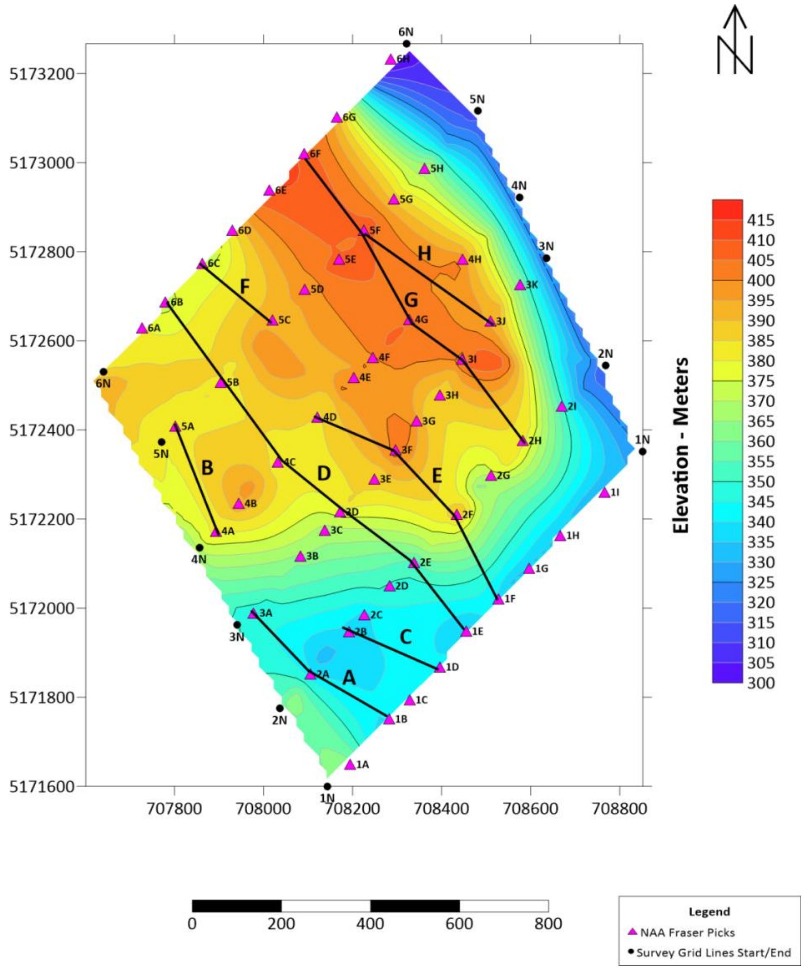
- Dark Colours represent more resistive rock units (Blue)
- Bright Colours represent higher conductive zones (Orange/Red)
- Fraser Picks along the top of the model represent anomalies derived from the Fraser Filter

Discussion of Interpretation Results

A total of 6.24 Km on 6 Lines (1N- 6N) was surveyed and modelled. The following Plan Maps outline NAA Fraser Picks & Trends

TX NAA Interpretation

Map 4 Elevation Contours with NAA Fraser Picks & Trends



NAA VLF Fraser picks were plotted on the Elevation Contour map in an attempt to interpret whether trends follow topographic lows such as creeks or faults or along the base of elevation highs.

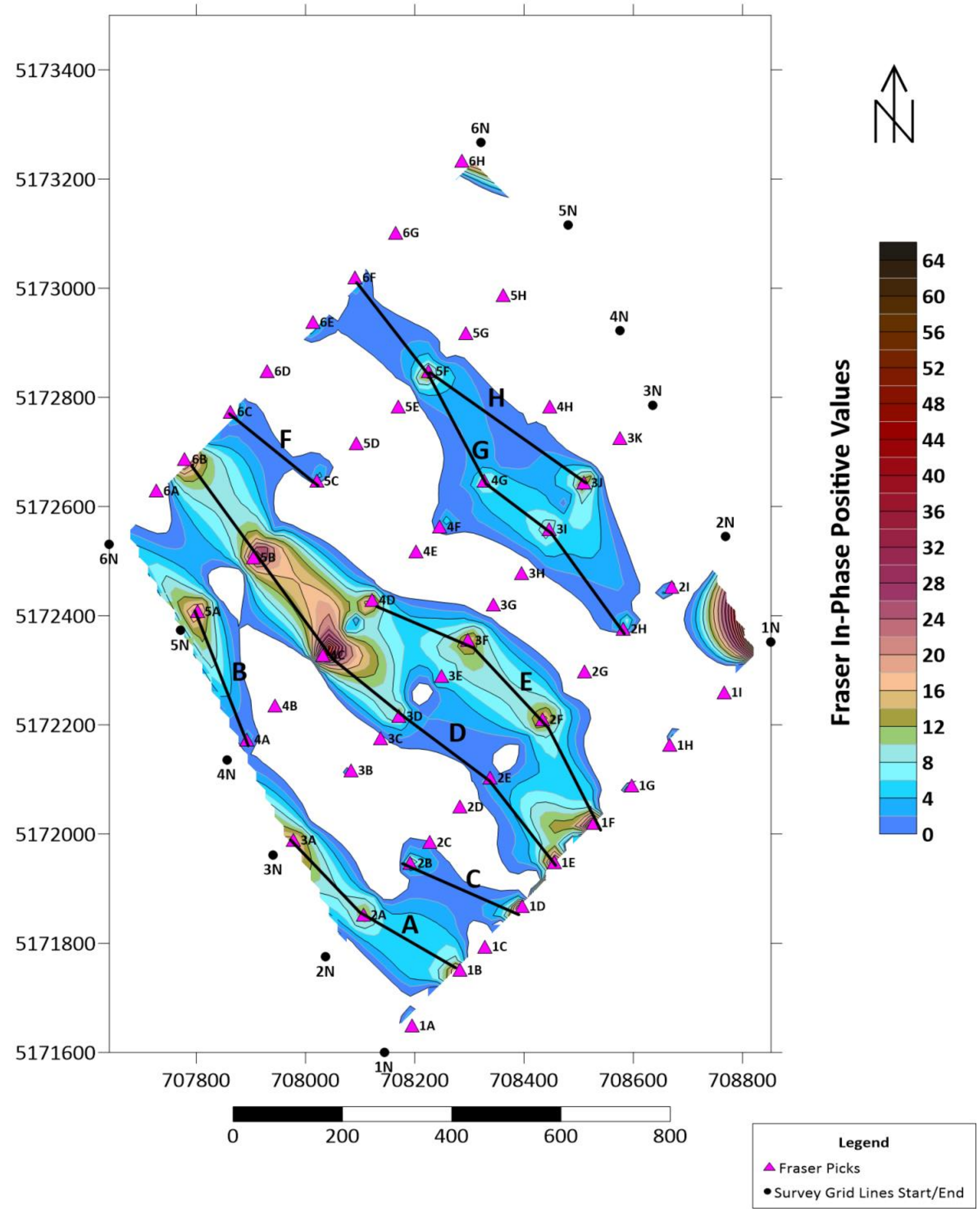
Trends A & C follow an elevation low

Trend B appears to follow the edge of an elevation high

Trend D follows an elevation low

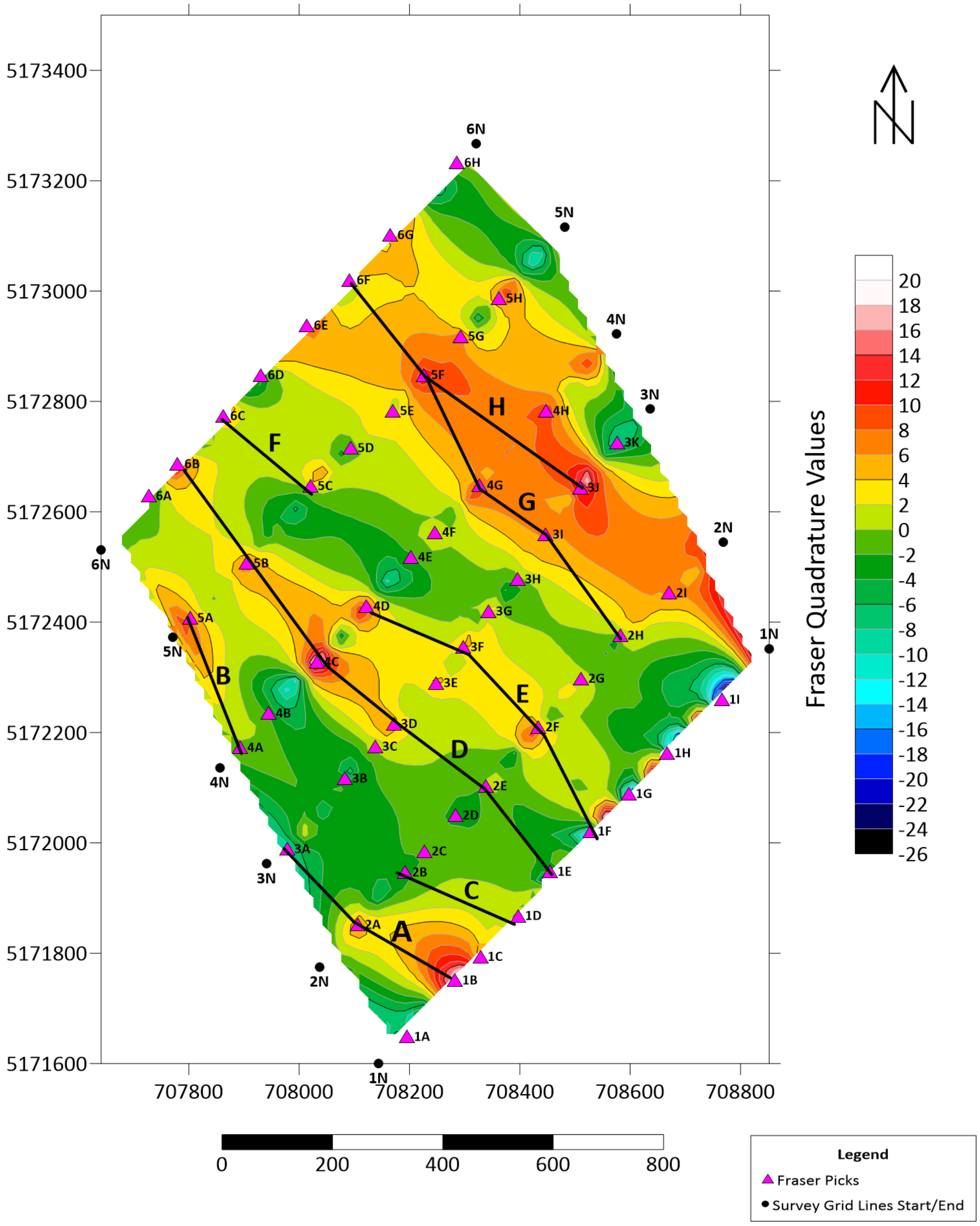
Trends E, G & H follow an elevation high

Map 5 NAA Fraser In-Phase Positive Value Contours with Fraser Picks & Trends



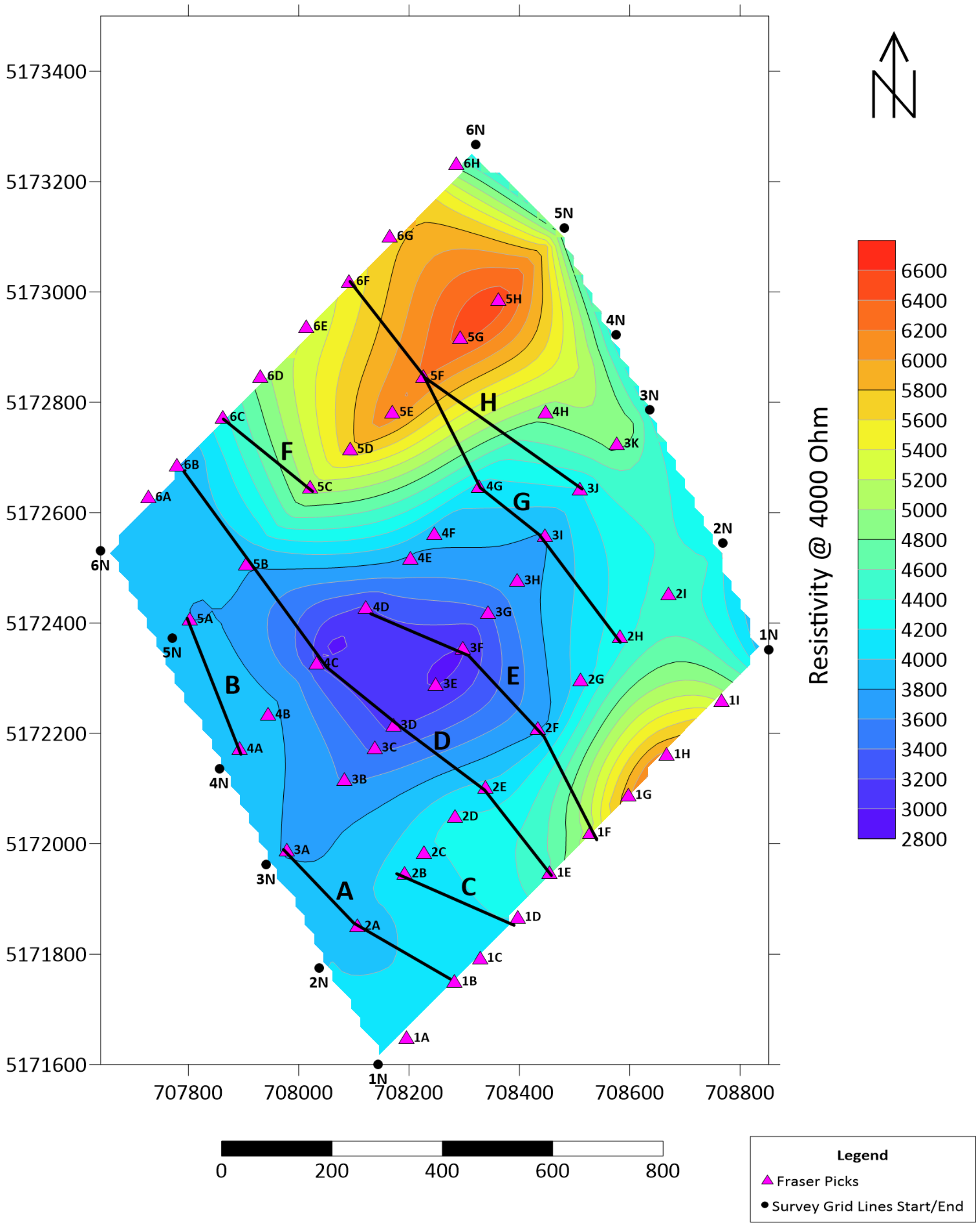
The 53 Fraser Picks identified above are located over VLF anomalies. Contouring of the positive In-Phase values resulted in 6 trends which are identified from A-H

