



ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: PRELIMINARY GEOCHEMICAL ASSESSMENT ON THE WOLVERINE PROPERTY		
TOTAL COST: \$2,950		
AUTHOR(S): PAUL HOOGENDOORN		
SIGNATURE(S): "PAUL HOOGENDOORN"		
NOTICE OF WORK PERMIT NUMBER/DATE(S): N/A		
STATEMENT OF WORK EVENT NUMBER/DATE: 5545220 March 3, 2015		
YEAR OF WORK: 2014		
PROPERTY NAME: Wolverine		
CLAIM NAMES		
1026586 Wolverine Copper		
1027292 Wolverine Copper II		
COMMODITIES SOUGHT: Copper		
MINERAL INVENTORY MINFILE NUMBERS, IF KNOWN: 93N 180		
MINING DIVISION: Omineca		
NTS / BCGS: 93N/09		
LATITUDE: 55°3'15"		
LONGITUDE: 124°1'4"		
UTM Zone: 10	EASTING: 435850	NORTHING: 6160650
OWNER: PAUL HOOGENDOORN		
MAILING ADDRESS: #103 9820 102 ND Avenue, Fort St John, British Columbia, B.C. V1J 2E1		
OPERATOR: PAUL HOOGENDOORN		
MAILING ADDRESS: #103 9820 102 ND Avenue, Fort St John, British Columbia, B.C. V1J 2E1		
REPORT KEYWORDS: Wolverine Metamorphic Complex, Wolverine Range Intrusive Suite, Proterozoic, Cretaceous, amphibolite gneiss, copper, yttrium, Ingenika Group, Cassiar Terrane		
REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 32770, 31947, 29693, 28877		

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOCHEMICAL (number of samples analysed for ...)			
Soil	9	1027292 (6) 1026585 (3)	2,361.11
RELATED TECHNICAL			
Sampling / Assaying	9 @ \$36.79		331.09
PROSPECTING (scale/area)		100m ²	257.80
TOTAL COST			\$2,950

**PRELIMINARY GEOCHEMICAL ASSESSMENT ON THE WOLVERINE
PROPERTY**

Tenures: 1026586 and 1027292

Omineca Mining Division

Map 93N/09

Location: 435850 E x 6160650 N UTM Zone 10

55°35'15.29"N x 124° 1'4.02"W

Owner & Operator: Paul Hoogendoorn

Author: Paul Hoogendoorn

Fort St. John, British Columbia

June 2015

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INTRODUCTION:

The Wolverine Property is a 54.9 hectare, 3 cell unit mineral claim located in the Omineca region of British Columbia. It is a grassroots exploration target several kilometres northeast of Mount Bisson.

The Wolverine Property (the “property”) was map-staked in 2014 to cover the *Manson River East (093N 180)* copper occurrence.

The author was intrigued by the low exploration density in the vast, remote area underlain by the Ingenika group. It was hoped that exploration at the *Manson River East* showing would prove illustrative as to the nature and potential of local geology.

The Manson River East occurrence

The Wolverine Property secures the *Manson River East* occurrence, a minor copper showing reportedly exposed in two road-cut locations.

The showing area is underlain by Proterozoic gneisses of the Wolverine Metamorphic Complex. Two large plutons are mapped within several kilometres of the showing – a Cretaceous-Tertiary granodiorite to the south, associated with the Mt. Bisson rare-earth element occurrences, and a Cretaceous-Tertiary syenite intrusion to the north referred to as the Chamberland Creek Pluton (Barresi 10; Swanton 15; Breaks 18). These intrusions belong to the so-called Wolverine Range intrusive suite (Swanton 15).

Mineralization was first identified in 1988 by the BC Geological Survey (grab sample “RA-49”, *Open File 1988-12*). A grab sample returned 0.12% copper and 3 grams per tonne silver (MINFILE 93N 180). The given location of this occurrence was 435806E x 6160294N (*Open File 1988-12*).

An additional instance of road-cut exposed mineralization was identified in the period 2007-2010 in the course of rare-earth element exploration within the district. This mineralization was located a few hundred meters north of RA-49 at a location referred to as “07-FWB-10” (Young 13; Breaks 79). Two hand samples returned 0.75% copper and 0.21% copper, respectively

(Young 12-15; Breaks 80). Tungsten was also elevated, to 0.09%. The showing was described by Breaks as follows:

Mafic to intermediate intrusive rocks...contain sporadic sulphide-rich domains (chalcopyrite and pyrrhotite), with sparse scheelite, up to 5 by 30 cm that revealed a range of Cu (0.21 to 0.75 wt.%), W (11 to 917 ppm) and Ag (4 to 9 ppm). Further such mineralization of this type may exist in the area and this intrusive complex is at least 3 by 5 km in extent, based upon reconnaissance examination of road accessible outcrops in the northern part of the claim-group (80).

Curiously, the BCGS work located the mineralization within the gneiss. The mineralization described by various workers in the period 2007-2010 was associated with intrusive units. The apparently bi-modal mineralization is encouraging, in respect of regional mineral potential.

While the immediate occurrence itself is unlikely to be of economic interest, it was hoped that the seeming random nature of its discovery – encountered incidentally in a road-cut, in a vast, remote area with thick overburden deposits - is indicative of under-appreciated mineral potential within the project area. The business plan called for acquiring the showing as a means of orienting future exploration and (hopefully) contributing to a compelling regional exploration hypothesis.

Work program

This report describes a 1 day site visit and minor soil geochemical assessment conducted in October 2014 by the author (Paul Hoogendoorn) and a field worker (Linda Unrau).

The work program identified a single station copper-in-soil anomaly (179ppm) downslope of location 07-FWB-10, along an east-west soil transect. Soil sampling along a cross-line, and additional road-cut prospecting, in particular along roads that post-date the 1980s, are both recommended.

PROPERTY & TITLE:

The property consists of two adjacent mineral tenures, owned and operated by the author:

Title Number	Claim Name	Owner	Good To Date*	Area (ha)
1026586	WOLVERINE COPPER	144909 (100%)	2020/Oct/16	36.5695
1027292	WOLVERINE COPPER II	144909 (100%)	2020/Oct/22	18.2828

**Expiration dates shown are subject to acceptance of this report.*

The property is free of royalty interests, earn-in rights, options, or other such encumbering interests.

