

# **Report of 2014 Surface Exploration Program on the Mishibishu (Mishi) Project**

Sault Ste. Marie Mining Division, Ontario  
(September 16, 2014 – November 2, 2014)

UTM: 5224000N / 615000E [NAD83] ZONE16

NTS: 42C/03SW and 41N/14NW

Worked Performed on Mining Claims: 3006830, 3006831, 3006833, 3006834, 3006835,  
3006841, 3006842, 3006843, 3006844, 4207235, 4254047

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## SUMMARY

The Mishibishu (Mishi) Property is located 50 kilometers west of Wawa and 65 kilometers south of White River, Ontario. Access to the property can be attained by road and helicopter from Wawa, Ontario. The claims of the project are wholly owned by Trelawney Mining and Exploration Inc. (Trelawney) and consist of 391 units in 36 unpatented mining claims covering approximately 6256 hectares (41N14, 42C03, 42C04). Most of the historical exploration occurred in the 1980's and 1990's when production proceeded with the Magnacon and Mishi Mine pit, and the discovery of the Eagle River Deposit. Other than Wesdome Gold Mines, Trelawney has been the most active exploration company in the area in recent times, completing extensive prospecting, airborne magnetic / EM surveying, and diamond drilling (53 DDH, 18,844m) from 2005-2013.

The purpose of the 2014 surface program on the Mishi Property was to evaluate and expand known exploration targets, and discover additional gold-bearing mineralization. Geological mapping and prospecting (29.7 kilometers) was carried out between September 16 and November 2, 2014 covering three map areas; 1) Rook Lake Deformation Zone (RLDZ), 2) Cameron Lake Area, and 3) Eagle River Deformation Zone area. Additional showing areas, the Aylen & Au-Mo showings, were not covered in the 2014 exploration program.

The Mishi Property is located in the Mishibishu Greenstone Belt (2670 to 2713 Ma), located in the Wawa Subprovince of the Superior Province. It consists of weakly to strongly metamorphosed metavolcanics and metasediments intruded by a variety of complex intrusives. The metavolcanic supracrustal rocks underlying the property are bimodal and classify as calc-alkaline rhyolite to dacite and magnesium to iron-rich tholeiitic basalt metavolcanics. The bimodal metavolcanics account for 75% of the rocks underlying the property, and consist of massive, pillow, to porphyritic mafic flows and felsic fragmentals. Clastic metasediments account for 20% of the exposed bedrock and generally become more prolific and thicker in the northern part of the property. They consist of interbedded greywacke, and argillaceous/arenaceous metasediments, with thin volcanoclastic inter-formational units within mafic metavolcanics. The remaining 5% part of the property is underlain by chemical metasediments which consist of silicate/oxide facies banded iron formation (BIF) with sulphide-rich exhalative cherty tuff, located in the central part of the property. This marks a general boundary between the felsic and mafic metavolcanics. A series of thin, discontinuous quartz-diorite to diorite/gabbro intrusives are located in the southern part of the property. The monzogranite and granodiorite intrusives ( $2673 \pm 12$ ) of the Central Pluton, Mishibishu Lake Stock, and Bowman Batholith, and diabase dykes account for the remaining < 1%, cross-cutting and metamorphosing the supracrustal rocks. The rocks underlying the property have undergone regional greenschist metamorphism, with an upper greenschist to mid-amphibolite metamorphism in proximity to the Central Pluton and the Mishibishu Lake Stock. The bedding and foliation of the metasediments and metavolcanics generally trend east-west, with an average sub-vertical dip to the north of approximately  $74^\circ$  and  $84^\circ$ . Fold axis lineations along the RLDZ indicate a shallow to steep plunge of between  $39^\circ$  to  $77^\circ$  to the east. The presence of parasitic folds and convergence of litho-stratigraphic units to the west indicates that the rocks underlying the Mishi Property are part of a larger fold sequence. Although several sulphide showings and zones were located, extensive alteration and deformation has been recognized in all three map areas. The altered and sheared quartz-diorite host of the ERDZ splay and strongly altered and sheared/fractured felsic and mafic metavolcanics of the RLDZ has similar host rock, geochemical, and alteration characteristics to Wesdome Gold Mines Eagle River Mine (961,936 oz Au in 3,295,795 tonnes @ 9.07 g/t Au – total production) and the Mishi Mine pit (22,713 oz Au in 222,946 tonnes @ 3.17 g/t Au – total production), respectively. Airborne magnetics indicate variable trending magnetic lows and breaks and are consistent to regional deformation zones and cross-cutting features. The geological environment characterized by rocks underlying the Mishi Property has similarities to the deformation zones hosting Wesdome's producing mines in the Mishibishu Greenstone Belt, and known mesothermal lode gold mineralization in various Ontario mining camps, such as Timmins and Red Lake.

Although no significant gold values were returned, the **RLDZ** on the Mishi Property has been outlined partially over 6 kilometers as part of a 20 kilometer long anastomosing shear zone. It consists of strongly sheared and

hydrothermally altered metavolcanics. Historical drill hole M-87-15 intersected over 80 meters of strong fractured and brecciated felsic/cherty tuff exhalative and strongly sheared chlorite-carbonate altered mafic metavolcanics with continuous anomalous gold values up to 0.28 g/t Au over 56.7 meters. Multiple BIF horizons in the **Cameron Lake** area nearly strike the entire length of the property for approximately up to 4 kilometers as part of a 7 kilometer regional trend. Anomalous values up to 1.1 g/t Au were returned from BIF and sheared/altered quartz-feldspar porphyry in an area where conductor trends are up to 2 kilometers long. Historical values returned up to 14.4 g/t Au (not verified historically) by Noranda in the Clyde Showing and base/precious metal values of 4.72% Zn and 0.16 g/t Au by Wasabi Resources. Quartz diorite host rock with anomalous Au values up to 0.75 g/t Au were uncovered in the northwest splay of the **ERDZ** and is similar to the host rock in Wesdome's Eagle River Mine area. There are numerous gold showings in the Au-Mo and Aylen Showing areas, highlighted by historical values of up to 8.1 g/t Au, 0.54% Mo, 0.22% Pb related to the Central Pluton. There are anomalous values of Ag-Bi-Te-Re spatially associated in the area of the contact metamorphic aureole of the Central Pluton.

Future exploration work on the Mishi Project should be both regionally and locally target driven. This exploration should take into consideration the screening of previous historical data and building on quality data. More surface exploration work should be considered in four target areas, as follows:

- 1) Rook Lake Deformation Zone (RLDZ) along and across strike
- 2) Cameron Lake Area to the east and west along strike
- 3) Eagle River Deformation Zone (ERDZ) Splay along a west-northwest to northwest strike
- 4) Aylen/Au-Mo/McAdam Showing areas and contact aureole of the Central Pluton

Recommended exploration work would consist of regional and target mapping, prospecting/sampling, soil sampling, and trenching/power washing/detailed mapping /sampling in selected areas over the targets near the mine road.

## **1.0) Introduction**

### **1.1 General**

The Mishibishu (Mishi) Property is located 50 kilometers west of Wawa and 65 kilometers south of White River, Ontario (Figure 1). The purpose of the 2014 surface program was to carry out a target-driven exploration program which would evaluate three areas for potential gold-bearing mineralization in diverse geological environments.

The 2014 surface exploration consisted of 29.7 kilometers of GPS mapping and prospecting with rock sampling. The work was conducted between September 16 and November 2, 2014, covering portions of 11 mining claims, located in the Sault Ste. Marie Mining Division.

This report describes and interprets the geological and geochemical results from the 2014 surface exploration program covering most of the 11 claims.

## **2.0) Property Description and Location**

### **2.1) Location, Access, and Accommodation**

The Mishi Property is located 50 kilometers west of Wawa and 65 kilometers south of White River, Ontario (Figure 1). It is located in the Sault Ste. Marie Mining Division (NTS 42C/03SW and 41N/14NW).

The Mishi Property can be accessed by both road via the Paint Lake Road from the Trans-Canada Highway 17 and by helicopter from Wawa. The Paint Lake Road is approximately 48.8 kilometers northwest of Wawa along Highway 17, with access to the property between 50 KM and 68 KM along the Paint Lake (mine) Road from the Trans-Canada Highway 17. The Paint Lake Road offers direct and easy access to most of the claim group, bisecting the claims in a north-south direction, and links Highway 17 to Wesdome's Eagle River Mine and Mishi Pit, with a security gate at KM 52. There are also a number of old, grown-over exploration and logging trails which can be used from the Paint Lake Road, especially in the central part of the claim group east of the road.

The Trelawney crew stayed at the Normandy Lodge on Kabenung Lake from mid-September to October and in Wawa for the latter part of the program in October. The drive took almost 1½ hours from the lodge to the southernmost part of the property. Wilderness Helicopters (*Wawa Municipal Airport, P.O. Box 259, Highway 101, Wawa, Ontario P0S 1K0*) provided crew transportation from Wawa to various, non-accessible parts of the Mishi Property in late October.

### **2.2) Description of Mining Claims**

The Mishi Property consists of 391 units in 36 unpatented mining claims, covering approximately 6256 hectares (Figure 2). The claim distribution of the Mishi Property is

summarized in Table 1, with the 2014 claim activities being highlighted. The mining claims are wholly owned by Trelawney Mining and Exploration Inc. (3 Mesomikenda Lake Road, Gogama, Ontario P0M 1W0).

Figure 1 – Location Map of Mishi Property

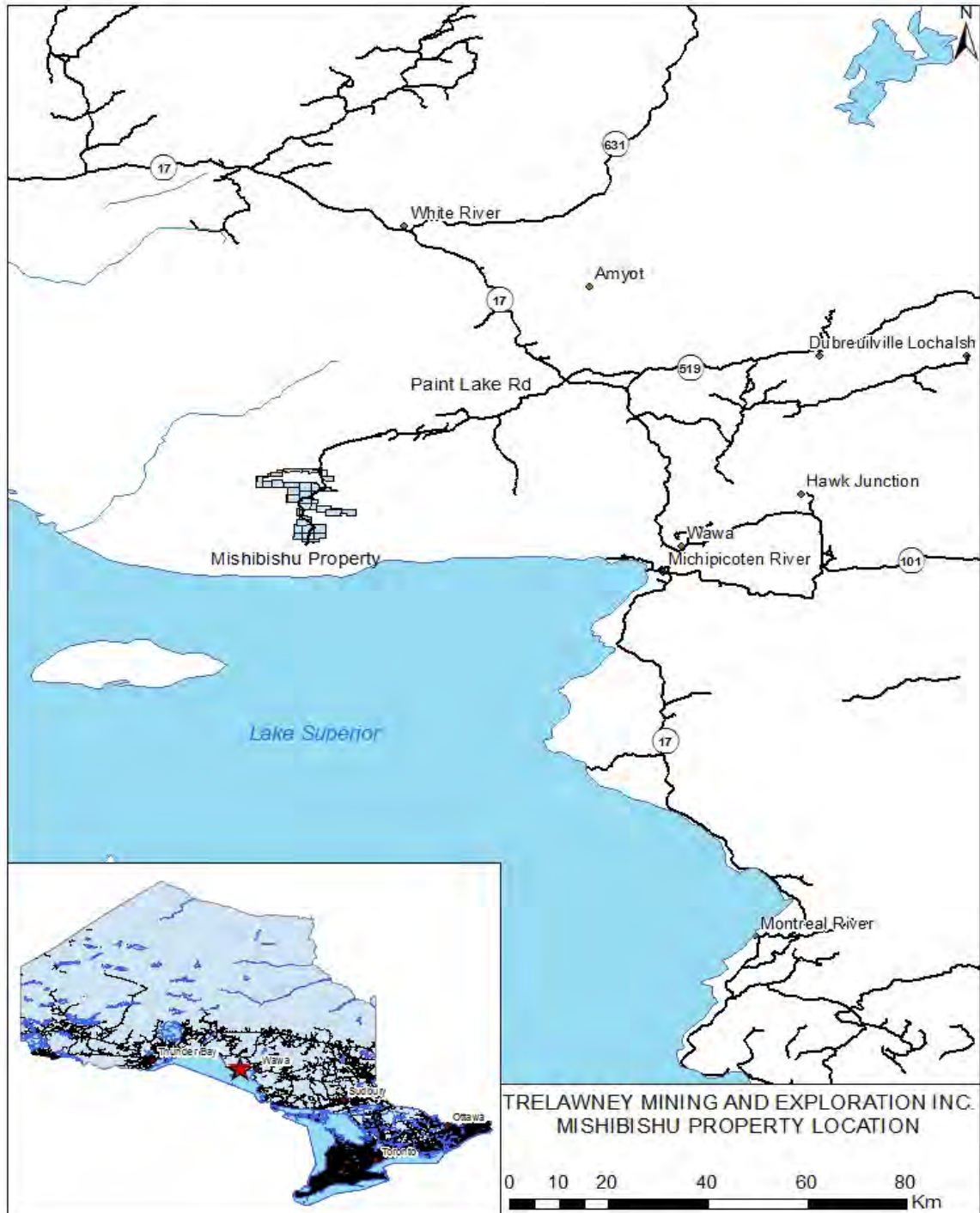




Figure 2 – Mishi Property Claim Map

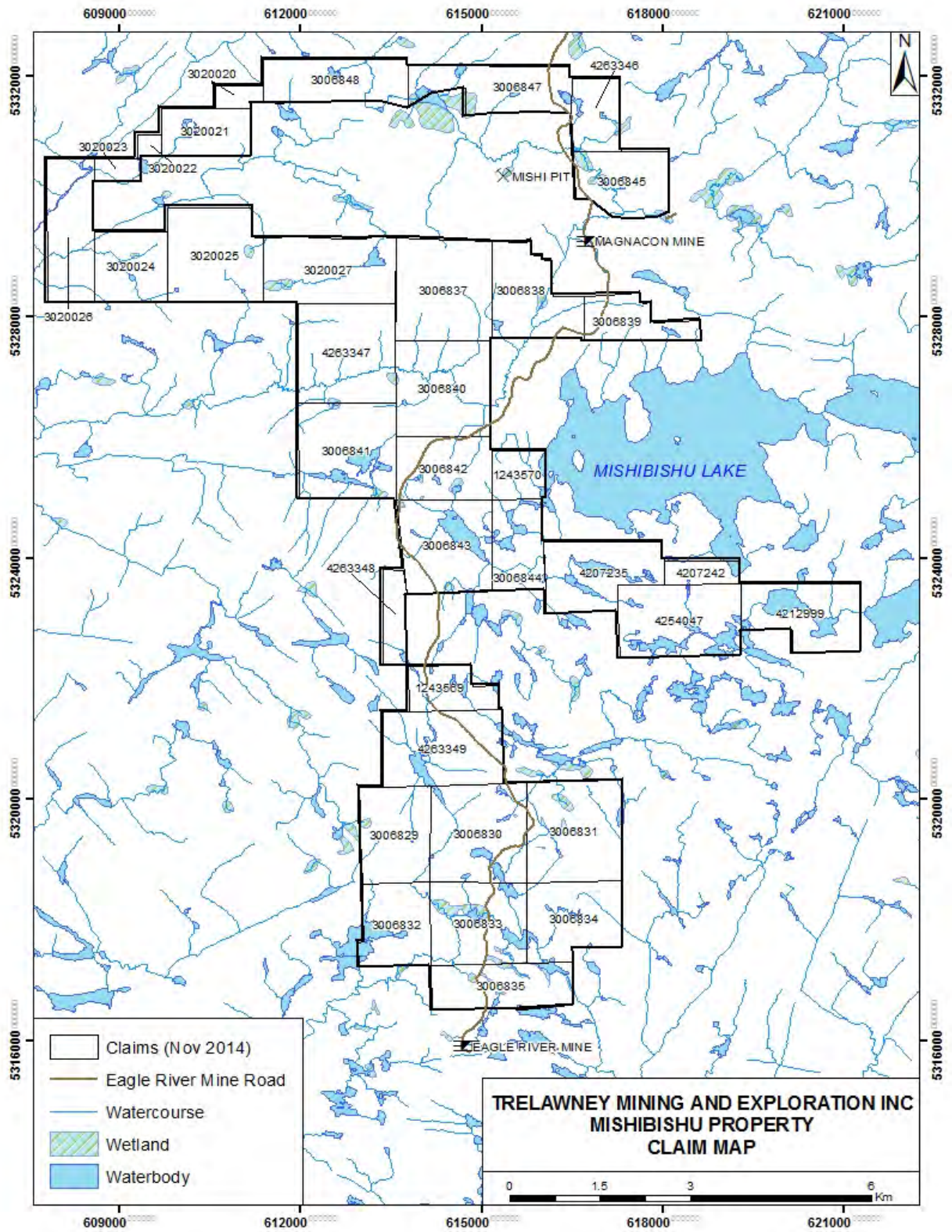


Table 1 – Mishi Property Claim Distribution

The Mishi Property Claim List/Distribution

Claim Number	Units	Hectares	Area	Current Ownership (100%)	Due Date	Work Due	Reserve
3006829	12	192	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$4,800	\$0
3006830	16	256	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$6,400	\$0
3006831	16	256	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$6,400	\$0
3006832	12	192	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$4,800	\$0
3006833	16	256	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$6,400	\$0
3006834	12	192	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$4,800	\$0
3006835	12	192	Point Isaac (G-3778)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$4,800	\$0
3006837	16	256	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$6,400	\$0
3006838	13	208	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$5,200	\$0
3006839	8	128	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$3,200	\$0
3006840	16	256	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$6,400	\$0
3006841	16	256	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$6,400	\$0
3006842	12	192	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$4,800	\$0
3006843	16	256	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$6,400	\$0
3006844	8	128	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$3,200	\$0
3006845	12	192	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$4,800	\$0
3006847	13	208	Abbie Lake (G-3762)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$5,200	\$0
3006848	12	192	Abbie Lake (G-3762)	Trelawney Mining & Exploration Inc.	January 26, 2015	\$4,800	\$0
3020220	2	32	Pukaskwa River (G-3779)	Trelawney Mining & Exploration Inc.	April 27, 2015	\$800	\$0
3020221	8	128	Pukaskwa River (G-3779)	Trelawney Mining & Exploration Inc.	April 27, 2015	\$3,200	\$0
3020222	1	16	David Lakes (G-3765)	Trelawney Mining & Exploration Inc.	April 27, 2015	\$400	\$0
3020223	2	32	David Lakes (G-3765)	Trelawney Mining & Exploration Inc.	April 27, 2015	\$800	\$0
3020224	8	128	David Lakes (G-3765)	Trelawney Mining & Exploration Inc.	April 27, 2015	\$3,200	\$0
3020225	12	192	David Lakes (G-3765)	Trelawney Mining & Exploration Inc.	April 27, 2015	\$4,800	\$0
3020226	12	192	David Lakes (G-3765)	Trelawney Mining & Exploration Inc.	April 27, 2015	\$4,800	\$0
3020227	12	192	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	April 27, 2015	\$4,800	\$0
4207235	13	208	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	February 7, 2015	\$5,200	\$0
4207242	3	48	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	February 7, 2015	\$1,200	\$0
4212999	13	208	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	February 7, 2015	\$5,200	\$0
4254047	15	240	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	October 12, 2015	\$2,225	\$0
4263346	6	96	Abbie Lake (G-3762)	Trelawney Mining & Exploration Inc.	May 10, 2015	\$2,400	\$0
4263347	16	256	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	May 10, 2015	\$6,400	\$0
4263348	4	64	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	May 10, 2015	\$1,600	\$0
4263349	15	240	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	May 10, 2015	\$6,000	\$0
1243569	7	112	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	April 22, 2015	\$2,800	\$0
1243570	4	64	Mishibishu Lake (G-3772)	Trelawney Mining & Exploration Inc.	April 22, 2015	1,600	\$0
<b>36 claims</b>	<b>391</b>	<b>6256</b>				<b>\$752,625</b>	

2014 Claim Activities are highlighted

### 3.0) Physiography and Vegetation

The Mishi Property lies within Mishibishu Lake area, with the southern-most claim boundary located 8 kilometers north of Lake Superior. This area lies within the Late Wisconsinan Substage (26 ka to 13.3 ka) of the Pleistocene Epoch, which is the last continental ice sheet. Ice direction advanced in a southwest direction (Reid et al – 1991). The height of land ranges from 360 meters above sea level (ASL) west of Mishibishu Lake to a maximum height of 565 meters ASL east of Cameron Lake in the central part of the property. Inferred thickness of overburden varies from bedrock exposure in the higher elevations of the southern part of the property, with a thicker overburden cover to the north and central part of the property. The overburden cover consists of unconsolidated pebbly, silty sand in the higher elevations with more clay and silty-clay along low-lying ravine, creeks/streams, such as the Floating Heart and Eagle River areas. Loose bouldery talus and regolith characterize the terrain in higher relief slope areas with thick organic matter/moss covered areas on relatively gentler slopes. Local clay-

rich soils are characteristic in relatively stagnant, poorly drained areas. There are numerous glacial lakes and ponds, particularly east and west of Rook Lake in the central part of the property. For the most part, the relief on the property has a moderate and rolling topography, with locally steep areas east of Cameron Lake. The south-flowing Eagle River and Floating Heart Rivers are the two main river systems on the property, with the Pukaskwa River bordering the west part of the property. There are numerous other drainage systems, especially west and east of the Rook Lake area, in the central part of the property. Mishibishu Lake is the major lake and located in the northern part of the property.

For the most part, the property is characterized by variable outcrop exposure with <1% in swampy areas to 70% in the higher terrain. Outcropping areas occur both as continuously exposed knob-like features and as topographical rolls/ledges in higher relief areas, as well as along lake shorelines. Intermittent exposures are characteristic in gently rolling and swampy areas. Vegetation in higher relief areas are characterized by a thin veneer of moss cover, relatively thin soil cover, reflected by loose bouldery-type colluvium. There is little tree cover along knob-like features in the higher elevations of the property. The moderate to lower elevations consist of spruce balsam, birch, poplar, and the occasional maple with willows and low lying alder and maple moose brush in local open areas and following drainage systems. The only logged areas near the Mishi Property bound the property south and west of Rook Lake. No burn areas have been identified on the property.

#### **4.0) Historical Exploration**

There are many indications of historical exploration work, with the most extensive exploration campaigns in the 1980's and 1990's, leading to the discovery and production from the Magnacon and Mishi deposits, and discovery of the Eagle River deposit in the 1980's. Approximately 75% of the documented historical exploration occurred between the years 1980 and 2000. There has been numerous exploration programs completed over and outside the property, with the earliest documented account being in 1937 in the Magnacon and Mishi Mine areas, along the Mishibishu Deformation Zone (MDZ).

The earliest documented surface exploration was carried out by Sand River Gold Mining in 1957, with little documented exploration activity until the discovery of the Eagle River Deposit and the production activities of the Magnacon Mine and Mishi Mine pit in the mid 1980's. The three producers with current ownership and historical production are summarized as follows...

- 1) Eagle River Mine (Wesdome) - active with historical production (1990, 1995, 1996-2013) of 961,936 oz Au in 3,295,795 tonnes @ 9.07 g/t Au
- 2) Mishi Pit (Wesdome) - active with historical production (2002-04, 2007, 2012-13) of 222,946 oz Au in 222,946 tonnes @ 3.17 g/t Au
- 3) Magnacon Mine (Wesdome) - inactive with historical production from Muscocho-Flanagan-McAdam-Windarra JV (1989-90) of 40,000 oz Au in 265,000 tonnes @ 4.69 g/t Au

Most of the documented surface exploration programs conducted within/nearby the Mishi

Property was completed by a variety of companies from 1979 to 1990. Exploration work consisted line-cutting, geological mapping, prospecting and rock sampling, soil sampling, ground geophysical surveys, and some small diamond drill programs (up to 1002 meters in 7 DDH's). Numerous airborne surveys were carried out by a variety of companies with airborne VLF-EM and magnetic surveys being the most predominant type of survey.

In 1987, the Ontario Geological Survey commissioned an electromagnetic and magnetic airborne survey to Dighem Surveys and Processing Inc. in the Mishibishu Lake area as part of a broader airborne survey covering the Wawa-Renabie areas. As well, in 1969, a regional geochemical (cold extractable total heavy metals in stream and spring sediments) reconnaissance survey was carried out. Only Cu, Zn, Pb, Mn, Ni, and Co elements were analyzed.