Map 6 NAA Fraser Quadrature Contours with Fraser Picks & Trends



Fraser Filter quadrature values were contoured and compared with the In-Phase contours. There is good correlation between the In-Phase positive contour trends and the Quadrature positive/negative contour trends.

Map 7 NAA Resistivity Contours with Fraser Picks & Trends



An apparent resistivity contour map was created using an assumed 4000 ohms. This was designated to be the average resistivity on the VLF Grid.

Trend B follows the edge of a resistivity low
Trend D &E Follow along a resistivity low

Map 8 Google Image of NAA Picks and Trends

All NAA VLF Picks and the most significant NAA VLF trends are shown on this google image.

NAA VLF Anomaly Picks & Trends

A total of 53 VLF picks were identified over the survey grid and of those, 26 were deemed significant.

8 VLF Trends were identified over the survey grid and of those, 4 are significant and are suggested for ground follow-up.

Trends are signified by Line number followed by Pick letter and separated by a dash (-) as in the following example:
Trend A: 1B-2A-3A   Line 1N Pick B to Line 2N Pick A to Line 3 Pick A

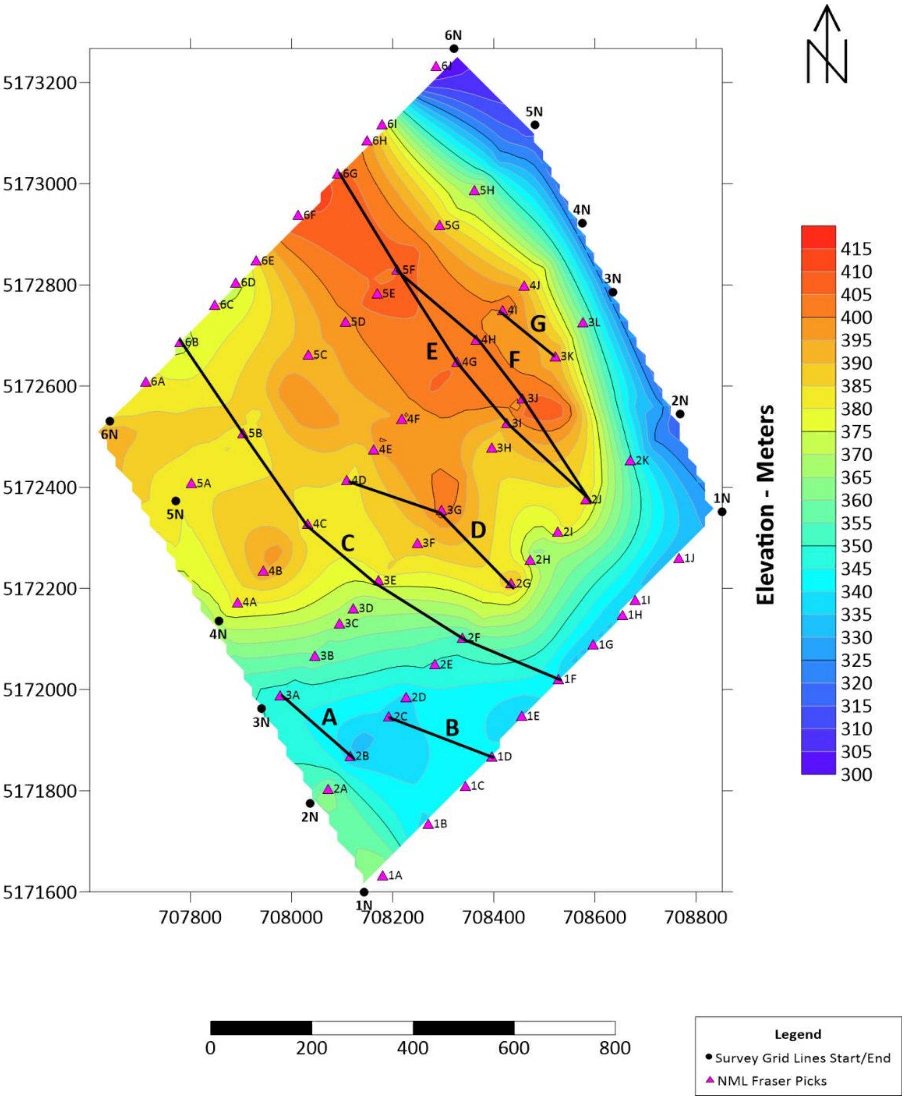
TX NAA Trends & Significant VLF Anomalies

- Those suggested for ground follow up are in **RED**
  - A- 1B-2A-3A
  - B- 4A-5A
  - C- 1D-2B
  - D- 1E-2E-3D-4C-5B-6B
  - E- 1F-2F-3F-4D
  - F- 5C-6C
  - G- 2H-3I-4G-5F-6F
  - H- 3J-5F

TX NML Interpretation

The following Plan Maps outline NML Fraser Picks & Trends

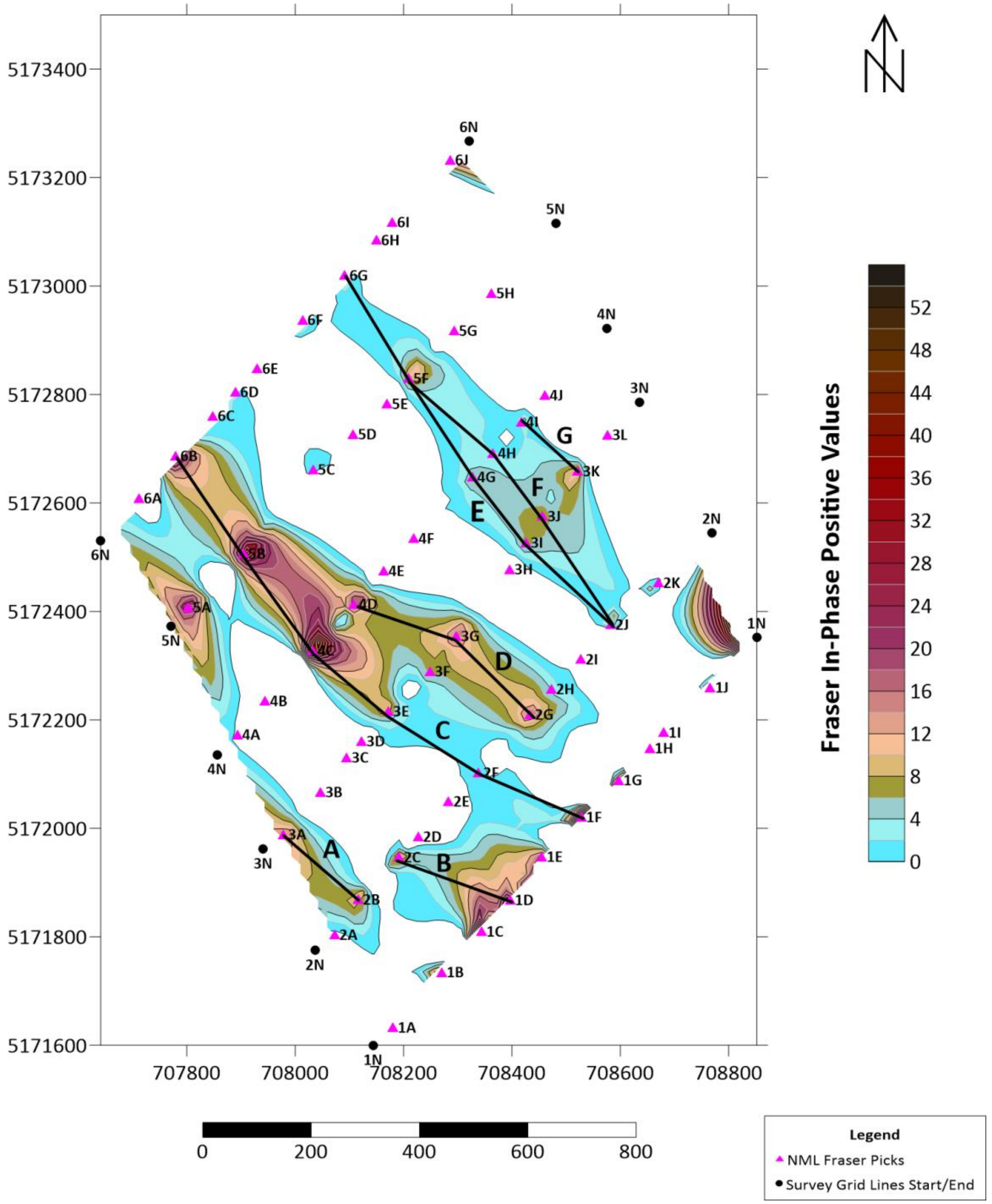
Map 9 Elevation Contours with NML Fraser Picks & Trends



All individual NML VLF Fraser picks were plotted on the Elevation Contour map in an attempt to interpret whether trends follow topographic lows such as creeks or faults or along the base of elevation highs.

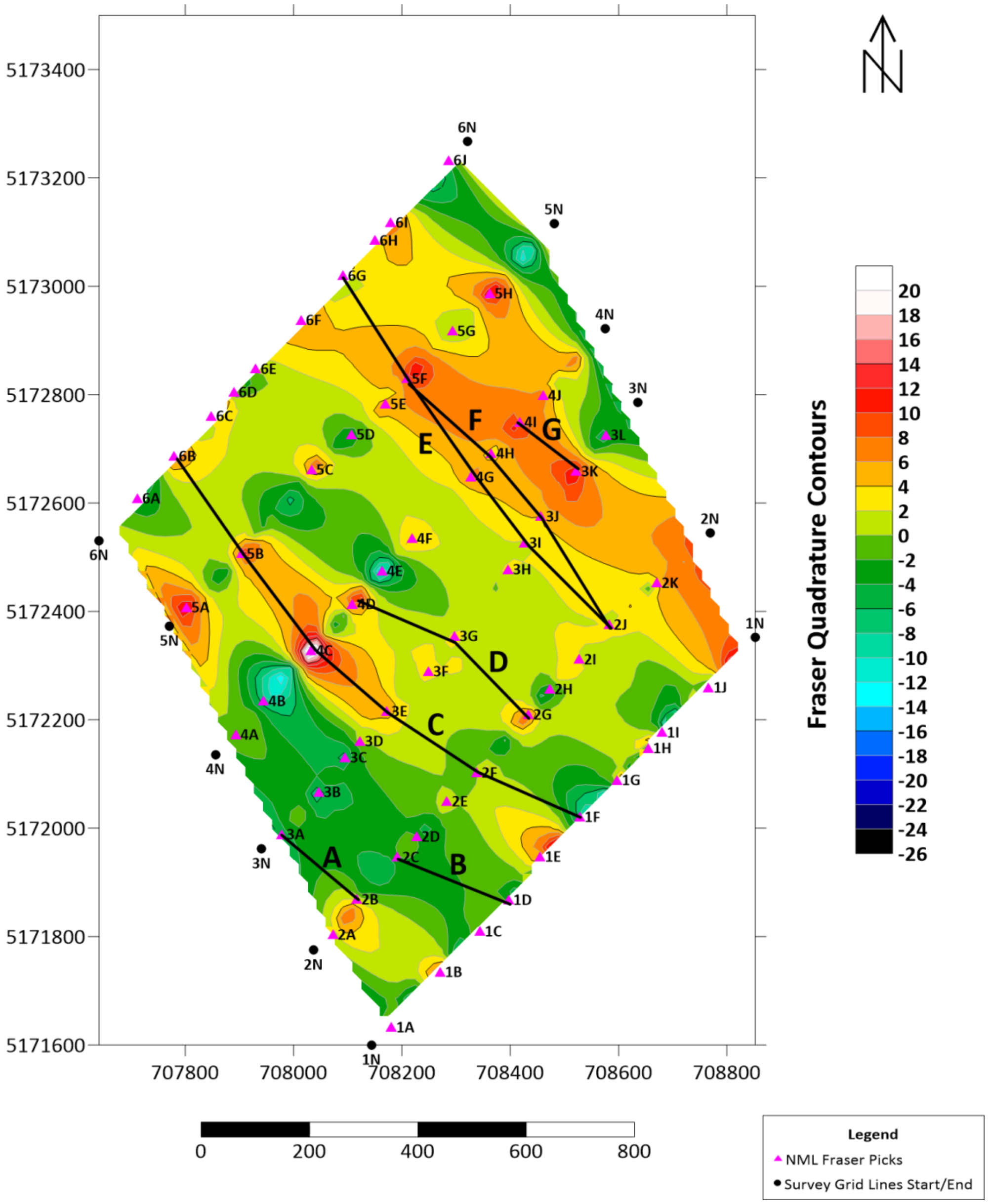
Trend A, B and C appear to follow within a depression
Trends E and F follow an elevation ridge

