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Transition Metals

2018 PROSPECTING VISIT

- ISLAND COPPER PROPERTY -

Aweres Township, Ontario

Sault Ste. Marie Mining Division

NTS: 41K/09

Wednesday, 11 March 2020

Benjamin Williams, GIT
Grant Mourre, P.Geo

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1.0 Introduction

The Island Copper Property consists of 8 claims which contain high grade Cu occurrences within a fertile geological environment. Several mineralized samples have returned high grade Cu values. Historic drilling at the Hilltop showing by Kennco Exploration in 1965, returned 3.0 m @ 5.22 % Cu and 9.5 m @ 4.02 % Cu. Copper mineralization has been shown to be hosted within faulted, altered and brecciated granite/tonalite gneiss (Gros Cap Gneisses). Numerous other sulphide showings within the region suggest there is potential to find new zones of mineralization. On June 14th, 2018, Transition Metals Corp Geologist visited the property to conduct a site visit, and reconnaissance sampling on the property.

2.0 Property Location, Access and Description

The Island Copper property is located approximately 23 kilometres northeast of Sault Ste. Marie, Ontario (Figure 1). The property is situated just northwest of the junction between Ontario Highway's 556 and 552. The Island Copper property located within Aweres Township; is comprised of eight (8) mining claims, covering an area of approximately 160 ha (Figure 2, Table 1). All claims are registered to Transition Metals Corp., and are in good standing at the time of writing.

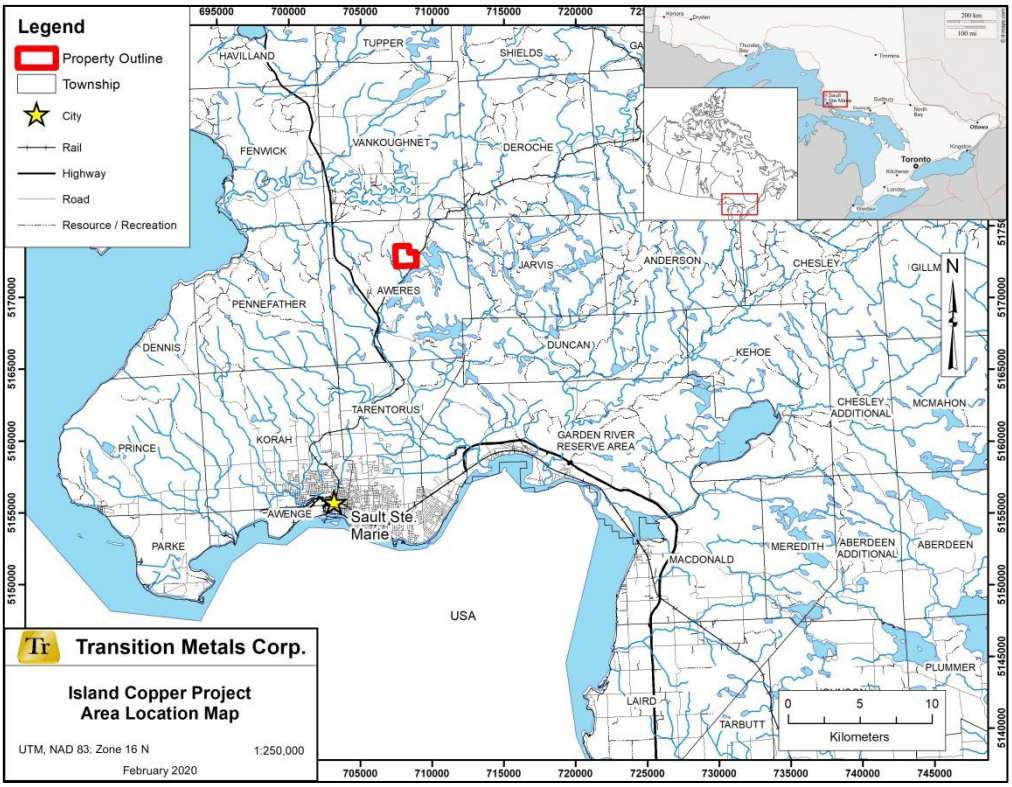

Figure 1: Island Copper Project Area Location Map

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. Snow cover from expected typically from November through to April. Moderately steep hilly terrain occupies the southern and central portions of the property, with topography dropping in the north towards the Goulais River valley.

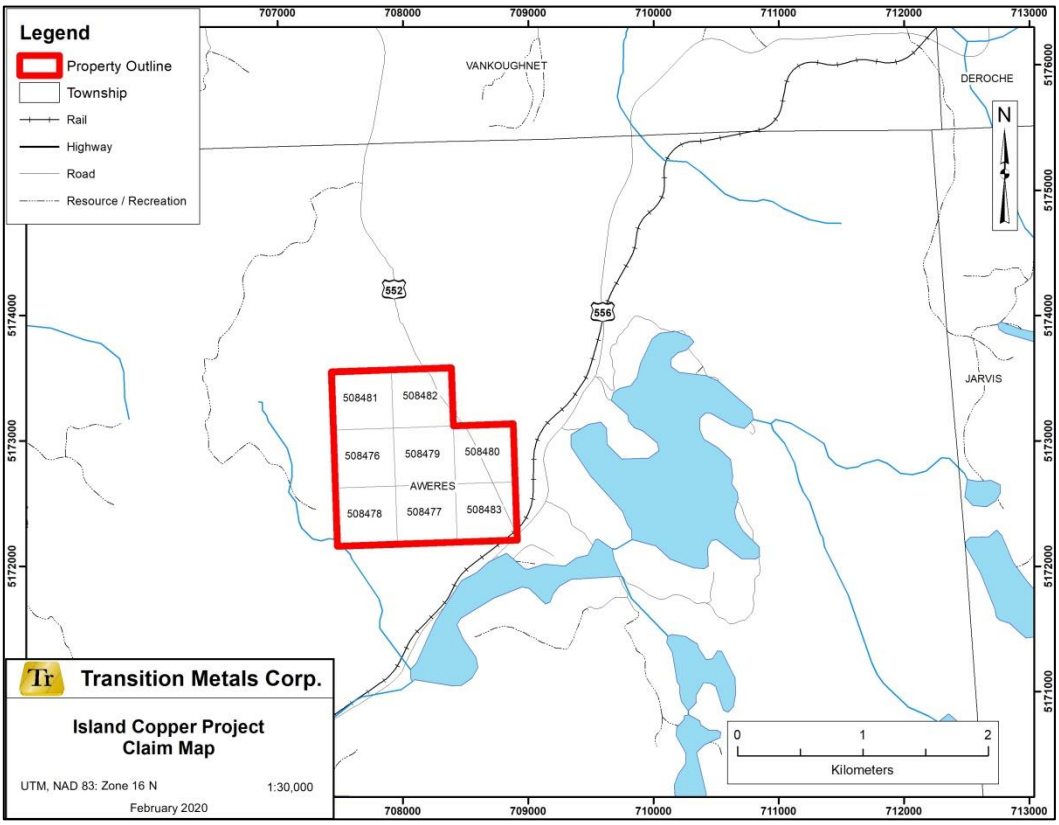

Figure 2: Island Copper Project Claim Map

The region is covered by a mixture of outcrop and overburden, consisting of glacial sands and gravels (of varying thickness) covered by humus. Outcrop exposure averages approximately ten per cent (10%) and occurs predominantly as rocky ridges, on hilltops, or 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 of the till generally increases northward towards the Goulais River valley where outcrop exposure becomes 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 and forms deep ravines with (seasonal) fast-flowing creeks. However, drainage is relatively poor in the central highland area of the property, and forms occasional swamps or beaver ponds between the hills.