The following tables summarize the various documented historical exploration activities in the area;

Table 2 - Historical exploration activity carried out on the Mishi Property from 1957 to 2006

Table 3 - Airborne Surveys from 1983 to 2013

Table 2 – Summary of Historical Exploration in Immediate Area of Targets

<b>Company/Individual</b>	<b>Year</b>	<b>Area</b>	<b>File No</b>	<b>Description of Work</b>
Wesdome Mines Ltd	2006	Eagle River Deformation Zone (ERDZ) – Eagle River Mine area	2005197 & 2005199	4135 meters of drilling in 11 diamond drill holes
Murgor Resources Inc.	1997	Dorset Shear, Floating Heart River & Aylen Showing	42C03SW2007	Geological mapping, prospecting, and trenching – up to 129 g/t Au grab at Dorset and up to 8.1 g/t Au, 0.54% Mo, and 0.22% Pb in grabs at Floating Heart/ Aylen Showing areas
Murgor Resources Inc.	1996	ERDZ, Cameron Lake, & Dorset Shear	42C03SW0049	Prospecting and sampling with gold grab highlights... Marten Shear - <5 to 4300 ppb Au Dorset Shear - <5 to 2300 ppb Au Floating Heart - < 5 to 241 ppb Au Cameron Lake - <5 to 1500 ppb Au Birch Vein - < 5 to 51400 ppb Au
Murgor Resources Inc.	1996	Cameron and Rook Lake areas	42C03SW0011	100 km of line-cutting and ground magnetic survey
Murgor Resources Inc.	1996	Macassa Creek Option	42C04SE0025	19 km of line-cutting and VLF-EM/magnetic survey – in 1998, document IP/resistivity at Dorset
Noranda Exploration	1990	ERDZ – Eagle Mine area	41N14NW0025	652.2 meters of drilling in 5 diamond drill holes and 127.9

Company/Individual	Year	Area	File No	Description of Work
				meters in 9 RC drill holes
Muscocho Exploration Ltd	1988	Rook Lake Deformation Zone (RLDZ) – west of mine road, Aylen Showing, Shaft area, & Dorset	42C03SW0057	798.2 meters of drilling in 6 diamond drill holes with anomalous values up to 0.28 g/t Au over approximately 56 meters across the RLDZ
Muscocho Exploration Ltd	1988	Rook Lake Deformation Zone RLDZ) – west of mine (road, Aylen Showing, Shaft area, & Dorset	42C03SW0050	1002.4 meters of drilling in 7 diamond drill holes – no significant assays
Muscocho Exploration Ltd	1987	RLDZ & Dorset area	42C03SW0063	136 km line-cutting, geological mapping, prospecting & sampling highlighted by 4.8 g/t Au in East Creek Showing & 0.75 g/t Au in RLDZ. Local VLF-EM/magnetic survey across portions of the RLDZ to confirm airborne VLF-EM anomaly
Dominion Explorers Inc. & Wasabi Resources Ltd	1987	Missing Lake Area	42C03SW0068	Soil Sampling (1617 samples)
Dominion Explorers Inc. & Wasabi Resources Ltd	1987	Missing Lake Area	42C03SW0127	Geological mapping
Noranda Exploration	1986	ERDZ – discovery of Eagle River Mine area	41N14NW0039	112 km of line-cutting and geological mapping/sampling and WRA, and 2056 soil samples. Highlights include rock grab samples up 4.11 g/t Au and a 700 meters long soil gold anomaly with values up to 4110 ppb Au
Wasabi Resources Inc.	1986	Cameron Lake (west side) & Missing Lake area	42C03SW8770	271.6 meters of drilling in 4 diamond drill holes – no assays reported
Wasabi Resources Inc., Chavin of Canada Ltd, O'Brien Energy & Resources Ltd	1984	Missing Lake area	42C03SW0096	44.24 km of line-cutting, geological mapping & sampling, soil sampling with 465 samples, and 14.4 km of MaxMin 11 HLEM survey
Wasabi Resources Inc., Chavin of Canada Ltd, O'Brien Energy & Resources Ltd	1984	Missing Lake area	42C03SW0098	Prospecting and sampling, 40 km of ground magnetics, 9.8 km of Crone Radem VLF-EM
Amoco Canada Petroleum Company Ltd – Mining Division	1980	Cameron Lake area	42C03SW0118	380.3 meters of drilling in 4 diamond drill holes – no significant Au assays
Amoco Canada Petroleum Company Ltd – Mining Div.	1979	Cameron Lake area	42C03SW0117	Geological mapping
ASARCO Exploration Ltd	1972	Mishibishu and Cameron Lake area	42C03SW0122	299.7 meters of drilling in 4 diamond drill holes – no significant Au, Ag, Cu, Zn assays returned
Sand River Gold Mining	1957	Missing Lake & west of Cameron Lake	42C03SW8778	Dip needle survey and 248.3 meters of drilling in 2 diamond drill holes – no Au assays reported

Table 3 – Historical Airborne Surveys

<i>Company</i>	<i>Airborne Survey</i>	<i>Year</i>	<i>AFRI File Number</i>	<i>Area</i>	<i>Type of Airborne Survey</i>
Trelawney Mining & Exploration Inc.	Eon Geosciences Inc.	2013		Mishibishu, Rook, and Cameron Lake	996 line km of high resolution magnetic survey
Upper Canada Inc.	Terraquest Ltd	2007	20000003098	David Lakes & SE of Pukaskwa River	35.3 line km of magnetic gradient & XDS VLF-EM
TEREX Resources Inc.	McPhar Geosciences Inc	2005	20000001024	Mishibishu, Rook, and Cameron Lake	372.2 line km of helicopter magnetics/TDEM
Villeneuve Resources Ltd	H. Ferderber Geophysics Ltd	1989	42C03SW0306	No Name Lake in Eagle River Deformation Zone	178.4 line km magnetics/VLF-EM
San Paulo Explorations Inc.	Terraquest Ltd	1987	42C03SW0080	Mishibishu & Rook Lake	150 line km of magnetics/VLF-EM
Muscocho Explorations Ltd	Dighem Surveys & Processing Inc.	1987	42C03SW0069	Rook Lake and Dorset	520 line km of EM/resistivity/magnetics/VLF-EM
Wasabi Resources Ltd	Terraquest Ltd	1985	42C04SE0052	Macassa Creek - West and SW of Mishibishu Lake	445 line km of magnetics/VLF-EM
Central Crude Ltd	Aerodat Ltd	1983	42C03SW0115	No Name Lake in Eagle River Deformation Zone	505.6 line km of helicopter magnetics/VLF-EM
Harbinson Mining and Oil Group	Aerodat Ltd	1983	42C03SW0066 & 42C03SW0114	Cameron Lake and Dorset	507.2 line km of magnetics/EM/VLF-EM

#### 4.1) Trelawney Mining and Exploration Inc. Activities

Trelawney Mining and Exploration carried out the most comprehensive exploration programs in recent times, completing extensive prospecting, airborne magnetic / EM surveying, and diamond drilling (18,844 meters in 53 drill holes) from 2005-2013 (Table 4). The exploration work is highlighted by 9.6 km of diamond drilling in 48 drill holes from 2006-08 in the Dorset Zone area, with mapping, prospecting/sampling, and a small drill program in subsequent years on various parts of the Mishi Property. The Dorset Zone has an indicated resource (0.5 g/t Au cut-off) of 780,000 tonnes @ 1.42 g/t Au for 40,000 oz Au (Cavey and Giroux of Orequest – 2007). In 2013, Eon Geosciences Inc. carried out a high resolution magnetic survey over the Mishi Property in the Cameron and Rook Lake areas covering 996 line kilometers.

Table 4 - Exploration Work by Trelawney Mining & Exploration Inc. from 2006-13

Year	Area	AFRI File Number	Description of Exploration Work
2013	Mishibishu, Rook, and Cameron Lake		996 line km of high resolution airborne magnetic survey by Eon Geosciences Inc.
2013	Cameron Lake		Geological mapping and sampling with gold values from rock grabs returning up to 2.51 g/t Au in the Cameron Lake area
2011	Cameron Lake (along mine road)		Diamond Drilling with 693 meters in 3 drill holes – pending assays at time of report
2011	Dorset Shear (near mine road)	20000007603	Diamond Drilling with 530 meters in 2 drill holes – pending assays at time of report
2011	Cameron Lake	20000006616	Prospecting highlighted by gold values from rock grabs returning up to 5.62 g/t Au and 12.34 g/t Au near the Eagle River Deformation Zone south of Cameron Lake
2010	Mine road – on Rook Lake Deformation Zone	20000004671	Prospecting and sampling with no significant assays in two (2) samples
2008	Mishi North & Murgor Resources option peripheral to Dorset Zone	20000003452	Diamond Drilling with 5691 meters in 26 drill holes – highlighted by 4.08 g/t Au / 2.3m. in MR-08-16 and 5.23 g/t Au / 1.1m. in MR-08-25
2006	Dorset Zone and Dorset/Marten Deformation Zone	20000001925	Diamond Drilling with 2929 meters in 18 drill holes – highlighted by 5.35 g/t Au / 1.6m. in MR-06-42, and 3.26 g/t Au / 12.5 m. in MR-06-51
2006	Mishibishu and Cameron, & near mine road on Rook Lake Deformation Zone	20000001179	Diamond Drilling with 1001 meters in 4 drill holes – pending assays at time of report
2005	Mishibishu, Rook, and Cameron Lake	20000001024	372.2 line km of helicopter magnetics/TDEM by McPhar Geosciences Inc.

## 5.0) Regional Geological Setting

The supracrustal rocks underlying the general the Mishibishu Greenstone Belt (2670 to 2713 Ma), forms part of the Wawa Subprovince of the Superior Province in Precambrian Shield (Figure 3). The Mishibishu Greenstone Belt forms a broad, arcuate shaped belt and consists predominantly of metamorphosed bimodal felsic and mafic metavolcanics with clastic and chemical metasediments, intruded by a variety of complex intrusives (Figure 3). It is bounded by the Pukaskwa Batholith to the north and the Floating Heart Batholith to the south (Reid et al – 1992). The supracrustal rocks have undergone greenschist facies metamorphism, with upper greenschist to lower amphibolite facies metamorphism near a suite of younger felsic to intermediate intrusions.

The rocks of the Mishibishu Greenstone Belt are characterized by extensive, bimodal metavolcanic assemblages, which account for 70% of the underlying supracrustal rock types. The metavolcanics have been outlined for approximately 40 kilometers, with thicknesses of up to 5 kilometers. The mafic metavolcanics are characterized by older, magnesium to iron-rich tholeiitic basalts, and the felsic metavolcanics are classified as calc-alkaline rhyolite to dacite (Figure 4). Andesitic rocks are not prominent. Clastic metasediments account for 25% of the supracrustal rocks underlying the area, and are concentrated north of Mishibishu Lake (Reid et al – 1991). They consist of well bedded, greywacke, arenaceous, and argillaceous metasediments (turbidite sequences), with polymictic conglomerates. It has been traced over 60 kilometers with thicknesses up to 6 kilometers. Chemical metasediments account for the remaining <5% of the underlying supracrustal rock types, and form primarily as silicate with oxide banded iron formation (BIF) and sulphide facies exhalative cherty tuff horizons. The most prominent BIF is located at Cameron Lake and forms a series of horizons with a strike of approximately 7 kilometers and thicknesses between <100 and 150 meters. There are a number of discrete intermediate (diorite) to mafic (gabbro) bodies, which may be in part synvolcanic to their metavolcanic equivalents. There are three major felsic to intermediate intrusives (2673±12 Ma), with the Central Pluton (monzogranite to granodiorite) being the largest body and occupying 125 km<sup>2</sup>. The monzonite to quartz-monzonite Mishibishu Lake Stock (30 km<sup>2</sup>) and the granodiorite to granite Bowman Lake Batholith (60 km<sup>2</sup>) are located east and southeast of the Central Pluton, respectively. There are numerous northwest to northeast trending diabase dykes and are probably Keweenawan age.

There are four prominent deformation zones; 1) Mishibishu Deformation Zone (MDZ), 2) Rook Lake Deformation Zone (RLDZ), 3) Eagle River Deformation Zone (ERDZ), and 4) East Pukaskwa Deformation Zone (EPDZ). These deformation zones trend east to southeast and have overprinted all metavolcanic and metasedimentary rock types. The MDZ is the most extensive deformation zone, measuring approximately 40 kilometers in length and up to 1.5 kilometers wide (Reid et al – 1991). The Central Pluton is located in the central part of the belt and has provided a major arcuate-shaped strain aureole for several hundred meters. Repetition of supracrustal litho-stratigraphy indicates tight to isoclinal regional folding throughout the belt (Reid et al - 1991). Bennett and Thurston (1977) have identified an overturned synclinal structure to the northern portion of the belt.



There are three gold producing mines in the Mishibishu Greenstone Belt, with Wesdome Gold Mines' Eagle River Mine being the major, active producer. The ownership of each producing mine is summarized as follows...

Eagle River Mine (Wesdome) - active with historical production (1990, 1995, 1996-2013) of 961,936 oz Au in 3,295,795 tonnes @ 9.07 g/t Au

Mishi Pit (Wesdome) - active with historical production (2002-04, 2007, 2012-13) of 22,713 oz Au in 222,946 tonnes @ 3.17 g/t Au

Magnacon Mine (Wesdome) - not active with historical production from Muscocho-Flanagan-McAdam-Windarra JV (1989-90) of 40,000 oz Au in 265,000 tonnes @ 4.69 g/t Au

Figure 3 – Regional Geology (after GSC)

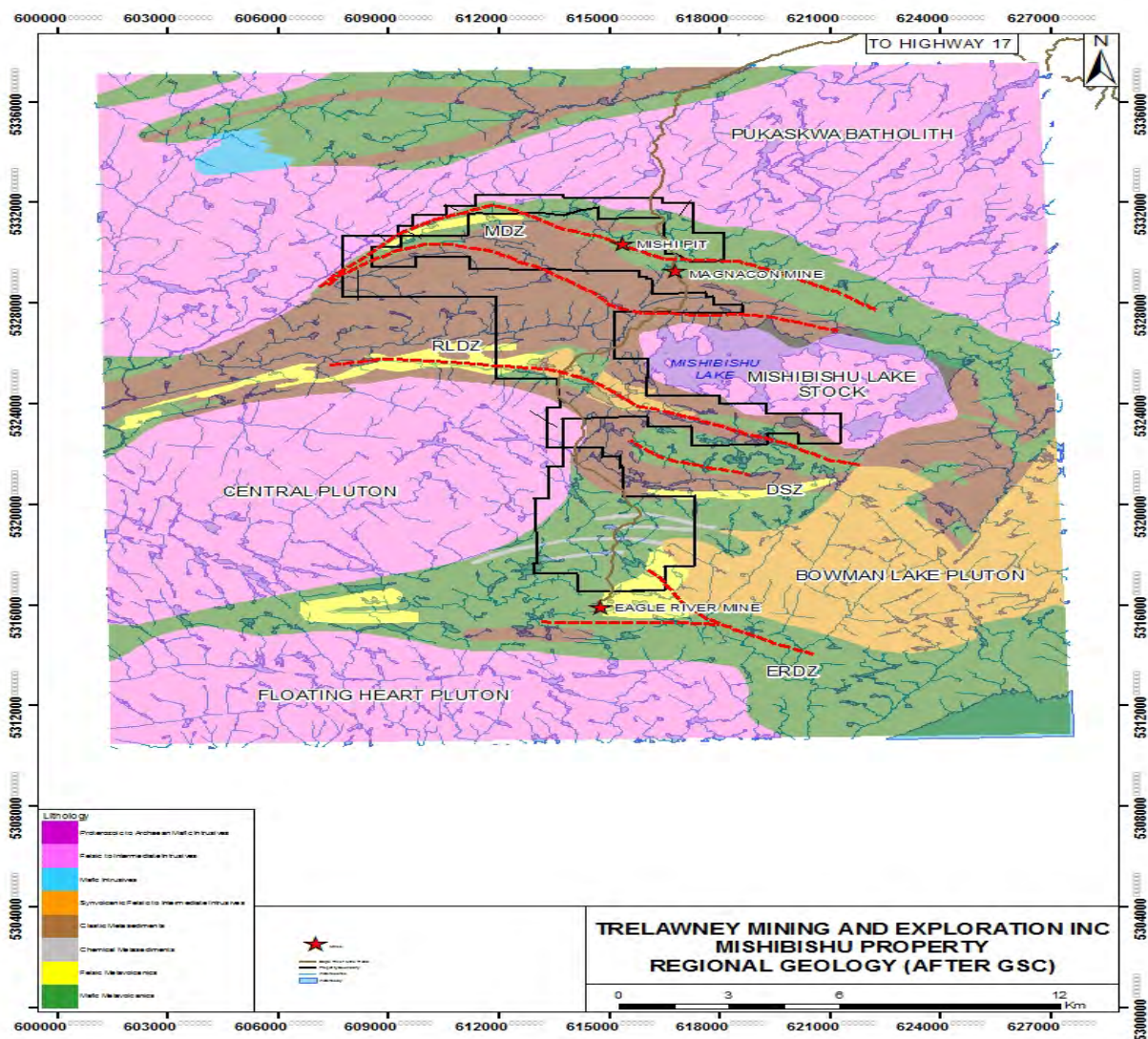
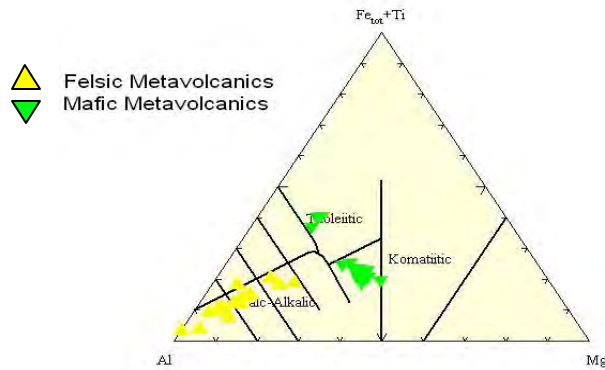


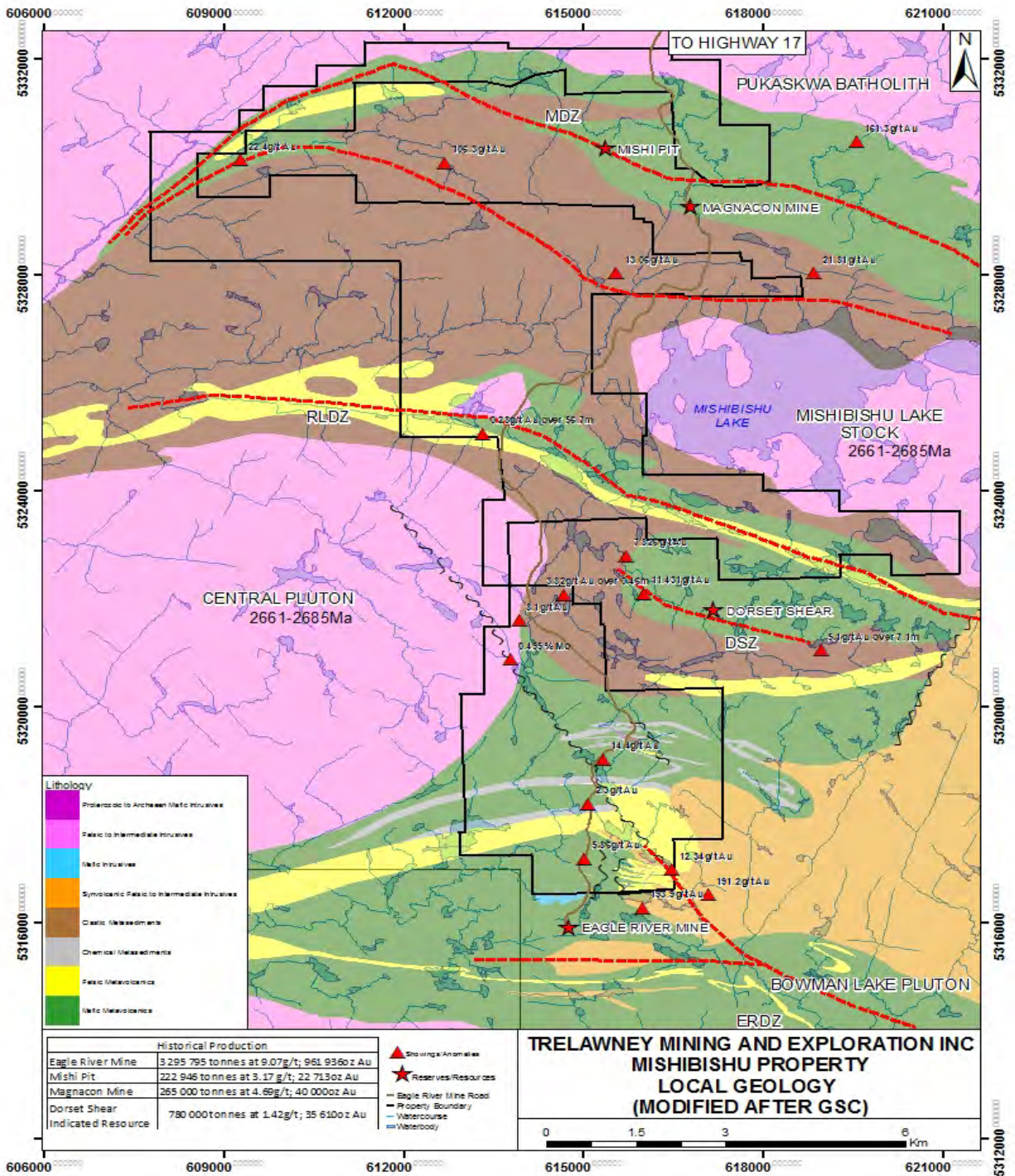
Figure 4 – Jensen Cation Plot of Normalized Metavolcanics



## 6.0) Property Geological Setting

The supracrustal rocks underlying the Mishi Property are characteristic of several sequences of bimodal metavolcanics, clastic metasediments, and banded iron formation (Figure 5). The mafic (50%) and felsic (20%) metavolcanics are part of an extensive, folded sequence that extends easterly for the entire length of the property. The thickest part of the mafic rocks is up to 2.0 km wide in the southern part of the property. The metavolcanics are bimodal with magnesium to iron-rich tholeiitic basalts and calc-alkaline rhyolite to dacite. Basaltic rocks consist of massive to pillow flows with volcaniclastics, with medium to coarse grained sub-volcanic gabbro and/or flows. There are numerous thin epiclastic/volcaniclastic interformational horizons within the mafic metavolcanics. The felsics are predominantly tuffaceous fragmental. Clastic metasediments account for 25% of the underlying rocks, and are part of a thicker 1 to 2 kilometer wide sequence on the property. The clastic metasediments define a turbidite sequence with well bedded greywacke and argillaceous rocks being prominent with arenaceous and lean BIF interbeds. Several sequences of thick and continuous BIF (<5%) mark a general boundary in the central part of the property in the Cameron Lake area, with felsic and mafic metavolcanics to the south and intercalated mafic metavolcanics and clastic metasediments to the north. The BIF are primarily silicate facies with the presence of both oxide and sulphide facies BIF. A series of thin discontinuous quartz-diorite to diorite/gabbro intrusives are located in the southern part of the property. Younger monzogranite and granodiorite felsic to intermediate intrusives and diabase dykes account for the remaining < 1%, intruding the metavolcanics and both clastic and chemical metasediments. The rocks underlying the property have undergone regional lower greenschist metamorphism, with an upper greenschist to mis- amphibolite metamorphism in proximity to the Central Pluton.

Figure 5 – Mishi Property Geology



The major structure on the property is the Rook Lake Deformation (RLDZ) with local segments of the Mishibishu Deformation Zone (MDZ) in the northern part of the property. The RLDZ consists of an anastomosing high strain zone that trends the full length of the property for approximately 8 kilometers in an east-west direction, as part of a 20 kilometer long deformation zone. There has been no historical production from within the RLDZ. However, a sub-parallel, gold-bearing Dorset Zone is located 1.5 kilometers to the south of the RLDZ, and hosts 40,000 oz Au as a low grade gold resource averaging 1.42 g/t Au (0.5 g/t Au cut-off) in 780,000 tonnes. Both the metavolcanics and metasediments have undergone extensive shearing and hydrothermal alteration in this sinistral, shear zone, altering the respective protolith to silicified-albite and chlorite-carbonate-(sericite). The other structure is a northwest splay from the Eagle River Deformation Zone and is located in the south part of the Mishi Property. This structure has been interpreted from geological mapping and airborne magnetics, and both the quartz diorite and felsic metavolcanics have undergone moderate to locally intense shearing and alteration in an area of northwest trending linear magnetic highs and breaks.

Both metavolcanics and metasediments have undergone extensive brittle-ductile deformation, similar to what has been described in other gold mining camps. There may be at least two major deformation/fold events, one trending east-west, and the other younger in a northeast direction. Major structural lineaments have been interpreted in the western and central part of property, and appear to be axial planar to a series of parasitic fold features. These lineaments are associated with gold mineralization in quartz vein systems along these deformation zones.

This area remains an active area of mining with Wesdome Gold Mines mining activities at the Eagle River Mine and the Mishi Mine pit. The presence of gold-bearing mineralization on the property demonstrates the potential for gold-bearing mineralization. There are four potential gold-bearing areas; 1) Rook Lake Deformation Zone (RLDZ), 2) Cameron Lake Area, 3) Eagle River Deformation Zone area, and 4) Aylen & Au-Mo Showing areas. The **RLDZ** on the Mishi Property has been outlined partially over 6 kilometers as part of a 20 kilometer long anastomosing shear zone which consists of strongly sheared and hydrothermally altered metavolcanics. Historical drill hole M-87-15 intersected over 80 meters of strong fractured and brecciated felsic/cherty tuff exhalative and strongly sheared chlorite-carbonate altered mafic metavolcanics with continuous anomalous gold values up to 0.28 g/t Au over 56.7 meters. Multiple BIF horizons in the **Cameron Lake** area nearly strike the entire length of the property for approximately up to 4 kilometers as part of a 7 kilometer regional trend. Historical values returned up to 14.4 g/t Au (not verified historically) by Noranda in the Clyde Showing and base/precious metal values of 4.72% Zn and 0.16 g/t Au by Wasabi Resources. Quartz diorite host rock with anomalous Au values up to 0.75 g/t Au were uncovered in the northwest splay of the **ERDZ** and is similar to the host rock in the Eagle River Mine area. There are numerous gold showings in the Au-Mo and Aylen Showing areas, highlighted by historical values of up to 8.1 g/t Au, 0.54% Mo, 0.22% Pb related to the Central Pluton. There are anomalous values of Ag-Bi-Te-Re spatially located in the contact metamorphic aureole of the Central Pluton.