Map 10 NML Fraser In-Phase Positive Value Contours with Fraser Picks & Trends



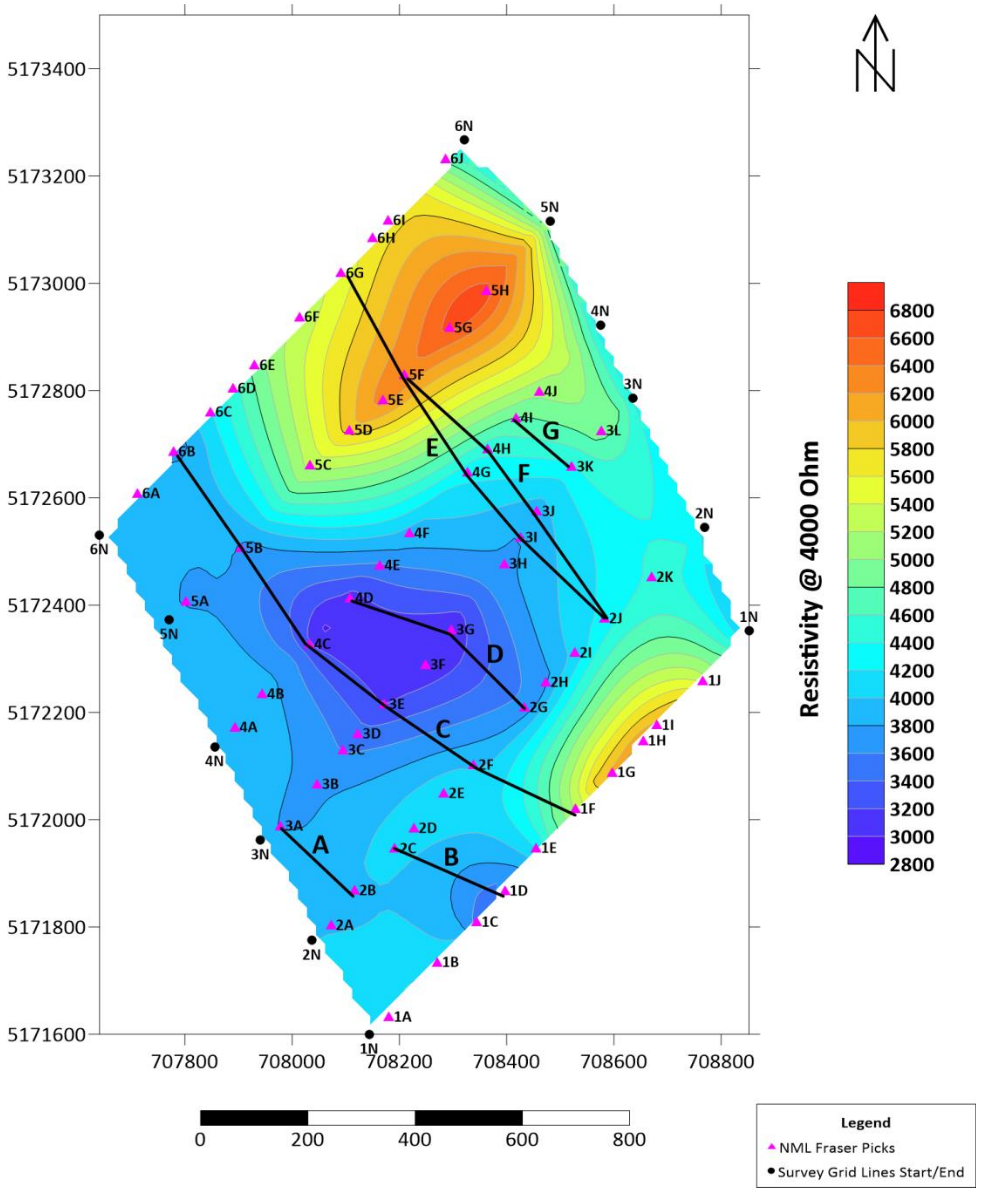
The 61 Fraser Picks identified above are located over VLF anomalies. Contouring of the positive In-Phase values resulted in 7 trends which are identified from A-G

Map 11 NML Fraser Quadrature Contours with Fraser Picks & Trends



Fraser Filter quadrature values were contoured and compared with the In-Phase contours. There is good correlation between the In-Phase positive contour trends and the Quadrature positive/negative contour trends.

Map 12 NML Resistivity Contours with Fraser Picks & Trends



An apparent resistivity contour map was created using an assumed 4000 ohms. This was designated to be the average resistivity on the VLF Grid .

Trend A and B follow along a resistivity low.
Trend C and D occur within a resistivity low.
Sections of Trend E and F occur within a resistivity low

Map 13 Google Image of NML Picks & Trends

All NML VLF Picks and the most significant NML VLF trends are shown on this google image.

NML VLF Anomaly Picks & Trends

A total of 61 VLF picks were identified over the survey grid and of those, 24 were deemed significant.

7 VLF Trends were identified over the survey grid and of those, 6 are significant and are suggested for ground follow-up.

Trends are signified by Line number followed by Pick letter and separated by a dash (-) as in the following example:
Trend A: 2B-3A Line 2N Pick B- Line 3N Pick A

TX NML Trends & Significant VLF Anomalies

- With those suggested for ground follow up in **RED**
  - A- 2B-3A
  - B- 1D-2C
  - C- 1F-2F-3E-4C-5B-6B
  - D- 2G-3G-4D
  - E- 2J-3I-4G-5F-6G
  - F- 2J-3J-4H-5F
  - G- 3K-4I

Conclusions

This Ground VLF Interpretation was successful in:

- Defining Several VLF bedrock trends using both TX NAA and TX NML
- Using a bedrock background resistivity of 4000 ohms gave us modeled sections to 204 meters in depth with TX NAA.
- Using a bedrock background resistivity of 4000 ohms gave us modeled sections to 199 meters in depth with TX NML.
- There were 8 significant VLF trends identified using TX NAA, 4 of which are suggested for ground follow up.
- There were 7 significant VLF trends identified using TX NML, 6 of which are suggested for ground follow up.
- Line 1N ran parallel to the highway, a powerline and the Algoma Central Railway. The powerline and railway caused some noise in the VLF survey.

Recommendations

VLF Survey

- Run additional 100 meter spaced VLF lines between 1N and 6N to obtain more detailed VLF information.
- Run additional VLF lines to the north (7N, 8N, 9N), in order to follow the VLF trends identified.
- Extend lines 2N to 6N 300 meters south west to obtain more data in the area of trends A & B (NAA) and Trend A (NML) located near stations 0+00
- No Further VLF to the south is recommended due to the area of Island Lake being mostly lakes and privately owned cottage country.
- Run tighter 50 meter spaced VLF lines in the area of significant VLF picks.
- Ground proof the VLF Picks and Trends that are high priority as outlined in this report.
- Overlay all NAA and NML Picks and Trends on Airborne EM and magnetic maps, geology maps and Lidar survey maps in order to correlate the VLF Trends and Picks with possible structures and trench locations. Weaker, insignificant VLF Picks might indicate geological contacts.
- Plot historical drill hole locations and showings on the JY and Inversion Models in order to determine if the drill holes have intersected the VLF Conductors and to see if the showings are located near a VLF trend.
- Produce contour maps at different depths of Karous Hjelt (KH) Filter and Inversion Model data in order to obtain plunge and dip information.
- Produce shadow plan maps of both the Karous Hjelt (KH) and Inversion Model data slices and overlay the geology of the VLF grid onto these plan maps. This will assist in determining if the trends follow the dip, strike and plunge of the bedrock.
- Ground follow-up prospecting of the suggested VLF Trends as outlined in this report in order to ground proof the targets and search for mineralization.
- Use an MPP Probe while prospecting to identify the HF Response, Magnetic Susceptibility and Conductivity MHOS/M. These will identify the geophysical properties of rock units in the area and on the trend of the VLF Picks.

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Monteiro Santos, F.A; 2013: VLF 2D V1.3 A program for 2D inversion

Certificate of Qualifications

I, Shaun Parent, P. Geo . Residing at 282 B Whispering Pines Road, Batchawana Bay, Ontario do certify that:

1. I am a consulting Geoscientist with Superior Exploration, Adventure & Climbing Co. Ltd.
2. I graduated with a Geological Technician Diploma from Sir Sandford Fleming College in 1986.
3. I graduated with a BSc. from the University of Toronto in 1986.
4. I am a member in good standing with the Association of Professional Geoscientists of Ontario #1955 and a member of the Prospectors and Developers Association of Canada.
5. I have been employed continuously as a Geoscientist for the past 27 years since my graduation from University.