Table 1: Property Position Claim Details

CLAIM NUMBER	TOWNSHIP	Type	Owner	Issued Date	Anniversary	Status
508476	AWERES	Single Cell Mining Claim	(100) TRANSITION METALS CORP.	2018-04-10	2020-04-10	Active
508477	AWERES	Single Cell Mining Claim	(100) TRANSITION METALS CORP.	2018-04-10	2020-04-10	Active
508478	AWERES	Single Cell Mining Claim	(100) TRANSITION METALS CORP.	2018-04-10	2020-04-10	Active
508479	AWERES	Single Cell Mining Claim	(100) TRANSITION METALS CORP.	2018-04-10	2020-04-10	Active
508480	AWERES	Single Cell Mining Claim	(100) TRANSITION METALS CORP.	2018-04-10	2020-04-10	Active
508481	AWERES	Single Cell Mining Claim	(100) TRANSITION METALS CORP.	2018-04-10	2020-04-10	Active
508482	AWERES	Single Cell Mining Claim	(100) TRANSITION METALS CORP.	2018-04-10	2020-04-10	Active
508483	AWERES	Single Cell Mining Claim	(100) TRANSITION METALS CORP.	2018-04-10	2020-04-10	Active

Within the detailed map area (Figure 2), 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 east and west of Highway 552 is in the order of 80 to 100 metres, with the NNW trending ridges exhibit a step like nature towards the highways suggestive of block faulting.

3.0 Previous Work

Copper mineralization was first discovered in the area over 90 years ago as evidenced by an historical adit on the property, however very little documented information about the early exploration history can be found. 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 many past companies (Highland-Crow Resources Ltd., Falconbridge Limited, etc.) 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 review of assessment filings on and around the Island Copper Project has resulted in the following summary of historic exploration work (Table 2).

Table 2: Summary of exploration history

Year(s) of Work	Company Name	Summary of Work
Pre 1960s	-	No known records were found or reported.
1964 to 1965	Geological Survey of Canada , Geological Survey of Ontario	Regional reconnaissance and mapping.
1965 to 1966	Kennco Explorations (Canada) Ltd.	Geological reconnaissance involving: prospecting, geological sampling, geophysical surveys, and diamond drilling [18 holes, totalling ~ 823 m].
1970	H. Nystedt	Prospecting and diamond drilling [2 holes, totalling ~ 153 m] .
1970 to 1971	Copperville Mining Corp.	Diamond drilling [10 holes, totalling ~ 1,085 m].
1974 to 1975	Ontario Ministry of Mines	Compilation map of the Algoma, Manitoulin, and Sudbury Mining District, from the previous mapping projects.
1981 to 1982	Highland-Crow Resources Ltd	Geological mapping, geochemical sampling and line cutting.
2000 to 2001	Falconbridge Ltd.	Airborne geophysical surveys, line cutting, and geological mapping and sampling. Airborne Mag, IP, and gravity surveys were the three geophysical surveys completed.
2002 to 2003	Amerigo Resources Ltd. and Falconbridge Ltd.	Diamond drilling, an Aeromag survey, and a MMI geochemical survey.
2004-2005	Nikos Explorations	Airborne Geophsics, MMI-soil survey and geological mapping
2011	M.A Tremblay	Prospecting

4.0 Geology

The following has been summarised from Camier and McLellan (2000); Camier and Oosterman (2001); Mumin and Camier (2002); Camier and Moss (2003), and references found there in.

4.1 Regional Geology

Archean-aged rocks (Figure 3) are very widespread and include Neo- to Meso- archean gneissic tonalite, massive to foliated granite and granodiorite with felsic to mafic volcanic assemblage bearing greenstone belts notably the Batchawana greenstone belt located approximately 40km NNW of the property just off Mamainse Point. These rocks are classified as belonging to the Abitibi Subprovince of the Superior Province. Diabase dykes of the Matachewan and Hearst swarms have intruded rocks of the Superior Province and are widely distributed across this region. The Gros Cap Batholith, which is the main rock type exposed on the Island Copper property, is interpreted to be Archean in age.

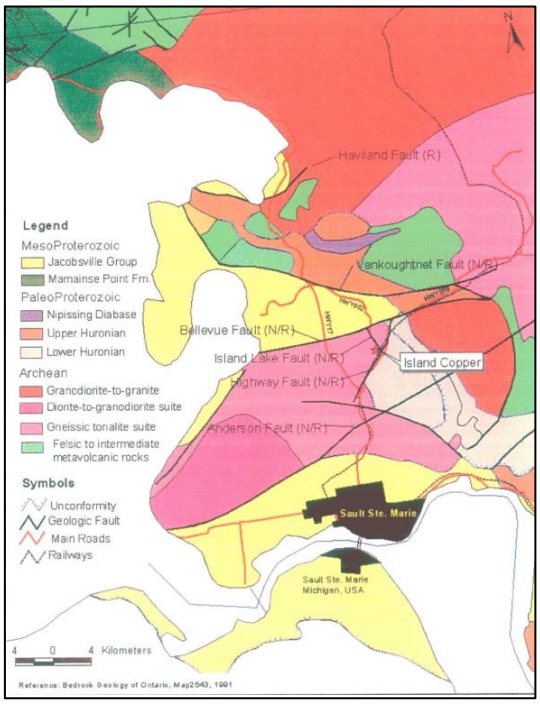

Figure 3: Simplified Regional Geology Map

Paleoproterozoic rocks (Figure 3) of the Southern Province in the region consist mostly of sedimentary and volcanic assemblages, which unconformably overly the Archean basement rocks, and are gently to moderately deformed. The Huronian Supergroup is represented in the Sault Ste. Marie to Eliot Lake area by the gabbro to anorthosite intrusive rocks and basalt, rhyolite and clastic/chemical sedimentary sequence of the Elliot Lake Group, as well as the overlying clastic and carbonate sedimentary rocks of the Hough Lake, Quirke Lake and Cobalt groups.

The Mesoproterozoic Keweenawan Supergroup and associated intrusive rocks (Figure 3) occupy the Midcontinent Rift and form a sequence in excess of 25 kilometre thick package overlying an attenuated Superior Province. Rocks of this age are best preserved along the eastern shore of Lake Superior, from Sault Ste. Marie, north to Mamainse Point and beyond. These gently to steeply west dipping rocks consist of subaerial flood basalt flows and alluvial-fluvial conglomerates of the Osler

Group and unconformably overlie feldspathic sandstones of the Jacobsville Group. The Keweenawan flood basalts and related intrusive rocks are interpreted to be the igneous expressions of the Midcontinent gravity high (Lightfoot et al, 1999). The basalt flows at Mamainse Point have been found to contain elevated background values of copper, averaging 920 ppm Cu (Thompson, 1953). This fact may partially explain why the region surrounding Lake Superior has been such a prolific copper producing region for over 100 years.