The project area is believed to be within the consultative areas of the following First Nations: Takla Lake First Nation, Tsay Keh Dene Band, Carrier Sekani Tribal Council, Nak'azdli Band, McLeod Lake Indian Band, Halfway River First Nation and West Moberly First Nations.

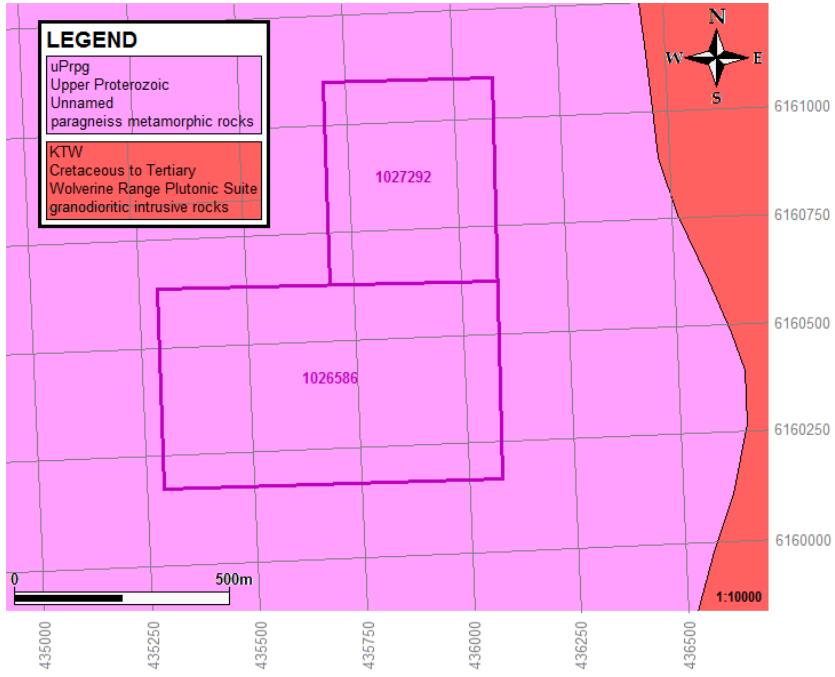
There are no private surface rights on the tenures.

LOCATION AND ACCESS:

The Wolverine Property is located in the Omineca Mining Division of north-central British Columbia. The nearest community with services is Mackenzie B.C., which is 65 air kilometers southeast. Prince George is the nearest regional centre with all services, located 200 air kilometers south-southeast.



Location map



Claim map with bedrock geology from MAPPLACE

Access

The area is served by an excellent network of well-maintained forest service roads, including the Munro, Manson Creek and Nation River networks. Driving directions from Highway 97 are provided:

- From its junction with Hwy 97, head north up Highway 39 towards Mackenzie.
- Proceed 14 km, and turn left (west) to access the Williston Lake Causeway
- 2 kilometers west of the causeway, turn north and proceed up the Finlay-Nation and Munro Mainline Forest service road network approximately 120km.

The work area can be accessed by 4x4 vehicle. Typical road conditions within the project area are pictured:



PHYSIOGRAPHY:

The property is located on a broad northwest-facing slope, at an elevation of 1,000 meters. The area is forested by thick second-growth sub-alpine pine and spruce forest, with tag alder and deciduous undergrowth overtaking road exposures.

There are several large cut-blocks of various age in the area. Forestry road networks provide good access to the project area.

The northerly location and relatively high elevation restricts the exploration season to June – October. Winters are harsh and summers are moderate.

GEOLOGY:

Regional geology is provided by Bulletin 91 *Geology of the Germansen Landing – Manson Creek Area* (Ferri and Melville).

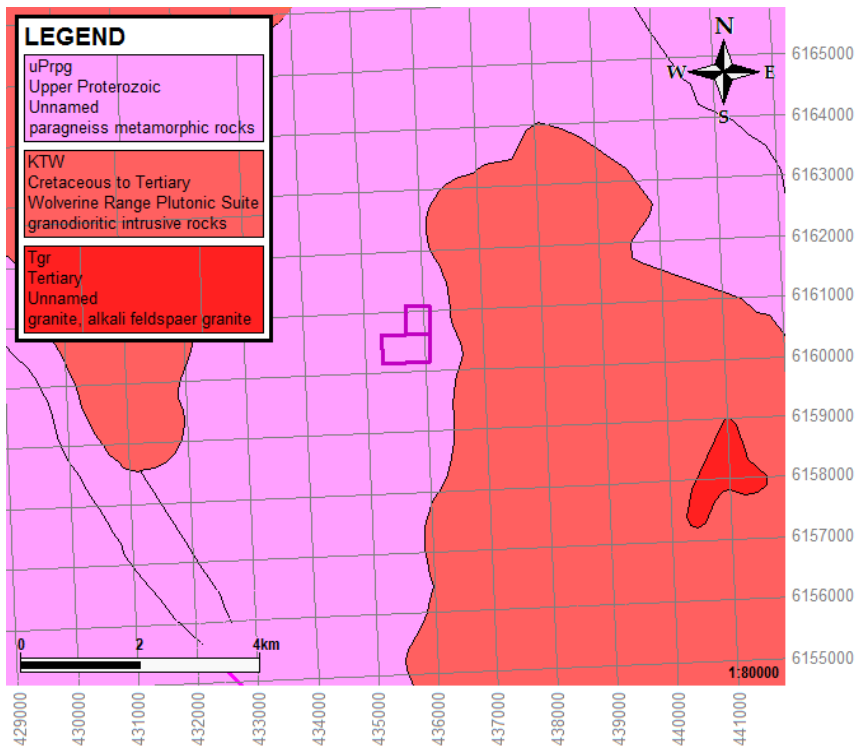
The project area is underlain by paragneissic metamorphic rocks of the Late Proterozoic Ingenika Group, referred to informally as the Wolverine Metamorphic Complex. The Wolverine Complex rocks in the area were mapped by Ferri and Melville as comprising: “*quartzofeldspathic paragneiss; amphibolite gneiss, calcsilicate gneiss, minor schist, abundant granite and granite pegmatite, marble calcsilicate gneiss*” (*Bulletin 91: Geology of the Germansen Landing – Manson Creek Area Map*).