Table 5 - Summary of Regional Structural Trends & Showings on Mishi Property

Zone/Showing	Trend Length (km)	Au (g/t) – up to	Mineralization & Other Pathfinders	Alteration	Host Rock
Rook Lake Deformation Zone	8.0	0.75 (historic)	pyrite-chalcopyrite-galena (Cu-Pb)	silicified-albite-(sericite) & chlorite-carbonate	Felsic Tuff/Cherty tuff & Massive Mafic Flows and Volcaniclastics
Cameron Lake	4.0	14.4 (historic)	pyrite and pyrrhotite - S	silicification and sulphidation	Silicate-Oxide-Sulphide Facies Banded Iron Formation
Eagle River Deformation Zone Area	Splay from ERDZ – ~4.0 km	0.75	pyrite-chalcopyrite-sphalerite - Cu-Zn-As-Te	silicified & chlorite-(carbonate)	Quartz-diorite and Felsic Tuff
Aylen & Au-Mo Showing	1.7	8.1(historic)	molybdenite-pyrite-galena – Mo-Pb-Ag-Bi-Te-Re	unknown	Aplite/Felsite Dykes and Metavolcanics

## 7.0) Deposit Types

The deposits in the Mishibishu Greenstone Belt include orogenic shear-hosted mesothermal lode-gold in an intermediate intrusive (Eagle River Mine) and in typical greenstone meta-sedimentary and metavolcanic rocks (Mishi Mine pit and the Magnacon Mine). They account for > 1.2 Moz Au historical gold production, with the Eagle River Mine and Mishi Mine pit being active mining operations. Gold mineralization in the Mishibishu Greenstone Belt shows evidence of a similar pattern of a diverse array of characteristics with the Mishi Project;

- 1) Orogenic lode-gold quartz vein and wallrock replacement in shear environment – e.g. RLDZ and splay of ERDZ similar to Eagle River Mine (quartz vein) and Mishi Mine pit (altered and mineralized shear)
- 2) Orogenic lode-gold quartz vein and sulphidation replacement in BIF along fold nose and shear stratabound contacts in a mesothermal gold environment – Clyde Showing (up to 14.4 g/t Au) in Cameron Lake area
- 3) Au-Mo with Ag-Bi-Te-Re in granitoid Central Pluton hosted mineralization and aureole of contact metamorphosed supracrustal metavolcanics and metasediments – e.g. Au-Mo Showing and Aylen Showing

Gold mineralization on Mishi Project is more typical of an orogenic-type mesothermal gold environment within shears of folded and faulted metavolcanics and clastic metasediments. There is also a spatial and genetic relationship between the gold mineralization and the Central Pluton intrusives, with anomalous Ag-Bi-Te-Re hosted in both the contact metamorphosed metavolcanics and metasediments.

## 8.0) Summary of 2014 Mishi Property Surface Exploration Program

Between September 17 and November 1, 2014, Trelawney Mining and Exploration Inc. undertook multiple target-wide programs consisting of mapping, prospecting and sampling. The 2014 surface exploration program was initiated to evaluate the potential for gold mineralization in favorable target areas, and find new discoveries. A total of 147 rock samples were collected and submitted to Activation Laboratories for Au assay and multi-element analyses.

The author supervised the overall mapping, prospecting, and sampling program in 2014. A total of 29.7 line kilometers of mapping was completed. A table of all personnel involved is presented in Table 6. Traverses in the ERDZ splay and Cameron Lake areas were taken along a 2.4 and 1.0 kilometer strike length, respectively, with traverses every 200 meters. The RLDZ traverses were completed every 1.5 to 2.0 kilometers across the deformation zone covering a 6 kilometer strike length. A GPS and compass survey (Garmin GPS map 62S) were used to collect sample locations, as UTM co-ordinates. Nad 83 in Zone 16T was utilized in mapping, prospecting and rock sampling. Accuracy is approximate, between 2 and 6 meters, with accuracy declining in heavily tree cover areas. GPS claim track activity from the mapping program is presented in Appendix 1

Table 6– 2014 Surface Exploration Personnel

<u>Personnel</u>	<u>Title</u>	<u>Domicile</u>
Stephen Roach	Senior Geologist	Ottawa, Ontario
Sam Tyler	Geologist	Sudbury, Ontario
Waleed Ahmed	Geologist	Toronto, Ontario
Marty Laforest	Geotechnician	Sudbury, Ontario
Shane O'Neil	Geotechnician	Sudbury, Ontario
Vincent Clarke	Geotechnician	Sudbury, Ontario

Rock samples were taken from both the mapping and prospecting, where a total of 147 rock samples (excluding standards and blanks) were collected. Samples were taken based on the presence and intensity of sulphide mineralization, altered mineralogy, veined and sheared structures. Samples were placed inside labeled plastic poly bags with the appropriate plastic sample tag for the analytical laboratory. Sample conditions, environment and attributes were recorded in a field notebook and the location recorded by hand held GPS unit. Sample locations were marked with orange or red flagging tape and an aluminum tag showing the sample number, and each sample location was also photographed in the field or camp for a digital visual record.

## **9.0) Analytical Quality Control and Quality Assurance**

An aggregate total of 159 rock samples (including standards and blanks) were collected and analyzed from this surface exploration program. Samples were analyzed by Activation Laboratories (Actlabs - 1010 Lorne Street, Unit West 4, Sudbury, Ontario P3C 4R9).

All samples were bagged, and secured with security twist tags in rice bags. The samples were personally delivered by Trelawney Mining and Exploration personnel to the Actlabs laboratory in Sudbury. All samples were analysed for gold by fire assay/AA and a 61 element ICP-OES and ICP-MS rock package. All methods used, analyses, and detection limits are on hand in the form of assay certificate A14-06984/A14-06984-TD, A14-07530/A14-07530-TD, and A14-08517/A14-08517 (Appendix 2).

Activation Laboratories (Actlabs) is accredited by the Standards Council of Canada to ISO 17025 for specific registered tests or certification to ISO 9001:2008 certifications for accredited methods. Sample preparation, analytical and quality control procedures employed are mutually similar in procedure and are as follows:

### **9.1) Sample Preparation**

Once the samples have been received, they are entered into a Laboratory Information Management System (LIMS) and given an internal sample control number. The samples are then checked for dryness prior to any sample preparation and dried if needed. The samples are crushed up to 90% passing through a 2 mm and rifle split 250 g to 95% passing 105 microns using a Jones Rifler. Silica cleaning between each sample is also performed to prevent any cross contamination. Random screen analysis is performed daily to check for attainable mesh size.

### **9.2) Gold Analyses**

A fire assay with an atomic absorption finish was used for gold analyses. All Au analysis is performed at a 30g charge by fire assay using lead collection with a silver inquant. The beads are then digested and an atomic absorption finish is used. The detection limit is 5 ppb

### **9.3) Multi Scan Analyses**

Multi scan analysis (61element) was performed using a near total to total four acid digestion (hydrochloric, nitric, perchloric, hydrofluoric). It is then analyzed by ICP-OES and ICP-MS method. Detection limits are outlined in the assay certificates in Appendix 2.

### **9.4) Laboratory and Company Quality Control / Quality Assurance (QC/QA)**

Certified standard and blank assays are usually run for each rack of samples. A non-reproducible check assay are an indication of nugget problems within the sample

and both laboratories recommend that further analysis be performed to generate a better representation of the sample.

All standards run are graphed to monitor the performance of the laboratory. Actlabs warning limit is 2 times the standard deviation and our control limit is 3 times the standard deviation. Any work order with a standard running outside the warning limit will have selected re-assays performed, and any work order with a standard running outside the control limit will have the entire batch of samples re-analysed.

All QC/QA data run with each work order is kept with the clients file. If desired, the client may have all the blanks and certified standards reported on a certificate to correspond to the client's samples. All quality control graphs are available upon request.

The laboratory also keeps daily log books for the sample throughput. These logs record all information pertaining to; 1) who performed the analysis, 2) when the analysis was done, 3) how the analysis was performed, and 4) what other sample were analyzed at the same time. This is done to help eliminate the possibility of misrepresentation and cross-contamination of the client's samples.

Actlabs instruments are calibrated using ISO traceable calibration standards and our quality control standards are created from separate stock solutions. Their instruments are directly tied to their quality control program eliminating the need for manual data entry, hence, reducing human error.

Trelawney Mining and Exploration Inc. also inserted one standard and blank into this sample batch every 12 samples. The author believes that the results of sampling and analysis of core samples collected during this program reliably reflect the nature of mineralization observed.

## **10.0) Discussion of Results from 2014 Surface Exploration Program**

### **10.1) Geology**

The following is a synopsis of major rock types and alteration, structure, and mineralization encountered from the various target areas as a result of mapping and sampling. Both the ERDZ splay and Cameron Lake geological and sample location/gold geochemical map areas are presented at 1:2500 scale. The RLDZ geological map and sample location/gold geochemical map area is presented at 1:10,000 scale. The three targets are described in the following appendices;

Appendix 3 - Geology Maps

Appendix 4 - Sample Location and Gold Geochemistry Maps

Appendix 5 - Sample Descriptions

The following briefly summarizes the geological and assay results from the 2014 mapping, prospecting, and sampling program.



### 10.1.1) Lithology and Alteration

#### Mafic Metavolcanics

The underlying mafic metavolcanics on the Mishi Property are part of the Mishibishu Greenstone Belt and are found in all three map areas. They occupy a wide range of the underlying rocks on portions of the mapped areas, ranging from 10% to 70%. The mafic metavolcanics extend the entire strike length in all three map areas, with thicknesses up to 1000 meters in the ERDZ splay map area. Partial mapping of the mafic litho-stratigraphy on the Mishi Property sub-parallel a broad, regional east-west arcuate fold trend. The mafic metavolcanics are sub-alkaline and are predominantly classified as magnesium to iron-rich tholeiitic basalts (flows/flow equivalents and volcanoclastics, respectively), as presented in Figure 4. The mafic metavolcanics typically consist mainly of massive, pillow, to porphyritic flows (PLA-1A). There are numerous occurrences of thin (up to 0.5 to 1.0 meter wide), mafic volcanoclastics and clastic and chemical metasedimentary inter-formational horizons, particularly in the mafic pillow flows in the ERDZ splay map area in the southern part of the Mishi Property. Local alumina-rich mafic volcanoclastics and epiclastics are reflected by weak to locally profuse garnet content, as recognized in all three mapped target areas (PLA-1B). The mafic metavolcanics have undergone varying degrees of deformation and hydrothermal alteration.

The fresh surface color of the mafic metavolcanics vary from green, dark green, to greenish black on weathered and fresh surface colors. Weathered surfaces are typically more rusty brown to brownish-gray where concentrations of sulphides and magnetite occur. Original protolith textures of the mafic metavolcanics have been extensively deformed and partially destroyed due to trans-compressive stresses, and locally where the metamorphic grade is high. The metamorphosed mineralogy assemblage consists of a very-fine to medium-grained (0.5 to 3.0 mm in size) anhedral and granular aggregate of amphibole (hornblende and actinolite) + chlorite + plagioclase feldspar + clinopyroxene ± biotite ± ilmenite ± quartz ± titanite ± epidote ± zoisite ± garnet ± magnetite ± sulphides (Reid et al – 1991). The most extensive alteration of the mafic metavolcanics has been recognized within the Rook Lake Deformation Zone (RLDZ). It is up to 150 meters wide, as part of a 600 meter wide shear, alteration system. Chlorite ± carbonates is the most prolific alteration assemblage observed in strongly sheared mafic metavolcanics (flows/pillow flows/volcanoclastics). Sheared, sericitic and chloritic mafic pillow flows were recognized in two localities in Cameron Lake map sheet. The first area is along the mine road where sheared mafic pillow flows have undergone pervasive sericite-ankerite alteration. The second area is

**PLA-1A)**



**PLA-1B)**



**PLA-1A)** Sheared Mafic Pillow Flow in Cameron Lake area - 5319274N/615674E (looking north); **B)** Garnetiferous Mafic Volcaniclastic in Cameron Lake area – 5319144N/616265E looking 200°

located to the east of the mine road, where intensely sheared and foliated mafic pillow flows have undergone strong chloritic alteration. Locally, strong chlorite alteration within the mafic metavolcanics was recognized along feldspar porphyry contact with the mafic rocks. Silicification of the mafic flows is restricted in all three map areas, and appears to be localized to the mafics in contact with quartz-(carbonate) veining.

The mafic rocks consist mainly of very fine to medium-grained massive flows, pillow flows and pillow breccias, and porphyritic flows. The mafic flows show a well developed massive texture, displaying a very weak fabric. Although extensively deformed, pillow flow textures have been locally preserved and recognized in all three map areas part of the property (PLA-1A). Pillow features are extremely attenuated, reaching up to 0.10 to 0.50 meters in length, and are generally tightly packed. Selvages are typically chloritic with biotite. Feldspathic, porphyritic flows have only been recognized in the ERDZ splay map area, consisting of 10% to 20% very-fine to medium grained ( $\leq 0.20$  cm in size) albite feldspars in a very fine grained ferromagnesian mafic matrix. Locally where metamorphic grade increases, the mafic rocks show a porphyroblastic texture with 20% to 30% fine to coarse-grained (0.15 to 5.0 cm in size) amphibole anhedral to subhedral aggregates forming as porphyroblasts.

Mafic volcanoclastics commonly form as thin inter-formational units within massive, pillow, and porphyritic mafic flows or in areas proximal to clastic and chemical metasediments on the property. Although generally strongly sheared and altered, they are distinguishable by their iron-rich alumina-sulphide rich mineralogy, with relict compositional bedding ( $<0.5$  to 1.0 meters wide) being well preserved. Garnet-rich mafic volcanoclastics have been identified in several thin inter-formational units with  $<5\%$  to local 30% very fine to medium-grained, pink, almandine garnets up to 0.20 cm in size (PLA-1B). The mafic volcanoclastics are typically intercalated with epiclastic rocks and minor lean oxide banded iron formation (PLA-2).

### **Felsic Metavolcanics**

The felsic metavolcanics have been recognized in all three map areas, but are more prolific in the ERDZ splay and RLDZ map areas. They constitute wide proportions of the underlying mapped litho-stratigraphy ranging from  $<1\%$  to 40%. The felsics are part of a regional complex, folded sequences, which extend for at least 40 kilometers and are up to 1 kilometer thick. They generally trend in an east-west to west-northwest direction, with local variations in folded areas. Although mapping is incomplete, the most southern part of the map area in the ERDZ splay map area shows the thicker part of the felsic metavolcanic litho-stratigraphy with a thickness of approximately 1 kilometer. In the RLDZ map area, the altered felsic/cherty felsic rocks are up to 250 meters thick. The felsic metavolcanics classify as calc-alkaline rhyolite to dacite, with the more intermediate varieties being atypical (Figure 4). In general, the map area shows that the felsic metavolcanics are typically fragmental. Fine grained tuffaceous fragmentals are the predominant facies in the map area, with local felsic volcanoclastics.



**PLA-2) Sheared and Altered Mafic Volcaniclastics with Oxide BIF in Deformed Mafic Pillow Sequence – Located along the Mine Road in the ERDZ Splay Map Area at 5316697N/615084E (looking 250)**

Regionally, the felsic tuffs and volcanoclastics are felsic to intermediate in composition. However, strongly silicified-(albitized), cherty like felsic tuffs along the RLDZ show high SiO<sub>2</sub> and Na<sub>2</sub>O contents up to 91.8% and 9.85%, respectively, with up to 82% albite content. The volcanoclastics tend to show reworking primary textures, such as laminations, banded, and bedded textures. Felsic crystal tuffs have been recognized in the southeast ERDZ splay map area, with the presence of very-fine grained quartz-eyes and feldspar crystals ranging from < 1% to locally 10%. No coarser fragmentals have been recognized in both these areas. A small felsic to intermediate fragmental unit has been recognized in the eastern part of the Cameron Lake area. The unit trends east-west for approximately 500 meters and is up to 50 meters wide. It consists of monolithic sub-rounded to sub-elliptical felsic fragments up to 2.0 cm in size in a very-fine-grained quartz-feldspathic tuffaceous matrix (PLA-3). The fragments show well developed water reaction and fusion rims, which would indicate water interaction with the hot lapilli-size fragments.

The color of the felsic metavolcanics vary from white, grayish-white, to whitish-gray on weathered and fresh surface colors. Original protolith textures of the felsic metavolcanics have been partially deformed in the ERDZ splay and Cameron Lake map area, but overprinted by intense hydrothermal alteration and brecciation along the RLDZ. The weakly metamorphosed mineralogy assemblage is dominated by very-fine to fine-grained (<0.05 to 1.5 mm) albite feldspar + quartz + potassic feldspar + ilmenite ± sericite/muscovite ± chlorite ± amphibole ± ilmenite ± carbonate ± titanite ± zircon ± tremolite ± epidote (Reid et al – 1991). Overall, quartz content is moderate, with strong feldspar content varying 60% to 65% combined plagioclase and K-feldspar. Composite silicification and albitization with sericite with muscovite, appear to be the dominant alteration of the felsic metavolcanics and occur proximal to shear zones, such as, and along both the RLDZ and ERDZ splay.

Mapping of alteration on RLDZ outlined an east-southeast trending, silicified-albite-(sericitic) alteration zone for approximately 6 kilometers, and is up to 300 meters thick. The silicified alteration system is confined to the felsic metavolcanics with possible exhalative cherty tuffs, and the thickest part of the alteration system is along the mine road, located in the western part of the Rook Lake area (PLA-4A). It is open in both directions and correlates well with strong linear magnetic lows. Silicification along the RLDZ shows a moderate to strong degree of brecciation and fracturing with the presence of numerous, thin quartz veinlets. The quartz is very fine grained, aphanitic, and appears microcrystalline, and cherty-like (PLA-4B). The finer grained quartz is a hydrothermal feature reflecting in silica flooding along with the presence of quartz veining. Albite (up to 82%) with K-feldspar (up to 20%) alteration appears to be associated with the silicification. Quartz breccia and brecciation of quartz has been recognized along outcrops located in the mine road area, and is on strike with historical gold mineralization intersected by Muscocho's Exploration Ltd drill hole M-87-15. There is a distinct alteration trend of the felsic metavolcanics along the RLDZ with



**PLA-3)** Felsic Tuff-Lapilli-Tuff with Reaction Rims – East of Cameron Lake area at 5319125N/616270E (looking 220)

**PLA-4A**



**PLA-4B**



**PLA-4 A and B) Cherty/Silicified and Brecciated Felsic Tuff – Sample 164128 on RLDZ at 5323164N/618371E (looking north)**

silicified to albite alteration. Locally, there is younger chlorite -(carbonate) shears commonly overprinting and cross-cutting the silicified-albite alteration.

Silicification is localized in the eastern part of the ERDZ map sheet. The intense silicification occurs along the sheared contact between the quartz-diorite intrusives and felsic tuff fragmentals. Chloritic alteration is locally intense, and is associated with shears and quartz veining.

### **Chemical Metasediments**

The chemical metasediments are distinguishable by the presence of oxide and silicate facies banded iron formation (BIF) and exhalative chert to cherty tuffaceous metasediment. Chemical metasediments in the form of BIF are prolific in the central part of the Mishi Property, particularly in the Cameron Lake map area. However, exhalative cherty tuff/tuff has also been recognized along the RLDZ, but their extent is not fully known. There are also thin, discontinuous inter-formational lean BIF within the mafic massive/pillow/porphyritic flows in the ERDZ map areas.

In the Cameron Lake area, there are three to four silicate to oxide facies BIF horizons, which have been recognized and partially outlined. These formational sequences trend east-west for approximately 1.2 kilometers, and are open in both directions from the Cameron Lake map area. They are up to 60 meters in thickness. Silicate facies is the dominant BIF in all the sequences. There is a transition in the northern and central BIF horizons with sulphide-bearing, exhalative chert to cherty tuff (sulphide facies?) forming a sheared, marginal contact between the mafic metavolcanics to the north and cherty oxide to silicates facies BIF to the south.

In the Cameron Lake map area, the dominant silicate facies BIF consists of alternating gray to grayish green, magnetiferous mafic volcanoclastic and greywacke, white chert, and massive magnetite (PLA-5A). All the beds are very-fine to fine grained. The bands and beds are typically continuous, but do show disruption with boudinage structures and folding. The upper cherty oxide facies BIF grades southwards into the silicate facies BIF grades (PLA-5B). This part of the BIF is up to 40 meters thick and consists of laminated and banded (up to 20 cm thick) rusty brown and white magnetiferous chert, and massive black magnetite. The banding shows both open and tight parasitic folding flexures and there is local, intense brecciation. There is patchy pyrite and pyrrhotite mineralization associated with the fold flexure, local shears, and brecciation features. In both the northern and central horizons, the oxide facies BIF grades into a pyritic, exhalative chert to cherty tuff (sulphide facies BIF?). The sulphide-rich zone is generally creamy white to bleached grayish white to rusty brownish white. It consists of massive very-fine grained, microcrystalline quartz with disseminated to semi-massive very fine-grained pyrite and pyrrhotite ranging <5% to



**PLA-5A**



**PLA-5B**



**PLA-5 A)** Silicate Facies BIF – Located on Mine Road North of Cameron Lake at 53195539N/615842E (looking south), **B)** Folded Oxide Facies BIF – same location as PLA-5A at 5319574N/615860E (looking south)

35%. This unit has undergone brittle deformation with strong fracturing reflected by numerous quartz stringers and veinlets, fracture-fill and in-situ sulphides, and brecciation in the cherty part of the unit. This sulphide unit correlates well with a series of weak to moderate airborne conductors trending east-west for approximately 2.0 kilometers.

A number of minor lean oxide facies BIF inter-formational horizons were identified in road outcrops on the RLDZ and ERDZ map sheets. They are < 1.0 meter thick, and appeared to be sheared and fractured with the presence of localized quartz veinlets. Pyrite with pyrrhotite are typically associated within these thin units

### **Clastic Metasediments**

Although clastic metasediments constitute 15% to 25% of the underlying rocks in the region, the mapping traverses did not cover extensive clastic metasedimentary litho-stratigraphy. Clastic metasediments were identified in all three map areas, with the clastic metasediments along the RLDZ and in the Cameron Lake area being the most evident.

The clastic metasediments predominantly consist of banded and bedded greywacke and argillaceous rocks (argillite/phyllite) with interbeds/bands of chert and mafic volcanoclastic located along the south margin of the RLDZ. The southeast trending clastic metasediments have been widely mapped for approximately 2.2 kilometers strike length and are up to 250 meters wide. They typically weather to a dull gray to dark gray in color. The more iron-rich varieties turn a rusty brown weathered color, due to the presence of magnetite and/or sulphides. The greywacke beds consist of a very fine-grained matrix of plagioclase + muscovite/sericite + quartz + amphibole + ksp + titanite ± carbonate ± epidote (Reid et al – 1991). The argillaceous rocks are typically mica-rich in composition with a very-fine to fine-grained (< 0.02 mm in size) interstitial muscovite/sericite + biotite ± chlorite ± other clays, which all constitute up to 80% to 90% of the content. They show well developed bedding and banding, up to 0.5 meter thick. Well bedded and folded greywacke and chert is illustrated in a local exposure along the mine road within the RLDZ (PLA-6).

The clastic metasediments in the Cameron lake area are associated with the BIF and occur as inter-formational horizons with the mafic metavolcanic sequences. They are more volcanoclastic and epiclastic in origin with arenaceous/greywacke epiclastic interbeds in the Cameron Lake area. The more prolific clastic metasediments extend in an east-west direction for 425 meters, and are up to 95 meters thick. They typically weather to a dark greenish gray and dark gray color. They are more compositionally complex with bands/beds of chlorite-amphibole rich mafic volcanoclastics, quartz-feldspathic rich arenaceous interbeds, and more micaceous in the argillaceous

greywacke interbeds/bands. There is also lean silicate to oxide facies BIF interbeds with the clastic metasediments. Patchy, disseminated pyrite and pyrrhotite sulphides up to 5% commonly occur with the clastic metasediments in the Cameron Lake area.

The clastic metasediments in the ERDZ splay map area occur as thin-interformational units within a thicker mafic metavolcanic sequence. They may extend for 500 meters and vary in thickness from 0.10 to 1.0 meter thick. These units typically occur as argillaceous and/or cherty beds, with local lean oxide-silicate facies BIF units being identified. They generally show moderate to strong silicification and/or chlorite alteration, being strongly sheared and foliated, and host disseminated pyrite-pyrrhotite sulphides.

The clastic metasediments may represent a transitional area to a deeper water environment and thicker metasedimentary sequence towards the northern part of the property.



**PLA-6)** Bedded and Folded Greywacke and Chert – Located on the Mine Road along RLDZ at 5325057N/613610E (looking 330°)

## Synvolcanic Felsic to Intermediate Intrusives

These intrusives have been recognized in all three map areas, with the quartz diorite intrusive bodies located in the ERDZ splay map area being more prolific in size and frequency. Other feldspar and quartz-feldspar sill and dyke-like bodies generally occur as thin features along or near shears.

The most significant intrusives encountered in the mapping occur in the ERDZ map area, and are related along a northwest shear splay from the ERDZ. There are four (4) quartz diorite bodies forming as tongue-like intrusions into the felsic metavolcanics, located in the southeast part of the map area (PLA-7A). They are part of the Bowman Lake Batholith (2673±12 Ma) and No-Name Intrusion which hosts the Eagle River Deposit. The quartz-diorite bodies are trending west-northwest to a more northwest direction and have been outlined up to 850 meters in length and up to 140 meters wide. They form elongated, lens-like bodies which have been attenuated along the northwest splay of the ERDZ. They typically have a common weathered and fresh salt and pepper color of greenish white, green, and white. They are intermediate in composition and consists of very fine to coarse grained (<1-5 mm) albite plagioclase (65%) + amphibole (10% to 15%) + biotite (5% to 10%) + quartz (<5% to 10%) after Reid et al – 1991. Very fine grained (<0.5- 1mm) rounded blue, unstrained quartz eyes range from < 1% to 7%. The quartz diorite has a typical phaneritic, equigranular to sub-porphyritic texture. The quartz diorite shows both strong silicification in the interstitial matrix and shear-controlled chlorite alteration, particularly in the area of 5367000N / 615900E.