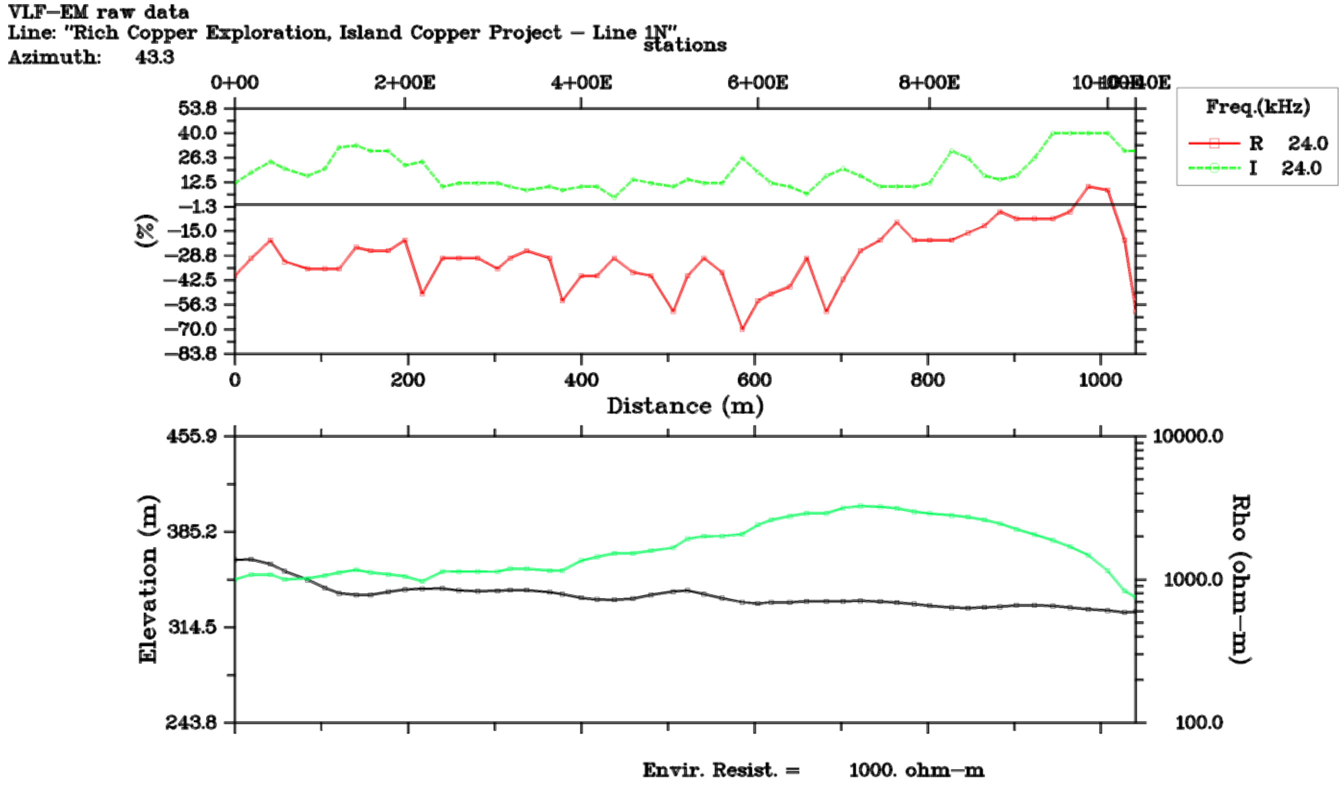
Dated this 18thth day of May, 2021

Shaun Parent, Diploma-Geo, BSc. P. Geo

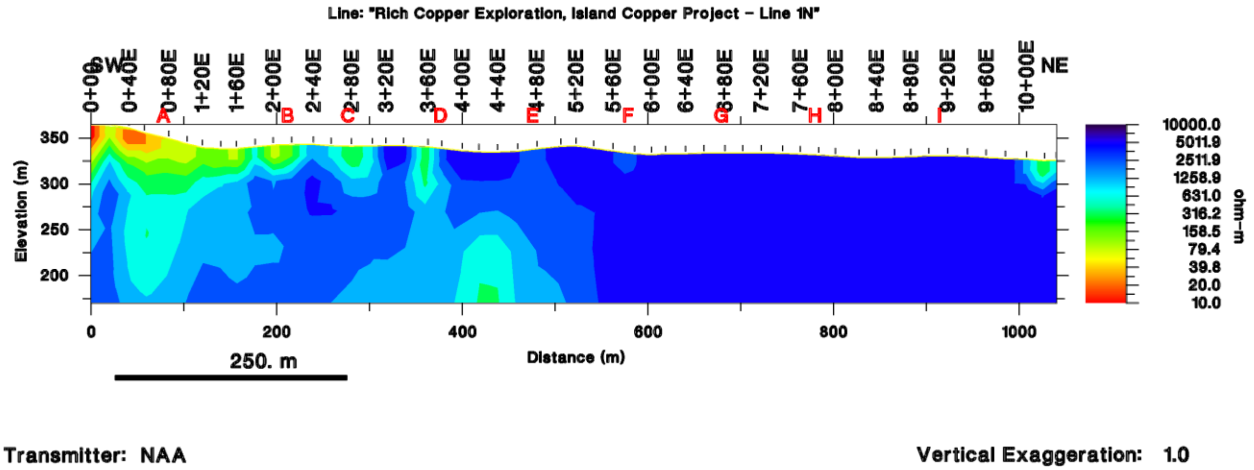
APPENDIX A

NAA Figures

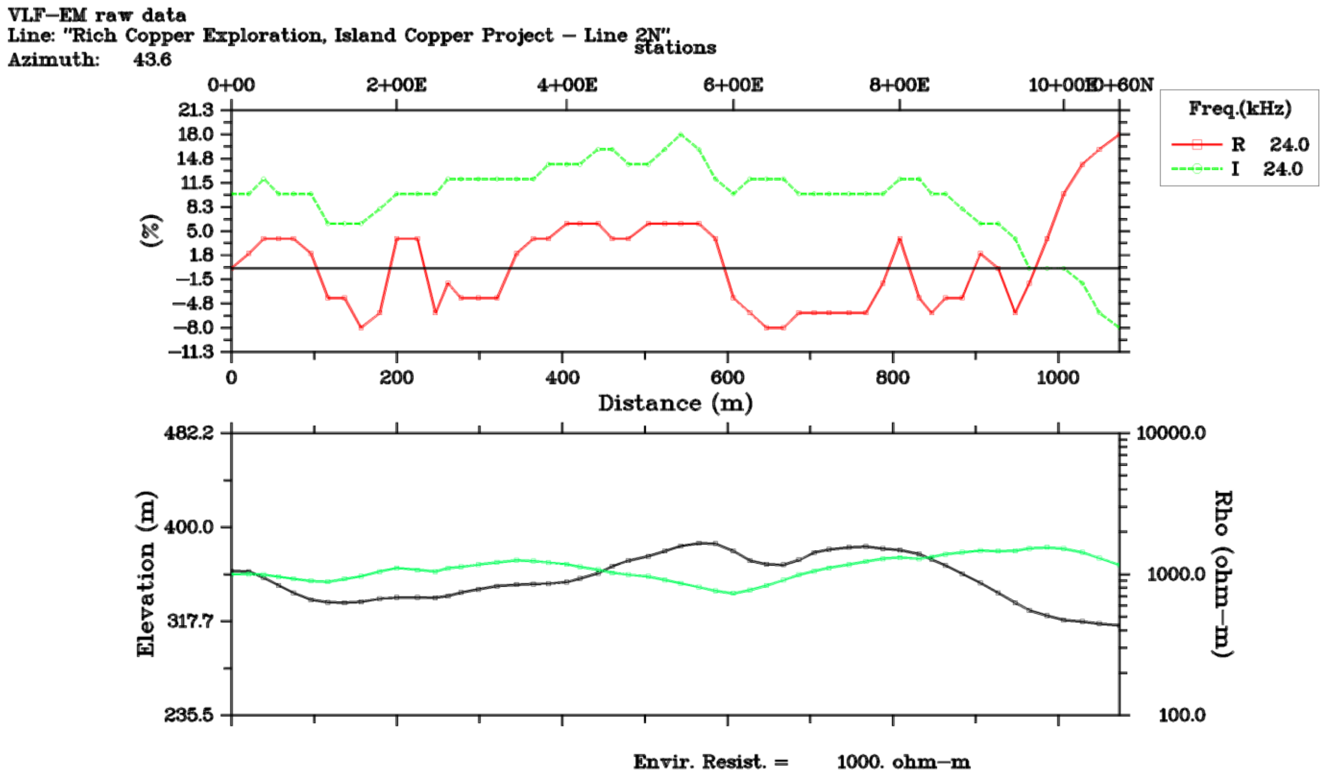
NAA Figure 1 Line 1N Raw Data Profile



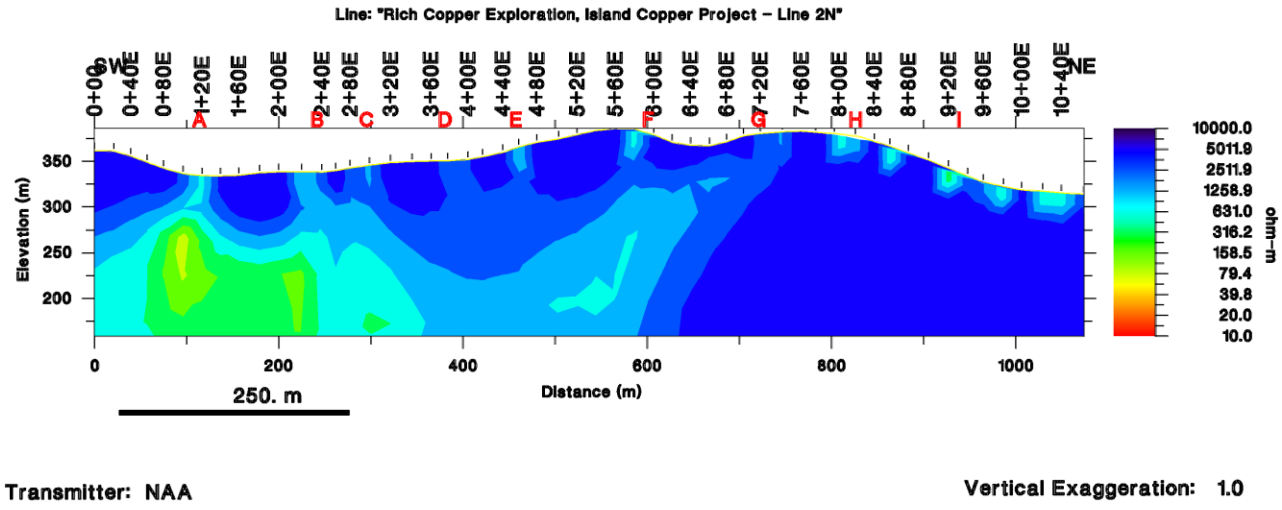
NAA Figure 2 Line 1N Model 4000 with Fraser Picks



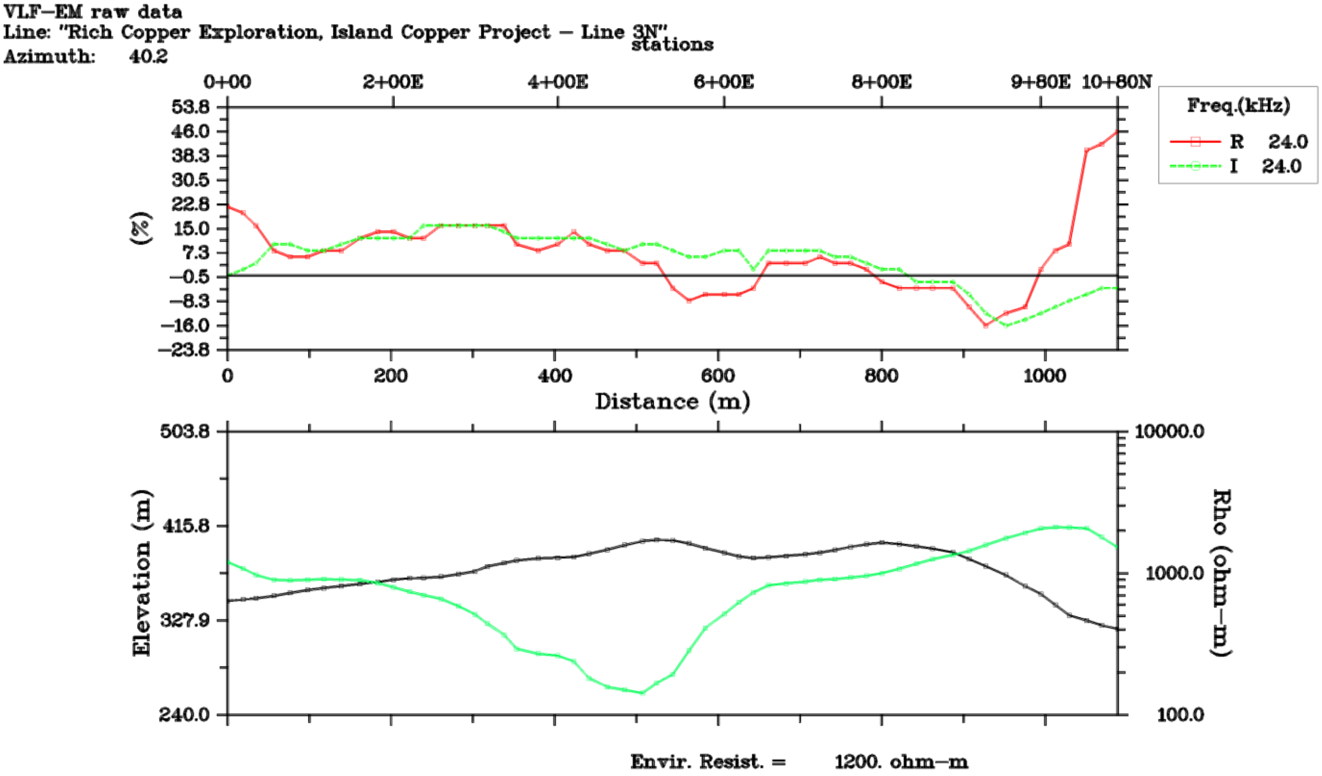
NAA Figure 3 Line 2N Raw Data Profile



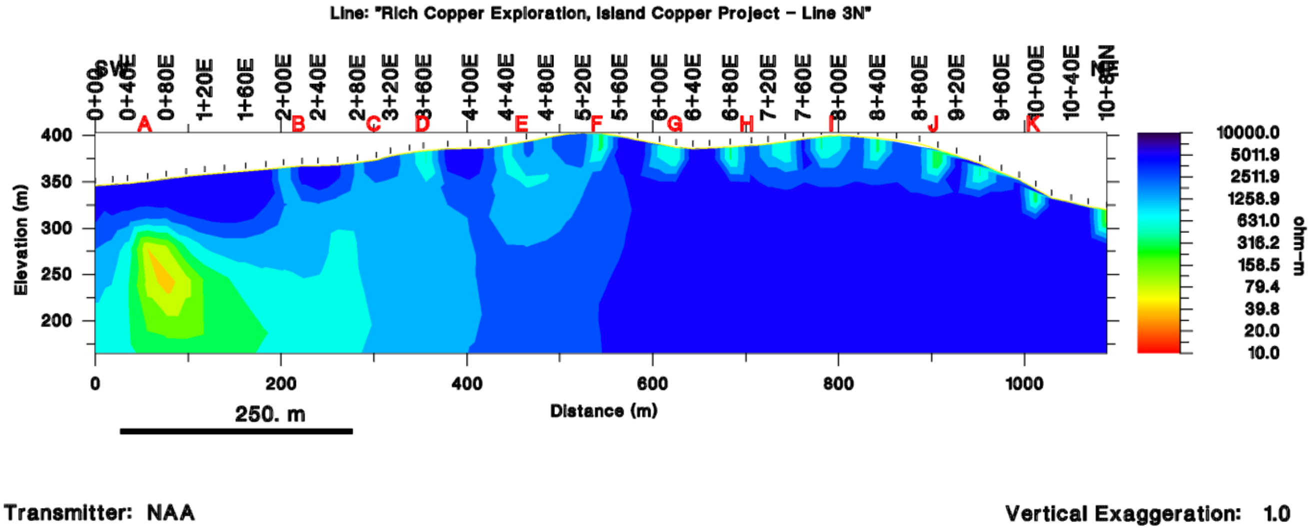
NAA Figure 4 Line 2N Model 4000 Ohms with Fraser Picks