The Ingenika Group belongs to the Cassiar Terrane, and consists of rock of North American affinity (Ferri and Melville 1). In the project area, the highly metamorphosed gneissic bedrock is believed to represent the base of the Ingenika Group (Ferri and Melville 13). The Wolverine Metamorphic Complex represents the southern portion of the northwest trending Ingenika Group.

Together with the correlative Kaza Group in the southern Cariboo, the Wolverine Complex belongs to the Windemere Supergroup extending much of the length of the Canadian cordillera (Mansy and Gabrielse 6).

The Ingenika rocks are bounded several kilometers west of the property by the northwest trending Manson Creek fault system, which was active in Eocene age (Ferri and Meilville 1) and is economically significant by association with the Manson Creek and Germansen Landing placer gold camps. The Manson Creek fault system is the local boundary between the Intermontane terrane and the North American craton, with a thin wedge of oceanic sedimentary rock of the Slide Mountain terrane dividing the two units.

Intruding the Ingenika unit are several intrusive bodies of Cretaceous to Tertiary age, referred to as the Wolverine Range Intrusives. Within the project area, these intrusions range up to plutonic scale, and smaller intrusions are myriad, including within the claim block. Ferri and Melville mapped these as comprising garnet-muscovite-biotite granodiorite to granite and pegmatite. An approximately 20-30 km diameter intrusion immediately south of the property, centred on Mt. Bisson, hosts numerous minor rare-earth-element showings that have seen intermittent exploration since the 1980s.



Regional geology – from MAPPLACE

EXPLORATION HISTORY:

Documented exploration efforts in the project area began in earnest in the 1980s, with the efforts of one Arthur Halleran, who recognized and pursued the rare earth element potential of the Mount Bisson area. These efforts led to the identification of the Laura, Will and Ursa rare earth element showings several kilometers south of the Wolverine claim. Several operators continued those efforts in subsequent years.

Additional surface and airborne geophysical exploration targeting REEs was conducted in the period 2006-2011 by Paget Resources Corporation and other operators. An additional REE occurrence was identified (Central showing) as a result of this work.

Government geological mapping was conducted by the B.C. Geological Survey in the late 1980s, culminating in the publication of Bulletin 91 and Open File 1988-12.

There is no record of modern base or precious metal exploration in the immediate property vicinity. Copper mineralization at the *Manson River East* occurrence appears to have been identified in the course of regional government geoscience and rare earth-element exploration, rather than as a result of targeted base metal exploration.

2014 WORK:

The purpose of the 2014 work program was to assess, via soil geochemistry, the east-west extent of copper enrichment at 07-FWB-10. It was felt that the historical grab samples grades may be economically interesting if associated with a sufficiently large copper-in-soil anomaly.

Further to this, sampling over the known showing was intended to serve as an orientation exercise, to evaluate the usefulness of soil geochemistry as an exploration tool in the region.

Soil geochemistry

6 B-horizon soil samples were taken along a single east-west line (Line 650) centered on the location of 07-FWB-10 (Young, Breaks).

3 additional B-horizon soil samples were taken on an east-west line (Line 450) over the reported location of the MINFILE occurrence, approximately 200 meters south.

The purpose of these samples was to assess the east-west extent of soil enrichment over the occurrence.

Procedure

Soil samples were taken from the B-horizon. Sample pits were dug by mattock, and samples were extracted by stainless steel trowel. Rocks and pebbles and organic detritus was crudely hand-sorted out in the field. Samples were not sieved.

Soil samples were stored in Kraft bags bound with flagging tape, and allowed to dry.

Sample stations were marked with flagging and descriptions of sample pit conditions were recorded. Locations were taken by Garmin GPS 60, though poor reception in the late afternoon reduced accuracy.

Samples were submitted to AGAT Laboratories office in Fort St. John, British Columbia. Samples were tested by ICP-MS analysis after an aqua regia digestion.

Results

The 9 soil samples yielded one anomalous result, taken on Line 650, approximately 60 meters downslope (and across a road) from the location of historical mineralization 07-FWB-10. Highlights from the anomalous sample 5825x0650 are as follows:

Sample:		5825 X 0650
Cu	ppm	179
Ag	ppm	2.41
Fe	%	6.82
Mn	ppm	1200
Y	ppm	77.6
Zn	ppm	155

On the 6-sample line, the two samples east of this location (upslope) tended to be slightly more enriched (albeit not anomalously) in the elements of interest than the 3 samples to the west, as shown. Enrichment levels were evidently sub-economic however. Background copper values appear low.

Sample		Average Results West (3 stations)	Average Results East (2 stations)
Cu	ppm	9.9	27.5
Ag	ppm	0.1	0.3
Fe	%	1.9	2.5
Mn	ppm	116.0	241.5
Y	ppm	3.7	10.6
Zn	ppm	30.0	46.4

There were no results of interest on the 3-sample transect (Line 450) taken to the south.

Soil Geochemistry – Discussion

The single station anomaly near the historical copper mineralization suggests that B-horizon soil geochemistry may be an effective exploration method in this environment.

However, the lack of concurrent anomalous results obviously diminishes this particular occurrence, suggesting a lack of economically compelling areal extent. No east-west continuity of enrichment was located.

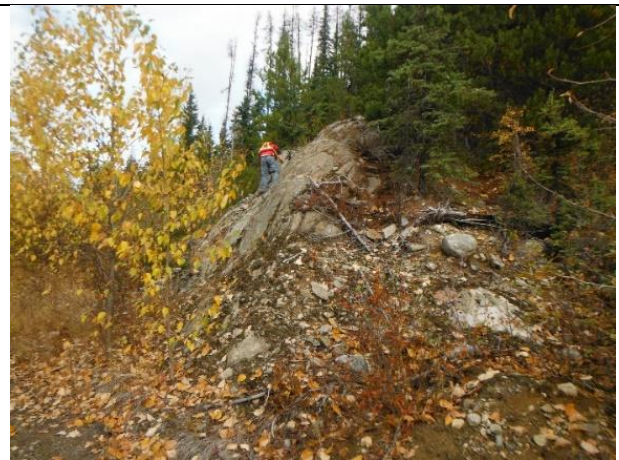
Furthermore, the anomalous sample 5825x0650 was taken from an idiosyncratic pit with more moisture and water content than other sample sites. This is a possible confounding factor which should be considered when assessing results.