Numerous other smaller porphyritic felsic to intermediate bodies were encountered in all three map areas, generally trending in an east-west direction (PLA-7B). The only exception is in the Cameron Lake area, where porphyritic bodies are trending in a northwest direction. These felsic to intermediate bodies are described as feldspar and quartz-feldspar porphyry sill and dyke-like features and range in thickness <0.10 meter to 20 meters. The extent of these bodies is unknown. They commonly have a weathering and fresh surface color brownish to buff white to brownish gray colors. They are felsic to intermediate in composition with 20% to 30% very fine to medium-grained (<0.20 cm in size) sub-rounded to lath-like white albite and gray to bluish-gray quartz phenocrysts in a very-fine grained siliceous quartz-feldspathic matrix. These rocks show a well developed porphyritic texture.

**PLA-7A**



**PLA-7B**



**PLA-7 A)** Unaltered Quartz Diorite – Located in the Southeastern Part of the ERDZ Splay Map Area at 5316982N/615911E (looking 250°), **B)** Feldspar Porphyry Dyke – Located on Margin of RLDZ on Mine Road at 5324591N/613667E (looking north)

## Mafic Intrusives – Matachewan & Pukaskwa Swarm of Diabase Dykes

Younger Matachewan and Pukaskwa Swarm of diabase dykes cross-cut all supracrustal rock types, including younger felsic to intermediate intrusives of the Bowman Batholith. They were encountered in all three map areas and constitute < 1% of the underlying rock types. They vary in trend as follows;

**ERDZ Splay Map** – trend northeast between 30° and 40° and up to 50 meters wide and referred to as Matachewan Dyke Swarm

**Cameron Lake Area** – trend northwest approximately 330° and up to 50 meters wide and referred to as Pukaskwa Dyke Swarm

**RLDZ Area** – trend north between 0° and 25° and up to 30 meters wide and referred to as Matachewan Dyke Swarm

These dykes correlate well with the north trending airborne magnetic highs.

The dykes are greenish brown to reddish burnt brown on weathered surface being greenish black, dark green to black as fresh surface colors. They are typically mafic in composition with of pyroxene + calcic plagioclase + magnetite ± amphibole ± olivine ± epidote ± ilmenite (Reid et al – 1991). According to Reid et al (1991), both dyke swarms show ophitic to sub-ophitic textures between calcic plagioclase and clinopyroxene, with minor olivine. The diabase dykes are typically moderately to strongly magnetic, with locally weak magnetic variations. They are generally very fine to medium grained with increase in grain size towards the center of the dyke, and locally, exposed very-fine grained black-colored chill margins at the contact. A porphyritic diabase has been observed along the south margin of the RLDZ map area along the mine road. It exhibits a well developed porphyritic texture with 5% coarse (up to 1 cm in size) epidote altered calcic-plagioclase. Airborne magnetics along with the mapping was used to extrapolate the contacts.

## Felsic Intrusives

Younger felsic intrusives were only encountered in the RLDZ map area, located both along the mine road and the north of Rook Lake, in the northern margin of the RLDZ. The extent of these felsic intrusives is not entirely known from the mapping, although it appears to be dyke-related to the margin of the quartz monzonite to monzonite Mishibishu Lake Stock apophyses.

These rocks form as dyke-like bodies cross-cutting the mafic metavolcanics. They have a pinkish to pinkish gray weathered and fresh surface colors and felsic in composition. The mineralogical composition consists of perthitic microcline + andesine plagioclase + quartz + hornblende + clinopyroxene ± epidote ± uraltite ± carbonate ± sericite ± titanite ± biotite (Reid et al – 1991). The dykes observed are very-fine grained and derived aplite/felsite dykes from an apophyses of the main Mishibishu

Lake Stock. There is a contact metamorphic overprint of the surrounding mafic metavolcanics with the presence of garnets.

### 10.1.2) Structure

Supracrustal rocks underlying the Mishi Property have undergone deformation with the presence of at least three deformation zones on/nearby on the Mishi Property. Tight regional, isoclinal fold features may reflect a series of larger regional folds, with convergence of the folds to the west

#### Bedding

Bedding ( $S_0$ ) is best preserved in the clastic and chemical metasediments, as well as mafic and felsic volcanoclastic or reworked tuff units (Table 7). Compositional banding, laminations, and bedding ( $S_0$ ) define primary bedding.  $S_0$  exhibits a dominant general east to east-southeast trend in the metasediments and reworked metavolcanics, with moderate to steep dips to the **north** in the ERDZ splay and RLDZ map areas. Dips vary 30° to 90° to the north, with local steep dipping rolls to the south. Bedding in the Cameron Lake area exhibits a consistent, steep to vertical dips to the **south** between 56° and 90°. This reversal may indicate a regional fold structure. Dips of bedding are relatively shallower along the RLDZ, indicating a more regional fold feature and fold closure. Due to the complexity of the folding structures on the property, strike variations of the bedding have a wide range from 210° to 263°. Local reversals in orientations indicate small-scale fold features, such as parasitic or drag folds, and occur in all map areas.

There is a large regional variation in strike and dip in comparing the bedding data set from all three map areas (Table 7).

Table 7 – Bedding Data

Map/Target area	Variation in Bedding Strike/Dip	So Average Strike	So Average Dip
ERDZ Splay	270°-309°/73°-90°N	290.8°	82.6°N
Cameron Lake	83°-210°/56°-90°S & 280°-284°/60°	100.8°	83.7°S
RLDZ	283°-325°/40°-72°	306.0°	58.4°N

There appears to be tight, west convergence in the geological contacts between silicate/oxide facies BIF and mafic metavolcanics in the Cameron lake area. The airborne magnetics in this area indicate convergence fold features of the BIF to the west. Convergence of both the BIF and mafic metavolcanics to the west in the Cameron Lake map area is reflected by the fold pattern of the litho-stratigraphy in the area.

## Foliation/Cleavage

A well developed penetrative, metamorphic foliation ( $S_1$ ) overprints all rock types, including synvolcanic felsic to intermediate intrusives and supracrustal rocks. The metamorphic foliation is defined by the sub-parallel elongation of platy minerals such as amphibole and micas, such as chlorite, sericite, and biotite. Although there is a general east to east-southeast strike trend, there are variances in both strikes and dips due to complex folding of the supracrustal rocks (Table 8). The dips are consistently steeply dipping to the north in the ERDZ splay and along the RLDZ, with steep dips to the south in the Cameron Lake area. This is consistent with the bedding data. There is a wide variation in strike directions. The local variations indicate smaller scale parasitic and/or drag folds within major regional folds.  $S_1$  is generally statistically parallel to the bedding, in comparing average strike/dip in all three map areas, with local variations.

Table 8 – Foliation/Cleavage Data

Map/Target area	Variation in Foliation/Cleavage Strike/Dip	Foliation/Cleavage Average Strike	Foliation/Cleavage Average Dip
ERDZ Splay	263°-320°/39°-90°N	295.5°	77.4°N
Cameron Lake	69°-122°/57°-90°S & 248°-300°/81°-90°N	100.8°	83.7°S
RLDZ	270°-318°/51°-90°	288.2°	73.6°N

Both felsic and mafic rocks underlying the southeast map area of ERDZ splay and along the RLDZ have undergone extensive shearing in the more ductile chloritic altered mafic and brittle deformed felsic metavolcanics and quartz diorite. The presence of strongly crenulated rocks is evident in the chlorite-(carbonate) altered schist derivatives of strongly sheared and altered mafic metavolcanics along the RLDZ. Fracturing in the form of quartz-(carbonate) veining is limited in the chloritic altered hosts. More brittle silicified-albitized and cherty felsic metavolcanics, particularly along the RLDZ and at Cameron Lake, have undergone extensive fracturing and re-crystallization. The extent of this fracturing is unknown at this time in both these areas.

## Lineation & Folding

Fold axis lineations are developed in all rock types throughout the property, with only a few local lineations being measured. Where locally, the fabric forms a locally prominent intersection lineation between compositional layering and foliation, which is interpreted as an sub-parallel axial planar to the folding.

Intersecting lineations between average  $S_0$  and  $S_1$  in the ERDZ splay and RLDZ are consistent with limited lineation data, plunging shallowly 39°- 41° towards 94°- 105.2°. This complements the Mishibishu Deformation Zone (MDZ). Intersecting and fold axis lineations in the Cameron Lake area are difficult to ascertain. Intersecting



lineations plunge shallowly at 34° towards the west at 277°, with measured lineations plunging 40° towards 64° and 54° to 304°. The shallow 40° towards 64° lineation reflects the fold axis in a parasitic/drag fold in the clastic metasediments with the BIF, and the other one reflects a northwest structure occupied by quartz-feldspar porphyries.

Although mapping has been limited to those three areas, a number of antiformal and synformal features may exist, particularly with southward dip reversals in the Cameron lake area. Both bedding and sub-parallel foliations predominantly trend east to east-southeast, with sub-vertical dips to the north and south, indicating shallow intersecting lineations in the ERDZ and RLDZ to the east, and in the Cameron lake area, shallow plunges to the west. Local variations are attributed to small scale features, and are not fully understood at this time.

### **Structural Lineaments**

There are numerous inferred structural lineaments in the Mishi Property. These lineaments are spatially associated with increased shearing, alteration, and appear coincidental with topographically lower, recessive areas. Also, a number of linears have also been interpreted from the recent Trelawney airborne magnetic survey.

The Rook Lake Deformation Zone (RLDZ) is the most prominent structure in the map area, following a linear drainage system, reflected by a series of southeast trending linear lakes. It has been outlined in the map area of 6 kilometers, as part of an extensive east to southeast 20 kilometer long system. It is up to 600 meters wide. The RLDZ shows a significant regional flexure, which is located in the mine road area from east to southeast. The dip of the structure averages 74°N. The structure shows sinistral shear movement. The vertical displacement is not known at this time. It consists of a silicified, brecciated, and fractured felsic metavolcanics and cherty tuffs and sheared and chlorite-(carbonate) altered mafic metavolcanics.

In the ERDZ splay map area, a northwest, shear lineament has been interpreted as a northwest splay from the ERDZ. This interpretation is evidenced by;

- 1) Strongly foliated/sheared and hydrothermally altered (silicified and chlorite altered) quartz diorite and felsic metavolcanics with anomalous gold values up to 0.75 g/t Au
- 2) Linear airborne magnetic highs
- 3) Series of recessive features controlled by the Eagle River drainage system

In the Cameron Lake area, the most recognizable lineament is a northwest trending lineament which cross-cuts several east-west trending BIF horizons in the eastern part of the map area. It occupies a topographical recessive area and is part of a 4.0 kilometer long northwest trending fault structure. This strike-slip fault shows significant sinistral movement of up to 200 meters horizontally. This younger fault system may be a re-activated fault system due to emplacement and alignment of dyke-

like porphyry bodies in a strongly sheared and altered geological environment. There is anomalous (1.1 g/t Au) gold-bearing mineralization spatially associated with this structure.

### **10.1.3) Mineralization**

The purpose of the 2014 geological mapping and prospecting program was to undertake a more target-driven exploration program, which would evaluate and expand the potential for gold-bearing mineralization and discover new mineralized areas. The mapping and prospecting/sampling was successful in understanding the geological environment and prioritizing potential gold targets in the three mapped area. There is numerous anomalous to low-grade precious metal showing areas, with only a few regional high-grade gold showings on the property. To date and historically on the property, there are only two documented high-grade showings on the Mishi Property. These include Noranda's Clyde Showing (14.4 g/t Au) located in the Wesdome camp area at Cameron Lake and the Au-Mo Showing (8.1 g/t Au), located south of the RLDZ.

The Mishi Project area shows a diverse array of gold-bearing deposit types;

- 1) Orogenic lode-gold quartz vein and wallrock replacement in shear environment – e.g. RLDZ and splay of ERDZ similar to Eagle River Mine (quartz vein) and Mishi Mine pit (altered and mineralized shear)
- 2) Orogenic lode-gold quartz vein and sulphidation replacement in BIF along fold nose and shear stratabound contacts in a mesothermal gold environment – Clyde Showing in Cameron Lake area
- 3) Au-Mo with Ag-Bi-Te-Re in granitoid Central Pluton hosted mineralization and aureole of contact metamorphosed supracrustal metavolcanics and metasediments – e.g. Au-Mo Showing and Ayleen Showing

Regionally, sulphides occur in a variety of rock types, as in felsic and mafic metavolcanics, clastic and chemical metasediments, and synvolcanic felsic to intermediate intrusives. The host rocks have undergone moderate to strong alteration, as a result of silicification-albitization with sericite of the felsics/cherty tuff and chlorite-(carbonate) altered mafics, particularly along the RLDZ. Pyrite is the dominant sulphide with variable amounts of pyrrhotite, chalcopyrite, and sphalerite in a variety of mineralized areas. The sulphide mineralization is primarily associated with alteration with shearing and fracturing/brecciation in metavolcanics, chemical metasediments, and synvolcanic felsic to intermediate and within inter-formational metasedimentary horizons. The mineralization commonly occurs as very-fine grained disseminations, but also as matrix cement and fractures, particularly in the cherty exhalative felsics in the Cameron Lake area. Although stylonitic and ribbon features have been recognized in quartz veins and veinlets, little in the way of sulphide mineralization has been recognized. Sulphide concentrations vary from < 1% to locally 35%, as observed with strongly disseminated to semi-massive to massive pyrite mineralization hosted in a

sulphide-rich, cherty exhalative unit (sulphide facies BIF?) in the Cameron Lake area, which marks the contact between the mafic metavolcanics to the north and silicate/oxide facies BIF to the south. Quartz (silicification) ± albitization with sericite and chlorite-(carbonate) are the most prominent alteration facies and is spatially associated with the gold mineralization.

The following is a brief summary of the more significant mineralized areas, as per mapped area in 2014.

### ***ERDZ Splay Area***

This area represents the southernmost part of the Mishi Property, and borders onto Wesdome Gold Mines Eagle River Mine area. Mapping and prospecting/sampling outlined a number of potential gold-bearing areas in favorable hosts. Gold values returned were disappointing with only a couple of anomalous gold numbers attained (Table 9).

The first area is located in the central part of claim 3006835, where a 75 meter long quartz vein zone, which returned a historical gold value of 5.60 g/t Au in a grab sample, was uncovered in mafic metavolcanic litho-stratigraphy. It is part of a more extensive structure which extends in a southeast direction for approximately 400 meters. The zone represents a margin of a recessive structure, which trends 310° to 320°, with a shallow to moderate dips to the south between 35° to 60°. The zone consists of thin quartz veinlets and stringers parallel to local shearing and are up to 0.30 meters wide. The sample which returned 5.60 g/t Au consists of white 'sugary' quartz with local chlorite septae. No visible sulphides were identified. Along strike, a number of quartz veinlets and altered wallrock hosted 1% to local 3% pyrite and pyrrhotite in both the vein and wallrock. The quartz vein which returned 5.60 g/t Au was re-sampled and returned only 0.13 g/t Au, with none of the other samples returning any significant gold values.

A second area is located in the southeastern part of claim 3006835, where a number of sheared and altered quartz diorite intrusives occupy the northwest splay area of the ERDZ. Four separate quartz diorite bodies have been outlined to partially outlined, as a result of the geological mapping. They trend northwest and are up to 850 meters in strike length, being up to 140 meters wide. The more prolific altered / mineralized body is centered on 531700N / 615900E, with both silicified and chloritic, sheared quartz diorite at/near felsic tuff contact. The sulphides consist of weakly disseminated pyrite (<1% to local 10%) with local occurrences pyrrhotite-chalcopyrite-sphalerite, and sparse veining. The sulphides cover an intermittent width of 100 meters. A chloritic shear has also been identified, but the extent is unknown. Anomalous gold values up to 0.75 g/t Au were returned. The extent of this shear is along strike with a number of showings on Wesdome Gold Mines ground, which returned values of 12.84 g/t Au in the southeast area of the Mishi Property. The

extension of Wesdome's Birch Vein (193.9 g/t Au), and the Hilltop Vein (191.2 g/t Au) may extend on strike onto the southern part Mishi Property. Both the Birch and Hilltop Vein are in similar quartz-eye felsic tuff and mafic metavolcanic litho-stratigraphy as mapped in the ERDZ splay map area.

There are numerous mineralized, sheared, and altered inter-formational units within the mafic metavolcanics. These units trend east-west, dip steeply to the north, and are up to 1.0 meters thick. These clastic to chemical metasedimentary units commonly have a rusty weathering surface as a result of sulphides, and generally show moderate to strong alteration, varying from silicified to chloritic alteration. There is locally fracturing in the form of quartz veining varying from < 1% to locally 10%. Pyrite is the dominant sulphide, occurring as disseminated sulphides varying < 0.5% to 10%. Pyrrhotite with occasional chalcocopyrite and sphalerite has also been recognized. No gold values significant results were returned in this program, however, historical values of 1.02 g/t Au were returned.

Anomalous gold values are summarized in Table 9.

Table 9 – Gold Highlights from ERDZ Splay Map Area

Sample Number	Au (ppb)	Northing UTM	Easting UTM	Description
164051	129	5316978N	615099E	Quartz Vein – sugary & stylonitic, < 1% pyrite
164067	172	5316727N	615719E	Pyritic Felsic Volcaniclastic – weak to moderate sil, <1%-2% qs, 2% to 4% py
164071	749	5317024N	615901E	Chloritic Quartz Diorite/Felsic Tuff – moderate to strong chl in sil matrix, moderately sh, 2% qs, 1% to 3% py-(cpy-sp-po)

### ***Cameron Lake Area***

The map area is located just north of Cameron Lake in the southern part of the Mishi Property, approximately 2.5 to 3.0 kilometers north of the ERDZ splay map area. This area was designated as a favorable area, with the presence of historical, anomalous gold values coinciding with BIF and airborne conductive trends. Sampling returned anomalous gold values in both the BIF and in a locally near a younger northwest structure.

Strong pyrite mineralization was encountered in a strongly silicified chert host (exhalative?), which marks the contact between sheared mafic pillow flow hosts to the north and oxide/silicate facies BIF to the south. It coincides with a series of weak to moderate Dighem airborne EM conductors trending east-west for approximately 2.0 kilometers, where historical values up to 1.5 g/t Au in grabs have been returned. A number of historic drill holes from Trelawney (2011), Terex Resources (2006), and ASARCO (1972) were drilled in one particular area of the airborne EM target. The

geochemical data from the Trelawney drill holes is currently unavailable, with no significant precious (<0.005 opt Au) and base (up to 0.1 opt Ag, 350 ppm Cu, and 1000 ppm Zn) metal results returned from the ASARCO drilling. This exhalative host rock varies from creamy to bleached white to rusty brown on weathered and fresh surface and is intensely silicified/cherty-like. It occurs as both massive and extensively fractured cherty units, where the fracturing is reflected by >20% cross-cutting quartz stringers/veinlets. The cherty tuff hosts strongly disseminated to semi-massive banded to fracture-fill/in-situ breccia filling pyrite-(pyrrhotite) sulphides ranging from < 5% to 35%. (PLA-9). Only limited anomalous gold values of 0.79 g/t Au and 0.41 g/t Au were returned from this area (Table 10).



**PLA-8)** Exhalative Pyritic Cherty Tuff with Banded and Fracture-Fill/In-Situ Breccia Fill Pyrite  
– Sample 164085 at 5319710N / 615616E

Table 10 – Gold Highlights from Cameron Lake Map Area

Sample Number	Au (ppb)	Northing UTM	Easting UTM	Description
164044	360	5319411	615730	Greywacke/Lean BIF - 2%-3% disseminated py
164045	856	5319316	615722	Sheared Arkosic-wacke – sheared with 1% to 2% py
164099	159	5319314N	615413E	Lean Silicate Facies BIF – moderate to strong sil, 3% to 5% disseminated and fracture-fill py
164105	791	5319699N	616147E	Oxide Facies BIF – <1% py-po
164109	1050	5319166N	616263E	Lean Oxide Facies BIF – silicified with 10% sulphides
164111	412	5319676N	615894E	Oxide Facies BIF - 5% py-po stringers
164116	1100	5319157N	616221E	Mafic Flow? – strong chl-ser and sil, 1% to 2% py-cpy

Mapping and sampling identified a second area which contained anomalous gold values located in the eastern-most part of the Cameron map area. As series of northwest trending quartz-feldspar dykes cross-cut strongly sheared and altered mafic metavolcanics. Lean silicate facies BIF, strongly sheared and chloritic-sericitic mafic flows and felsic metavolcanics both occupy this cross-cutting trend. Both the lean BIF (1.05 g/t Au) and sheared and altered mafic metavolcanics with 1% to 2% pyrite – chalcopyrite (1.10 g/t Au) returned low values of gold. It lies along a 4.0 kilometer long northwest trending fault structural, where significant strike-slip sinistral movement of up to 200 meters horizontally has taken place. This younger fault system may be a re-activated fault system due to emplacement of quartz-feldspar porphyry dykes in a strongly sheared and altered geological structural environment.

### **Rook Lake Area along RLDZ**

Although no anomalous or significant gold values were attained from the mapping and lithogeochemical sampling program, it successfully outlined an extensive shear and alteration system over 6 kilometers. The alteration trends east-southeast with east-west flexures. The core of the alteration system consists of cherty-like, strong silicification-(albitization) of the felsic metavolcanics (exhalative?) and strong chlorite-(carbonate) alteration of the mafic metavolcanics. The silicified rocks have undergone some degree of fracturing and brittle deformation, with features of intense brecciation and the presence of numerous cross-cutting quartz veinlets and stringers. In contrast, the altered mafics show well developed ductile deformation with intense shearing and foliation of the phyllosilicates. There are localized quartz veining along the shearing planes. The widespread mapping and sampling program has shown the dominant sulphide is pyrite with occasional localized pyrrhotite, chalcopyrite and sphalerite being

recognized. Pyrite concentrations are extremely low (<0.5%) in the silicified felsics and only  $\leq 1\%$  to 3% occasional to scattered pyrite.

Historically, the most significant gold mineralization is documented in historical drill hole M-88-15, located approximately 300 meters west of the mine road along the RLDZ (Hawke – 2006). This drill hole intersected silicified mafic metavolcanics, silicified cherty zones, and quartz breccias from 22.6 to the end of the hole at 102.7 for 80.1 meters. Widespread quartz-(carbonate) veining with tourmaline and fuschite was identified, with increased veining in the silicified zones. The dominant sulphide reported is pyrite (up to 5%), with chalcopyrite and galena. Within a 56.7 meter section from 38.7 to 95.4, anomalous values  $>0.10$  g/t Au are fairly frequent and continuous, with a range between 37 ppb and 279 ppb Au. These intercepts correlate and coincide with the mapped silicified-(albitized) core alteration over a 6 kilometer strike length.

The silicified-(albitized) alterations directly coincides with a series of strong magnetic linear lows and breaks along the RLDZ.

## 11.0) Conclusions

The 2014 surface mapping and prospecting/sampling program was successful in identifying and prioritizing key gold potential target areas, as well as understanding the geological environment within the various deformation zones. These new areas are located in;

- 1) Along the ERDZ splay area with the presence of sheared and silicified/chloritized quartz diorite and felsic metavolcanics
- 2) Along the upper contacts between the sheared mafic metavolcanics and sulphide-rich cherty tuffs (exhalative), marking the upper boundary of the oxide/silicate facies BIF contact in Cameron Lake area
- 3) Along the RLDZ in the Rook Lake area

The regional RLDZ has been confirmed and broadly delineated over a 6 kilometer strike length with its pervasive silicified-albitized alteration core. An historical drill-hole intercept located in the western part of the RLDZ contains anomalous gold-bearing mineralization over a 56.7 meter intercept as strongly silicified zones, quartz breccia, and brecciated/fractured felsic metavolcanics.

Surface exploration work in the ERDZ and Cameron Lake areas has prioritized key areas in a favorable geological environment. Several sheared and silicified and chloritic quartz diorite bodies and quartz-eye felsic metavolcanics have been identified along the ERDZ splay. The shear is open to the northwest direction, which remains virtually un-explored. Wesdome's Birch Vein (193.9 g/t Au) and Hilltop Vein (191.2 g/t Au) are spatially associated with the ERDZ splay.

In the Cameron Lake area, the presence of a strong fractured and brecciated sulphidized exhalative unit returned anomalous gold values. This unit coincides and is part of a 2 kilometer long east-west airborne EM zone, which has returned historical gold values from surface up to

1.5 g/t Au. The Clyde Showing (14.4 g/t Au) is spatially associated with BIF to the south, which is outside the 2014 map area. The presence of coincidental pyritic mineralization, fracturing and brecciation, with anomalous gold along a contact controlled shear system reflects the stratabound nature of the target.

The geological environment on the Mishi Property is more conducive to a typical shear-hosted lode-gold mesothermal environment, hosted in variable rock types. The presence of multiple deformation zones, flexuring, and potential intersecting structures/splays reflect dilatational-filled features, which would provide pathways and traps for auriferous hydrothermal fluid movement in shallow dipping / plunging structures. The presence of iron and sulfur-rich hosts would provide the chemical trap for gold to precipitate in the formation of pyrrhotite and pyrite in veined and silica-‘flooded’ gold-bearing structures.

## **12.0) Recommendations**

Future exploration work on the Mishi Project should be both regionally and locally target driven subsequent to a comprehensive compilation of the historical data. Regional mapping over the entire property is warranted in order to understand the geological and potential gold environment, discover new gold-bearing mineralization, and follow-up on favorable magnetic features.

- 1) RLDZ - continue with more detailed exploration across the RLDZ, including more detailed prospecting along RLDZ which returned high-grade gold mineralization. This may entail manual hand trenching and/or back-hoe trenching, washing, channel sampling, and detailed mapping.
- 2) ERDZ Splay area – continue prospecting to the northwest, in order to expand the trend. More prospecting and soil sampling is warranted across the ERDZ splay, considering that the discovery of the Eagle River Deposit resulted in significant gold anomalies (up to 4.1 g/t Au) from soil sampling
- 3) Cameron Lake Area – continue extending the mapping and prospecting/sampling to the west/east, and to the south covering multiple BIF horizons to the south.
- 4) Aylen Showing Area – recommend more detailed mapping and prospecting/sampling to the along the north-northeast structure covering the Au-Mo, Aylen, McAdam, Shaft area, and other showings where historical values up to 8.1 g/t Au were returned. There should be a high priority in covering the metamorphic aureole of the Central Pluton.