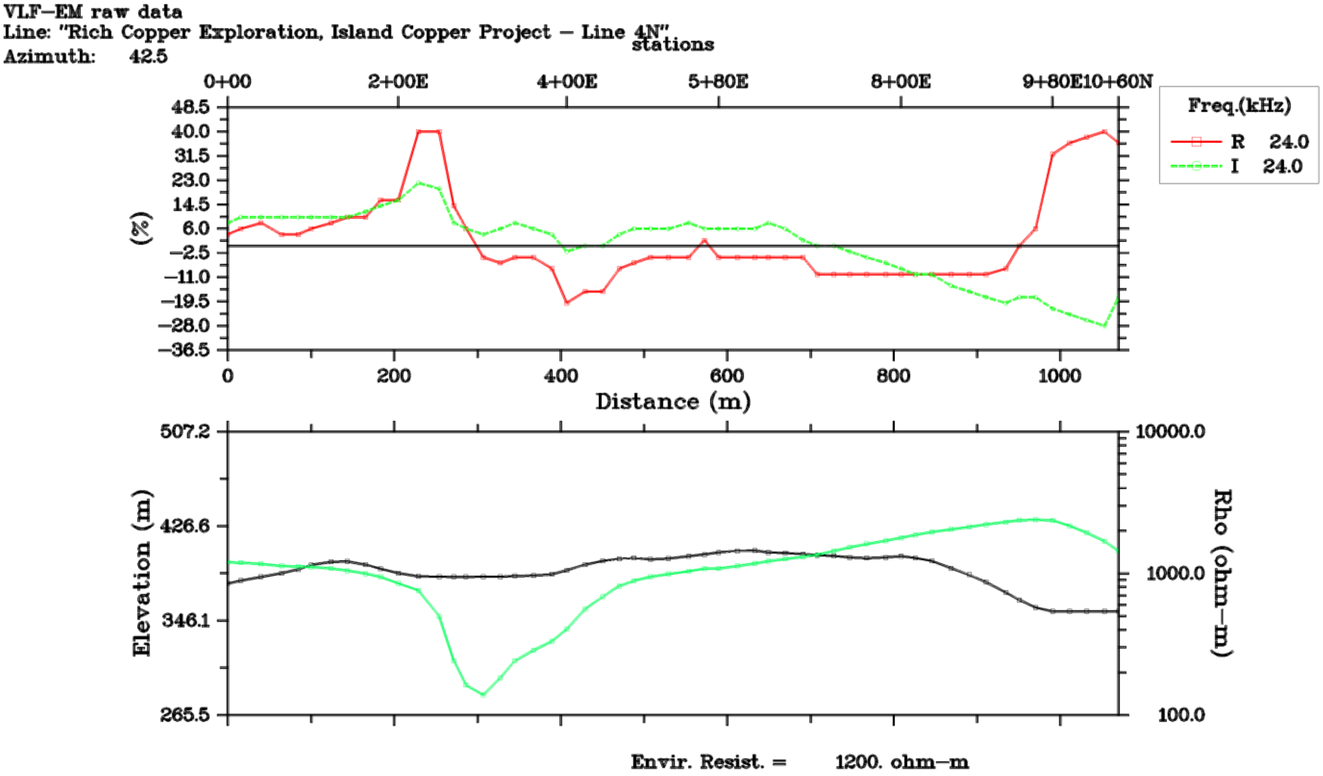
NAA Figure 5 Line 3N Raw Data Profile



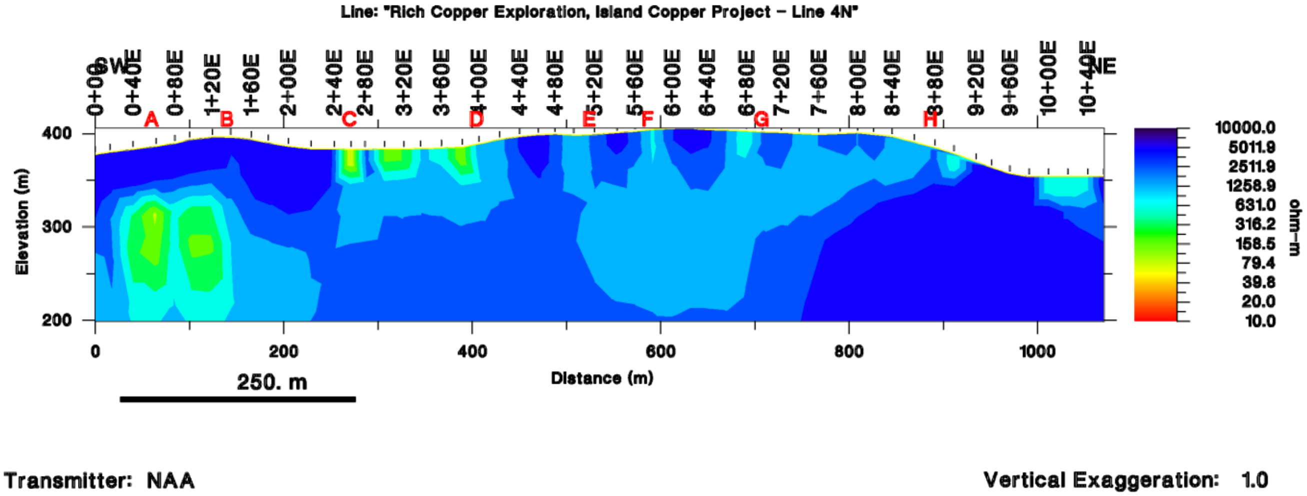
NAA Figure 6 Line 3N Model 4000 Ohms with Fraser Picks



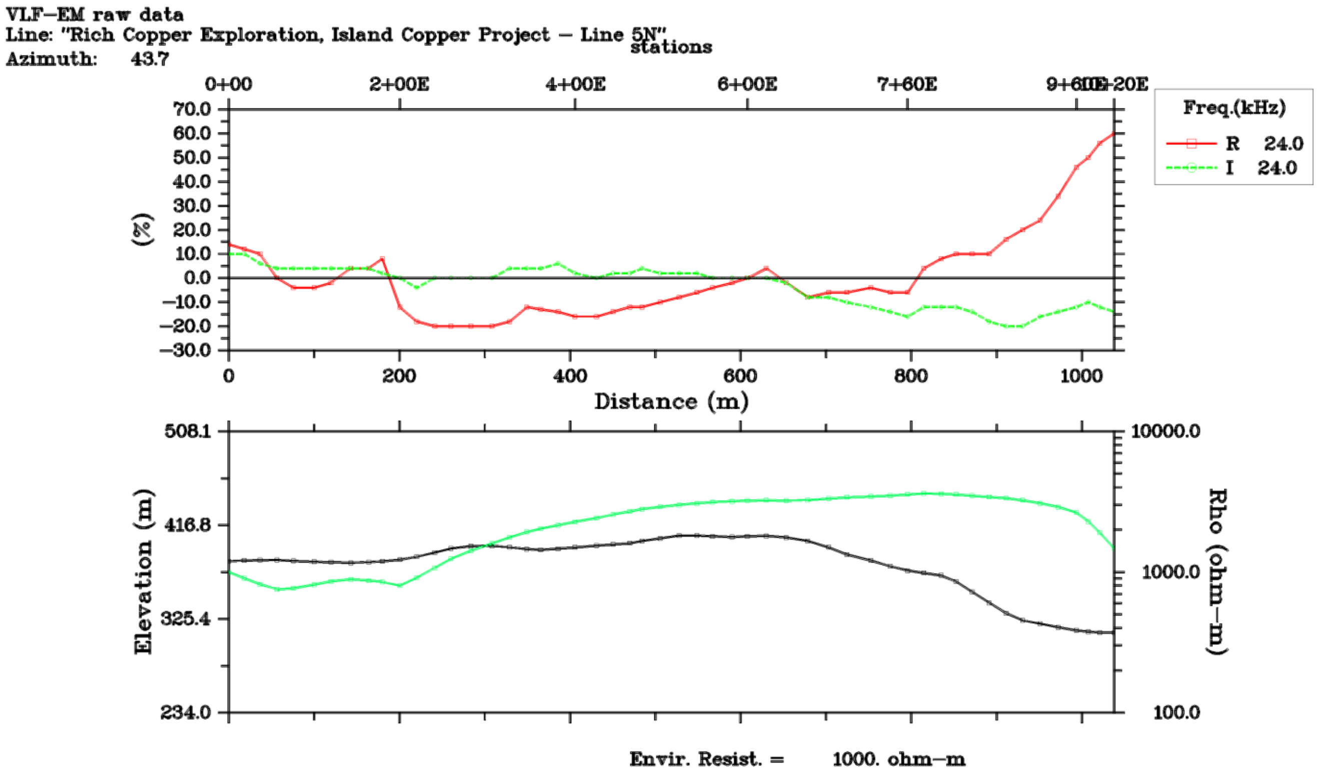
NAA Figure 7 Line 4N Raw Data Profile



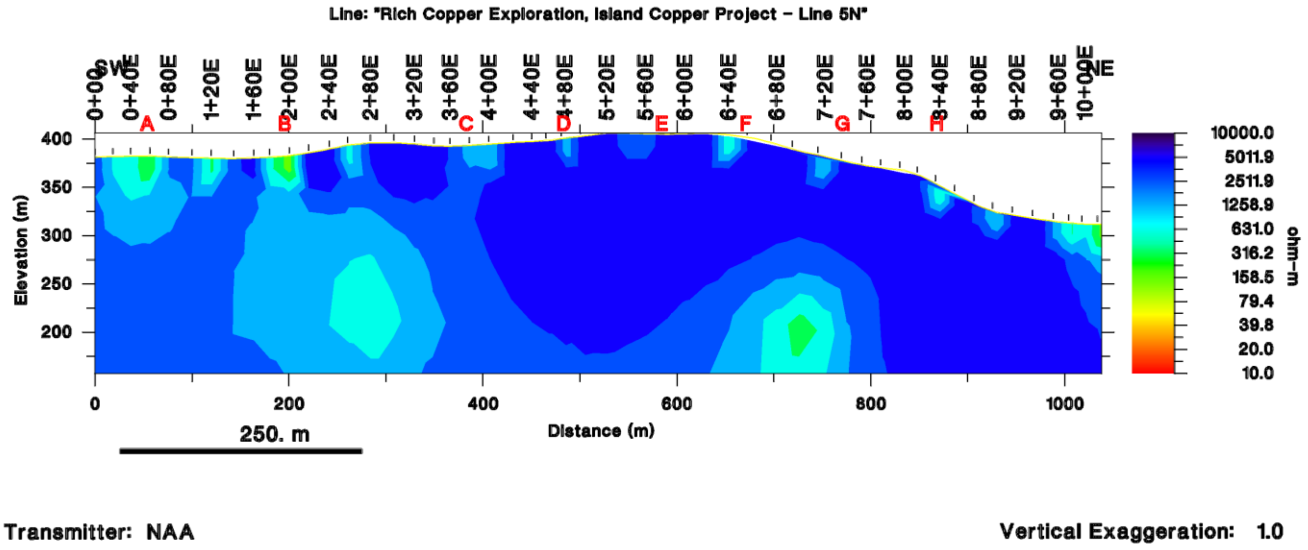
NAA Figure 8 Line 4N Model 4000 Ohms with Fraser Picks