Prospecting

An outcrop near the location of the historical showing 07-FWB-10 was investigated, and described as follows. It is pictured below:

Massive outcrop consisting of fine-grained grey intrusive rock, with abundant mica under 1mm. At least 15 sets of white 'dikes' (may in fact be segregations?) between 2 and 15cm width are present; oriented 110° east west (primary) and 20° north-south (secondary).

Minor epidote and calcite alteration is present on the east-west dikes. One such dike contains a purple coloured quartz material as a ~2cm band within the centre of the ~15cm intrusion [pictured]. Crystal size within the purple coloured quartz is approximately 1cm. "Purple quartz" appears to terminate at fault zone (of centimetre-scale displacement). A fracture running 40° north-south and cross-cutting the east-west trending intrusion has intense epidote and mica alteration.



Width of intrusion is approximately 10-15cm.

RECOMMENDATIONS:

The single station anomaly on Line 650 supports the use of soil geochemical surveying in the project area. Accordingly, another short transect running north-south is recommended, crossing Line 650 at easting 435850 and continuing south towards the given location of RA-49. This will test if a continuity of enrichment exists between the two locations of reported mineralization, and help control for the confounding topographic effects described at 5825x0650.

Duplicating the copper results (<100ppm) observed at 5825x0650 across several consecutive station sites would bolster the base metal potential of the project area.

As well, given that there are two locations of copper mineralization reported from road cuts in the project area, thorough prospecting of all forestry roads in the project area is encouraged. Locating the circa-1988 location in the course of this prospecting would of course also be useful.

Additionally, the moderately enriched yttrium response of 77ppm from 5825x0650 favours analyzing that sample for rare-earth element enrichment.

SOIL SAMPLE DESCRIPTIONS:

Sample	Location	Copper content (ppm)
Line 650		
5675 x 0650 ¹	435675x6160650	13.5
<i>Tan brown silt soil taken at 30 cm depth. Dry, fine, homogeneous material. Taken at 30 cm depth below 10cm grey-purple horizon</i>		
5725x0650	435725x6160650	10.9
<i>Grey brown silt soil grading to orange brown silt soil below a 2cm grey-purple horizon. Lots of boulders in pit; difficult to sample hard-pan material. Sampled at 15cm depth.</i>		
5775x0650	435775x6160650	5.2
<i>Light tan silt soil; very thin organic; dry, fine material, sampled at 15 cm depth</i>		
5825x0650	435825x6160650	179.0
<i>Dark brown silt-soil; appears organic rich; taken below road in area with devils' club. Organic to 30 cm depth; sampled at 45cm; same brown material through bottom of pit; no gravel, very homogenous material; encountered grey hard pan at 60cm depth (not sampled).</i>		
5875x0650	435875x6160650	32.6
<i>Sampled brown grey silt soil below 30 cm organic layer and 15cm brown silt soil layer; angular gravel and rocks (1-15cm diameter) in pit.</i>		
5950x0675	435950x6160675	22.4
<i>Sampled tan silt-sand at 15cm depth below 10 cm brown silt-sand horizon. Taken 20 m upslope from road.</i>		

Sample	Location	Copper content (ppm)
Line 450		
5625x0450	435625x6160450	10.3
<i>Light brown silt soil; taken on sleep north-facing slope</i>		
5675x0450	435675x6160450	11
<i>Light brown silt soil; very fine and dry; homogenous to bottom of pit at 30cm depth</i>		
5725x0450	435725x6160450	21
<i>1cm organic followed by 10cm brown silt-soil grading into tan brown silt soil hard pan; sample included both brown and tan-brown material; several pieces of heavily oxidized gravel in pit</i>		

¹ Note: the placement of station 5675 x 0650 in respect of the western claim boundary was subject to a considerable degree of location imprecision.

REFERENCES:

- Barresi, Tony. Geological Mapping and Rock and Silt Sampling on the Mount Bisson Property. For Paget Minerals Corporation. Vancouver, British Columbia: 2012. A.R. 31947.
- Breaks, Frederick W. Geological Report on the Mount Bisson Rare-Earth Element Claim-Group, Omineca Mining Division. For Seymour Ventures Corporation. Sudbury, Ontario. 2010.
- Ferri, Filippo, Melville, David M. and Orchard, M.J. Bulletin 91: Bedrock Geology of the Germansen Landing – Manson Creek Area, British Columbia. *Province of British Columbia: Mineral Resources Division, Geological Survey Branch*. Victoria, British Columbia: 1994.
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- Luckman, Nigel. 2006 Assessment Report: Airborne Geophysical Survey on the Mount Bisson Property. For Paget Resources Corporation. Vancouver, British Columbia: 2006. A.R. 28877.
- Mansy, J.L. and Gabrielse, H. Stratigraphy, Terminology and Correlation of Upper Proterozoic Rocks in Omineca and Cassiar Mountains, North-Central British Columbia. *Geological Survey of Canada, Paper 77-19*. Ottawa, Ontario: 1978.
- Swanton, David. 2011 Geology and Geochemistry Report on the Mount Bisson Property. For Rare Earth Industries Ltd. Vancouver, British Columbia: 2012. A.R. 32770.
- Young, Jim. 2007 Assessment Report: Geological Reconnaissance and Rock Sampling on the Mount Bisson Property. For Paget Resources Corporation. Vancouver, British Columbia: 2008. A.R. 29693.