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## **STATEMENT OF QUALIFICATIONS**

I, Stephen Roach, of 47 Crantham Crescent, Stittsville, Ontario K2S 1R2, certify that;

1. I obtained a Bachelor degree in Geology from Concordia University in 1977. In addition, I attended Carleton University from 1981-83 in a Graduate Program.
2. I have worked as a geologist for more than 35 years since my graduation from university been in the practice of my profession as Exploration Geologist since 1977.
3. I am responsible for this report entitled, Report of 2014 Surface Exploration Program on the Mishibishu (Mishi) Project, Sault Ste. Marie Mining Division, Central Ontario (September 16 - November 2, 2014)
4. I have no beneficial interest, direct or indirect in the Mishi Project that is the subject of this report.

Dated January 21, 2015

---

Stephen Roach, B.Sc.

## **STATEMENT OF QUALIFICATIONS – ALAN SMITH**

I, Alan Smith, do hereby certify that:

1. I have been the District Manager – Exploration for Trelawney Mining and Exploration Inc., a wholly-owned subsidiary of IAMGOLD, since February, 2013.
2. I graduated with an Honors Bachelor of Science Degree in Geology from the University of Western Ontario in 1984. I completed an M.Sc. Degree in Geology at the University of Western Ontario in 1987.
3. I am a practicing member in good standing with the Association of Professional Geoscientists of Ontario (Membership Number 0201). I am also a Member of the PDAC, CIM, and OPA.

4. I have worked as a Geologist for more than 26 years since graduation from University.
5. I am responsible for the supervision of the 2014 Surface Exploration Program on the Mishi Property, and have reviewed the contents of this assessment report.
6. I have been involved in the Trelawney Mining and Exploration Inc. Ontario Exploration program since February of 2013.

Dated January 21, 2015

## **Appendix 1**

### 2014 Mishi GPS Claim Track Activities

615000 000000

618000 000000



4263347

3006840

3006841

3006842

1243570

MISHIBISHU LAKE

3006843

3006844


4207235

4207242

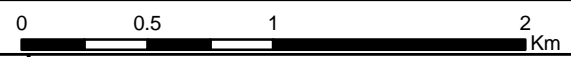
4212999

4263348

4254047

-  Roaming Tracks
-  Claims (Nov 2014)
-  Eagle River Mine Road
-  Watercourse
-  Wetland
-  Waterbody

**TRELAWNEY MINING AND EXPLORATION INC  
MISHIBISHU PROPERTY  
ROOK LAKE ROAMING TRACKS**

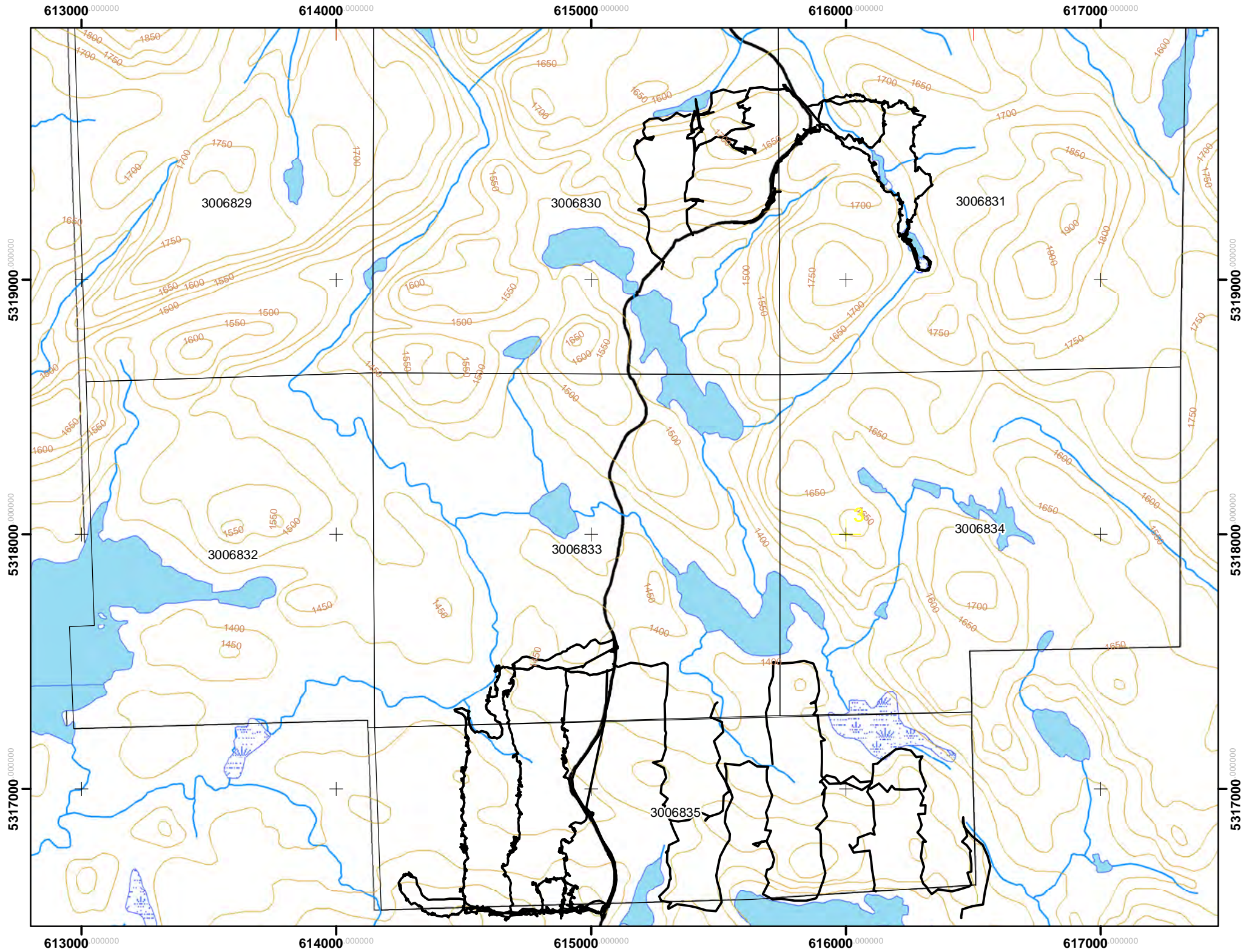


615000 000000

618000 000000

5324000 000000

5324000 000000



## **Appendix 2**

### 2014 Actlabs Assay Certificates





**Date Submitted:** 26-Sep-14  
**Invoice No.:** A14-06984-Au  
**Invoice Date:** 08-Oct-14  
**Your Reference:** Regional

Trelawney Mining and Exploration  
130 King Street West  
Suite 2810 - PO Box 182  
Toronto ON M5X 1A6  
Canada

ATTN: Alan Smith

## CERTIFICATE OF ANALYSIS

43 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1A2-Sudbury Au - Fire Assay AA  
Code 1A3-50-Sudbury Au - Fire Assay Gravimetric

REPORT **A14-06984-Au**

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Notes:

50 g of sample  
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**

1010 Lorne Street Unit West 4, Sudbury, Ontario, Canada, P3C 4R9  
TELEPHONE +705 586-3288 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Sudbury@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



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130 King Street West  
Suite 2810 - PO Box 182  
Toronto ON M5X 1A6  
Canada

ATTN: Alan Smith

## CERTIFICATE OF ANALYSIS

43 Rock samples were submitted for analysis.

The following analytical package was requested:

Code UT-6 Total Digestion ICP & ICP/MS

REPORT **A14-06984-Au**

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50 g of sample  
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

Emmanuel Esemé , Ph.D.  
Quality Control



## Results

Analyte Symbol	Au	Au
Unit Symbol	ppb	g/tonne
Detection Limit	5	0.02
Analysis Method	FA-AA	FA-GRA
164001	6	
164002	< 5	
164003	< 5	
164004	6	
164005	11	
164006	< 5	
164007	25	
164008	< 5	
164009	10	
164010	< 5	
164011	7	
164012	239	
164013	< 5	
164014	6	
164015	< 5	
164016	< 5	
164017	< 5	
164018	6	
164019	< 5	
164020	8	
164021	8	
164022	7	
164023	< 5	
164024	< 5	
164025	< 5	
164051	129	
164052	< 5	
164053	47	
164054	< 5	
164055	8	
164056	< 5	
164057	< 5	
164058	< 5	
164059	21	
164060	17	
164061	< 5	
164062	2170	2.27
164063	9	
164064	< 5	
164065	< 5	
164066	6	
164067	172	
164068	< 5	

## QC

Analyte Symbol	Au	Au
Unit Symbol	ppb	g/tonne
Detection Limit	5	0.02
Analysis Method	FA-AA	FA-GRA
OxK94 Meas		3.60
OxK94 Cert		3.56
OxD108 Meas	422	
OxD108 Cert	414.000	
OxD108 Meas	433	
OxD108 Cert	414.000	
SG66 Meas	1100	
SG66 Cert	1090	
SG66 Meas	1090	
SG66 Cert	1090	
164010 Orig	< 5	
164010 Dup	< 5	
164020 Orig	8	
164020 Dup	9	
164055 Orig	8	
164055 Split	9	
164055 Orig	8	
164055 Dup	8	
Method Blank	< 5	
Method Blank	< 5	
Method Blank	< 5	
Method Blank	< 5	
Method Blank		< 0.02
Method Blank		< 0.02



**Date Submitted:** 26-Sep-14  
**Invoice No.:** A14-06984-TD  
**Invoice Date:** 21-Oct-14  
**Your Reference:** Regional

Trelawney Mining and Exploration  
130 King Street West  
Suite 2810 - PO Box 182  
Toronto ON M5X 1A6  
Canada

ATTN: Alan Smith

## CERTIFICATE OF ANALYSIS

43 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1A2-Sudbury Au - Fire Assay AA  
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Notes:

50 g of sample  
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**

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Notes:

50 g of sample  
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé, Ph.D.  
Quality Control



Results

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
164001	3.3	0.02	0.14	0.33	0.07	0.55	< 0.1	26	4.8	140	9.31	< 0.1	20	6.7	0.1	< 0.1	< 0.1	0.13	1.82	2.2	0.10	0.04	< 0.1
164002	1.6	0.03	0.11	0.16	0.02	0.63	0.1	5	2.9	78	0.46	< 0.1	10	4.5	< 0.1	< 0.1	< 0.1	0.06	0.06	1.3	< 0.05	< 0.02	< 0.1
164003	36.4	1.03	0.92	6.18	1.60	4.82	0.2	120	12.5	707	4.98	3.4	20	23.3	2.3	1.5	0.9	0.11	4.26	25.2	1.53	0.11	< 0.1
164004	16.0	1.52	1.85	6.32	0.47	4.05	0.7	96	52.7	985	4.26	2.4	< 10	83.2	1.3	0.9	0.5	0.14	1.16	21.3	1.19	0.20	< 0.1
164005	29.7	1.49	1.53	5.80	0.77	4.15	0.1	111	83.8	658	3.89	3.1	< 10	51.4	1.3	0.9	0.5	0.39	1.95	27.0	1.05	0.22	< 0.1
164006	10.0	0.05	0.68	2.04	0.11	1.61	0.1	34	12.1	257	1.80	< 0.1	10	9.0	0.4	0.3	0.1	0.07	0.12	2.7	0.28	0.05	< 0.1
164007	28.7	0.55	2.35	3.71	0.49	8.09	0.1	150	68.9	1170	5.55	0.7	< 10	62.5	1.4	0.6	0.5	0.07	0.74	36.3	0.44	0.10	0.1
164008	16.7	1.76	2.81	5.86	0.05	5.41	0.3	264	20.8	1770	11.1	2.7	< 10	44.5	6.0	0.8	2.1	0.42	0.18	43.3	1.94	0.05	< 0.1
164009	30.2	2.70	3.31	7.36	0.25	5.45	0.2	199	38.5	1030	7.13	3.9	< 10	120	2.4	1.0	0.9	0.27	1.41	43.7	2.05	0.03	< 0.1
164010	19.7	2.62	3.48	6.94	0.08	4.71	0.2	162	93.2	1150	6.45	2.4	< 10	116	2.0	1.0	0.8	0.15	0.85	39.9	1.26	0.04	< 0.1
164011	27.5	1.14	1.80	6.86	2.14	3.82	0.1	89	66.2	770	4.67	2.5	20	72.9	1.3	1.1	0.5	0.10	2.79	22.7	0.84	0.05	< 0.1
164012	32.1	2.03	1.46	6.58	2.08	2.71	0.3	119	82.4	565	4.33	2.8	< 10	44.9	2.8	3.5	1.0	0.77	10.9	16.8	1.23	1.73	4.0
164013	15.1	> 3.00	2.78	7.24	0.07	3.98	0.3	68	78.8	921	4.94	1.4	< 10	108	1.6	1.3	0.6	0.15	0.37	28.3	1.06	0.06	0.7
164014	11.8	1.56	3.77	6.68	0.10	5.91	0.3	225	23.4	1640	9.22	1.2	< 10	68.0	2.4	0.9	0.8	0.11	0.52	48.1	0.84	0.20	0.6
164015	20.1	2.36	5.27	6.01	0.47	4.59	0.3	81	367	1120	5.23	1.4	10	250	1.2	1.5	0.5	0.08	0.51	40.0	0.74	0.03	0.9
164016	4.0	0.55	0.56	1.67	0.13	1.05	0.2	36	27.4	218	1.32	< 0.1	< 10	19.7	0.4	0.9	0.1	0.06	0.19	6.2	0.27	< 0.02	< 0.1
164017	29.3	2.71	3.76	6.27	0.12	3.37	0.2	110	181	630	4.86	2.2	< 10	222	1.4	1.3	0.5	0.08	0.50	32.4	0.83	0.03	0.8
164018	22.2	1.28	1.90	7.18	1.25	2.80	0.3	92	138	567	3.73	2.7	30	130	1.1	1.2	0.4	0.13	1.20	21.3	0.80	0.09	0.3
164019	30.3	2.32	2.41	6.89	0.65	4.01	0.3	65	92.8	903	4.85	1.9	< 10	121	1.1	1.3	0.4	0.13	1.27	27.8	0.84	0.02	0.9
164020	24.8	0.72	4.77	5.83	0.07	5.84	0.3	352	367	1760	11.5	0.7	< 10	128	2.2	1.1	0.7	0.17	0.15	64.0	0.81	0.10	1.5
164021	31.8	2.19	4.29	7.53	0.15	4.19	0.3	139	201	1100	7.55	2.9	< 10	207	2.4	1.5	0.9	0.08	0.19	46.6	1.26	0.04	1.3
164022	29.4	1.54	2.69	7.19	0.41	3.87	0.3	142	126	874	4.70	2.8	< 10	119	1.1	1.5	0.4	0.23	0.96	23.8	0.89	0.08	1.9
164023	42.0	1.89	1.86	8.23	1.18	4.36	0.2	142	139	963	4.36	3.9	20	76.6	1.6	1.9	0.5	0.19	2.08	18.1	1.23	0.06	0.5
164024	21.0	2.83	1.77	8.71	1.75	4.84	0.3	88	20.0	1000	5.88	2.4	20	16.6	4.3	3.8	1.6	0.09	1.24	22.2	1.80	0.04	1.6
164025	19.2	1.51	1.05	4.88	0.72	1.76	0.3	52	44.5	403	2.58	1.7	60	38.8	0.9	1.5	0.3	0.07	1.37	10.8	0.67	0.02	0.5
164051	17.1	0.83	1.56	2.86	0.19	1.99	0.2	97	130	562	3.37	0.4	30	34.8	0.7	0.8	0.2	0.06	0.70	18.1	0.22	0.08	< 0.1
164052	0.8	0.02	0.08	0.13	< 0.01	0.09	0.2	15	41.0	56	0.37	< 0.1	20	4.8	< 0.1	0.7	< 0.1	< 0.05	< 0.05	1.3	< 0.05	0.02	< 0.1
164053	17.2	1.63	3.64	6.22	0.18	6.61	0.5	269	26.9	1880	10.9	0.8	70	68.4	2.8	1.3	1.0	0.43	0.48	60.8	0.99	0.53	1.1
164054	18.9	0.99	2.67	4.27	0.14	1.92	0.3	153	150	984	5.27	0.4	20	60.4	1.3	0.9	0.4	0.14	1.13	27.3	0.41	0.16	0.3
164055	24.7	1.88	4.50	7.10	0.34	9.44	0.3	222	186	1850	9.32	0.7	< 10	115	1.7	1.3	0.6	0.31	5.06	54.7	0.70	0.37	1.5
164056	9.9	0.60	1.32	2.32	0.15	1.42	0.3	66	124	558	2.45	0.1	120	44.2	0.4	0.8	0.1	0.10	1.31	13.2	0.16	0.08	0.4
164057	10.9	0.53	1.69	2.39	0.11	1.78	0.2	95	124	517	3.10	0.3	< 10	51.5	0.7	0.8	0.2	0.08	0.80	17.4	0.23	0.08	< 0.1
164058	23.7	2.87	1.25	7.03	0.65	3.00	0.4	70	31.7	340	3.19	3.0	< 10	39.6	1.4	1.7	0.5	0.11	1.34	16.7	1.18	0.03	0.7
164059	23.9	1.40	1.71	6.03	0.96	3.76	0.2	162	26.7	558	6.25	3.7	10	59.6	1.7	1.4	0.6	0.36	0.96	45.6	1.31	0.40	1.6
164060	33.4	1.66	2.51	7.53	0.43	5.10	0.2	147	95.6	1090	4.99	3.3	< 10	103	1.4	1.4	0.5	0.26	1.07	28.7	1.03	0.16	1.7
164061	21.1	2.00	3.93	7.70	0.62	6.44	0.2	188	117	1110	6.92	3.4	10	143	2.1	2.0	0.8	0.34	2.69	42.5	2.19	0.55	1.2
164062	8.8	1.66	3.37	5.58	0.57	5.23	0.3	124	147	4010	11.2	2.1	< 10	136	2.4	1.6	0.9	0.35	3.69	38.5	1.57	0.34	2.5
164063	21.3	1.91	4.05	6.54	0.21	4.67	0.3	132	178	1420	6.23	2.4	< 10	237	1.4	1.2	0.5	0.12	0.71	37.7	1.06	0.11	< 0.1
164064	11.1	0.38	1.22	1.83	0.06	1.48	0.2	71	102	447	2.76	0.2	20	39.8	0.6	1.0	0.2	0.08	0.39	14.5	0.24	0.05	0.1
164065	15.0	2.61	3.87	6.11	0.21	4.38	0.3	94	189	982	5.16	1.2	10	206	1.4	1.3	0.5	0.08	0.46	32.1	0.82	0.03	0.3
164066	26.1	1.90	1.64	6.75	1.23	2.62	0.2	104	39.5	444	3.74	3.3	20	47.5	1.4	1.8	0.5	0.12	1.50	17.5	1.12	0.22	0.7
164067	17.3	> 3.00	1.56	8.02	1.32	3.22	0.2	172	18.8	477	4.88	5.1	< 10	46.0	1.9	1.8	0.7	0.58	1.31	20.0	1.16	0.39	0.8
164068	15.7	1.52	1.59	6.36	0.49	3.16	0.3	63	24.6	315	2.77	4.5	< 10	35.7	2.3	1.7	0.8	0.11	0.94	14.6	1.50	0.10	< 0.1

## Results

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
164001	13.0	2.0	5.5	7.9	1.7	20.9	5	0.2	0.49	< 0.1	< 1	0.8	< 0.1	13	1.3	2.5	0.3	1.1	0.2	0.2	< 0.1	0.2	14.6
164002	5.5	0.7	4.9	1.0	0.8	7.8	2	0.3	0.27	< 0.1	< 1	0.4	< 0.1	13	0.3	0.6	< 0.1	0.4	< 0.1	0.1	< 0.1	0.1	7.6
164003	76.5	20.7	3.9	53.2	24.2	272	174	1.5	0.84	< 0.1	< 1	0.2	< 0.1	509	26.5	61.7	8.1	31.6	6.1	5.8	0.8	4.6	49.3
164004	266	17.9	2.3	18.7	14.2	332	112	0.2	0.21	< 0.1	< 1	0.2	< 0.1	210	15.6	33.8	4.1	16.1	3.3	3.3	0.5	2.7	57.6
164005	41.3	15.8	10.5	32.1	12.4	245	138	5.4	3.22	< 0.1	< 1	1.4	< 0.1	233	16.0	35.8	4.5	17.8	3.4	3.3	0.4	2.5	77.2
164006	23.8	6.8	2.7	4.6	3.5	107	8	0.5	0.32	< 0.1	< 1	0.3	< 0.1	30	4.2	8.8	1.0	3.7	0.6	0.6	< 0.1	0.6	5.7
164007	62.9	10.5	1.5	27.1	13.0	47.9	27	1.3	12.5	< 0.1	< 1	< 0.1	< 0.1	113	1.3	3.3	0.5	2.5	0.9	1.6	0.3	2.3	49.4
164008	139	23.7	2.0	1.2	54.6	116	111	2.3	0.48	0.1	< 1	0.2	< 0.1	9	10.5	27.2	4.1	19.4	5.8	8.1	1.4	9.6	44.4
164009	88.3	20.0	2.7	9.4	23.2	357	174	8.7	0.61	< 0.1	< 1	< 0.1	< 0.1	77	27.0	64.5	8.6	34.6	7.0	6.2	0.8	4.6	73.0
164010	107	16.4	2.5	6.9	20.4	362	112	5.3	0.54	< 0.1	< 1	< 0.1	< 0.1	79	16.7	41.2	5.3	20.8	4.2	4.5	0.7	4.0	7.1
164011	62.9	18.6	1.9	85.5	12.8	175	121	1.1	0.25	< 0.1	< 1	< 0.1	< 0.1	436	15.0	33.3	4.1	15.7	3.1	3.1	0.4	2.4	32.7
164012	85.9	19.0	25.0	167	26.0	327	105	6.2	78.8	0.2	5	0.4	< 0.1	944	35.7	69.3	7.9	28.3	5.4	5.3	0.8	4.8	2530
164013	81.1	18.1	3.9	3.8	15.6	208	62	0.1	1.56	< 0.1	< 1	< 0.1	< 0.1	23	16.4	36.7	4.6	18.2	3.6	3.5	0.5	3.0	47.0
164014	93.8	18.0	3.3	2.0	21.3	119	43	0.2	0.92	< 0.1	< 1	< 0.1	< 0.1	21	4.0	10.2	1.5	7.2	2.2	3.0	0.5	3.7	109
164015	86.0	15.1	2.5	12.2	11.8	193	64	0.2	0.64	< 0.1	< 1	< 0.1	< 0.1	258	9.3	22.0	2.8	11.0	2.4	2.5	0.4	2.3	11.5
164016	18.9	4.6	2.1	3.8	3.7	51.5	10	0.9	0.68	< 0.1	< 1	0.1	0.2	53	3.9	8.7	1.1	4.5	0.9	0.9	0.1	0.7	17.9
164017	72.3	16.3	2.4	4.0	12.8	137	99	0.6	0.56	< 0.1	< 1	< 0.1	< 0.1	45	12.0	26.9	3.4	13.0	2.7	2.7	0.4	2.5	52.6
164018	81.7	19.9	3.9	36.8	9.7	208	116	0.2	0.31	< 0.1	< 1	< 0.1	< 0.1	310	13.3	28.8	3.5	13.6	2.8	2.5	0.3	1.9	57.2
164019	81.3	17.8	2.0	29.1	10.4	155	82	< 0.1	0.22	< 0.1	< 1	< 0.1	0.1	179	12.1	27.4	3.5	13.5	2.6	2.5	0.3	2.0	93.9
164020	118	23.6	6.0	0.3	15.0	191	24	4.2	0.95	< 0.1	< 1	0.7	0.2	12	3.0	7.7	1.3	6.3	2.0	2.7	0.5	3.4	120
164021	109	21.6	2.6	3.5	22.7	237	141	< 0.1	0.26	< 0.1	< 1	< 0.1	< 0.1	29	16.6	41.2	5.2	20.3	4.2	4.3	0.7	4.2	20.4
164022	99.6	19.7	7.3	13.1	10.2	269	123	5.1	0.72	< 0.1	< 1	0.6	1.3	157	12.6	28.8	3.6	14.0	2.8	2.5	0.3	2.0	78.8
164023	54.1	22.5	6.1	34.8	14.1	301	174	4.4	0.62	< 0.1	1	0.5	0.3	404	17.9	42.2	5.2	20.2	3.9	3.7	0.5	2.8	36.9
164024	106	25.7	2.7	108	42.6	552	108	0.3	0.25	< 0.1	< 1	< 0.1	0.2	685	34.9	79.5	10.4	42.2	8.9	8.9	1.3	8.0	22.3
164025	43.6	14.4	1.9	30.2	8.2	121	85	0.1	0.15	< 0.1	< 1	< 0.1	0.3	157	12.5	27.7	3.4	12.9	2.4	2.1	0.3	1.6	13.6
164051	47.1	7.0	3.5	7.4	5.7	52.6	17	0.1	0.34	< 0.1	< 1	< 0.1	< 0.1	69	1.2	3.0	0.4	2.1	0.7	0.9	0.2	1.0	48.9
164052	7.6	0.5	2.7	0.3	0.2	2.2	< 1	< 0.1	0.24	< 0.1	< 1	< 0.1	< 0.1	1	< 0.1	0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	7.0
164053	113	20.5	21.8	3.2	25.1	140	30	< 0.1	0.20	< 0.1	< 1	0.4	< 0.1	35	4.8	12.0	1.8	8.6	2.6	3.8	0.6	4.3	192
164054	67.0	11.7	5.7	5.2	11.1	80.3	18	< 0.1	0.26	< 0.1	< 1	< 0.1	< 0.1	47	2.1	5.4	0.8	3.7	1.1	1.6	0.3	1.9	93.9
164055	105	15.9	3.6	14.1	15.3	207	28	0.4	0.37	< 0.1	< 1	< 0.1	0.1	109	3.3	7.9	1.2	5.4	1.7	2.4	0.4	2.8	666
164056	33.4	5.1	5.2	7.2	3.0	58.1	6	0.5	0.36	< 0.1	< 1	0.2	< 0.1	53	0.5	1.4	0.2	1.0	0.3	0.5	< 0.1	0.6	15.0
164057	41.1	6.4	3.0	4.1	5.6	42.7	13	0.7	0.31	< 0.1	< 1	0.1	0.2	35	1.1	2.7	0.4	2.0	0.6	0.8	0.1	1.0	29.8
164058	68.4	19.2	2.4	23.9	13.8	291	143	0.5	0.18	< 0.1	< 1	< 0.1	0.2	231	24.6	52.8	6.6	24.5	4.4	3.9	0.5	2.7	17.8
164059	43.2	16.4	9.3	34.3	15.6	215	160	5.6	0.57	< 0.1	< 1	0.3	0.3	35	17.2	41.2	5.4	21.8	4.4	4.1	0.5	3.1	94.7
164060	107	20.4	4.6	13.0	13.0	346	148	6.3	1.34	< 0.1	< 1	0.5	1.0	175	15.2	34.7	4.4	17.2	3.4	3.2	0.4	2.6	68.7
164061	63.9	19.5	10.5	23.6	21.6	318	161	8.0	0.43	< 0.1	1	0.4	< 0.1	196	28.5	68.7	9.3	37.1	7.2	6.4	0.8	4.3	44.5
164062	136	17.1	1080	21.1	24.3	289	93	2.2	2.27	< 0.1	1	0.9	< 0.1	211	24.6	39.9	5.9	23.6	5.3	5.8	0.8	4.9	129
164063	211	17.3	7.8	6.4	13.1	232	102	0.7	0.75	< 0.1	< 1	0.2	< 0.1	75	15.2	34.8	4.5	17.7	3.4	3.3	0.4	2.6	18.1
164064	41.5	5.0	4.6	2.7	5.2	38.0	11	0.5	0.85	< 0.1	< 1	< 0.1	0.1	20	1.0	2.5	0.4	1.9	0.6	0.8	0.1	0.9	47.3
164065	91.2	17.3	2.4	6.1	13.5	308	53	< 0.1	0.20	< 0.1	< 1	< 0.1	0.2	107	10.7	25.3	3.1	12.1	2.6	2.8	0.4	2.6	35.7
164066	87.6	17.9	8.1	39.4	13.3	215	154	1.6	0.57	< 0.1	< 1	0.2	< 0.1	294	20.3	46.6	5.8	22.0	4.0	3.5	0.5	2.6	16.1
164067	23.5	24.6	4.6	35.8	17.7	279	234	12.4	0.49	< 0.1	2	0.2	0.2	146	14.1	39.1	5.0	20.7	4.3	4.1	0.6	3.4	39.6
164068	41.9	21.2	3.0	17.2	22.3	296	217	0.5	0.13	< 0.1	< 1	< 0.1	< 0.1	120	35.0	76.5	9.3	33.9	5.7	5.0	0.7	4.1	12.5