4.2 Local Geology

Gros Cap Gneiss comprises the majority of the outcrop on the property. The gneissic rocks are composed of granite and granodiorite that have been strongly to moderately foliated, and contain localized migmatitic 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, moderate to weak magnetism, with 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 (Figure 4, modified after Camier and McLellan, 2000)

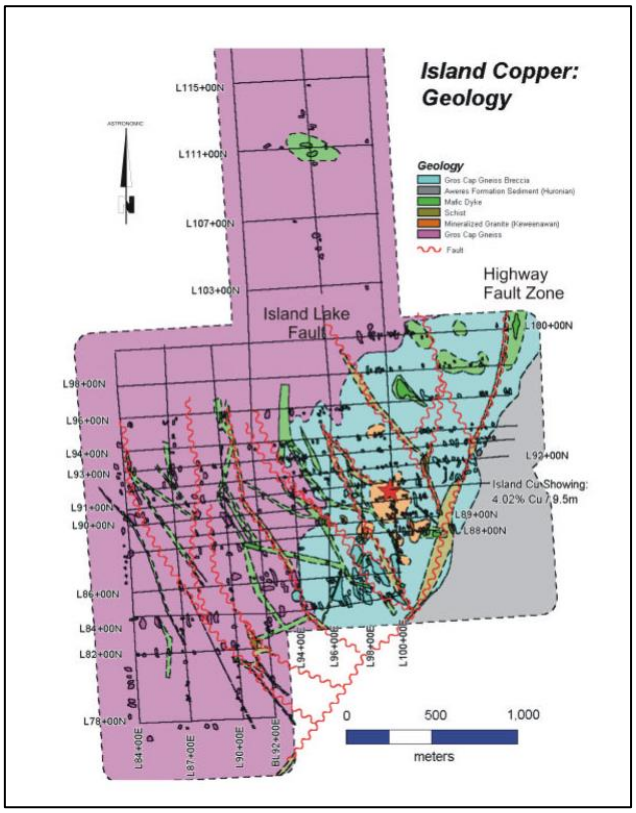

Figure 4: Local Geology of the Island Copper Area

Geological mapping on the property by Mumin and Cannier (2002) identified an area of gneissic breccia, informally 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 (Figure 4). This gneissic breccia has been classified as a cataclastic rock varying from a protomylonite, with partially developed fluxion (flow) structure, to a microbreccia, containing larger

granitoid fragments with 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. 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 is pre-Huronian in age.

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 been interpreted as a complex block faulting pattern with juxtaposed combinations of mid-Proterozoic, lower Proterozoic and Archean rocks along structures with repeated movement.

4.3 Mineralization

Copper mineralization in high concentration, for example historic drilling by Kennco Exploration retuned 3.0 m @ 5.22 % Cu, and 9.5 m @ 4.02 % Cu; occurs at several locations within the property area. Specifically, at historical trenches of NIKOS Exploration (Figure 5) identified areas of the Hilltop Area 1W & 2S, Trench Area 1E, 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 (such as Trench Area 7, Trench Area 2N & 8, Hilltop Area 1W & 2S, see Figure 5). High-grade mineralized zones are characterized by a chalcopyrite-pyrite-specularite mineral assemblage.

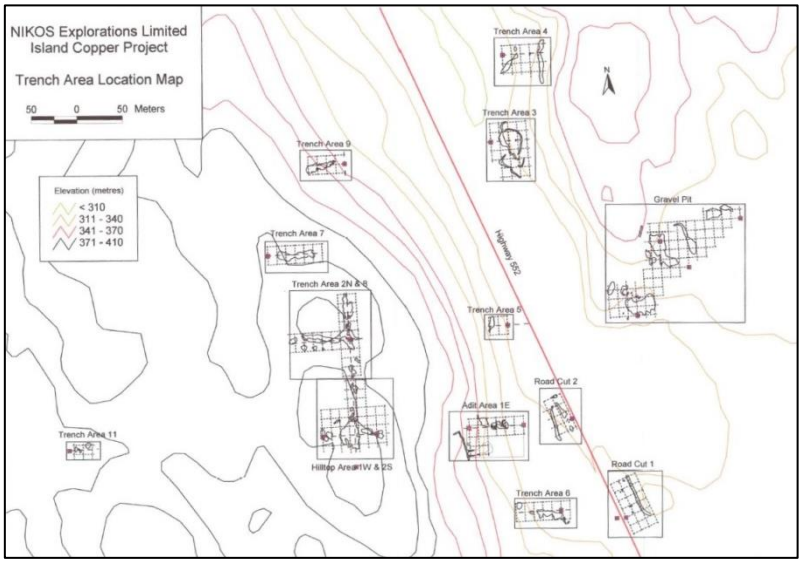

Figure 5: Historic Trench Location Map in the Island Copper Property Area

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 micro-breccias.

Chalcopyrite is commonly accompanied by specular hematite occurs 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, while high-grade zones are dominated by chalcopyrite-pyrite.

A substantial difference between the high and lower grade zones is the presence of late, brittle, intersecting structures in the high-grade zones (Hilltop Area, Trench Area 3, and Trench Area IE). These late structures appear to be related to the main copper bearing mineralizing event.

5.0 Exploration

On June 13th & 14th, 2018, Transition Metals Corp geologists Grant Mourre, P.Geo, and, Brad Clarke, c The programme aimed at collecting samples in which to validate historical analytical results; while also to collect unbiased representative samples which could be analysed for a wider array of elements which were not historically reported in available assessment documents.

5.1 Sampling and Results

Company geologists collected a total nine (9) representative grab samples from the area of the 'main showing', in the vicinity of the 'Hilltop Area 1W & 2S' trench (of NIKOS Exploration, see Figure 5, and review Appendix A & B). Below is a highlight table of analytical results (Table 3). Samples from the 'main showing' returned comparable result to historical work, with best sample returning 9 wt. % copper.

Table 3: Highlight table of results

Sample ID	Rock Type	Easting	Northing	Cu ppm	Cu wt.%	S wt.%	Ag ppm
S899379	Granite	708498	5172557	28000	2.80	3.21	<1
S899380	Granite	708501	5172555	90000	9.00	9.41	7
S899381	Granite	708504	5172557	42100	4.21	3.97	4
S899382	Granite	708501	5172554	46700	4.67	5.37	1
S899383	Granite	708507	5172552	46900	4.69	4.72	2
S899384	Granite	708510	5172553	16100	1.61	1.63	<1
S899385	Granite	708512	5172554	37200	3.72	3.8	<1
S899386	Granite	708513	5172550	31400	3.14	3.19	<1
S899387	Granite	708516	5172551	6340	0.63	0.9	2

Sample location data was recorded by digital GPS (Appendix A) using datum UTM NAD 83, Zone 16N. Samples were submitted to AGAT Laboratories of Mississauga, Ontario; for multi-element package (201-378), which includes a Sodium Peroxide Fusion with an ICP-OES/ICP-MS finish.

See Appendix A for detailed maps with sample locations, and review Appendix B for Certificate of Analysis as well as laboratory Quality Assurance and Method Summary documentation.

6.0 Discussion

The 2018 sampling programme's analytical results returned unbiased samples of high grade Copper mineralization from one of the areas of historic work. However, with the extended array of analytical results, only minor background results of Sn, Ni, Zn, Pb values were encountered, with low values of Ag. This approach was intended to identify additional poly-metallic metals in the semi- to massive-sulphide material. However, at this time, Transition Metals Geologist did confirm the presence of high grade Copper mineralization.

7.0 Summary of Expenditures

The total value of the work completed on the claims comprising the Island Copper Property is summarized in Table 4 below. The total work expenditures for the work program(s) completed during the period of June 1st, 201 to June 30th, 2018 were valued at $ 2,499.

Table 4: Summary of Expenditures

Work Type	Work Subtype	Subtotal	Total
Geological Survey Work			**$ 1,059**
	Geological Survey	1,059	
Associated Work types			**$ 1,440**
	Assays	342	
	Personal Transportation	255	
	Supplies	57	
	Report/Map	529	
	Food	38	
	Lodgings	218	
Aboriginal Consultation Costs			**$ -**
		Total Expenditures	**$ 2,499**

Details regarding expenditures and associated invoices can be found within APPENDIX C, and tables contained within.

8.0 Conclusions and Recommendations

The available land position in the area is rather restricted due to in part alienations/land withdrawals and surrounding private patent ground. Thus it is debateable whether the property could be enlarged. Furthermore, the next step in exploration would require significant spending on updating and/or compiling (including reinterpreting historical) geophysical surveys; coupled with additional infill drilling, in an attempt to trace the known mineralization zones down dip.

Additionally; there could be some added value in re-mapping the property, with attention to geological detail, and a programme of stripping/trenching and channel sampling would be of use in the areas of historic workings. With the idea of trying to identify high(er) grade mineralization and/or an attempt in identifying zones of mineral or elemental (metal) association.