AUTHOR'S CERTIFICATE:

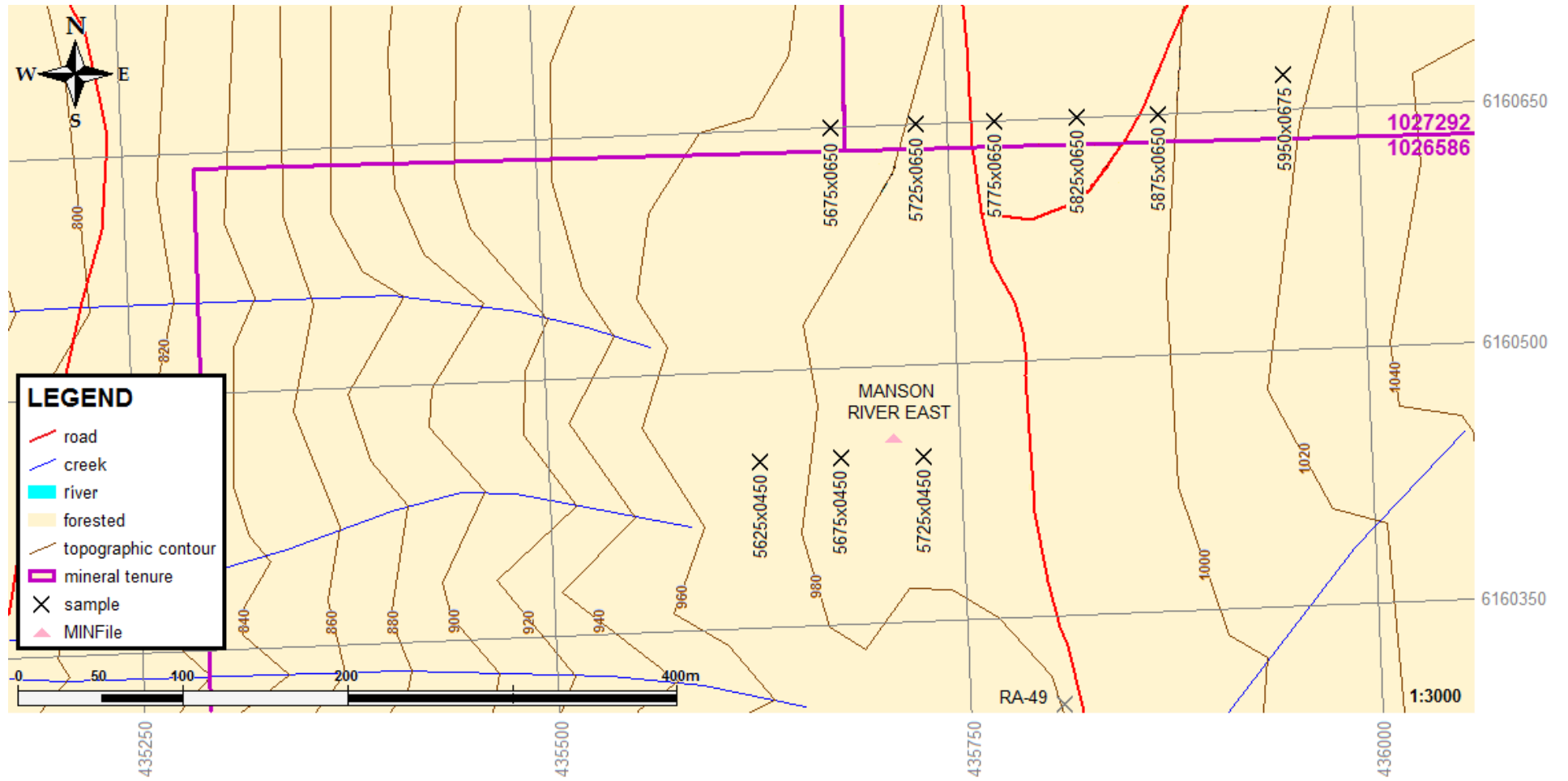
I, Paul Hoogendoorn, of Fort St. John, British Columbia, do hereby certify that:

1. I did visit the Wolverine Property and carried out the work described herein;
2. I did author the above report and believe the contents to be true and accurate;

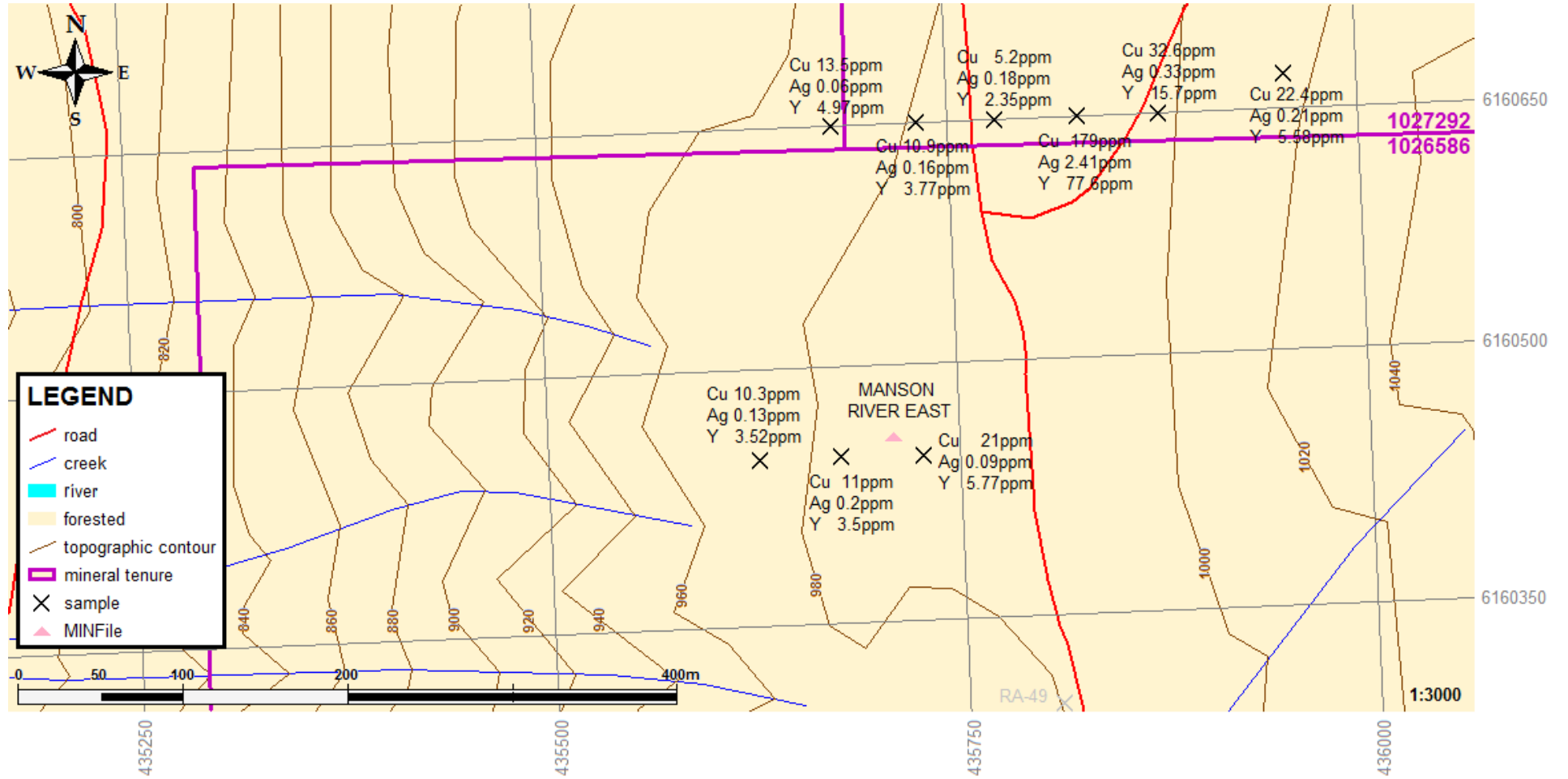
“Paul Hoogendoorn”