## Results

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
164001	0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	0.002	< 0.05	3.2	< 1	0.2	< 0.1	0.0228	0.024	0.01
164002	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.002	< 0.05	0.6	1	< 0.1	< 0.1	0.0148	0.002	0.01
164003	0.4	0.3	1.9	0.3	< 0.1	< 0.1	0.001	0.29	3.0	15	2.6	0.8	0.564	0.135	0.42
164004	0.2	0.2	1.1	0.2	< 0.1	< 0.1	0.001	0.13	8.1	16	1.9	0.5	0.296	0.077	0.24
164005	0.1	0.2	1.1	0.2	0.2	2.9	0.002	0.19	5.6	15	1.7	0.5	0.460	0.077	1.02
164006	0.3	< 0.1	0.3	< 0.1	< 0.1	< 0.1	0.001	< 0.05	3.0	5	0.6	0.2	0.177	0.028	0.03
164007	0.4	0.2	1.3	0.2	< 0.1	0.7	0.030	0.09	0.7	30	0.3	< 0.1	0.390	0.003	0.77
164008	0.4	0.9	5.3	0.9	< 0.1	< 0.1	0.004	< 0.05	6.4	38	1.1	0.3	0.989	0.110	0.18
164009	0.3	0.3	2.0	0.3	0.2	< 0.1	0.001	< 0.05	3.3	23	2.3	0.6	0.757	0.145	0.07
164010	0.4	0.3	1.6	0.3	< 0.1	< 0.1	0.002	< 0.05	4.9	23	1.2	0.4	0.644	0.153	0.03
164011	0.3	0.2	1.1	0.2	< 0.1	< 0.1	0.002	0.43	4.8	17	1.6	0.5	0.278	0.080	0.05
164012	0.4	0.4	2.4	0.3	< 0.1	0.7	0.007	1.03	25.0	14	18.6	5.4	0.426	0.093	0.35
164013	0.3	0.2	1.3	0.2	< 0.1	< 0.1	0.008	< 0.05	3.5	17	2.0	0.6	0.180	0.088	0.03
164014	0.3	0.4	2.1	0.3	< 0.1	< 0.1	0.006	< 0.05	1.5	45	0.8	0.1	0.329	0.023	0.08
164015	0.4	0.2	1.0	0.2	< 0.1	< 0.1	0.012	0.07	1.9	20	1.1	0.3	0.268	0.063	0.03
164016	0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	0.009	< 0.05	0.9	4	0.4	0.1	0.149	0.024	< 0.01
164017	0.3	0.2	1.1	0.2	< 0.1	< 0.1	0.009	< 0.05	1.6	19	1.7	0.5	0.378	0.072	0.06
164018	0.3	0.2	0.9	0.1	< 0.1	< 0.1	0.009	0.18	8.0	16	2.3	0.6	0.256	0.057	0.14
164019	0.3	0.2	1.0	0.2	< 0.1	< 0.1	0.013	0.14	3.2	17	1.4	0.4	0.203	0.071	0.03
164020	0.4	0.3	1.9	0.3	0.3	0.2	0.012	< 0.05	2.4	45	0.4	0.1	0.806	0.031	0.15
164021	0.2	0.4	2.0	0.3	< 0.1	< 0.1	0.011	< 0.05	3.1	28	2.1	0.6	0.343	0.148	0.03
164022	0.2	0.2	1.0	0.2	0.2	< 0.1	0.010	0.09	4.4	18	1.5	0.5	0.478	0.060	1.83
164023	0.3	0.2	1.3	0.2	< 0.1	< 0.1	0.013	0.24	5.3	16	2.2	0.7	0.587	0.129	0.70
164024	0.4	0.6	3.4	0.5	< 0.1	< 0.1	0.015	0.52	14.6	20	5.4	1.7	0.284	0.145	0.16
164025	0.4	0.1	0.8	0.1	< 0.1	< 0.1	0.014	0.19	3.2	8	1.6	0.5	0.232	0.058	0.01
164051	0.2	0.1	0.6	0.1	< 0.1	< 0.1	0.011	0.06	1.0	15	0.2	< 0.1	0.246	0.014	0.08
164052	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.015	< 0.05	< 0.5	2	0.1	0.1	0.0046	< 0.001	< 0.01
164053	0.4	0.4	2.5	0.4	< 0.1	< 0.1	0.014	0.06	7.0	46	0.6	0.1	0.394	0.034	0.36
164054	0.4	0.2	1.1	0.2	< 0.1	< 0.1	0.011	< 0.05	1.6	30	0.2	< 0.1	0.301	0.013	0.06
164055	0.4	0.3	1.6	0.3	< 0.1	< 0.1	0.010	0.99	5.6	40	0.3	< 0.1	0.451	0.011	1.09
164056	0.2	< 0.1	0.3	< 0.1	< 0.1	< 0.1	0.012	0.05	1.7	11	< 0.1	< 0.1	0.105	0.004	0.02
164057	0.1	0.1	0.6	< 0.1	< 0.1	0.3	0.010	< 0.05	1.0	15	0.1	< 0.1	0.211	0.009	0.05
164058	0.2	0.2	1.2	0.2	< 0.1	< 0.1	0.009	0.21	6.0	12	2.8	0.8	0.259	0.097	0.07
164059	0.3	0.2	1.5	0.3	< 0.1	6.2	0.013	0.18	4.0	19	1.8	0.5	0.822	0.115	3.01
164060	0.2	0.2	1.2	0.2	0.3	0.8	0.009	0.10	4.4	18	1.9	0.5	0.523	0.095	2.03
164061	0.4	0.3	1.7	0.3	0.2	< 0.1	0.011	0.14	5.2	23	2.0	0.6	0.633	0.147	1.56
164062	0.5	0.3	1.8	0.3	< 0.1	< 0.1	0.013	0.10	7.2	17	4.7	1.5	0.582	0.187	1.62
164063	0.4	0.2	1.2	0.2	< 0.1	< 0.1	0.008	< 0.05	1.7	19	1.7	0.4	0.451	0.072	0.04
164064	0.2	< 0.1	0.5	< 0.1	< 0.1	1.7	0.011	< 0.05	0.6	10	0.1	< 0.1	0.162	0.022	0.07
164065	0.3	0.2	1.2	0.2	< 0.1	< 0.1	0.015	< 0.05	3.8	19	1.4	0.9	0.194	0.064	0.15
164066	0.3	0.2	1.2	0.2	< 0.1	0.2	0.015	0.18	3.7	13	2.2	0.6	0.503	0.101	0.43
164067	0.4	0.3	1.6	0.2	0.5	9.2	0.013	0.14	7.1	16	3.3	2.8	0.880	0.115	1.63
164068	0.3	0.3	2.0	0.3	< 0.1	< 0.1	0.012	0.09	3.9	13	2.7	1.0	0.219	0.097	0.04

QC

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas																							
GXR-1 Cert																							
GXR-1 Meas																							
GXR-1 Cert																							
GXR-4 Meas	10.4	0.51	1.67	5.93	2.72	1.00	0.2	89	44.6	149	2.95	1.1	80	42.4		2.6		3.15	2.38	14.9	1.27	17.5	5.9
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
GXR-4 Meas																							
GXR-4 Cert																							
SDC-1 Meas	35.2	1.52	1.01	7.50	2.57	1.05		36	45.1	885	4.73	0.5		37.5	3.7	3.5	1.3		3.77	19.3	1.48		
SDC-1 Cert	34.00	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30		38.0	4.10	3.00	1.50		4.00	18.0	1.70		
SDC-1 Meas																							
SDC-1 Cert																							
GXR-6 Meas	35.3	0.10	0.61	> 10.0	1.81	0.19	0.3	141	72.1	1120	5.70	1.8	110	27.1		1.9		0.30	4.04	14.9	0.57	0.19	0.8
GXR-6 Cert	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30	68.0	27.0		1.40		1.30	4.20	13.8	0.760	0.290	0.940
GXR-6 Meas																							
GXR-6 Cert																							
SAR-M (U.S.G.S.) Meas	28.2	1.21	0.46	5.59	2.29	0.61	5.0	69	70.0	5450	3.20			45.1		3.3		3.16		11.6		1.57	1.1
SAR-M (U.S.G.S.) Cert	27.4	1.140	0.50	6.30	2.94	0.61	5.27	67.2	79.7	5220	2.99			41.5		2.20		3.64		10.70		1.94	0.39
SAR-M (U.S.G.S.) Meas																							
SAR-M (U.S.G.S.) Cert																							
DNC-1a Meas	4.7							147	181					284						59.7	0.56		
DNC-1a Cert	5.20							148.00	270					247						57.0	0.59		
DNC-1a Meas																							
DNC-1a Cert																							
SBC-1 Meas	163						0.5	215	70.9			2.6		90.1	3.6	4.1	1.3		7.65	23.4	1.75	0.67	
SBC-1 Cert	163.0						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
164017 Orig	28.6	2.68	3.69	6.14	0.12	3.33	0.2	115	171	619	4.76	2.3	< 10	217	1.4	1.3	0.5	0.09	0.49	31.7	0.82	0.03	0.7
164017 Dup	30.0	2.75	3.84	6.39	0.12	3.41	0.2	106	191	642	4.96	2.2	10	228	1.4	1.3	0.5	0.08	0.52	33.1	0.85	0.04	0.8
164055 Orig	24.7	1.88	4.50	7.10	0.34	9.44	0.3	222	186	1850	9.32	0.7	< 10	115	1.7	1.3	0.6	0.31	5.06	54.7	0.70	0.37	1.5
164055 Split	24.3	1.71	4.15	6.91	0.28	7.64	0.2	214	198	1660	8.61	0.7	< 10	115	1.6	1.0	0.6	0.22	4.27	50.6	0.61	0.32	1.1
164067 Orig	17.7	> 3.00	1.56	7.81	1.33	3.24	0.2	174	23.9	486	4.95	5.2	20	46.5	1.9	1.7	0.7	0.83	1.30	19.9	1.09	0.38	0.8
164067 Dup	17.0	> 3.00	1.56	8.22	1.32	3.20	0.2	169	13.6	467	4.80	4.9	< 10	45.5	1.9	1.9	0.7	0.33	1.32	20.1	1.22	0.39	0.9
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank																							
Method Blank																							
Method Blank																							

QC

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas																							
GXR-1 Cert																							
GXR-1 Meas																							
GXR-1 Cert																							
GXR-4 Meas	70.7	18.8	105	123	14.0	201	42	8.9	310	0.2	6	3.9	0.8	63	54.6	102		36.8	5.5	4.3	0.5	2.6	6540
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
GXR-4 Meas																							
GXR-4 Cert																							
SDC-1 Meas	102	24.4	3.0	129		177	27	< 0.1			< 1	< 0.1		625	42.1	86.3		37.9	7.2	6.8	1.0	6.3	31.1
SDC-1 Cert	103.00	21.00	0.220	127.00		180.00	290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
SDC-1 Meas																							
SDC-1 Cert																							
GXR-6 Meas	132	35.2	266	85.6	13.4	39.3	84	1.0	0.62	< 0.1	< 1	0.5	< 0.1	1260	12.4	33.4		11.4	2.4	2.3	0.3	2.4	73.3
GXR-6 Cert	118	35.0	330	90.0	14.0	35.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
GXR-6 Meas																							
GXR-6 Cert																							
SAR-M (U.S.G.S.) Meas	942	20.0	41.0	128	34.3	151		4.0	9.58	1.0	3	3.0	0.6	755	56.7	114							347
SAR-M (U.S.G.S.) Cert	930.0	17	38.8	146	28.00	151		29.9	13.1	1.08	2.76	6.0	0.96	801	57.4	122.0							331.0000
SAR-M (U.S.G.S.) Meas																							
SAR-M (U.S.G.S.) Cert																							
DNC-1a Meas	65.1				17.3	139	38					0.4		101	3.7			4.6					97.6
DNC-1a Cert	70.0				18.0	144.0	38.000					0.96		118	3.6			5.20					100.00
DNC-1a Meas																							
DNC-1a Cert																							
SBC-1 Meas	189	28.4	25.7	128	33.0	177	115	8.3	2.26		2	0.8		451	50.5	103	12.3	44.4	8.6	7.9	1.1	6.6	30.7
SBC-1 Cert	186.0	27.0	25.7	147	36.5	178.0	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0000
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
164017 Orig	70.9	16.0	2.3	4.0	12.6	136	102	0.9	0.65	< 0.1	< 1	< 0.1	< 0.1	44	11.7	26.5	3.3	12.7	2.6	2.7	0.4	2.4	53.2
164017 Dup	73.7	16.7	2.4	4.1	12.9	139	95	0.2	0.47	< 0.1	< 1	< 0.1	0.2	46	12.3	27.4	3.4	13.2	2.8	2.8	0.4	2.5	52.0
164055 Orig	105	15.9	3.6	14.1	15.3	207	28	0.4	0.37	< 0.1	< 1	< 0.1	0.1	109	3.3	7.9	1.2	5.4	1.7	2.4	0.4	2.8	666
164055 Split	102	15.3	2.6	12.6	14.1	192	28	1.0	0.23	< 0.1	< 1	< 0.1	< 0.1	87	2.8	6.8	1.0	4.7	1.5	2.0	0.4	2.5	549
164067 Orig	24.4	24.9	4.9	31.1	16.8	275	239	13.2	0.61	< 0.1	2	0.2	0.3	153	11.7	35.3	4.5	18.9	4.0	3.9	0.5	3.3	39.9
164067 Dup	22.5	24.2	4.2	40.4	18.6	284	229	11.7	0.37	< 0.1	2	0.1	0.1	139	16.4	42.8	5.6	22.5	4.6	4.4	0.6	3.4	39.3
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank																							
Method Blank																							
Method Blank																							

QC

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
GXR-1 Meas										2			0.0273	0.059	0.26
GXR-1 Cert										1.58			0.036	0.0650	0.257
GXR-1 Meas										2			0.0269	0.063	0.27
GXR-1 Cert										1.58			0.036	0.0650	0.257
GXR-4 Meas		0.2	0.9	0.1	0.5	33.6		3.12	48.5	8	17.2	6.0	0.290	0.130	1.74
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20	0.29	0.120	1.77
GXR-4 Meas										8			0.290	0.134	1.81
GXR-4 Cert										7.70			0.29	0.120	1.77
SDC-1 Meas		0.5	3.0		< 0.1	< 0.1		0.66	24.8	16	11.3	3.0	0.108	0.055	
SDC-1 Cert		0.65	4.00		1.20	0.80		0.70	25.00	17.00	12.00	3.10	0.606	0.0690	
SDC-1 Meas										16			0.198	0.054	
SDC-1 Cert										17.00			0.606	0.0690	
GXR-6 Meas		0.2	1.5	0.2	< 0.1	< 0.1		2.24	104	27	5.0	1.5		0.035	0.02
GXR-6 Cert		0.0320	2.40	0.330	0.485	1.90		2.20	101	27.6	5.30	1.54		0.0350	0.0160
GXR-6 Meas										27				0.035	0.02
GXR-6 Cert										27.6				0.0350	0.0160
SAR-M (U.S.G.S.) Meas						0.5		2.65	998	9	16.6	4.5	0.353	0.061	
SAR-M (U.S.G.S.) Cert						9.78		2.7	982	7.83	17.2	3.57	0.38	0.07	
SAR-M (U.S.G.S.) Meas										9			0.299	0.065	
SAR-M (U.S.G.S.) Cert										7.83			0.38	0.07	
DNC-1a Meas			1.8							32			0.276		
DNC-1a Cert			2.0							31			0.29		
DNC-1a Meas										31			0.284		
DNC-1a Cert										31			0.29		
SBC-1 Meas		0.5	3.1	0.5	0.4	0.4		0.90	36.2	20	15.4	6.2	0.483		
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76	0.51		
SBC-1 Meas										21			0.536		
SBC-1 Cert										20.0			0.51		
OREAS 45d (4-Acid) Meas										53			0.134	0.032	0.09
OREAS 45d (4-Acid) Cert										49.30			0.773	0.042	0.049
164017 Orig	0.3	0.2	1.1	0.2	< 0.1	< 0.1	0.008	< 0.05	1.6	18	1.6	0.4	0.415	0.073	0.06
164017 Dup	0.3	0.2	1.1	0.2	< 0.1	< 0.1	0.009	< 0.05	1.7	19	1.7	0.5	0.341	0.072	0.05
164055 Orig	0.4	0.3	1.6	0.3	< 0.1	< 0.1	0.010	0.99	5.6	40	0.3	< 0.1	0.451	0.011	1.09
164055 Split	0.5	0.2	1.5	0.2	< 0.1	0.3	0.009	0.68	4.6	41	0.3	< 0.1	0.463	0.015	1.10
164067 Orig	0.4	0.3	1.5	0.3	0.7	9.8	0.016	0.14	7.0	16	2.9	0.7	0.866	0.114	1.60
164067 Dup	0.3	0.3	1.6	0.2	0.4	8.6	0.010	0.14	7.2	16	3.6	4.9	0.895	0.115	1.67
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5		< 0.1	< 0.1			
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5		< 0.1	< 0.1			
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank										< 1			0.0006	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01
Method Blank										< 1			< 0.0005	< 0.001	< 0.01



**Date Submitted:** 10-Oct-14  
**Invoice No.:** A14-07530-Au  
**Invoice Date:** 20-Oct-14  
**Your Reference:** PN 243

Trelawney Mining and Exploration  
130 King Street West  
Suite 2810 - PO Box 182  
Toronto ON M5X 1A6  
Canada

ATTN: Alan Smith

## CERTIFICATE OF ANALYSIS

78 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1A2-Sudbury Au - Fire Assay AA

REPORT **A14-07530-Au**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written in a cursive style with some loops and flourishes.

Emmanuel Esemé , Ph.D.  
Quality Control



**Results**

Analyte Symbol	Au
Unit Symbol	ppb
Lower Limit	5
Method Code	FA-AA
164026	< 5
164027	< 5
164028	24
164029	25
164030	18
164031	12
164032	36
164033	36
164034	< 5
164035	6
164036	1020
164037	8
164038	< 5
164039	7
164040	11
164041	19
164042	< 5
164043	9
164044	360
164045	856
164046	18
164047	6
164048	< 5
164049	17
164050	6
164151	9
164152	5
164153	5
164154	29
164069	6
164070	14
164071	749
164072	7
164073	10
164074	< 5
164075	< 5
164076	< 5
164077	7
164078	< 5
164079	< 5
164080	10
164081	< 5
164082	< 5
164083	< 5
164084	< 5
164085	14
164086	1460
164087	< 5
164088	5

Analyte Symbol	Au
Unit Symbol	ppb
Lower Limit	5
Method Code	FA-AA
164089	10
164090	< 5
164091	< 5
164092	9
164093	22
164094	< 5
164095	13
164096	97
164097	8
164098	12
164099	159
164100	28
164101	11
164102	23
164103	9
164104	19
164105	791
164106	23
164107	< 5
164108	12
164109	1020
164110	< 5
164111	412
164112	1470
164113	46
164114	21
164115	5
164116	1100
164117	11

## QC

Analyte Symbol	Au
Unit Symbol	ppb
Lower Limit	5
Method Code	FA-AA
OxD108 Meas	408
OxD108 Cert	414.000
OxD108 Meas	418
OxD108 Cert	414.000
OxD108 Meas	423
OxD108 Cert	414.000
SG66 Meas	1090
SG66 Cert	1090
SG66 Meas	1100
SG66 Cert	1090
SG66 Meas	1060
SG66 Cert	1090
164035 Orig	6
164035 Dup	6
164045 Orig	822
164045 Dup	890
164069 Orig	6
164069 Split	10
164069 Orig	6
164069 Dup	7
164083 Orig	< 5
164083 Dup	< 5
164089 Orig	10
164089 Split	16
164093 Orig	20
164093 Dup	24
164099 Orig	159
164099 Split	221
164103 Orig	9
164103 Dup	9
164116 Orig	1100
164116 Dup	1100
Method Blank	< 5
Method Blank	< 5
Method Blank	< 5
Method Blank	< 5
Method Blank	< 5
Method Blank	< 5





**Date Submitted:** 10-Oct-14  
**Invoice No.:** A14-07530-UT6  
**Invoice Date:** 30-Oct-14  
**Your Reference:** PN 243

Trelawney Mining and Exploration  
130 King Street West  
Suite 2810 - PO Box 182  
Toronto ON M5X 1A6  
Canada

ATTN: Alan Smith

## CERTIFICATE OF ANALYSIS

78 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1A2-Sudbury Au - Fire Assay AA

REPORT **A14-07530-UT6**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written in a cursive style with some loops and flourishes.