9.0 Statement of Authors

I, Benjamin Williams do hereby certify that:

1) I am an employee of Transition Metals Corp., of Sudbury, ON.

2) I currently reside at 407 Cartier Ave, Unit 3, Sudbury, Ontario, Canada, P3B 1C7,

3) I graduated with a B.Sc. Hon. Geology degree in 2013 from Saint Mary's University, Halifax, NS.

4) I am a registered Geologist in Training (GIT) with the Association of Professional Geoscientists of Ontario (APGO) since 2015 (Membership number: 10309).

5) I have been working as a Field Geologist in Canada since 2011.

Signed this Wednesday, 11 March 2020, in the City of Sudbury, Ontario

Benjamin Williams, GIT.

I, Grant Mourre do hereby certify that:

1) I am an employee of Transition Metals Corp., of Sudbury, ON.

2) I currently reside at 19 Kristi Crt, Sudbury, Ontario, P3E 5R4,

3) I graduated with B.Sc. Hon. Geology degree in 1997 from the University of Saskatchewan, Saskatoon, SK and a M.Sc. Geology degree in 2001 from Laurentian University, Sudbury, ON.

4) I am a registered Professional Geoscientists (P.Geo) with the Association of Professional Geoscientists of Ontario (APGO) since Oct 30, 2002 (Membership number: 0566).

5) I have been working as a Professional Geoscientists in Canada since 1999.

Signed this Wednesday, 11 March 2020 in the City of Sudbury, Ontario

Grant Mourre, P.GEO.

10.0 References

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Appendix A: Maps

Contents

1. Grab Sample Details

Below contains a sample location map for the 2018 Mapping and Sampling program on the Island Copper Property. Discussion and summary about the program can be found within section 6.0 of the main report. Analytical certificates can be found within Appendix B. Northing & Easting units are in UTM NAD 83 Zone 16 N coordinates (in metres). Additional geographical representation and details on Sample location can be found within Sample Location Maps.

Sample ID	Rock Type	Easting	Northing	Cu ppm	Cu wt.%	S wt.%	Ag ppm
S899379	Granite	708498	5172557	28000	2.80	3.21	<1
S899380	Granite	708501	5172555	90000	9.00	9.41	7
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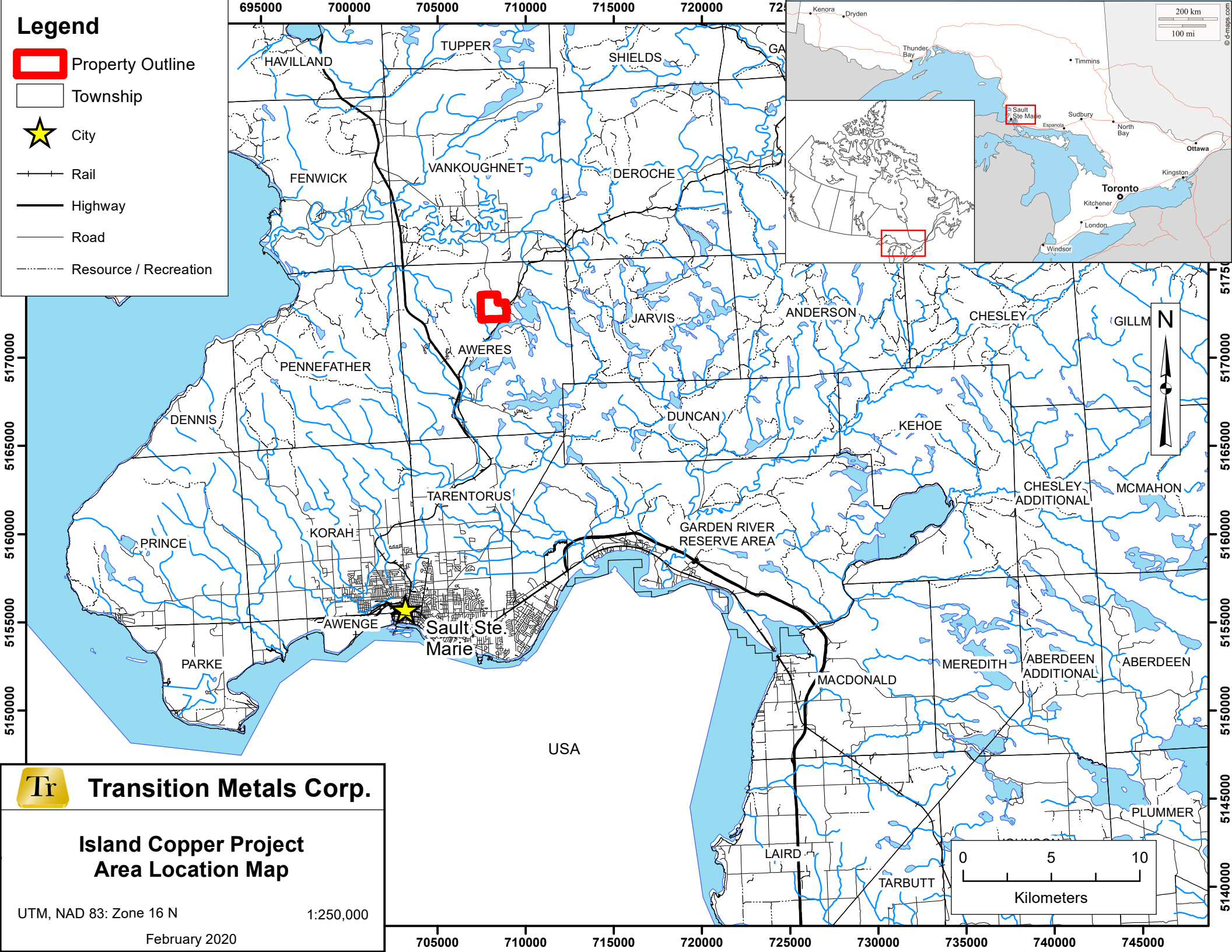


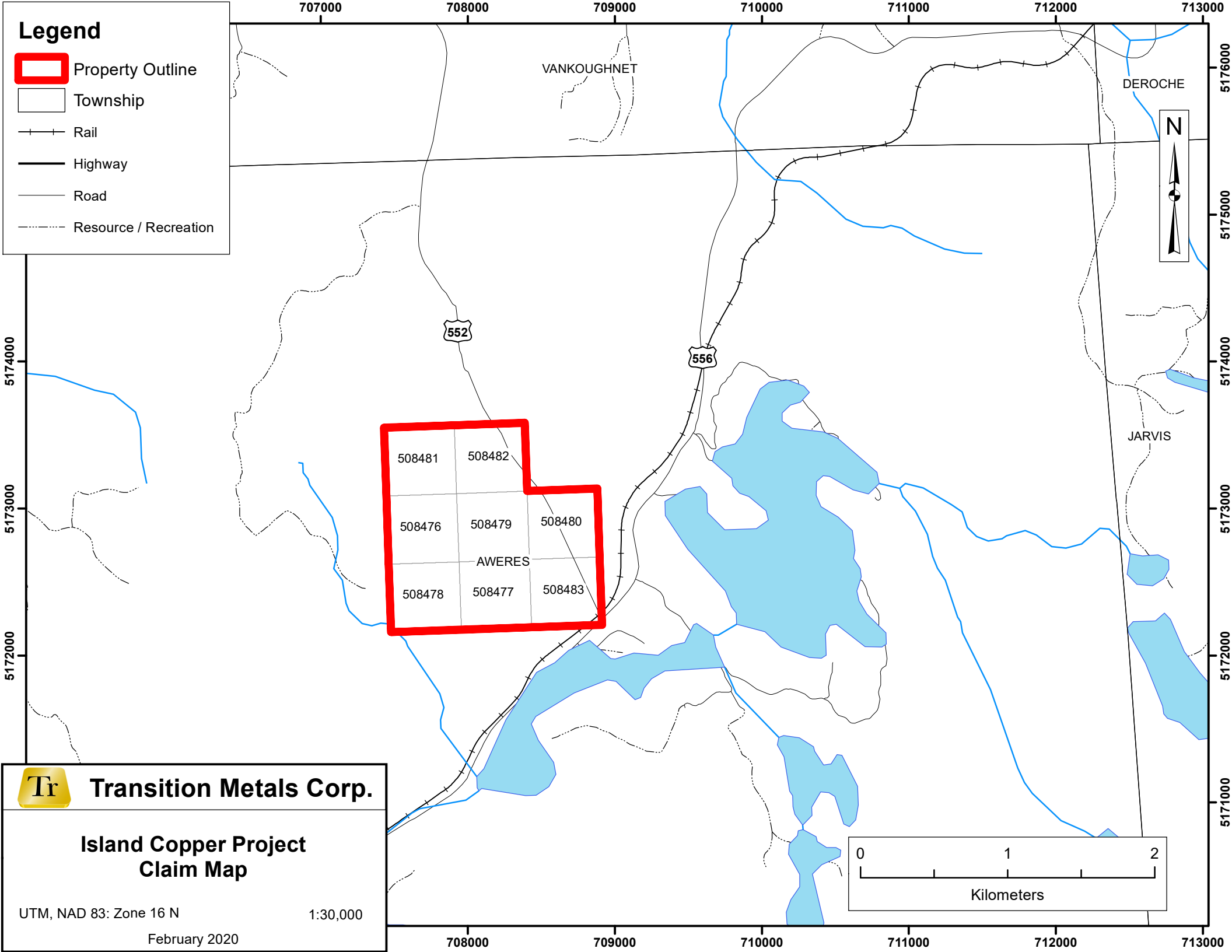
Transition Metals Corp.