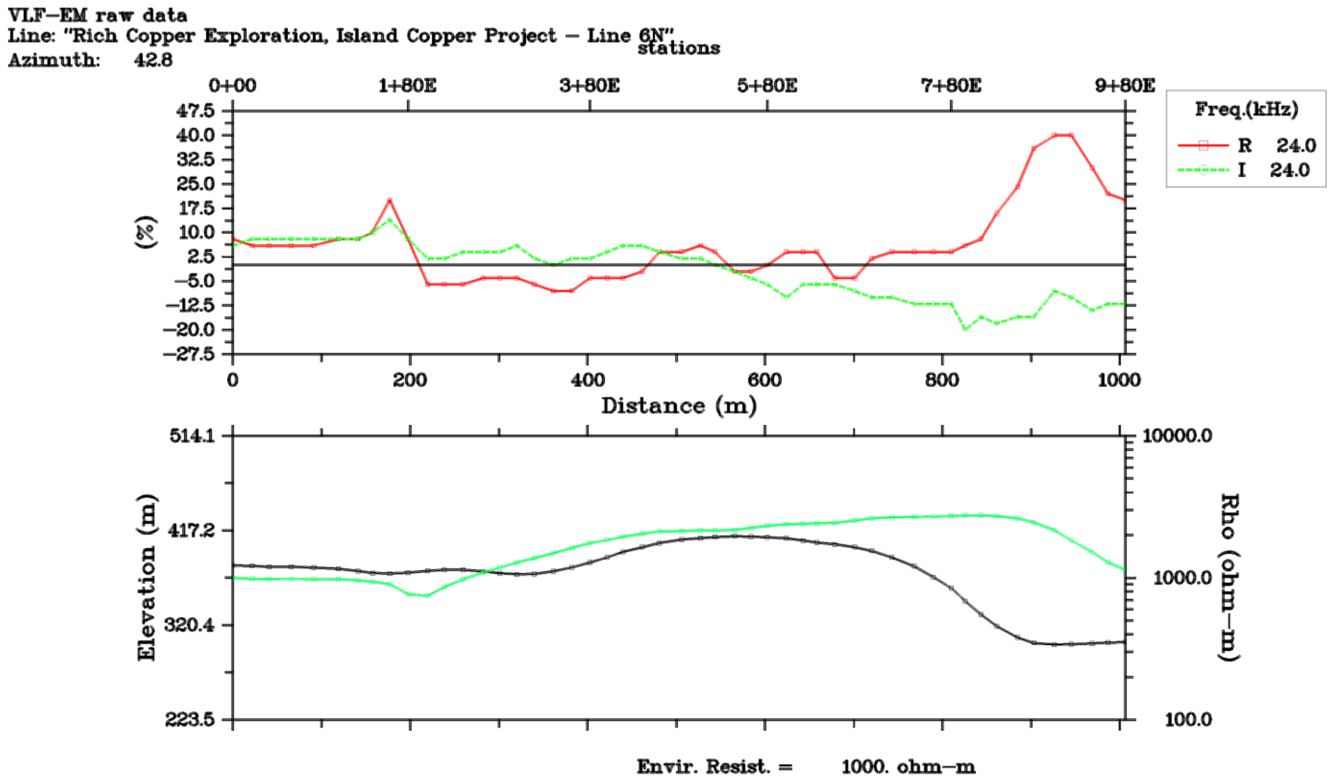
NAA Figure 9 Line 5N Raw Data Profile



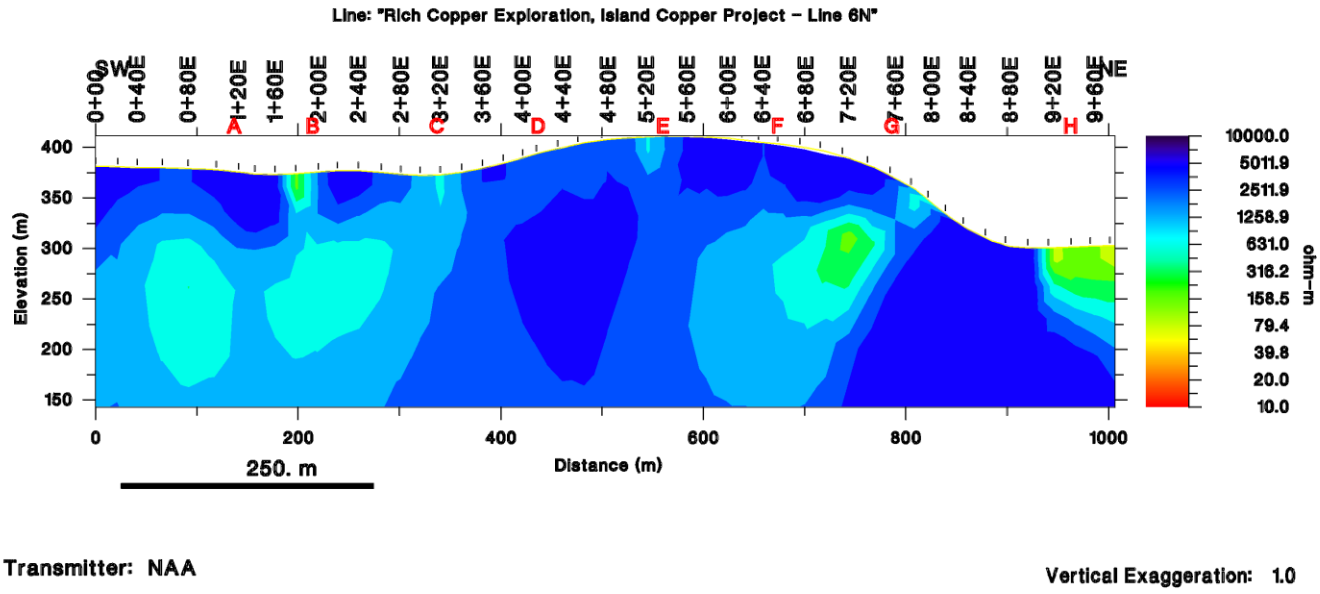
NAA Figure 10 Line 5N Model 4000 Ohms with Fraser Picks



NAA Figure 11 Line 6N Raw Data Profile



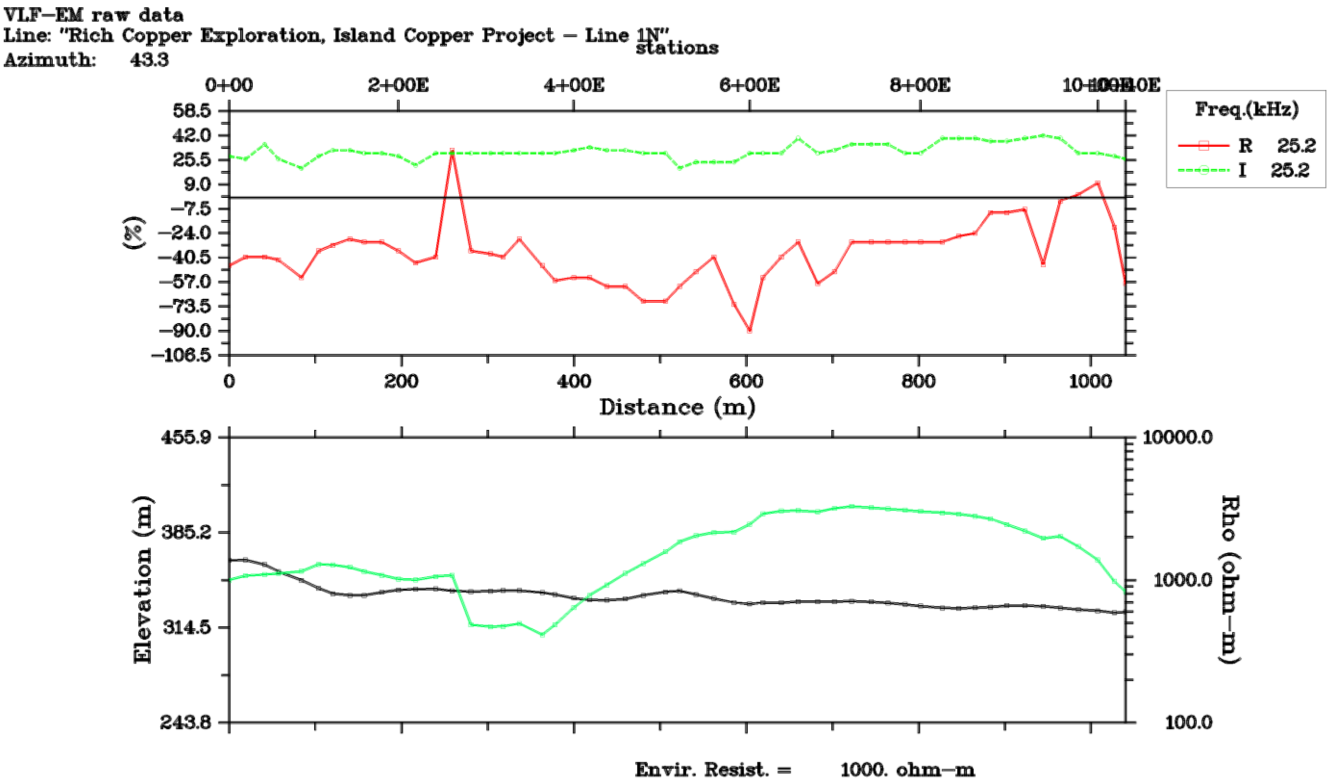
NAA Figure 12 Line 6N Model 4000 Ohms with Fraser Picks