Emmanuel Esemé , Ph.D.  
Quality Control





**Date Submitted:** 10-Oct-14  
**Invoice No.:** A14-07530-UT6  
**Invoice Date:** 30-Oct-14  
**Your Reference:** PN 243

Trelawney Mining and Exploration  
130 King Street West  
Suite 2810 - PO Box 182  
Toronto ON M5X 1A6  
Canada

ATTN: Alan Smith

## CERTIFICATE OF ANALYSIS

78 Rock samples were submitted for analysis.

The following analytical package was requested:

Code UT-6 Total Digestion ICP & ICP/MS

REPORT **A14-07530-UT6**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control



## Results

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
164026	8.4	1.82	2.68	6.04	0.19	3.33	0.1	273	16.9	2180	16.6	< 0.1	< 10	28.4	2.1	0.4	0.7	0.06	1.76	28.2	0.88	1.14	1.1
164027	14.2	2.08	4.18	6.32	0.24	5.41	0.3	389	29.2	2640	12.8	1.0	< 10	72.6	2.2	0.4	0.7	0.14	1.96	53.0	0.90	0.16	0.9
164028	11.7	1.39	3.49	6.23	0.19	5.24	0.5	305	15.9	2490	14.7	0.7	< 10	72.2	2.8	0.4	1.0	0.26	1.24	65.9	1.00	0.09	1.1
164029	21.5	0.09	2.57	4.87	0.16	0.65	0.2	130	112	1830	17.1	1.0	< 10	98.9	0.9	0.5	0.3	0.25	1.35	38.8	0.56	0.06	1.2
164030	2.0	0.10	1.51	2.88	0.04	1.63	0.1	129	70.8	1470	17.2	0.6	< 10	71.1	0.9	0.3	0.3	0.14	0.76	32.2	0.77	0.10	1.6
164031	< 0.5	0.01	0.83	0.09	< 0.01	0.10	< 0.1	14	37.2	1560	16.5	< 0.1	< 10	9.9	0.3	0.2	0.1	0.05	0.11	2.6	0.40	0.07	0.7
164032	6.2	0.09	2.43	3.65	0.11	2.06	0.3	131	98.4	1830	23.5	0.8	< 10	64.3	1.2	0.3	0.4	0.32	0.70	43.0	0.93	0.14	2.2
164033	< 0.5	0.02	0.64	0.37	0.02	0.30	< 0.1	23	32.2	1260	9.88	< 0.1	< 10	23.2	0.7	0.1	0.3	0.14	0.17	9.7	0.79	0.21	1.3
164034	0.6	0.01	0.16	0.27	0.03	0.28	< 0.1	14	8.1	404	2.36	< 0.1	< 10	6.8	0.3	0.2	< 0.1	< 0.05	1.89	3.5	0.21	0.02	0.4
164035	1.4	0.02	1.30	1.54	0.03	0.27	0.1	40	22.1	1680	14.5	0.6	< 10	21.4	0.7	0.5	0.2	0.06	1.17	6.8	0.60	0.04	0.6
164036	6.4	2.04	3.67	6.08	0.67	5.10	0.1	57	174	2710	10.6	1.0	< 10	148	2.1	1.2	0.8	0.14	2.06	42.9	1.56	0.06	1.2
164037	95.4	0.47	2.12	7.67	0.74	1.37	0.1	204	197	1580	13.9	0.8	< 10	156	1.7	1.1	0.6	0.09	1.67	60.6	0.59	0.05	1.0
164038	13.1	1.42	3.52	6.09	0.30	5.40	0.1	263	24.5	2120	14.1	0.8	< 10	48.9	3.4	0.4	1.1	< 0.05	0.52	57.9	1.10	0.02	0.8
164039	12.4	0.92	3.92	4.85	0.10	8.30	0.1	229	98.7	1720	10.3	0.4	< 10	66.8	2.8	0.2	1.0	< 0.05	0.43	42.5	0.78	0.04	0.6
164040	9.8	1.93	2.73	5.50	0.48	4.66	< 0.1	211	63.8	1250	10.1	0.5	< 10	57.7	2.2	0.6	0.7	0.20	0.59	82.6	0.77	2.77	1.6
164041	1.1	0.01	1.06	0.60	< 0.01	2.94	0.1	20	16.4	1450	17.5	< 0.1	< 10	29.6	0.8	0.6	0.3	0.14	0.15	10.0	0.59	0.21	0.8
164042	22.9	0.09	0.81	4.70	0.13	0.98	0.1	79	147	1790	8.45	1.9	< 10	33.3	1.1	0.6	0.4	0.12	0.67	11.1	0.77	0.02	0.6
164043	0.6	0.10	2.06	0.61	0.04	0.53	0.2	50	8.3	2050	28.7	0.2	< 10	39.0	1.1	0.5	0.4	0.07	0.19	12.9	0.63	0.08	1.0
164044	0.5	0.08	3.00	1.66	0.03	3.17	1.3	49	26.3	8200	26.7	0.6	< 10	68.4	2.3	0.2	0.7	0.17	0.18	31.1	0.56	0.27	5.6
164045	< 0.5	0.02	1.77	0.19	0.04	2.22	0.2	14	13.9	1860	23.7	< 0.1	< 10	12.9	0.6	0.5	0.2	0.16	0.81	9.0	0.43	0.12	1.1
164046	< 0.5	0.06	1.91	0.77	0.03	2.19	0.2	37	14.4	2770	17.8	0.2	< 10	45.9	0.9	0.4	0.3	< 0.05	0.20	21.5	0.74	0.09	0.9
164047	30.5	0.63	2.25	7.98	0.56	2.95	0.1	118	82.3	1630	7.99	3.6	< 10	90.7	1.2	0.8	0.4	0.30	1.83	22.7	0.86	0.17	0.9
164048	16.8	> 3.00	1.73	8.76	1.60	4.39	0.2	82	20.6	1090	6.83	1.6	< 10	16.4	4.2	2.7	1.6	0.08	1.25	22.6	1.85	0.04	1.0
164049	11.3	0.11	2.13	6.34	0.06	1.82	0.4	56	51.8	1270	15.0	2.6	< 10	61.8	1.0	0.5	0.4	0.32	0.30	28.7	1.26	0.27	2.2
164050	1.0	0.10	1.76	1.05	0.06	2.06	0.2	38	20.0	1210	31.4	0.6	< 10	14.1	1.1	1.1	0.4	0.06	4.75	5.0	0.78	0.03	0.2
164151	0.7	< 0.01	0.34	0.70	0.01	0.06	0.5	105	33.9	278	9.00	< 0.1	< 10	46.1	0.5	0.1	0.2	0.43	0.21	35.1	0.18	0.17	6.1
164152	16.3	> 3.00	1.78	9.14	1.67	4.68	0.1	131	22.2	1170	7.14	3.0	< 10	17.2	4.5	2.8	1.6	0.34	1.18	23.5	1.93	0.03	1.6
164153	12.1	0.74	0.31	3.84	0.29	0.11	< 0.1	78	118	479	2.31	0.4	< 10	70.9	0.4	0.5	0.2	< 0.05	0.45	33.3	0.34	0.02	0.2
164154	22.3	0.46	2.27	7.07	0.25	0.59	0.1	176	53.4	638	21.7	2.8	< 10	101	3.8	1.0	1.3	< 0.05	3.13	55.6	2.32	< 0.02	0.9
164069	8.8	2.98	1.28	6.22	0.43	2.81	0.1	107	60.7	309	5.17	3.7	< 10	41.1	1.4	0.7	0.5	0.24	0.74	7.8	0.89	0.39	1.1
164070	20.4	2.07	1.91	6.93	0.78	3.62	< 0.1	177	93.4	716	6.53	2.3	< 10	101	1.3	0.9	0.4	0.17	1.54	28.7	0.80	0.34	1.8
164071	15.2	0.45	1.20	5.36	1.20	0.38	1.5	86	87.6	717	6.08	2.5	10	95.3	1.0	0.4	0.4	1.69	1.30	27.6	0.71	1.22	1.3
164072	13.6	> 3.00	2.09	7.01	0.45	3.29	0.1	66	103	752	4.68	2.0	10	97.1	1.3	0.6	0.5	0.11	0.91	20.3	1.12	0.12	1.1
164073	18.4	2.92	1.04	8.16	1.89	1.00	< 0.1	118	51.8	372	4.10	3.5	< 10	58.2	1.4	0.6	0.5	0.26	2.45	20.9	1.14	0.14	0.9
164074	15.8	2.90	1.67	8.63	1.61	4.33	0.1	84	28.9	1070	6.80	2.4	< 10	17.9	4.2	2.6	1.5	0.12	1.30	23.3	1.92	0.07	1.3
164075	9.4	0.15	1.30	1.20	0.04	1.09	< 0.1	19	47.6	487	3.08	0.2	< 10	21.9	0.4	0.2	0.1	< 0.05	0.15	7.2	0.34	0.03	< 0.1
164076	12.8	> 3.00	1.41	7.05	0.23	2.66	0.1	92	49.6	498	4.08	2.8	< 10	25.2	2.0	1.1	0.7	0.28	0.48	13.4	1.17	0.13	1.1
164077	26.9	2.38	3.11	6.69	0.18	3.61	0.1	144	44.0	2630	13.6	1.4	< 10	52.5	5.8	0.8	2.0	0.06	0.37	52.8	1.97	0.07	1.3
164078	31.8	1.76	4.25	7.73	0.13	6.80	0.1	240	170	1970	11.9	1.0	< 10	114	2.7	0.4	0.9	0.08	0.44	56.0	0.84	0.08	0.9
164079	45.0	> 3.00	2.75	7.38	0.24	0.73	< 0.1	39	55.7	485	4.63	1.5	< 10	67.9	1.2	0.6	0.4	0.05	0.60	20.2	0.94	0.02	0.1
164080	50.1	1.09	1.77	7.04	1.61	2.90	0.2	103	44.1	790	4.73	2.9	< 10	57.9	1.3	0.7	0.5	0.25	3.62	16.1	0.96	0.54	2.5
164081	73.0	2.42	4.14	6.02	0.20	0.34	< 0.1	102	76.9	1010	7.67	0.9	< 10	59.6	1.4	0.7	0.5	< 0.05	1.40	54.9	0.50	0.13	0.5
164082	6.3	0.32	1.48	1.92	0.05	1.50	< 0.1	73	111	530	3.53	< 0.1	< 10	42.1	0.3	< 0.1	0.1	< 0.05	0.54	15.4	0.14	0.08	< 0.1
164083	2.5	0.08	0.29	0.30	0.01	0.53	< 0.1	10	43.0	196	1.05	< 0.1	< 10	6.9	0.2	0.1	< 0.1	< 0.05	0.10	3.6	0.14	0.05	0.2
164084	3.0	0.10	0.68	0.70	0.02	0.74	< 0.1	26	57.8	270	1.90	< 0.1	< 10	17.0	0.1	< 0.1	< 0.1	< 0.05	0.11	7.2	< 0.05	0.07	< 0.1
164085	1.7	< 0.01	0.16	0.30	0.04	< 0.01	< 0.1	9	51.8	267	11.7	0.2	< 10	44.0	0.3	< 0.1	0.1	0.16	0.13	32.7	0.13	0.70	2.6
164086	28.9	2.08	1.83	5.99	2.21	2.75	< 0.1	161	50.7	630	8.65	1.2	20	24.7	1.5	1.1	0.5	2.49	1.83	23.8	0.70	4.51	11.6
164087	< 0.5	< 0.01	0.57	0.08	0.01	0.08	< 0.1	39	49.4	2370	15.4	< 0.1	< 10	13.1	0.3	0.1	0.1	0.06	0.18	5.6	0.22	0.05	0.4
164088	22.7	0.54	0.77	6.16	0.93	0.08	< 0.1	95	245	1140	6.43	0.9	< 10	106	0.5	1.3	0.2	< 0.05	0.81	33.6	0.80	0.04	0.3

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
164089	< 0.5	< 0.01	0.22	0.18	0.02	0.06	< 0.1	7	29.2	369	3.77	< 0.1	< 10	7.0	0.2	0.1	< 0.1	< 0.05	0.12	1.9	0.17	0.05	0.9
164090	2.4	0.12	0.12	1.53	0.07	0.02	< 0.1	60	93.5	357	1.80	0.2	10	15.5	0.2	0.2	< 0.1	< 0.05	0.32	5.7	0.09	< 0.02	0.3
164091	< 0.5	< 0.01	0.17	0.10	< 0.01	0.07	0.1	19	43.9	554	4.89	< 0.1	< 10	19.2	0.2	< 0.1	< 0.1	0.19	0.05	15.6	0.27	0.12	2.1
164092	9.4	0.09	1.12	3.77	0.47	1.00	< 0.1	115	195	2730	14.1	0.7	< 10	48.7	1.5	1.5	0.7	0.16	1.10	28.3	2.46	0.16	1.1
164093	0.6	0.02	0.90	0.37	0.07	0.46	< 0.1	9	25.8	1930	17.1	< 0.1	< 10	21.1	0.3	0.6	< 0.1	0.08	4.75	4.2	0.25	0.08	1.3
164094	< 0.5	0.01	0.71	0.09	0.01	0.41	< 0.1	7	43.5	1630	15.2	< 0.1	< 10	10.3	0.4	0.4	0.2	0.06	0.49	3.2	0.57	0.07	0.5
164095	3.1	< 0.01	0.57	1.32	0.02	0.14	6.1	77	50.1	387	9.48	< 0.1	20	46.9	0.5	< 0.1	0.1	0.60	0.22	32.5	0.16	0.17	5.9
164096	< 0.5	< 0.01	0.36	0.07	< 0.01	0.12	< 0.1	7	35.7	229	8.46	< 0.1	< 10	17.7	0.2	0.4	< 0.1	0.06	0.26	9.7	0.16	0.06	0.2
164097	30.6	0.56	1.28	> 10.0	0.46	2.22	0.2	135	125	3810	12.4	5.1	50	38.9	1.4	1.2	0.5	0.43	2.06	19.3	1.11	0.14	0.4
164098	< 0.5	0.02	1.08	0.19	0.02	0.65	0.2	54	39.7	877	9.23	< 0.1	< 10	24.6	0.9	0.2	0.3	0.15	0.07	16.6	0.37	0.09	1.6
164099	41.8	0.64	1.83	8.27	1.13	1.78	0.1	163	61.8	1880	14.2	2.1	< 10	42.7	3.8	1.7	1.4	0.24	4.25	27.6	2.04	0.05	1.3
164100	36.3	0.85	2.32	7.46	0.54	1.00	0.2	222	75.6	2780	20.4	1.6	< 10	68.5	4.2	0.8	1.5	0.26	1.81	48.3	1.77	0.06	1.4
164101	0.8	0.01	1.33	1.19	0.08	0.12	< 0.1	38	30.3	886	20.0	0.6	< 10	11.9	0.3	0.2	0.1	0.13	0.75	6.7	0.24	0.09	0.2
164102	1.7	0.06	2.44	0.58	0.03	2.72	0.2	95	34.9	2300	14.1	0.4	< 10	38.0	0.5	0.3	0.2	0.08	0.36	15.9	0.25	0.07	0.6
164103	22.5	0.27	2.01	5.85	0.98	0.88	0.3	105	74.1	669	8.12	2.8	< 10	56.8	1.2	1.3	0.4	0.26	1.49	29.8	0.93	0.18	0.9
164104	11.7	0.65	2.89	4.49	0.13	1.74	0.2	68	46.2	1570	21.3	2.0	< 10	62.0	1.4	1.0	0.5	0.20	2.23	21.5	1.22	0.13	1.6
164105	< 0.5	< 0.01	0.76	0.14	0.02	0.14	< 0.1	5	28.7	613	9.75	< 0.1	< 10	6.4	0.3	0.4	0.1	< 0.05	0.74	1.8	0.69	0.03	0.4
164106	34.3	1.03	1.66	8.81	0.79	4.55	0.2	116	81.9	1110	5.74	4.2	30	41.5	1.5	1.8	0.5	0.33	2.09	14.8	1.11	0.22	0.9
164107	2.7	0.03	0.75	0.70	0.08	1.28	0.3	15	59.5	735	23.1	< 0.1	< 10	6.5	0.7	1.2	0.3	< 0.05	2.01	4.8	0.95	0.06	0.5
164108	17.3	0.25	2.18	3.45	0.17	1.75	0.2	51	113	1230	8.50	3.9	< 10	54.3	2.1	0.6	0.7	0.61	1.07	23.8	1.01	0.39	1.4
164109	16.0	0.29	0.73	4.08	0.96	0.17	< 0.1	101	238	1220	6.78	0.7	< 10	27.4	0.9	1.2	0.3	0.59	0.92	18.0	0.59	0.30	0.2
164110	45.2	1.06	2.11	8.35	1.29	1.51	0.1	284	80.8	4610	14.4	1.4	< 10	50.7	2.5	1.6	0.8	0.14	1.77	25.3	0.92	0.26	1.6
164111	3.0	0.02	0.81	1.12	0.07	0.18	< 0.1	23	24.5	1590	10.7	0.5	< 10	23.1	0.7	0.3	0.3	0.26	1.84	19.8	0.34	0.20	1.9
164112	16.2	2.03	1.86	6.26	2.73	2.84	< 0.1	163	60.9	634	8.56	1.4	30	24.5	1.6	1.3	0.6	2.76	1.88	24.1	0.76	4.93	12.0
164113	10.2	0.21	0.80	1.56	0.11	0.19	0.2	66	99.2	1180	13.2	0.2	< 10	65.3	0.6	0.4	0.2	0.68	0.15	61.6	0.18	0.38	4.7
164114	8.1	0.23	0.78	1.44	0.10	0.08	2.3	20	50.2	1300	19.9	0.5	< 10	79.1	0.6	0.3	0.2	0.90	0.15	59.1	0.35	1.48	4.6
164115	0.9	0.02	1.88	1.25	0.18	0.45	0.1	16	46.2	1950	16.7	0.5	< 10	18.0	0.4	0.6	0.1	0.08	7.09	5.0	0.42	0.05	0.9
164116	16.5	0.70	5.19	6.60	0.69	8.79	0.3	279	126	1610	10.3	1.2	< 10	80.7	2.3	0.9	0.8	1.40	0.89	35.1	1.06	5.49	1.4
164117	< 0.5	0.01	0.97	0.49	0.01	0.31	< 0.1	23	39.1	1530	12.4	0.2	< 10	39.2	0.5	0.3	0.2	0.06	0.71	13.2	0.30	0.08	0.4

## Results

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
164026	108	20.6	2.5	6.3	18.5	110	5	< 0.1	0.45	< 0.1	< 1	< 0.1	< 0.1	56	3.9	9.6	1.4	6.6	2.1	2.9	0.5	3.4	228
164027	128	18.8	3.5	20.2	18.9	129	36	0.7	0.26	< 0.1	< 1	< 0.1	< 0.1	45	3.3	8.5	1.3	6.4	2.0	3.1	0.5	3.4	142
164028	148	19.7	0.3	10.2	24.8	60.8	27	0.2	0.20	< 0.1	< 1	< 0.1	< 0.1	51	4.4	11.2	1.7	8.5	2.7	3.9	0.7	4.4	437
164029	240	12.4	2.9	7.0	8.4	15.8	46	2.1	1.20	< 0.1	< 1	< 0.1	0.1	50	4.6	9.9	1.3	5.1	1.2	1.4	0.2	1.4	91.4
164030	129	9.0	3.1	1.3	9.1	14.2	24	1.3	6.10	< 0.1	< 1	< 0.1	0.3	8	4.0	8.9	1.1	4.8	1.2	1.6	0.2	1.5	140
164031	47.9	1.3	2.9	0.5	3.5	7.1	4	< 0.1	1.21	< 0.1	< 1	< 0.1	0.1	6	1.9	3.9	0.5	1.9	0.4	0.5	< 0.1	0.5	26.1
164032	146	10.0	3.4	4.5	11.3	21.7	37	1.5	5.20	< 0.1	< 1	< 0.1	0.2	13	3.6	8.0	1.0	4.6	1.3	1.7	0.3	1.9	242
164033	43.8	1.7	1.3	0.6	7.5	23.5	4	0.1	4.43	< 0.1	< 1	0.1	0.3	4	5.4	11.3	1.4	5.8	1.2	1.6	0.2	1.4	91.7
164034	13.7	0.9	3.6	2.2	3.0	7.5	5	0.2	0.25	< 0.1	< 1	0.1	< 0.1	11	2.4	2.9	0.5	1.9	0.4	0.5	< 0.1	0.4	22.3
164035	98.2	4.5	2.9	2.2	6.9	11.3	30	1.0	0.79	< 0.1	< 1	0.1	< 0.1	9	4.3	8.8	1.1	4.3	0.9	1.1	0.2	1.1	20.0
164036	132	17.4	377	21.6	20.9	329	40	1.5	0.49	< 0.1	1	0.2	< 0.1	354	19.3	35.1	4.9	20.3	4.8	5.5	0.8	4.4	86.0
164037	135	18.0	3.6	20.9	14.0	71.9	29	0.1	0.12	< 0.1	< 1	< 0.1	< 0.1	156	2.7	7.5	1.2	6.1	2.0	2.4	0.4	2.6	378
164038	125	18.8	0.8	6.9	28.7	95.7	33	< 0.1	0.18	< 0.1	< 1	< 0.1	< 0.1	48	4.5	12.2	1.9	9.5	3.0	4.5	0.8	5.2	236
164039	82.0	12.5	0.7	3.4	27.1	101	15	0.2	0.07	< 0.1	< 1	< 0.1	< 0.1	17	5.4	13.4	1.9	9.5	2.9	4.3	0.7	4.5	95.5
164040	99.3	15.6	1.4	12.7	18.8	129	17	1.3	0.17	< 0.1	< 1	< 0.1	0.3	116	3.5	9.1	1.4	7.1	2.2	3.1	0.5	3.4	67.3
164041	80.3	4.5	1.1	0.3	8.2	43.8	7	0.2	4.18	< 0.1	< 1	0.1	0.1	2	3.3	6.6	0.8	3.3	0.8	1.1	0.2	1.2	98.0
164042	86.6	12.3	4.1	6.4	10.7	24.8	99	3.2	1.19	< 0.1	< 1	0.1	< 0.1	15	7.7	17.3	2.1	8.3	1.7	1.9	0.3	1.7	7.4
164043	134	3.3	2.6	1.1	10.5	42.0	13	0.4	0.31	< 0.1	< 1	0.1	0.2	12	4.0	7.3	0.9	3.7	0.9	1.3	0.2	1.6	14.7
164044	557	6.3	2.7	0.3	18.1	5.9	31	1.0	1.84	0.2	< 1	0.1	0.4	3	2.7	6.9	1.0	4.5	1.4	2.1	0.4	3.2	531
164045	76.2	1.5	2.1	2.0	6.1	8.1	3	< 0.1	0.42	< 0.1	< 1	0.4	0.2	10	2.6	4.6	0.6	2.3	0.5	0.8	0.1	0.8	60.9
164046	92.3	3.3	1.0	1.0	8.8	11.8	9	0.4	0.50	< 0.1	< 1	< 0.1	0.2	8	2.6	5.6	0.8	3.3	1.0	1.4	0.2	1.5	71.0
164047	100	19.4	3.4	18.3	11.0	193	146	6.5	0.44	< 0.1	1	0.8	0.2	87	15.8	33.6	4.1	15.3	2.9	2.7	0.4	2.0	82.4
164048	115	23.9	0.7	102	40.4	562	72	1.3	0.11	< 0.1	< 1	< 0.1	< 0.1	643	29.2	68.8	9.7	39.7	9.0	9.1	1.3	7.8	26.4
164049	345	16.8	2.0	2.4	9.3	86.3	91	5.3	1.15	0.2	1	0.2	0.5	14	15.0	31.4	3.8	14.7	2.8	2.8	0.4	2.0	247
164050	73.9	4.5	1.5	5.3	11.3	21.5	27	1.0	1.80	< 0.1	< 1	0.2	< 0.1	5	4.9	10.1	1.3	4.9	1.1	1.5	0.2	1.6	14.6
164151	51.0	3.1	12.1	0.9	4.2	3.6	6	0.1	1.49	< 0.1	< 1	0.8	0.4	3	1.8	4.2	0.6	2.6	0.6	0.8	0.1	0.9	935
164152	121	25.3	1.2	97.3	43.3	568	131	10.6	0.57	< 0.1	2	< 0.1	0.1	638	32.2	75.1	10.2	43.1	9.8	9.9	1.4	8.5	24.8
164153	7.2	8.6	26.8	9.1	3.7	106	19	0.3	0.12	< 0.1	< 1	< 0.1	< 0.1	37	2.5	6.3	0.9	4.2	1.1	1.1	0.1	0.8	26.3
164154	221	27.1	0.4	10.5	31.5	192	112	0.3	< 0.05	< 0.1	< 1	< 0.1	< 0.1	57	17.2	43.6	6.4	29.7	7.5	7.7	1.1	6.6	14.3
164069	33.6	18.0	3.9	10.8	12.4	223	162	7.9	0.82	< 0.1	1	0.2	0.1	242	11.2	25.7	3.4	13.7	2.8	2.8	0.4	2.4	4.7
164070	48.7	18.6	3.4	25.5	11.4	233	104	4.6	2.19	< 0.1	< 1	0.1	< 0.1	229	9.9	23.3	3.0	12.5	2.6	2.5	0.4	2.2	17.8
164071	891	13.9	3.8	34.2	9.3	50.0	111	5.4	0.88	0.2	1	0.2	1.3	195	16.5	37.8	4.9	18.9	3.1	2.5	0.3	1.9	541
164072	62.4	16.8	2.2	16.3	12.5	261	84	2.2	0.31	< 0.1	< 1	< 0.1	< 0.1	139	16.5	39.0	5.0	19.5	3.7	3.4	0.5	2.5	69.8
164073	24.6	20.8	7.0	60.0	13.0	146	154	6.6	0.81	< 0.1	1	0.7	< 0.1	269	18.2	41.9	5.3	20.8	3.9	3.7	0.5	2.7	48.9
164074	120	24.3	3.4	103	39.1	573	103	1.3	0.29	< 0.1	1	< 0.1	< 0.1	724	33.1	74.5	10.2	42.5	9.4	9.4	1.4	7.9	25.2
164075	27.6	6.6	1.7	1.7	3.7	8.6	10	0.5	0.21	< 0.1	< 1	0.1	< 0.1	11	3.2	6.0	0.7	3.0	0.6	0.7	0.1	0.6	58.5
164076	39.2	18.7	2.8	7.8	18.9	295	125	5.2	1.54	< 0.1	< 1	0.1	< 0.1	101	20.5	48.7	6.3	25.0	4.7	4.5	0.6	3.6	70.6
164077	184	22.7	1.6	6.0	49.9	132	53	0.2	0.10	0.1	< 1	< 0.1	< 0.1	62	10.2	27.6	4.2	20.1	6.2	8.3	1.4	9.4	72.0
164078	114	19.0	1.8	4.2	23.6	117	39	< 0.1	0.30	< 0.1	< 1	0.9	< 0.1	36	3.7	9.7	1.5	7.6	2.5	3.5	0.6	4.1	131
164079	88.8	17.0	0.9	9.8	11.9	79.8	69	0.9	0.05	< 0.1	< 1	< 0.1	< 0.1	46	8.6	23.3	3.3	14.1	2.9	2.9	0.4	2.2	3.8
164080	103	17.9	6.1	58.3	11.9	145	135	4.1	0.72	< 0.1	< 1	0.3	0.4	469	15.1	33.8	4.3	17.1	3.2	3.1	0.4	2.3	30.8
164081	112	17.8	3.6	9.2	13.7	18.9	37	0.7	< 0.05	< 0.1	< 1	< 0.1	< 0.1	98	7.1	17.4	2.3	9.3	2.1	2.6	0.4	2.3	26.0
164082	48.3	5.0	1.2	2.1	2.9	33.2	5	0.3	3.22	< 0.1	< 1	< 0.1	< 0.1	15	0.4	1.0	0.1	0.7	0.3	0.4	< 0.1	0.5	87.3
164083	16.0	0.9	3.9	0.6	2.5	9.1	< 1	< 0.1	1.53	< 0.1	< 1	0.2	< 0.1	4	0.2	0.7	0.1	0.8	0.3	0.5	< 0.1	0.5	15.4
164084	21.6	2.0	5.8	0.8	1.0	8.3	2	< 0.1	0.87	< 0.1	< 1	0.2	< 0.1	7	< 0.1	0.3	< 0.1	0.2	< 0.1	0.1	< 0.1	0.1	22.0
164085	34.9	1.8	28.2	1.1	3.0	2.0	12	0.5	1.62	< 0.1	< 1	0.5	0.3	16	1.4	2.8	0.3	1.2	0.3	0.5	0.1	0.6	42.0
164086	111	15.9	6.1	59.5	14.0	448	51	5.5	592	0.7	9	1.0	0.4	530	11.3	22.0	2.7	10.8	2.5	2.7	0.4	2.5	> 10000
164087	48.1	0.7	2.0	0.7	3.0	3.7	2	< 0.1	3.48	< 0.1	< 1	0.2	0.1	2	2.2	4.3	0.6	2.5	0.6	0.7	< 0.1	0.6	77.3
164088	48.1	14.2	10.8	27.7	3.7	123	40	< 0.1	0.75	< 0.1	< 1	< 0.1	< 0.1	150	6.0	14.6	2.1	9.0	2.1	1.7	0.2	1.0	17.7