Island Copper Project
Area Location Map

UTM, NAD 83: Zone 16 N

1:250,000

February 2020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Highway
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Resource / Recreation
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JARVIS
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AWERES
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Island Copper Project
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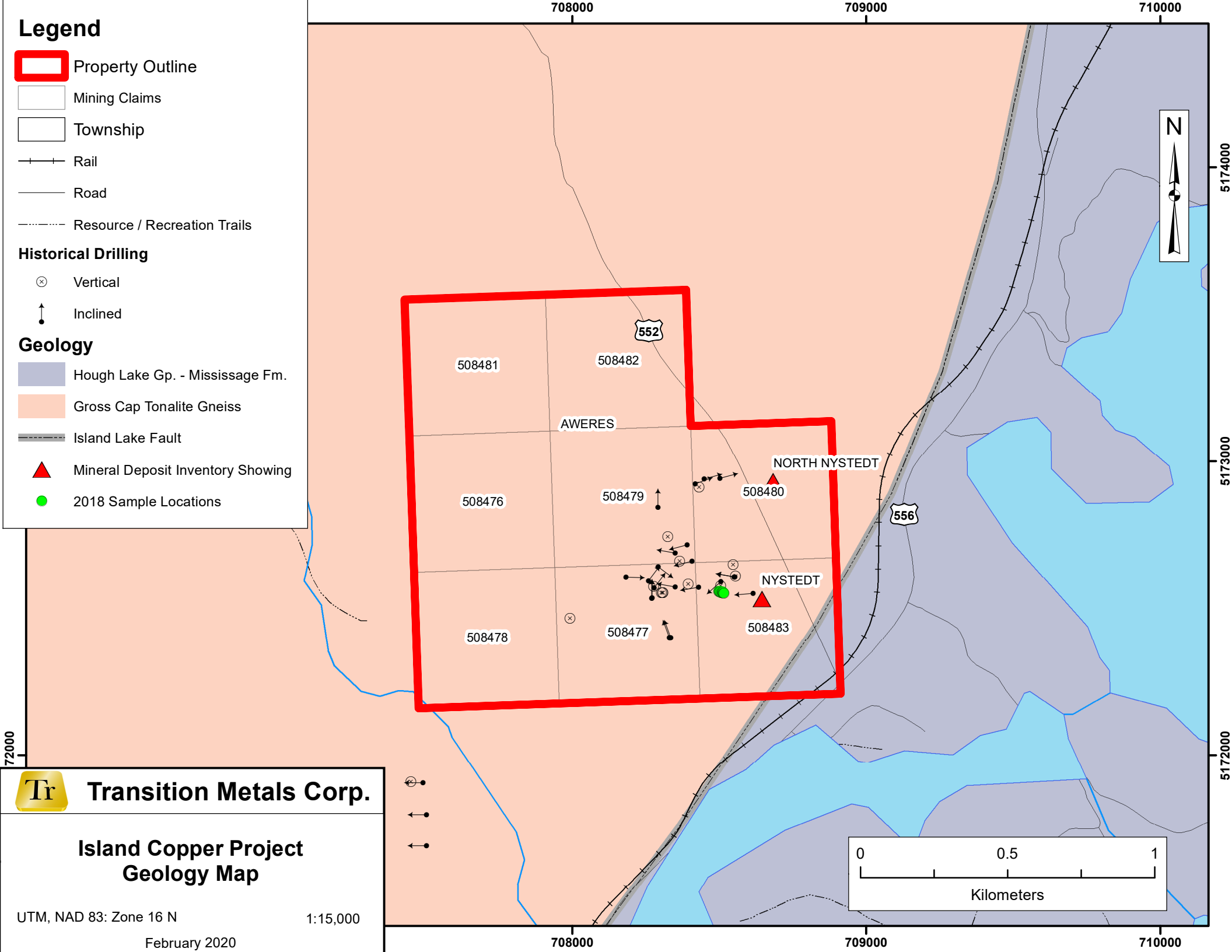
UTM, NAD 83: Zone 16 N
1:30,000
February 2020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Property Outline
Mining Claims
Township
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Hough Lake Gp. - Mississage Fm.
Gross Cap Tonalite Gneiss
Island Lake Fault
Mineral Deposit Inventory Showing
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556
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NORTH NYSTEDT
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Kilometers
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Island Copper Project
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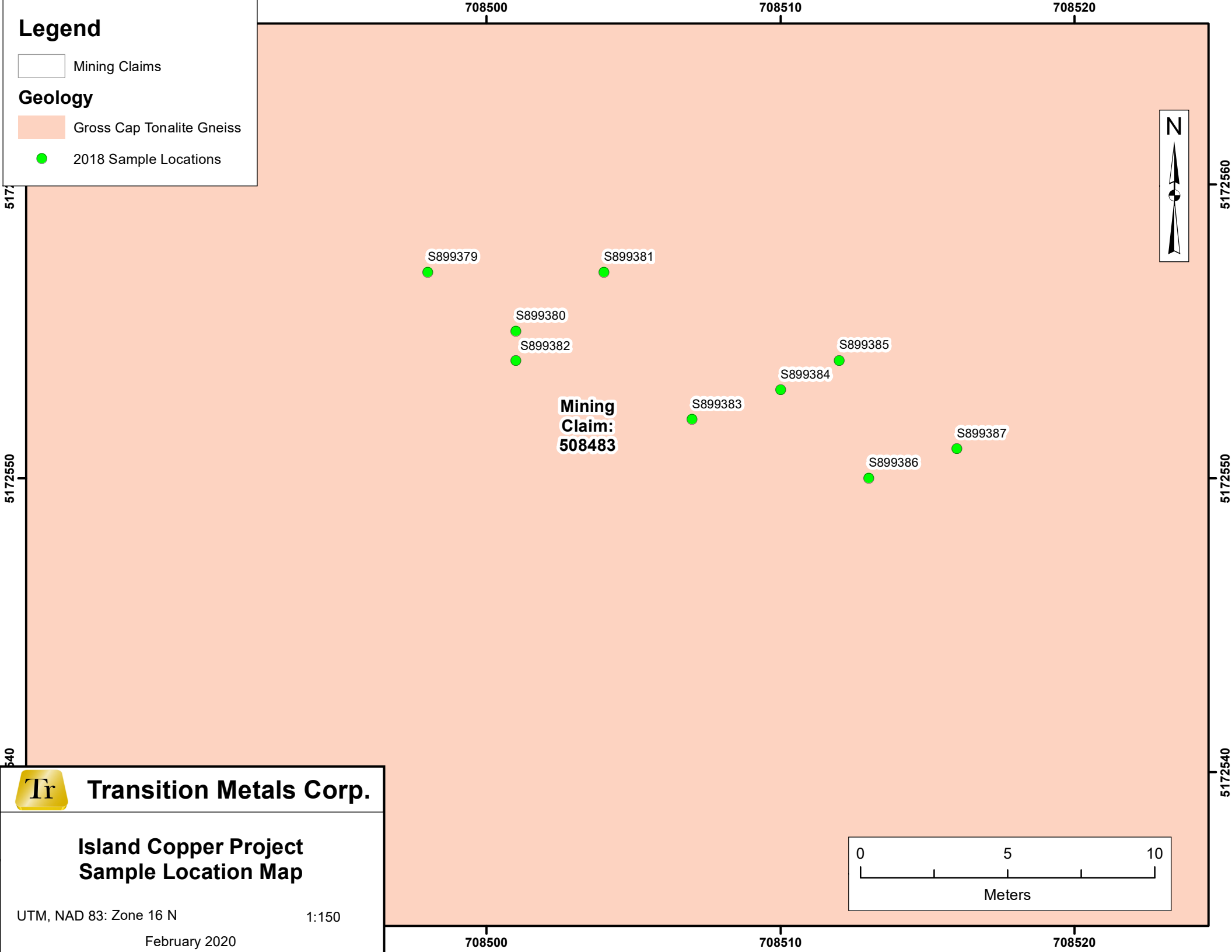
UTM, NAD 83: Zone 16 N
1:15,000
February 2020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S899387
S899386
Mining Claim: 508483
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5
10
Meters
Transition Metals Corp.
Island Copper Project
Sample Location Map
UTM, NAD 83: Zone 16 N
1:150
February 2020