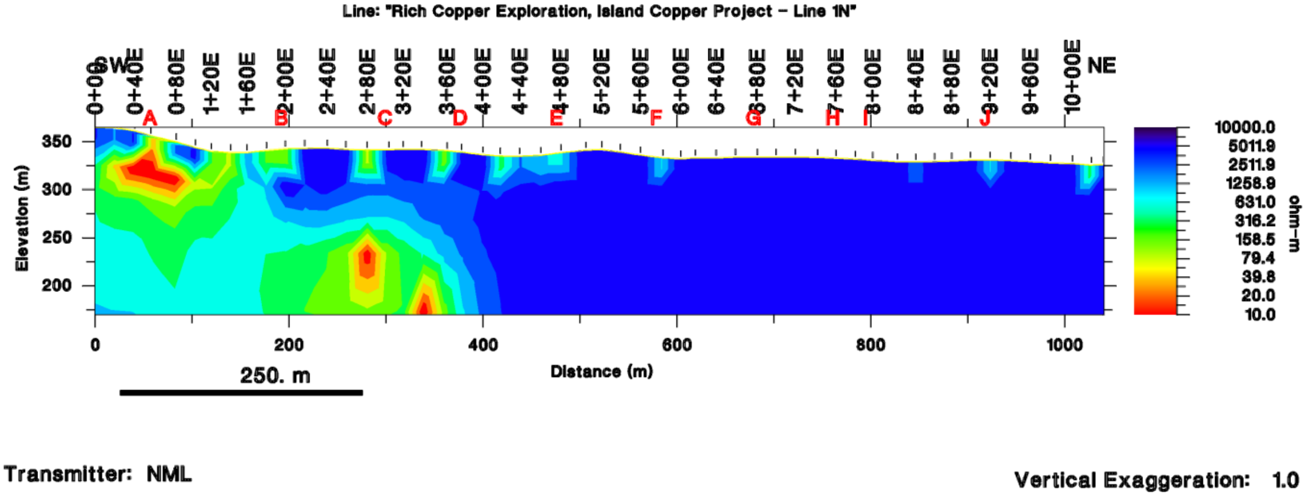
APPENDIX B

NML Figures

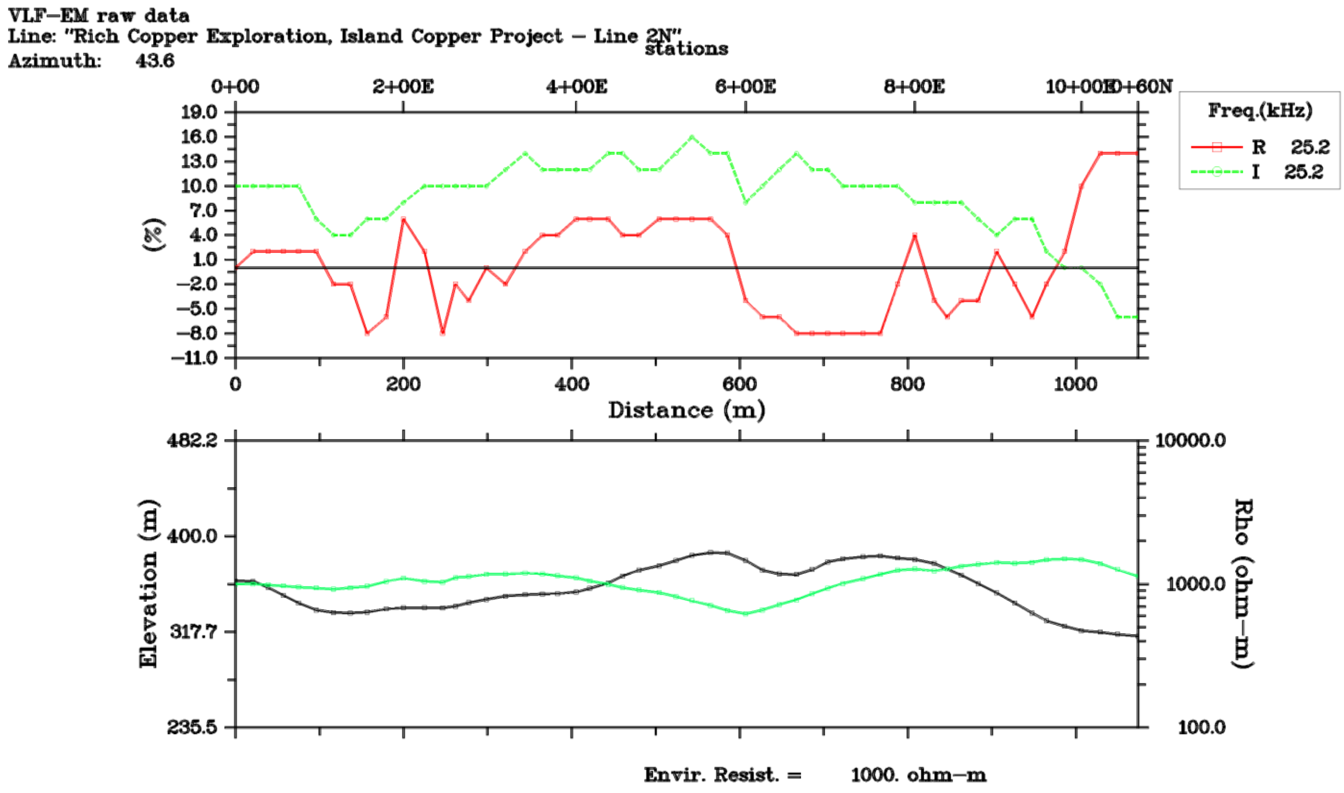
NML Figure 1 Line 1N Raw Data Profile



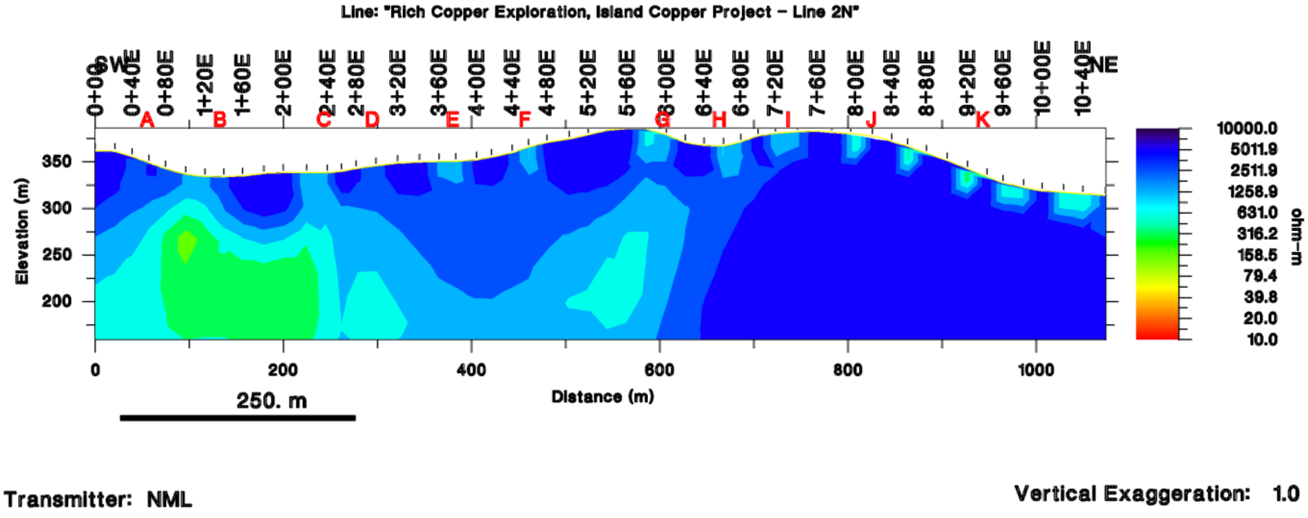
NML Figure 2 Line 1N Model 4000 Ohms with Fraser Picks



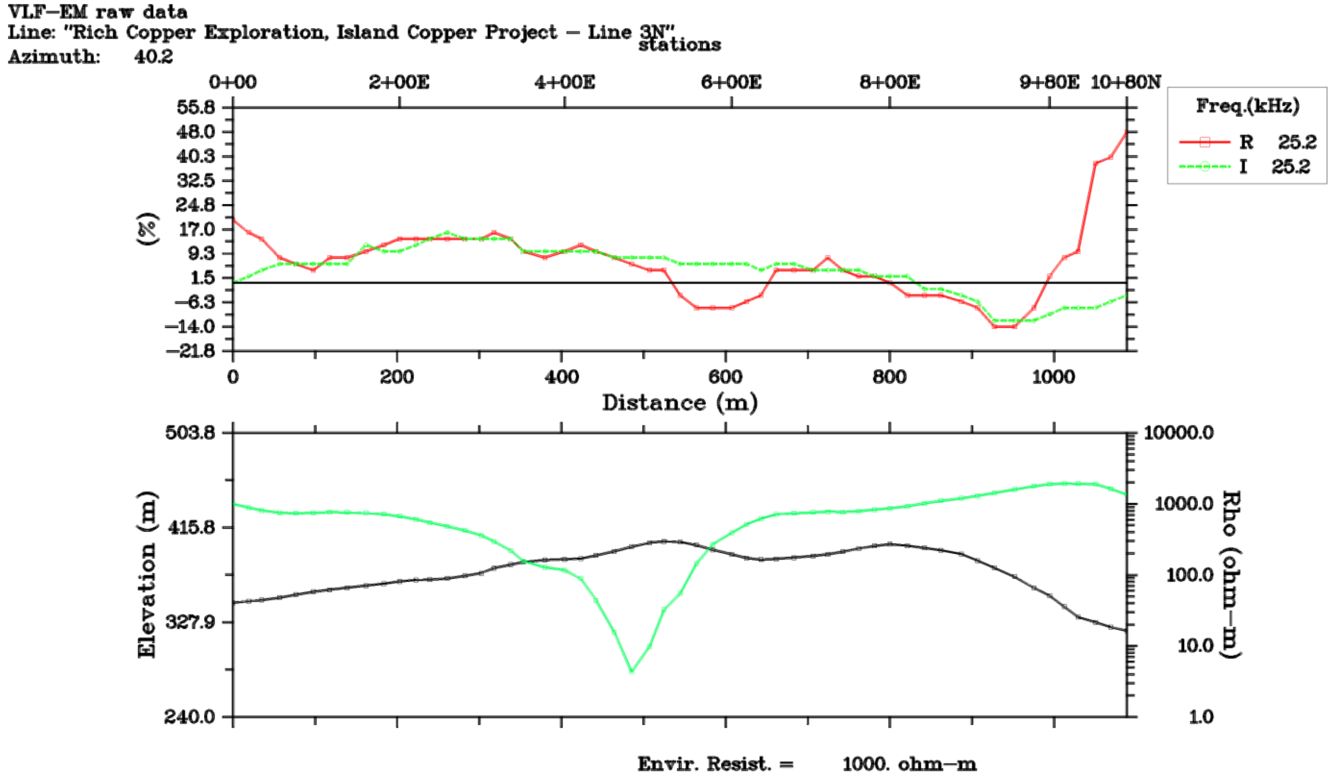
NML Figure 3 Line 2N Raw Data Profile



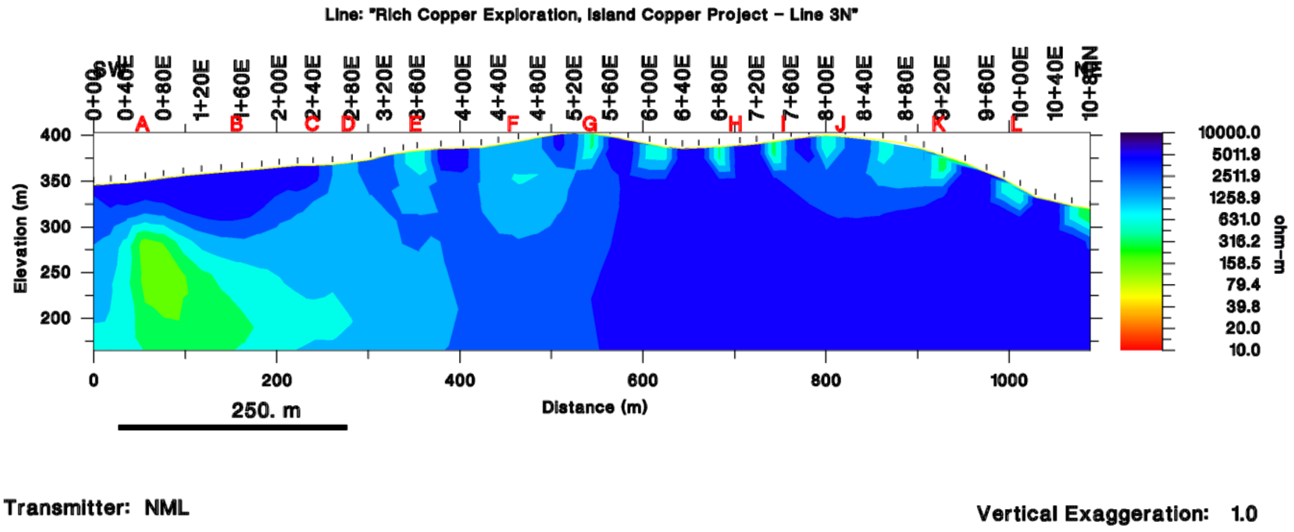
NML Figure 4 Line 2N Model 4000 Ohms with Fraser Picks



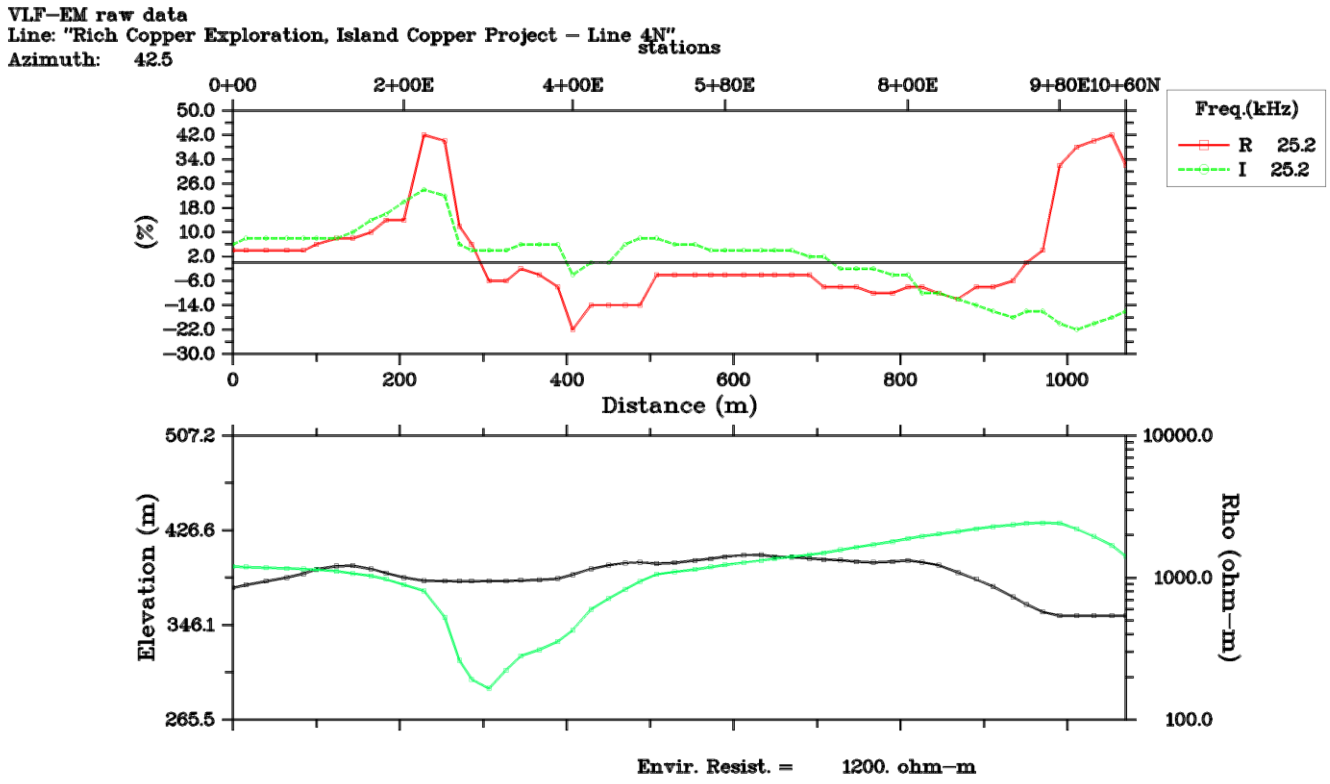
NML Figure 5 Line 3N Raw Data Profile



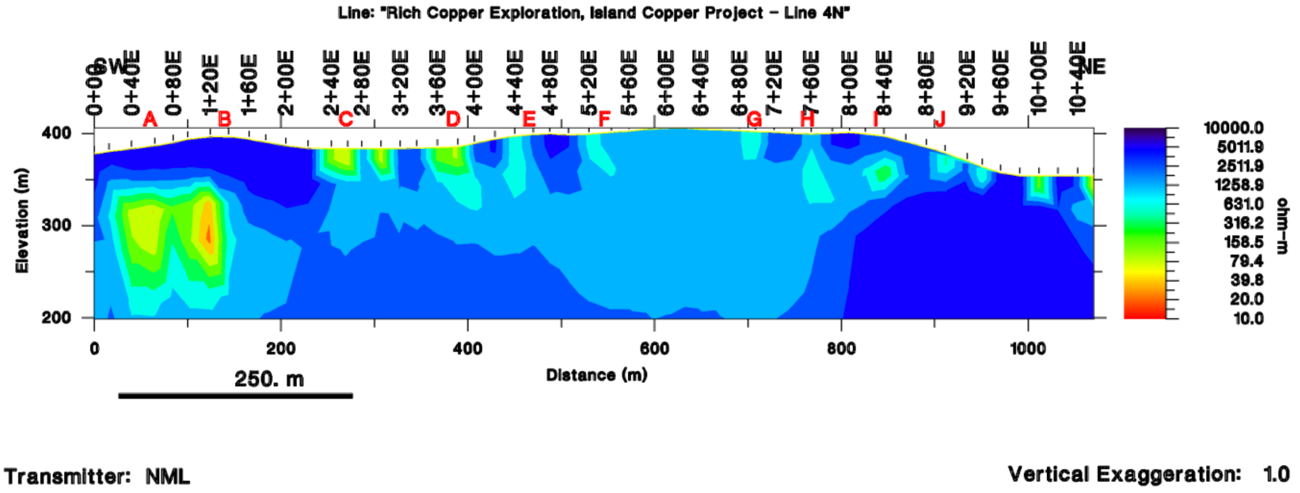
NML Figure 6 Line 3N Model 4000 Ohms with Fraser Picks