June 1, 2015

SOIL GEOCHEMICAL SURVEY – SAMPLE LOCATIONS



SOIL GEOCHEMICAL SURVEY – KEY RESULTS



COST STATEMENT

Exploration Work type	Comment	Days			Totals
Personnel (Name)* / Position	Field Days (list actual days)	Days	Rate	Subtotal*	
Paul Hoogendoorn/Prospector	3-Oct-14	0.5	\$240.00	\$120.00	
Paul Hoogendoorn/Prospector	4-Oct-14	1.0	\$240.00	\$240.00	
Linda Unrau/Prospector	3-Oct-14	0.5	\$160.00	\$80.00	
Linda Unrau/Prospector	4-Oct-14	1.0	\$160.00	\$160.00	
				\$600.00	\$600.00
Office Studies	List Personnel (note - Office only, do not include field days)				
Literature search	Paul Hoogendoorn	0.33	\$160.00	\$53.33	
Database compilation		0.33	\$160.00	\$53.33	
General research	Paul Hoogendoorn	0.33	\$160.00	\$53.33	
Report preparation	Paul Hoogendoorn	1.00	\$1,160.00	\$1,160.00	
Other (specify)	Assay expediting	0.25	\$160.00	\$40.00	
				\$1,360.00	\$1,360.00
Geochemical Surveying	Number of Samples	No.	Rate	Subtotal	
Soil	<i>note: This is for assays or</i>	9.0	\$36.79	\$331.11	
Other (specify)	Field supplies, eg bags, flagging etc	9.0	\$1.02	\$9.18	
				\$340.29	\$340.29
Transportation		No.	Rate	Subtotal	
Kilometers		893	\$0.54	\$482.22	
				\$482.22	\$482.22
Accommodation & Food	Rates per day				
Hotel		1.0	\$96.05	\$96.05	
Meals	costs - groceries	1.5	\$27.71	\$41.57	
				\$137.62	\$137.62
Equipment Rentals					
Field Gear (Specify)	GPS, Satellite Locator Personal Protective Equipment Field bag, hand tools, bicycle	1.0	\$30.00	\$30.00	
				\$30.00	\$30.00
TOTAL Expenditures					\$2,950.13