Appendix B: Analytical Certificates

Contents

AGAT Laboratories

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

CLIENT NAME: TRANSITION METALS
410 FALCONBRIDGE RD
SUDBURY, ON P3A4S4
(705) 669-0590

ATTENTION TO: GRANT MOURRE

PROJECT: PGEN

AGAT WORK ORDER: 18T349049

SOLID ANALYSIS REVIEWED BY: Sherin Moussa, Senior Technician

DATE REPORTED: Jul 09, 2018

PAGES (INCLUDING COVER): 11

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

*NOTES

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

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 18T349049

PROJECT: PGEN

CLIENT NAME: TRANSITION METALS

ATTENTION TO: GRANT MOURRE

(200-) Sample Login Weight

DATE SAMPLED: Jun 10, 2018 | DATE RECEIVED: Jun 11, 2018 | DATE REPORTED: Jul 09, 2018 | SAMPLE TYPE: Rock

Analyte:	Sample Login Weight
Unit:	kg
Sample ID (AGAT ID) RDL:	0.01
S899379 (9318727)	.969
S899380 (9318728)	.988
S899381 (9318729)	.980
S899382 (9318730)	.996
S899383 (9318731)	.838
S899384 (9318732)	.892
S899385 (9318733)	1.408
S899386 (9318734)	1.345
S899387 (9318735)	1.073

Comments: RDL - Reported Detection Limit

Certified By: Sherin Moussa

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AGAT WORK ORDER: 18T349049

PROJECT: PGEN

CLIENT NAME: TRANSITION METALS

ATTENTION TO: GRANT MOURRE

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 10, 2018 | DATE RECEIVED: Jun 11, 2018 | DATE REPORTED: Jul 09, 2018 | SAMPLE TYPE: Rock

Analyte:	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu
Unit:	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm
Sample ID (AGAT ID) RDL:	1	0.01	5	20	0.5	5	0.1	0.05	0.2	0.1	0.5	0.005	0.1	5
S899379 (9318727)	<1	8.34	<5	<20	20.0	<5	0.7	0.15	<0.2	21.2	14.1	0.010	0.2	28000
S899380 (9318728)	7	7.18	<5	<20	29.2	<5	2.4	0.27	<0.2	13.9	16.7	0.011	0.7	90000
S899381 (9318729)	4	8.03	<5	<20	30.6	<5	1.5	0.42	<0.2	179	7.5	0.010	0.6	42100
S899382 (9318730)	1	9.27	<5	<20	37.9	<5	1.7	0.15	<0.2	8.3	53.5	0.008	0.6	46700
S899383 (9318731)	2	8.97	<5	<20	41.9	<5	1.4	0.19	<0.2	34.5	34.2	0.007	0.8	46900
S899384 (9318732)	<1	8.88	<5	<20	30.1	<5	0.6	0.34	<0.2	42.9	10.0	0.011	0.3	16100
S899385 (9318733)	<1	8.75	<5	<20	31.8	<5	1.0	0.28	<0.2	52.7	12.5	0.010	0.3	37200
S899386 (9318734)	<1	9.35	<5	<20	42.3	<5	1.2	0.35	<0.2	222	11.5	0.009	0.5	31400
S899387 (9318735)	2	8.54	119	<20	29.8	<5	0.5	0.11	<0.2	39.1	6.2	0.010	0.4	6340

Analyte:	Dy	Er	Eu	Fe	Ga	Gd	Ge	Hf	Ho	In	K	La	Li	Lu
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
Sample ID (AGAT ID) RDL:	0.05	0.05	0.05	0.01	0.01	0.05	1	1	0.05	0.2	0.05	0.1	10	0.05
S899379 (9318727)	0.20	0.10	0.30	4.23	11.3	0.68	<1	2	<0.05	0.2	0.15	10.1	<10	<0.05
S899380 (9318728)	0.36	0.17	0.34	9.09	9.67	0.70	<1	4	0.06	0.8	0.31	6.4	<10	<0.05
S899381 (9318729)	0.81	0.21	1.93	4.28	11.6	4.34	<1	4	0.11	0.4	0.26	87.3	<10	<0.05
S899382 (9318730)	0.16	0.08	0.15	5.36	10.4	0.42	<1	3	<0.05	0.4	0.37	4.1	<10	<0.05
S899383 (9318731)	0.25	0.10	0.43	5.01	11.2	0.99	<1	2	<0.05	0.4	0.42	17.2	<10	<0.05
S899384 (9318732)	0.37	0.16	0.57	2.25	10.9	1.35	<1	4	0.06	0.2	0.17	21.2	<10	<0.05
S899385 (9318733)	0.48	0.17	0.74	3.96	10.6	1.64	<1	3	0.08	0.2	0.20	25.7	<10	<0.05
S899386 (9318734)	1.14	0.32	2.63	3.88	12.3	5.57	<1	3	0.15	0.2	0.30	107	<10	<0.05
S899387 (9318735)	0.35	0.17	0.54	4.53	11.7	1.19	<1	3	0.06	<0.2	0.16	19.0	<10	<0.05

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AGAT WORK ORDER: 18T349049

PROJECT: PGEN

CLIENT NAME: TRANSITION METALS

ATTENTION TO: GRANT MOURRE

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 10, 2018 | DATE RECEIVED: Jun 11, 2018 | DATE REPORTED: Jul 09, 2018 | SAMPLE TYPE: Rock