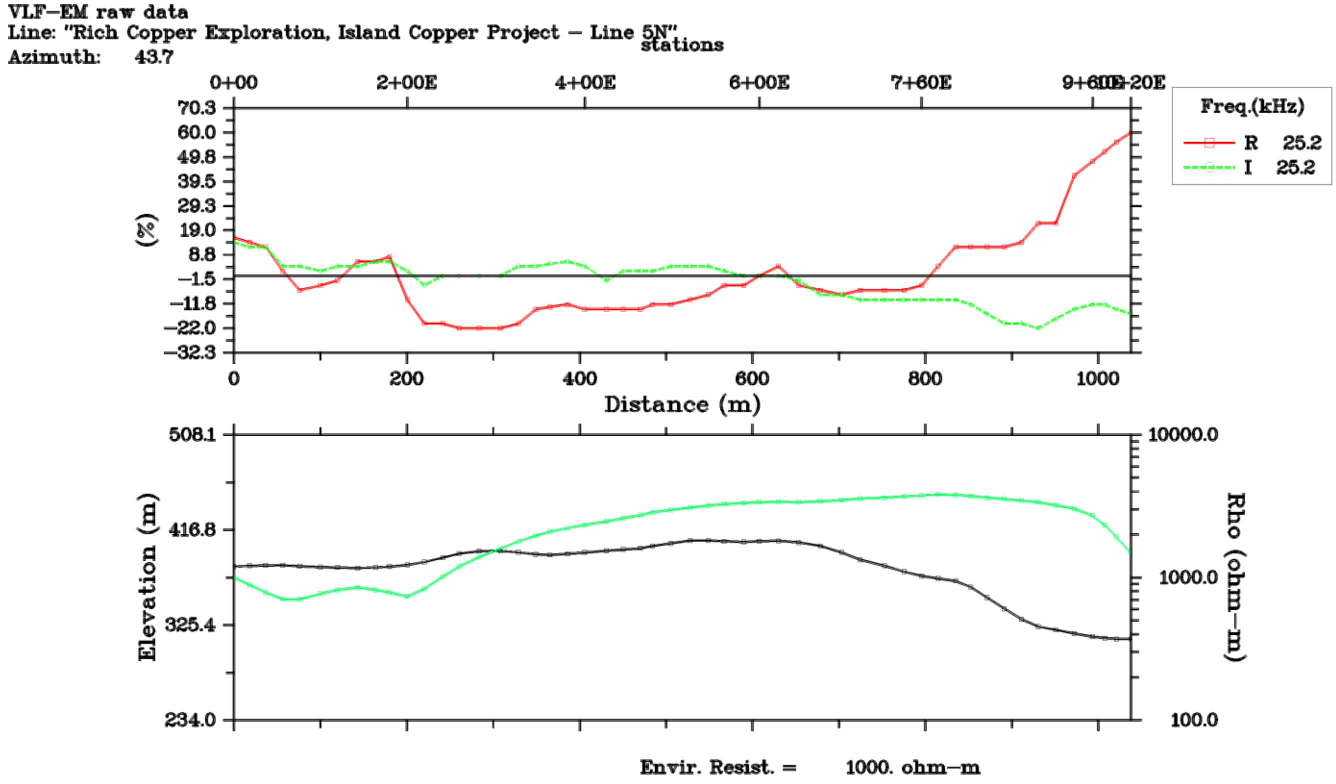
NML Figure 7 Line 4N Raw Data Profile



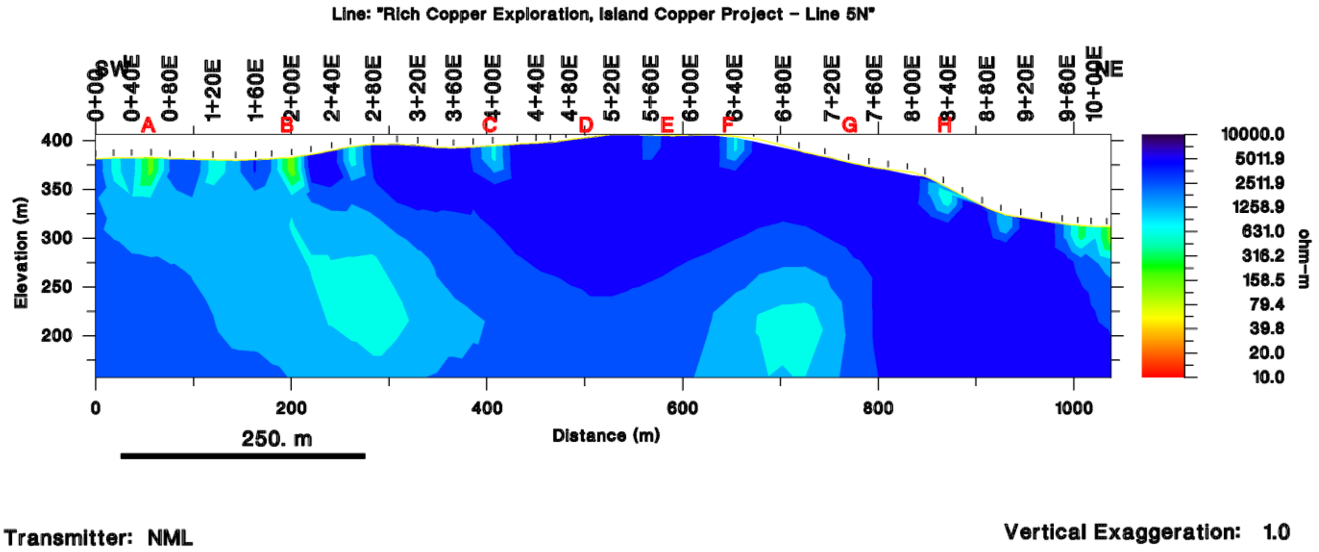
NML Figure 8 Line 4N Model 4000 Ohms with Fraser Picks



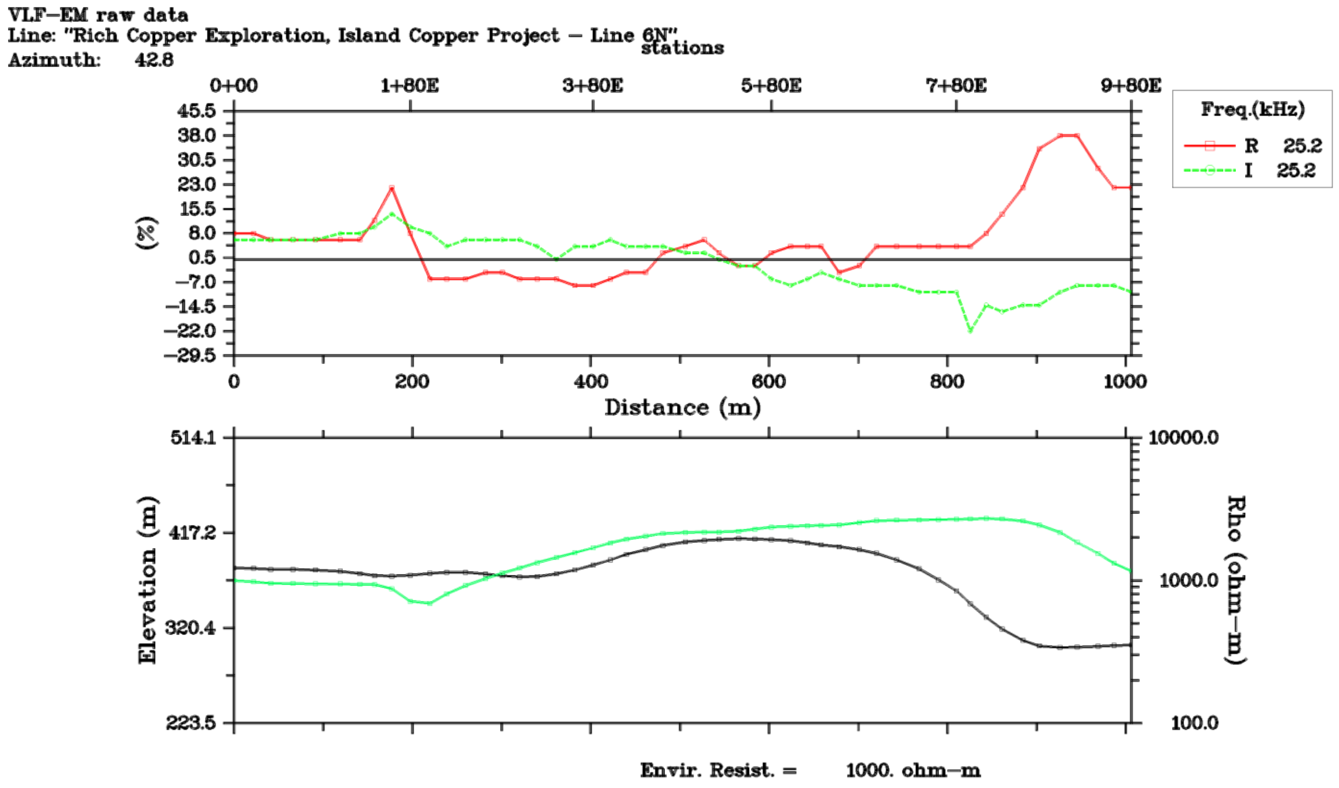
NML Figure 9 Line 5N Raw Data Profile



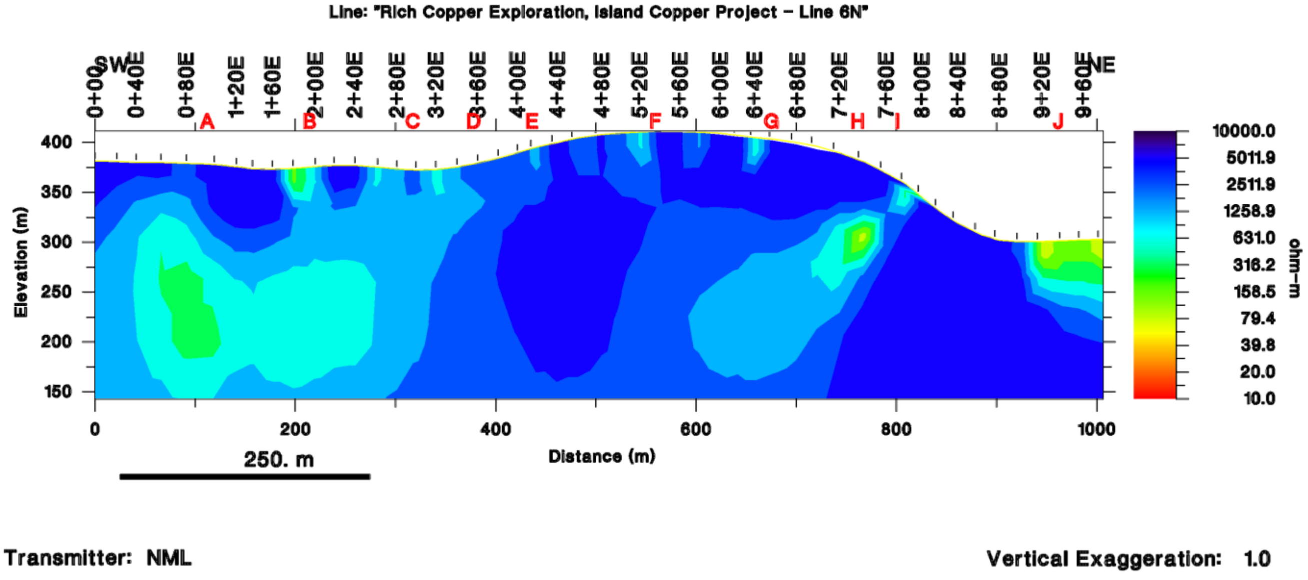
NML Figure 10 Line 5N Model 4000 Ohms with Fraser Picks



NML Figure 11 Line 6N Raw Data Profile



NML Figure 12 Line 6N Model 4000 Ohms with Fraser Picks



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