**CLIENT NAME: MISC AGAT CLIENT ON, ON
(403)**

ATTENTION TO: Paul Hoogendoorn

PROJECT: Wolverine

AGAT WORK ORDER: 15T960379

SOLID ANALYSIS REVIEWED BY: Kevin Motomura, Data Review Supervisor

DATE REPORTED: Apr 13, 2015

PAGES (INCLUDING COVER): 8

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

***NOTES**

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



Certificate of Analysis

AGAT WORK ORDER: 15T960379

PROJECT: Wolverine

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

CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Paul Hoogendoorn

(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Apr 07, 2015

DATE RECEIVED: Apr 06, 2015

DATE REPORTED: Apr 13, 2015

SAMPLE TYPE: Soil

Sample ID (AGAT ID)	Analyte:	Sample Login Weight	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr
	Unit:	kg	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
	RDL:	0.01	0.01	0.01	0.1	0.005	5	1	0.05	0.01	0.01	0.01	0.01	0.1	0.5
5675 X 0650 (6426526)		0.39	0.06	1.10	7.0	<0.005	<5	76	0.23	0.10	0.30	0.14	23.4	7.4	29.8
5725 X 0650 (6426527)		0.15	0.16	1.27	6.8	<0.005	<5	95	0.25	0.16	0.25	0.16	24.9	6.1	32.3
5775 X 0650 (6426528)		0.36	0.18	0.79	3.8	<0.005	<5	60	0.13	0.14	0.11	0.12	18.5	2.4	17.5
5825 X 0650 (6426529)		0.15	2.41	5.05	18.2	0.005	<5	733	1.87	0.53	1.78	1.85	71.1	20.7	120
5950 X 0675 (6426530)		0.32	0.21	1.28	6.9	<0.005	<5	79	0.31	0.14	0.35	0.08	23.2	7.9	34.5
3875 X 0650 (6426531)		NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC
5625 X 0450 (6426532)		0.43	0.13	1.00	4.8	<0.005	<5	91	0.21	0.13	0.23	0.19	24.7	6.1	24.8
5675 X 0450 (6426533)		0.29	0.20	1.15	4.7	<0.005	<5	102	0.23	0.12	0.35	0.23	21.0	6.4	26.0
5725 X 0450 (6426534)		0.32	0.09	1.28	6.6	<0.005	<5	102	0.28	0.12	0.27	0.18	29.1	9.1	36.1
5875 X 0650 (6428618)		0.38	0.33	1.52	4.5	<0.005	<5	185	0.52	0.17	0.56	0.13	39.9	8.6	43.0
Sample ID (AGAT ID)	Analyte:	Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo
	Unit:	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
	RDL:	0.05	0.1	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.1	0.1	0.01	1	0.05
5675 X 0650 (6426526)		0.56	13.5	1.87	2.88	0.23	0.09	0.02	0.016	0.05	12.2	7.7	0.35	151	1.01
5725 X 0650 (6426527)		0.83	10.9	2.59	4.39	0.23	0.05	0.03	0.020	0.05	13.3	10.3	0.31	139	1.10
5775 X 0650 (6426528)		0.51	5.2	1.15	4.10	0.24	0.03	0.03	0.013	0.03	10.5	5.4	0.13	58	1.19
5825 X 0650 (6426529)		4.72	179	6.82	12.8	0.25	0.13	0.12	0.087	0.45	75.5	29.4	1.17	1200	8.11
5950 X 0675 (6426530)		1.05	22.4	2.45	4.09	0.22	0.03	0.01	0.020	0.07	12.7	13.4	0.55	228	2.80
3875 X 0650 (6426531)		NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC
5625 X 0450 (6426532)		0.82	10.3	1.87	4.37	0.23	0.02	0.01	0.016	0.08	13.0	9.7	0.32	145	0.76
5675 X 0450 (6426533)		0.76	11.0	1.81	3.90	0.19	0.02	0.04	0.016	0.06	11.8	8.5	0.29	299	0.83
5725 X 0450 (6426534)		0.78	21.0	2.12	3.54	0.22	0.03	0.02	0.018	0.07	14.3	7.9	0.41	209	0.85
5875 X 0650 (6428618)		3.75	32.6	2.47	5.41	0.20	0.03	0.03	0.032	0.17	30.3	15.7	0.53	255	3.03

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 15T960379

PROJECT: Wolverine

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
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CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Paul Hoogendoorn

(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Apr 07, 2015		DATE RECEIVED: Apr 06, 2015					DATE REPORTED: Apr 13, 2015					SAMPLE TYPE: Soil				
Analyte:	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta		
Unit:	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm		
RDL:	0.01	0.05	0.2	10	0.1	0.1	0.001	0.005	0.05	0.1	0.2	0.2	0.2	0.01		
Sample ID (AGAT ID)	5675 X 0650 (6426526)	0.01	1.95	28.1	811	8.4	8.9	<0.001	0.015	0.45	2.5	0.4	0.3	15.1	<0.01	
	5725 X 0650 (6426527)	0.01	2.80	21.1	1120	7.3	11.6	<0.001	0.014	0.38	2.5	0.3	0.3	14.9	<0.01	
	5775 X 0650 (6426528)	0.01	2.33	8.5	243	7.0	9.2	<0.001	0.013	0.19	1.8	<0.2	0.4	7.5	0.01	
	5825 X 0650 (6426529)	0.01	6.03	131	1430	21.3	69.2	0.003	0.102	1.40	22.4	1.9	1.0	136	0.03	
	5950 X 0675 (6426530)	<0.01	1.83	24.5	792	6.4	19.1	<0.001	0.013	0.36	3.5	0.3	0.3	19.7	<0.01	
	3875 X 0650 (6426531)	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	
	5625 X 0450 (6426532)	0.01	2.34	19.0	829	7.2	17.1	<0.001	0.012	0.26	2.4	0.2	0.3	11.0	<0.01	
	5675 X 0450 (6426533)	0.01	2.19	19.6	912	7.1	14.0	<0.001	0.023	0.29	2.4	0.2	0.3	17.3	<0.01	
	5725 X 0450 (6426534)	0.01	1.81	33.9	917	7.1	12.4	<0.001	0.010	0.51	3.5	0.4	0.3	11.8	<0.01	
	5875 X 0650 (6428618)	0.01	4.41	30.1	393	9.0	59.0	<0.001	0.022	0.27	6.8	0.5	0.7	35.8	<0.01	
Analyte:	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr						
Unit:	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm						
RDL:	0.01	0.1	0.005	0.01	0.05	0.5	0.05	0.05	0.5	0.5						
Sample ID (AGAT ID)	5675 X 0650 (6426526)	0.05	5.2	0.073	0.06	0.60	40.5	1.06	4.97	33.9	1.7					
	5725 X 0650 (6426527)	0.05	5.5	0.079	0.06	0.58	53.6	0.64	3.77	34.3	0.8					
	5775 X 0650 (6426528)	0.05	3.4	0.070	0.05	0.44	33.1	0.45	2.35	21.7	0.5					
	5825 X 0650 (6426529)	0.10	7.9	0.144	0.50	18.7	117	1.09	77.6	155	2.5					
	5950 X 0675 (6426530)	0.05	4.8	0.089	0.10	1.06	58.7	0.46	5.58	47.9	1.2					
	3875 X 0650 (6426531)	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC	NRC					
	5625 X 0450 (6426532)	0.04	5.1	0.081	0.07	0.53	44.6	0.36	3.52	40.7	0.8					
	5675 X 0450 (6426533)	0.04	3.6	0.068	0.07	0.54	40.4	0.39	3.50	49.8	<0.5					
	5725 X 0450 (6426534)	0.03	6.3	0.084	0.09	0.86	45.4	0.35	5.77	48.3	1.3					
	5875 X 0650 (6428618)	0.04	11.7	0.118	0.28	6.92	58.6	0.40	15.7	44.8	0.9					

Comments: RDL - Reported Detection Limit

6426526-6428618 Au determination by this method is semi-quantitative due to small sample size.