Analyte:	Mg	Mn	Mo	Nb	Nd	Ni	P	Pb	Pr	Rb	S	Sb	Sc	Si
Unit:	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%
Sample ID (AGAT ID) RDL:	0.01	10	2	1	0.1	5	0.01	5	0.05	0.2	0.01	0.1	5	0.01
S899379 (9318727)	0.07	20	6	2	8.7	13	0.02	<5	2.19	4.1	3.21	<0.1	<5	28.1
S899380 (9318728)	0.05	22	3	7	6.0	7	0.08	18	1.48	14.9	9.41	0.2	<5	21.4
S899381 (9318729)	0.05	25	6	9	69.2	7	0.15	19	18.2	11.2	3.97	0.2	<5	26.4
S899382 (9318730)	0.05	20	3	2	3.8	16	0.02	10	0.94	16.5	5.37	0.1	<5	25.2
S899383 (9318731)	0.07	21	4	2	13.5	9	0.02	11	3.55	18.4	4.72	0.1	<5	26.0
S899384 (9318732)	0.03	19	5	7	17.3	6	0.12	5	4.51	4.4	1.63	0.2	<5	29.0
S899385 (9318733)	0.03	17	6	5	21.2	13	0.08	<5	5.46	6.2	3.80	0.1	<5	28.8
S899386 (9318734)	0.04	16	4	7	84.8	10	0.16	<5	22.4	11.3	3.19	0.2	<5	27.3
S899387 (9318735)	0.14	232	6	4	15.4	7	0.05	13	4.03	5.1	0.90	1.6	<5	30.3

Analyte:	Sm	Sn	Sr	Ta	Tb	Th	Ti	Tl	Tm	U	V	W	Y	Yb
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Sample ID (AGAT ID) RDL:	0.1	1	0.1	0.5	0.05	0.1	0.01	0.5	0.05	0.05	5	1	0.5	0.1
S899379 (9318727)	1.2	<1	51.9	<0.5	0.07	3.6	0.05	<0.5	<0.05	0.38	8	<1	0.9	0.1
S899380 (9318728)	1.0	<1	69.5	0.5	0.07	8.7	0.28	<0.5	<0.05	1.25	<5	2	1.6	0.2
S899381 (9318729)	8.5	<1	87.3	0.8	0.36	7.2	0.39	<0.5	<0.05	2.64	<5	2	2.5	0.3
S899382 (9318730)	0.7	<1	94.9	<0.5	<0.05	2.3	0.12	<0.5	<0.05	1.60	<5	<1	0.7	<0.1
S899383 (9318731)	1.9	<1	88.1	<0.5	0.09	2.7	0.10	<0.5	<0.05	0.78	<5	<1	1.0	0.1
S899384 (9318732)	2.4	<1	90.9	0.6	0.13	7.7	0.36	<0.5	<0.05	1.31	<5	1	1.6	0.2
S899385 (9318733)	3.0	<1	81.3	<0.5	0.15	8.0	0.25	<0.5	<0.05	1.21	<5	2	1.8	0.2
S899386 (9318734)	11.1	<1	87.5	0.5	0.46	8.8	0.43	<0.5	<0.05	1.59	<5	5	3.4	0.3
S899387 (9318735)	2.1	2	71.9	<0.5	0.10	7.7	0.16	<0.5	<0.05	0.72	18	5	1.6	0.2

Certified By: Sherin Moussa

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AGAT WORK ORDER: 18T349049

PROJECT: PGEN

CLIENT NAME: TRANSITION METALS

ATTENTION TO: GRANT MOURRE

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

DATE SAMPLED: Jun 10, 2018 | DATE RECEIVED: Jun 11, 2018 | DATE REPORTED: Jul 09, 2018 | SAMPLE TYPE: Rock

Analyte:	Zn	Zr
Unit:	ppm	ppm
Sample ID (AGAT ID) RDL:	5	0.5
S899379 (9318727)	10	58.2
S899380 (9318728)	47	139
S899381 (9318729)	27	158
S899382 (9318730)	28	97.2
S899383 (9318731)	36	92.7
S899384 (9318732)	15	155
S899385 (9318733)	13	110
S899386 (9318734)	21	126
S899387 (9318735)	41	121

Comments: RDL - Reported Detection Limit

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Quality Assurance - Replicate

AGAT WORK ORDER: 18T349049

PROJECT: PGEN

CLIENT NAME: TRANSITION METALS

ATTENTION TO: GRANT MOURRE

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

	REPLICATE #1				REPLICATE #2											
Parameter	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD								
Ag	9318727	< 1	< 1	0.0%	9318735	2	2	0.0%								
Al	9318727	8.34	8.27	0.8%	9318735	8.54	8.42	1.4%								
As	9318727	< 5	< 5	0.0%	9318735	119	118	0.8%								
B	9318727	< 20	< 20	0.0%	9318735	< 20	< 20	0.0%								
Ba	9318727	20.0	20.3	1.5%	9318735	29.8	29.8	0.0%								
Be	9318727	< 5	< 5	0.0%	9318735	< 5	< 5	0.0%								
Bi	9318727	0.73	0.75	2.7%	9318735	0.47	0.45	4.3%								
Ca	9318727	0.149	0.156	4.6%	9318735	0.112	0.120	6.9%								
Cd	9318727	< 0.2	< 0.2	0.0%	9318735	< 0.2	< 0.2	0.0%								
Ce	9318727	21.2	20.6	2.9%	9318735	39.1	39.5	1.0%								
Co	9318727	14.1	14.2	0.7%	9318735	6.17	6.02	2.5%								
Cr	9318727	0.010	0.010	0.0%	9318735	0.010	0.010	0.0%								
Cs	9318727	0.2	0.2	0.0%	9318735	0.38	0.33	14.1%								
Cu	9318727	28000	28300	1.1%	9318735	6340	6290	0.8%								
Dy	9318727	0.202	0.216	6.7%	9318735	0.35	0.33	5.9%								
Er	9318727	0.10	0.10	0.0%	9318735	0.169	0.178	5.2%								
Eu	9318727	0.30	0.29	3.4%	9318735	0.54	0.48	11.8%								
Fe	9318727	4.23	4.18	1.2%	9318735	4.53	4.44	2.0%								
Ga	9318727	11.3	11.5	1.8%	9318735	11.7	10.8	8.0%								
Gd	9318727	0.68	0.64	6.1%	9318735	1.19	1.16	2.6%								
Ge	9318727	< 1	< 1	0.0%	9318735	< 1	< 1	0.0%								
Hf	9318727	2	1		9318735	3	3	0.0%								
Ho	9318727	< 0.05	< 0.05	0.0%	9318735	0.06	0.06	0.0%								
In	9318727	0.2	0.2	0.0%	9318735	< 0.2	< 0.2	0.0%								
K	9318727	0.15	0.15	0.0%	9318735	0.157	0.152	3.2%								
La	9318727	10.1	9.9	2.0%	9318735	19.0	19.0	0.0%								
Li	9318727	< 10	< 10	0.0%	9318735	< 10	< 10	0.0%								
Lu	9318727	< 0.05	< 0.05	0.0%	9318735	< 0.05	< 0.05	0.0%								
Mg	9318727	0.07	0.07	0.0%	9318735	0.14	0.14	0.0%								
Mn	9318727	20	19	5.1%	9318735	232	228	1.7%								
Mo	9318727	6	6	0.0%	9318735	6	6	0.0%								