Certified By:



CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Paul Hoogendoorn

(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

Parameter	REPLICATE #1				RPD																
	Sample ID	Original	Replicate	RPD																	
Ag	6428618	0.335	0.339	1.2%																	
Al	6428618	1.52	1.53	0.7%																	
As	6428618	4.5	4.7	4.3%																	
Au	6428618	< 0.005	< 0.005	0.0%																	
B	6428618	< 5	< 5	0.0%																	
Ba	6428618	185	183	1.1%																	
Be	6428618	0.524	0.484	7.9%																	
Bi	6428618	0.175	0.175	0.0%																	
Ca	6428618	0.56	0.56	0.0%																	
Cd	6428618	0.127	0.120	5.7%																	
Ce	6428618	39.9	37.7	5.7%																	
Co	6428618	8.6	8.6	0.0%																	
Cr	6428618	43.0	42.3	1.6%																	
Cs	6428618	3.75	3.77	0.5%																	
Cu	6428618	32.6	32.9	0.9%																	
Fe	6428618	2.47	2.47	0.0%																	
Ga	6428618	5.41	5.43	0.4%																	
Ge	6428618	0.204	0.234	13.7%																	
Hf	6428618	0.03	0.03	0.0%																	
Hg	6428618	0.03	0.03	0.0%																	
In	6428618	0.0316	0.0309	2.2%																	
K	6428618	0.17	0.17	0.0%																	
La	6428618	30.3	29.0	4.4%																	
Li	6428618	15.7	15.2	3.2%																	
Mg	6428618	0.531	0.538	1.3%																	
Mn	6428618	255	258	1.2%																	
Mo	6428618	3.03	2.91	4.0%																	
Na	6428618	0.01	0.01	0.0%																	
Nb	6428618	4.41	3.97	10.5%																	
Ni	6428618	30.1	29.4	2.4%																	
P	6428618	393	416	5.7%																	



CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Paul Hoogendoorn

Pb	6428618	8.95	8.93	0.2%														
Rb	6428618	59.0	59.3	0.5%														
Re	6428618	< 0.001	< 0.001	0.0%														
S	6428618	0.022	0.022	0.0%														
Sb	6428618	0.268	0.244	9.4%														
Sc	6428618	6.8	6.8	0.0%														
Se	6428618	0.47	0.44	6.6%														
Sn	6428618	0.68	0.64	6.1%														
Sr	6428618	35.8	35.6	0.6%														
Ta	6428618	< 0.01	< 0.01	0.0%														
Te	6428618	0.04	0.03	28.6%														
Th	6428618	11.7	11.9	1.7%														
Ti	6428618	0.118	0.115	2.6%														
Tl	6428618	0.28	0.28	0.0%														
U	6428618	6.92	7.11	2.7%														
V	6428618	58.6	57.7	1.5%														
W	6428618	0.396	0.333	17.3%														
Y	6428618	15.7	15.8	0.6%														
Zn	6428618	44.8	44.9	0.2%														
Zr	6428618	0.87	0.78	10.9%														



CLIENT NAME: MISC AGAT CLIENT ON

ATTENTION TO: Paul Hoogendoorn

(201-074) Aqua Regia Digest - Metals Package, ICP/ICP-MS finish

Parameter	CRM #1 (ref.CDN-ME-1304)														
	Expect	Actual	Recovery	Limits											
Ag	34.0	33.5	98%	90% - 110%											
Cu	2680	2723	102%	90% - 110%											
Pb	2580	2560	99%	90% - 110%											
Zn	2200	2202	100%	90% - 110%											



Method Summary

CLIENT NAME: MISC AGAT CLIENT ON

AGAT WORK ORDER: 15T960379

PROJECT: Wolverine

ATTENTION TO: Paul Hoogendoorn

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Sample Login Weight	MIN-12009		BALANCE
Ag	MIN-200-12017		ICP-MS
Al	MIN-200-12017		ICP/OES
As	MIN-200-12017		ICP-MS
Au	MIN-200-12017		ICP-MS
B	MIN-200-12017		ICP/OES
Ba	MIN-200-12017		ICP-MS
Be	MIN-200-12017		ICP-MS
Bi	MIN-200-12017		ICP-MS
Ca	MIN-200-12017		ICP/OES
Cd	MIN-200-12017		ICP-MS
Ce	MIN-200-12017		ICP-MS
Co	MIN-200-12017		ICP-MS
Cr	MIN-200-12017		ICP/OES
Cs	MIN-200-12017		ICP-MS
Cu	MIN-200-12017		ICP-MS
Fe	MIN-200-12017		ICP/OES
Ga	MIN-200-12017		ICP-MS
Ge	MIN-200-12017		ICP-MS
Hf	MIN-200-12017		ICP-MS
Hg	MIN-200-12017		ICP-MS
In	MIN-200-12017		ICP-MS
K	MIN-200-12017		ICP/OES
La	MIN-200-12017		ICP-MS
Li	MIN-200-12017		ICP-MS
Mg	MIN-200-12017		ICP/OES
Mn	MIN-200-12017		ICP/OES
Mo	MIN-200-12017		ICP-MS
Na	MIN-200-12017		ICP/OES
Nb	MIN-200-12017		ICP-MS
Ni	MIN-200-12017		ICP-MS
P	MIN-200-12017		ICP/OES
Pb	MIN-200-12017		ICP-MS
Rb	MIN-200-12017		ICP-MS
Re	MIN-200-12017		ICP-MS
S	MIN-200-12017		ICP/OES
Sb	MIN-200-12017		ICP-MS
Sc	MIN-200-12017		ICP-MS
Se	MIN-200-12017		ICP-MS
Sn	MIN-200-12017		ICP-MS
Sr	MIN-200-12017		ICP-MS
Ta	MIN-200-12017		ICP-MS
Te	MIN-200-12017		ICP-MS
Th	MIN-200-12017		ICP-MS
Ti	MIN-200-12017		ICP/OES
Tl	MIN-200-12017		ICP-MS
U	MIN-200-12017		ICP-MS
V	MIN-200-12017		ICP/OES
W	MIN-200-12017		ICP-MS



Method Summary

CLIENT NAME: MISC AGAT CLIENT ON

AGAT WORK ORDER: 15T960379

PROJECT: Wolverine

ATTENTION TO: Paul Hoogendoorn

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Y	MIN-200-12017		ICP-MS
Zn	MIN-200-12017		ICP-MS
Zr	MIN-200-12017		ICP-MS