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Nb	9318727	2	2	0.0%	9318735	4	4	0.0%								
Nd	9318727	8.72	8.43	3.4%	9318735	15.4	15.1	2.0%								
Ni	9318727	13	13	0.0%	9318735	7	7	0.0%								
P	9318727	0.02	0.02	0.0%	9318735	0.05	0.05	0.0%								
Pb	9318727	< 5	< 5	0.0%	9318735	13	14	7.4%								
Pr	9318727	2.19	2.13	2.8%	9318735	4.03	4.13	2.5%								
Rb	9318727	4.08	4.03	1.2%	9318735	5.1	4.6	10.3%								
S	9318727	3.21	3.21	0.0%	9318735	0.900	0.892	0.9%								
Sb	9318727	< 0.1	< 0.1	0.0%	9318735	1.6	1.5	6.5%								
Sc	9318727	< 5	< 5	0.0%	9318735	< 5	< 5	0.0%								
Si	9318727	28.1	27.8	1.1%	9318735	30.3	29.3	3.4%								
Sm	9318727	1.18	1.14	3.4%	9318735	2.1	2.1	0.0%								
Sn	9318727	< 1	< 1	0.0%	9318735	2	2	0.0%								
Sr	9318727	51.9	52.8	1.7%	9318735	71.9	74.8	4.0%								
Ta	9318727	< 0.5	< 0.5	0.0%	9318735	< 0.5	< 0.5	0.0%								
Tb	9318727	0.067	0.059	12.7%	9318735	0.10	0.10	0.0%								
Th	9318727	3.62	3.67	1.4%	9318735	7.66	7.43	3.0%								
Ti	9318727	0.05	0.05	0.0%	9318735	0.16	0.16	0.0%								
Tl	9318727	< 0.5	< 0.5	0.0%	9318735	< 0.5	< 0.5	0.0%								
Tm	9318727	< 0.05	< 0.05	0.0%	9318735	< 0.05	< 0.05	0.0%								
U	9318727	0.38	0.38	0.0%	9318735	0.72	0.71	1.4%								
V	9318727	8	7	13.3%	9318735	18	17	5.7%								
W	9318727	< 1	< 1	0.0%	9318735	5	5	0.0%								
Y	9318727	0.9	0.9	0.0%	9318735	1.6	1.6	0.0%								
Yb	9318727	0.1	0.1	0.0%	9318735	0.2	0.2	0.0%								
Zn	9318727	10	10	0.0%	9318735	41	42	2.4%								
Zr	9318727	58.2	54.1	7.3%	9318735	121	112	7.7%								

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Quality Assurance - Certified Reference materials

AGAT WORK ORDER: 18T349049

PROJECT: PGEN

CLIENT NAME: TRANSITION METALS

ATTENTION TO: GRANT MOURRE

(201-378) Sodium Peroxide Fusion - ICP-OES/ICP-MS Finish

	CRM #1 (ref.SY-4)															
Parameter	Expect	Actual	Recovery	Limits												
Al	10.95	11.43	104%	90% - 110%												
Ba	340	321	94%	90% - 110%												
Be	2.6	2.6	102%	90% - 110%												
Ca	5.72	5.85	102%	90% - 110%												
Ce	122	121	99%	90% - 110%												
Co	2.8	2.6	92%	90% - 110%												
Cs	1.5	1.5	100%	90% - 110%												
Cu	7	6	82%	90% - 110%												
Dy	18.2	17.1	94%	90% - 110%												
Er	14.2	13.5	95%	90% - 110%												
Eu	2.0	1.94	97%	90% - 110%												
Fe	4.34	4.38	101%	90% - 110%												
Ga	35	34	98%	90% - 110%												
Gd	14	13	96%	90% - 110%												
Hf	10.6	9.9	93%	90% - 110%												
Ho	4.3	4.1	96%	90% - 110%												
K	1.37	1.34	98%	90% - 110%												
La	58	57	98%	90% - 110%												
Li	37	36	98%	90% - 110%												
Lu	2.1	2.1	98%	90% - 110%												
Mg	0.325	0.318	98%	90% - 110%												
Mn	836	803	96%	90% - 110%												
Nb	13	13	100%	90% - 110%												
Nd	57	56	98%	90% - 110%												
Ni	9	9	97%	90% - 110%												
Pb	10	9	90%	90% - 110%												
Pr	15.0	13.6	90%	90% - 110%												
Rb	55	53	96%	90% - 110%												
Si	23.3	22	94%	90% - 110%												
Sm	12.7	12.7	100%	90% - 110%												
Sn	7.1	6.9	97%	90% - 110%												

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Sr	1191	1189	100%	90% - 110%												
Ta	0.9	0.7	82%	90% - 110%												
Tb	2.6	2.5	97%	90% - 110%												
Th	1.4	1.5	105%	90% - 110%												
Ti	0.172	0.169	98%	90% - 110%												
Tm	2.3	2.2	94%	90% - 110%												
U	0.8	0.9	109%	90% - 110%												
V	8	6	73%	90% - 110%												
Y	119	116	98%	90% - 110%												
Yb	14.8	14.4	97%	90% - 110%												
Zn	93	91	98%	90% - 110%												
Zr	517	518	100%	90% - 110%												

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Method Summary

CLIENT NAME: TRANSITION METALS

AGAT WORK ORDER: 18T349049

PROJECT: PGEN

ATTENTION TO: GRANT MOURRE

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Sample Login Weight	MIN-12009		BALANCE
Ag			ICP/MS
Al	MIN-200-12001		ICP/OES
As	MIN-200-12001		ICP/MS
B	MIN-200-12001		ICP/OES
Ba	MIN-200-12001		ICP/OES
Be	MIN-200-12001		ICP/OES
Bi	MIN-200-12001		ICP-MS
Ca	MIN-200-12001		ICP/OES
Cd	MIN-200-12001		ICP-MS
Ce	MIN-200-12001		ICP-MS
Co	MIN-200-12001		ICP/MS
Cr	MIN-200-12001		ICP/OES
Cs	MIN-200-12001		ICP-MS
Cu	MIN-200-12001		ICP/OES
Dy	MIN-200-12001		ICP-MS
Er	MIN-200-12001		ICP-MS
Eu	MIN-200-12001		ICP-MS
Fe	MIN-200-12001		ICP/OES
Ga	MIN-200-12001		ICP-MS
Gd	MIN-200-12001		ICP-MS
Ge	MIN-200-12001		ICP-MS
Hf	MIN-200-12001		ICP-MS
Ho	MIN-200-12001		ICP-MS
In	MIN-200-12001		ICP-MS
K	MIN-200-12001		ICP/OES
La	MIN-200-12001		ICP-MS
Li	MIN-200-12001		ICP/OES
Lu	MIN-200-12001		ICP-MS
Mg	MIN-200-12001		ICP/OES
Mn	MIN-200-12001		ICP/OES
Mo	MIN-200-12001		ICP/MS
Nb	MIN-200-12001		ICP-MS
Nd	MIN-200-12001		ICP-MS
Ni	MIN-200-12001		ICP/OES
P			ICP/OES
Pb	MIN-200-12001		ICP/MS
Pr	MIN-200-12001		ICP-MS
Rb	MIN-200-12001		ICP/MS
S	MIN-200-12001		ICP/OES
Sb	MIN-200-12001		ICP-MS
Sc	MIN-200-12001		ICP/OES
Si	MIN-200-12001		ICP/OES
Sm	MIN-200-12001		ICP-MS
Sn	MIN-200-12001		ICP/MS
Sr	MIN-200-12001		ICP-OES
Ta	MIN-200-12001		ICP-MS
Tb	MIN-200-12001		ICP-MS
Th	MIN-200-12001		ICP-MS

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Method Summary

CLIENT NAME: TRANSITION METALS

AGAT WORK ORDER: 18T349049

PROJECT: PGEN

ATTENTION TO: GRANT MOURRE

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Ti	MIN-200-12001		ICP/OES
Tl	MIN-200-12001		ICP-MS
Tm	MIN-200-12001		ICP-MS
U	MIN-200-12001		ICP-MS
V	MIN-200-12001		ICP/OES
W	MIN-200-12001		ICP-MS
Y	MIN-200-12001		ICP-MS
Yb	MIN-200-12001		ICP-MS
Zn	MIN-200-12001		ICP/OES
Zr	MIN-200-12001		ICP-MS