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
164089	22.8	1.1	2.3	1.2	1.8	6.2	2	< 0.1	2.05	< 0.1	< 1	< 0.1	< 0.1	2	0.9	1.8	0.2	0.8	0.2	0.3	< 0.1	0.3	12.3
164090	5.1	3.1	2.2	3.8	1.5	14.1	10	0.4	0.38	< 0.1	< 1	< 0.1	0.1	7	0.8	1.8	0.3	1.1	0.3	0.3	< 0.1	0.3	13.0
164091	38.2	0.5	3.4	0.3	2.3	2.9	< 1	< 0.1	0.68	< 0.1	< 1	0.1	0.2	< 1	1.2	2.8	0.4	1.7	0.5	0.6	< 0.1	0.4	313
164092	79.5	12.0	2.8	11.2	16.9	87.2	32	2.6	1.54	< 0.1	< 1	< 0.1	0.3	300	8.0	17.4	2.4	12.0	4.1	5.7	0.8	4.4	43.7
164093	58.6	1.5	5.5	5.3	2.6	9.6	3	< 0.1	0.63	< 0.1	< 1	0.1	< 0.1	7	1.3	2.5	0.3	1.2	0.3	0.3	< 0.1	0.4	37.0
164094	52.2	0.8	2.5	1.1	4.2	23.0	2	< 0.1	1.17	< 0.1	< 1	0.1	0.1	3	2.3	4.6	0.6	2.5	0.6	0.9	0.1	0.8	33.0
164095	1000	5.0	3.8	0.7	3.3	3.8	4	< 0.1	0.67	< 0.1	< 1	< 0.1	0.2	5	1.5	3.4	0.4	2.0	0.5	0.7	0.1	0.6	867
164096	26.2	0.8	1.1	0.3	2.0	2.9	10	< 0.1	0.59	< 0.1	< 1	0.1	0.2	< 1	0.7	1.4	0.2	0.7	0.2	0.2	< 0.1	0.2	62.4
164097	178	24.7	10.5	15.0	12.6	134	221	8.8	2.19	< 0.1	2	0.6	0.1	64	14.7	31.8	3.8	14.8	2.9	2.9	0.4	2.4	20.6
164098	89.8	1.2	2.1	0.7	8.2	3.5	6	0.2	0.48	< 0.1	< 1	0.2	0.2	2	2.2	4.6	0.6	2.8	0.7	0.9	0.2	1.2	257
164099	83.3	27.5	0.9	32.3	32.4	161	71	0.9	0.41	0.1	1	0.1	0.1	120	12.4	34.0	5.2	24.6	6.8	7.5	1.1	6.8	149
164100	126	24.4	1.4	15.1	34.3	97.1	59	0.3	0.31	0.1	1	< 0.1	< 0.1	74	13.3	34.0	5.0	24.3	6.6	7.5	1.2	7.1	78.7
164101	76.4	5.2	0.9	13.0	2.9	20.2	29	1.0	0.10	< 0.1	< 1	< 0.1	0.2	27	1.8	3.0	0.3	1.3	0.3	0.4	< 0.1	0.4	57.2
164102	149	2.2	1.8	1.3	4.8	11.6	21	0.5	0.70	< 0.1	< 1	< 0.1	0.1	8	1.4	3.1	0.4	1.7	0.4	0.6	< 0.1	0.7	78.6
164103	300	18.3	14.7	28.8	10.7	74.8	128	5.3	4.63	0.2	6	0.2	0.4	155	11.1	25.2	3.1	12.5	2.6	2.7	0.4	2.2	109
164104	187	11.9	2.3	5.9	14.0	68.3	90	3.3	1.03	0.1	1	< 0.1	0.2	11	10.8	23.3	2.9	11.5	2.5	2.7	0.4	2.4	251
164105	47.6	0.7	0.9	1.8	3.3	4.8	3	< 0.1	0.55	< 0.1	< 1	< 0.1	< 0.1	6	4.9	9.9	1.2	4.6	0.9	0.8	0.1	0.6	10.4
164106	92.3	22.3	6.2	29.9	13.3	323	195	7.2	0.72	< 0.1	1	0.2	0.4	101	15.0	33.1	4.0	15.3	3.0	3.0	0.4	2.4	39.4
164107	100	3.4	1.6	4.3	8.1	28.8	8	0.5	0.67	< 0.1	< 1	< 0.1	< 0.1	382	4.5	9.3	1.2	4.7	1.1	1.3	0.2	1.2	39.1
164108	89.2	11.5	5.3	10.0	19.7	34.3	172	5.5	0.82	< 0.1	2	0.1	0.3	35	13.7	29.5	3.6	13.8	2.9	3.2	0.5	3.1	243
164109	45.4	10.0	8.2	25.5	7.0	39.0	29	0.3	0.06	< 0.1	< 1	< 0.1	0.3	258	3.3	8.0	1.1	5.2	1.4	1.4	0.2	1.4	10.9
164110	252	21.9	1.9	50.9	20.7	103	55	2.0	2.76	0.2	3	0.4	0.2	333	4.6	10.9	1.4	6.3	1.9	2.9	0.5	3.7	61.3
164111	63.7	3.6	1.7	4.8	6.5	10.6	20	0.6	0.80	< 0.1	< 1	< 0.1	0.5	8	3.9	8.2	1.0	3.9	0.9	1.1	0.2	1.2	89.2
164112	115	15.5	6.1	64.0	14.1	446	53	5.5	600	0.7	10	1.1	0.4	546	11.9	23.3	2.8	11.4	2.6	2.9	0.4	2.7	> 10000
164113	83.3	5.8	15.2	2.7	4.7	93.1	10	0.5	4.49	< 0.1	< 1	0.4	1.0	60	2.0	3.9	0.5	2.0	0.5	0.7	0.1	0.9	290
164114	828	5.3	8.2	2.5	5.6	6.8	20	0.8	4.39	0.1	< 1	0.2	0.8	31	4.1	8.9	1.1	4.5	0.9	0.9	0.1	0.9	499
164115	80.9	3.4	3.1	11.2	4.2	32.5	18	0.9	0.71	< 0.1	< 1	0.1	0.1	13	3.7	6.8	0.8	2.9	0.6	0.8	0.1	0.7	27.8
164116	124	16.2	2.5	26.2	19.3	213	45	2.4	1.54	0.1	< 1	0.2	2.5	84	3.8	9.7	1.5	7.3	2.4	3.3	0.5	3.6	1310
164117	66.5	1.7	1.4	0.9	4.9	6.8	11	0.3	1.20	< 0.1	< 1	0.2	< 0.1	35	2.7	5.8	0.6	2.5	0.5	0.7	0.1	0.8	58.4

## Results

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
164026	0.3	0.3	1.7	0.3	< 0.1	1.0	0.004	< 0.05	1.3	63	1.3	< 0.1	0.194	0.034	0.37
164027	0.6	0.3	1.8	0.3	< 0.1	0.9	0.001	0.05	7.3	54	1.3	< 0.1	0.611	0.026	0.10
164028	0.3	0.4	2.4	0.4	< 0.1	0.6	0.005	< 0.05	1.6	60	1.0	0.1	0.459	0.036	0.15
164029	1.1	0.1	0.9	0.1	< 0.1	4.2	0.003	0.15	3.9	21	0.9	0.2	0.430	0.044	1.17
164030	0.7	0.1	0.8	0.1	< 0.1	2.7	0.002	< 0.05	1.5	16	0.5	< 0.1	0.240	0.057	1.93
164031	0.2	< 0.1	0.3	< 0.1	< 0.1	63.6	0.003	< 0.05	1.3	< 1	0.1	< 0.1	0.0081	0.033	0.23
164032	1.1	0.2	1.0	0.2	< 0.1	7.1	0.004	0.09	3.3	20	0.6	0.1	0.285	0.054	4.29
164033	0.2	< 0.1	0.4	< 0.1	< 0.1	1.2	0.002	< 0.05	1.6	5	0.2	< 0.1	0.0357	0.143	1.52
164034	0.1	< 0.1	0.2	< 0.1	< 0.1	0.5	0.004	< 0.05	0.5	2	0.1	< 0.1	0.0146	0.018	0.03
164035	0.2	0.1	0.6	0.1	< 0.1	1.1	0.002	0.06	0.7	5	0.9	0.1	0.0886	0.048	0.40
164036	0.4	0.3	1.5	0.2	< 0.1	0.3	0.003	0.09	4.5	20	3.8	1.0	0.408	0.157	0.80
164037	0.8	0.3	1.5	0.3	< 0.1	0.5	0.004	0.15	1.1	56	0.5	0.1	0.326	0.031	0.19
164038	0.4	0.5	2.9	0.5	< 0.1	0.4	0.003	< 0.05	1.2	52	0.5	0.1	0.392	0.038	0.18
164039	0.5	0.4	2.1	0.3	< 0.1	0.7	0.003	< 0.05	1.0	38	0.3	< 0.1	0.384	0.052	0.12
164040	0.5	0.3	1.7	0.3	< 0.1	0.7	0.004	0.06	2.1	38	0.4	0.3	0.583	0.037	2.45
164041	0.2	0.1	0.7	0.1	< 0.1	0.8	0.003	< 0.05	1.1	2	0.1	< 0.1	0.0151	0.063	1.47
164042	2.3	0.2	1.0	0.2	0.1	1.0	0.005	0.06	2.1	13	0.9	0.2	0.346	0.084	0.02
164043	0.3	0.2	1.0	0.2	< 0.1	1.9	0.002	< 0.05	2.2	4	0.2	< 0.1	0.0233	0.055	0.32
164044	0.3	0.4	2.4	0.4	< 0.1	1.5	0.007	< 0.05	1.8	13	0.7	0.2	0.0937	0.025	2.49
164045	0.2	< 0.1	0.5	< 0.1	< 0.1	1.3	0.004	< 0.05	1.0	1	0.1	< 0.1	0.0030	0.066	0.53
164046	0.2	0.1	0.7	0.1	< 0.1	1.6	0.002	< 0.05	0.7	5	0.3	< 0.1	0.0455	0.074	0.14
164047	0.8	0.2	1.1	0.2	0.4	1.1	0.002	0.16	5.4	18	2.7	0.4	0.488	0.069	0.70
164048	0.4	0.6	3.2	0.5	< 0.1	< 0.1	0.003	0.44	11.6	21	3.3	1.2	0.247	0.146	0.17
164049	0.8	0.1	0.9	0.2	0.3	1.4	0.003	< 0.05	2.5	11	2.5	0.7	0.374	0.092	1.05
164050	0.3	0.2	0.9	0.2	< 0.1	0.9	0.003	0.17	2.5	2	0.8	< 0.1	0.0611	0.092	0.26
164151	0.3	< 0.1	0.4	< 0.1	< 0.1	1.0	0.004	1.14	20.3	24	0.1	0.2	0.0312	0.045	4.40
164152	0.7	0.6	3.5	0.5	0.3	< 0.1	0.004	0.47	12.5	20	5.1	1.8	0.675	0.175	0.18
164153	0.8	< 0.1	0.4	< 0.1	< 0.1	0.4	0.001	0.13	2.2	20	0.3	< 0.1	0.177	0.036	< 0.01
164154	0.5	0.6	3.4	0.6	< 0.1	< 0.1	0.002	0.27	5.1	39	1.8	0.4	0.425	0.163	< 0.01
164069	0.3	0.2	1.1	0.2	0.4	1.7	0.002	0.06	4.0	10	1.9	0.5	0.567	0.110	0.65
164070	0.3	0.2	1.1	0.2	< 0.1	0.9	0.008	0.12	3.3	18	1.5	0.3	0.683	0.129	1.01
164071	0.2	0.1	0.8	0.1	0.3	1.4	0.003	0.19	7.4	15	1.6	0.4	0.426	0.074	0.59
164072	0.4	0.2	1.1	0.2	< 0.1	0.3	0.001	0.06	8.1	15	2.1	0.5	0.213	0.095	0.24
164073	0.3	0.2	1.1	0.2	0.3	8.7	0.003	0.33	5.9	15	2.2	0.5	0.658	0.124	1.07
164074	0.6	0.6	3.2	0.5	< 0.1	< 0.1	0.002	0.46	13.7	19	5.6	1.3	0.371	0.169	0.16
164075	0.1	< 0.1	0.3	< 0.1	< 0.1	0.9	0.001	< 0.05	< 0.5	3	0.2	< 0.1	0.0518	0.018	0.02
164076	0.8	0.3	1.6	0.3	0.3	0.4	0.010	< 0.05	5.3	14	3.1	0.7	0.310	0.111	0.23
164077	0.4	0.8	4.8	0.8	< 0.1	< 0.1	0.003	< 0.05	1.8	44	1.4	0.3	0.480	0.137	0.22
164078	0.5	0.4	2.3	0.4	< 0.1	1.6	0.004	< 0.05	1.9	48	0.4	< 0.1	0.453	0.032	0.27
164079	0.3	0.2	0.9	0.2	< 0.1	0.1	0.002	< 0.05	1.2	13	1.7	0.4	0.103	0.071	< 0.01
164080	0.3	0.2	1.0	0.2	< 0.1	0.4	0.004	0.40	6.4	14	1.9	0.4	0.553	0.107	0.72
164081	0.3	0.2	1.1	0.2	< 0.1	0.3	0.002	0.05	2.5	40	1.5	0.9	0.289	0.042	0.07
164082	0.1	< 0.1	0.3	< 0.1	< 0.1	1.1	0.004	< 0.05	0.7	13	< 0.1	< 0.1	0.100	0.048	0.19
164083	0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	0.002	< 0.05	0.8	2	< 0.1	< 0.1	0.0063	0.138	0.02
164084	0.2	< 0.1	0.1	< 0.1	< 0.1	0.2	0.001	< 0.05	1.4	5	< 0.1	0.9	0.0282	0.004	0.04
164085	0.3	< 0.1	0.3	< 0.1	< 0.1	3.2	0.003	0.06	37.3	1	0.3	0.2	0.0408	0.007	8.05
164086	0.3	0.2	1.3	0.2	0.3	2.8	0.013	0.27	19.4	17	3.3	1.0	0.361	0.097	1.29
164087	0.2	< 0.1	0.3	< 0.1	< 0.1	2.4	0.001	< 0.05	0.6	8	0.1	0.2	0.0023	0.040	0.17
164088	0.4	< 0.1	0.5	< 0.1	< 0.1	0.2	0.002	0.28	4.5	50	0.5	< 0.1	0.202	0.018	< 0.01

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
164089	0.3	< 0.1	0.1	< 0.1	< 0.1	< 0.1	0.003	< 0.05	0.6	< 1	< 0.1	< 0.1	0.0043	0.036	0.28
164090	0.5	< 0.1	0.2	< 0.1	< 0.1	0.3	0.001	< 0.05	0.7	14	< 0.1	< 0.1	0.136	0.006	< 0.01
164091	0.3	< 0.1	0.2	< 0.1	< 0.1	0.5	0.004	< 0.05	0.6	5	< 0.1	< 0.1	0.0022	0.035	1.28
164092	0.3	0.2	0.7	0.1	< 0.1	1.3	0.003	0.30	4.1	19	0.3	0.2	0.416	0.488	0.66
164093	0.2	< 0.1	0.3	< 0.1	< 0.1	0.6	0.002	0.17	1.4	2	< 0.1	0.3	0.0037	0.025	0.69
164094	0.2	< 0.1	0.4	< 0.1	< 0.1	0.6	0.002	< 0.05	0.9	2	< 0.1	< 0.1	0.0035	0.077	0.57
164095	0.3	< 0.1	0.3	< 0.1	< 0.1	0.8	0.003	< 0.05	5.4	20	< 0.1	< 0.1	0.0405	0.075	2.63
164096	0.3	< 0.1	0.2	< 0.1	< 0.1	5.6	0.002	< 0.05	0.9	< 1	< 0.1	< 0.1	0.0032	0.013	0.49
164097	1.1	0.2	1.2	0.2	0.6	19.0	0.003	0.24	4.5	20	3.5	0.9	0.647	0.077	0.04
164098	0.2	0.1	0.9	0.2	< 0.1	1.2	0.003	< 0.05	1.6	5	< 0.1	< 0.1	0.0312	0.036	0.56
164099	1.5	0.6	3.5	0.6	< 0.1	0.4	0.006	0.32	7.4	45	1.5	0.4	0.533	0.145	0.60
164100	0.8	0.7	4.0	0.7	< 0.1	0.4	0.008	0.20	6.2	45	1.4	0.3	0.498	0.126	0.65
164101	0.3	< 0.1	0.4	< 0.1	< 0.1	2.5	0.004	< 0.05	1.7	3	0.5	< 0.1	0.0815	0.041	0.11
164102	0.2	< 0.1	0.4	< 0.1	< 0.1	0.6	0.002	< 0.05	1.5	14	0.2	< 0.1	0.0480	0.021	0.09
164103	0.5	0.2	1.1	0.2	0.3	1.6	0.008	0.32	10.3	15	1.8	0.5	0.409	0.084	0.37
164104	0.3	0.2	1.2	0.2	0.2	1.1	0.003	0.09	2.2	9	1.7	0.4	0.243	0.097	0.71
164105	0.2	< 0.1	0.3	< 0.1	< 0.1	0.3	0.004	< 0.05	1.7	< 1	< 0.1	< 0.1	0.0057	0.037	0.03
164106	0.4	0.2	1.2	0.2	0.4	1.4	0.005	0.31	8.8	18	3.0	0.9	0.563	0.116	0.68
164107	0.3	0.1	0.6	< 0.1	< 0.1	1.0	0.004	< 0.05	6.1	1	0.2	< 0.1	0.0366	0.086	0.20
164108	0.5	0.3	2.0	0.3	0.4	3.3	0.002	0.08	10.9	16	3.5	0.8	0.524	0.025	0.46
164109	0.5	0.1	0.7	0.1	< 0.1	0.3	0.004	0.20	6.0	22	0.3	< 0.1	0.367	0.043	0.02
164110	0.7	0.4	2.2	0.3	< 0.1	1.3	0.006	1.28	12.5	48	0.6	0.4	0.570	0.034	2.41
164111	0.3	0.1	0.6	0.1	< 0.1	0.7	0.004	0.11	2.9	6	0.4	0.1	0.0551	0.025	3.95
164112	0.4	0.2	1.3	0.2	0.3	2.9	0.011	0.31	21.3	18	4.3	1.2	0.372	0.103	1.38
164113	0.3	0.1	0.7	0.1	< 0.1	1.3	0.004	0.68	8.0	17	0.3	0.1	0.0534	0.006	9.57
164114	0.3	< 0.1	0.6	0.1	< 0.1	1.6	0.009	0.28	5.3	3	0.7	0.3	0.0655	0.027	12.7
164115	0.3	< 0.1	0.4	< 0.1	< 0.1	0.5	0.003	0.17	2.2	3	0.4	< 0.1	0.0760	0.038	0.55
164116	1.0	0.3	1.9	0.3	0.1	1.8	0.004	0.25	5.1	37	0.4	< 0.1	0.581	0.024	0.15
164117	0.2	< 0.1	0.5	< 0.1	< 0.1	0.9	0.002	< 0.05	< 0.5	3	0.1	< 0.1	0.0219	0.026	0.19



QC

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas																							
GXR-1 Cert																							
GXR-4 Meas	10.3	0.44	1.60	6.05	2.06	0.87	0.1	77	50.7	150	3.02	1.1	90	38.7		2.1		2.92	2.49	14.5	1.37	18.5	6.0
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	110	42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
SDC-1 Meas	31.2	1.36	0.98	7.59	1.99	0.95		25	48.4	853	4.87	0.4		33.6	3.6	3.2	1.3		3.72	19.0	1.50		
SDC-1 Cert	34.00	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30		38.0	4.10	3.00	1.50		4.00	18.0	1.70		
GXR-6 Meas	34.9	0.10	0.58	> 10.0	1.51	0.18	0.1	85	58.6	1000	5.37	1.1	80	23.7		1.3		0.22	3.81	13.9	0.58	0.17	0.6
GXR-6 Cert	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30	68.0	27.0		1.40		1.30	4.20	13.8	0.760	0.290	0.940
SAR-M (U.S.G.S.) Meas	26.4	1.07	0.46	5.67	1.83	0.53	5.1	60	80.7	5530	3.27			45.7		2.7		4.44		11.8		1.70	1.2
SAR-M (U.S.G.S.) Cert	27.4	1.140	0.50	6.30	2.94	0.61	5.27	67.2	79.7	5220	2.99			41.5		2.20		3.64		10.70		1.94	0.39
DNC-1a Meas	4.3							143	154					271						63.2	0.58		
DNC-1a Cert	5.20							148.00	270					247						57.0	0.59		
SBC-1 Meas	160						0.5	210	94.4			2.7		85.5	3.8	3.6	1.3		7.98	24.6	1.88	0.76	
SBC-1 Cert	163.0						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
164026 Orig	8.3	1.80	2.65	5.99	0.19	3.29	0.1	292	10.1	2160	16.5	< 0.1	< 10	28.2	2.1	0.4	0.7	0.05	1.72	27.8	0.89	1.14	0.9
164026 Dup	8.5	1.83	2.71	6.08	0.19	3.38	0.1	255	23.6	2200	16.7	0.1	< 10	28.6	2.1	0.4	0.7	0.06	1.80	28.6	0.87	1.14	1.3
164069 Orig	8.8	2.98	1.28	6.22	0.43	2.81	0.1	107	60.7	309	5.17	3.7	< 10	41.1	1.4	0.7	0.5	0.24	0.74	7.8	0.89	0.39	1.1
164069 Split	10.1	2.60	1.32	6.91	0.45	2.90	0.1	104	53.8	272	4.70	3.4	10	40.4	1.7	0.8	0.6	0.23	0.79	7.8	1.08	0.43	1.8
164078 Orig	29.3	1.63	3.94	7.14	0.12	6.28	0.1	297	162	1820	11.1	1.3	< 10	106	2.5	0.3	0.8	0.11	0.41	52.0	0.78	0.08	0.9
164078 Dup	34.4	1.90	4.57	8.32	0.14	7.33	0.1	184	177	2130	12.8	0.7	< 10	122	2.9	0.4	1.0	0.06	0.47	60.0	0.90	0.09	0.9
164080 Orig	49.6	1.08	1.76	7.02	1.42	2.90	0.2	100	44.4	776	4.66	2.9	< 10	56.9	1.2	0.7	0.4	0.24	3.59	16.0	0.95	0.54	2.6
164080 Dup	50.5	1.10	1.77	7.06	1.80	2.90	0.2	106	43.7	805	4.81	2.9	< 10	58.8	1.3	0.7	0.5	0.25	3.66	16.2	0.96	0.54	2.5
164089 Orig	< 0.5	< 0.01	0.22	0.18	0.02	0.06	< 0.1	7	29.2	369	3.77	< 0.1	< 10	7.0	0.2	0.1	< 0.1	< 0.05	0.12	1.9	0.17	0.05	0.9
164089 Split	< 0.5	< 0.01	0.21	0.17	0.02	0.06	< 0.1	7	29.6	331	3.28	< 0.1	< 10	6.6	0.2	0.1	< 0.1	< 0.05	0.13	1.7	0.17	0.07	1.0
164099 Orig	41.8	0.64	1.83	8.27	1.13	1.78	0.1	163	61.8	1880	14.2	2.1	< 10	42.7	3.8	1.7	1.4	0.24	4.25	27.6	2.04	0.05	1.3
164099 Split	36.0	0.56	1.97	7.88	1.09	2.71	0.2	134	62.7	2010	13.3	2.2	< 10	45.3	4.3	2.3	1.5	0.27	3.64	31.1	2.30	0.08	2.0
164116 Orig	16.5	0.71	5.20	6.60	0.70	8.84	0.3	283	127	1620	10.4	1.3	< 10	80.9	2.3	1.0	0.8	1.37	0.88	35.3	1.05	5.58	1.5
164116 Dup	16.5	0.69	5.19	6.60	0.69	8.74	0.4	275	125	1600	10.2	1.2	< 10	80.5	2.3	0.9	0.8	1.43	0.89	34.9	1.06	5.40	1.2
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1

QC

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas																							
GXR-1 Cert																							
GXR-4 Meas	74.8	17.0	88.7	108	12.8	208	41	8.2	291	0.2	7	4.0	1.1	171	56.0	106		41.5	6.3	4.7	0.5	2.8	6450
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
SDC-1 Meas	108	22.1	0.6	95.9		173	20	0.7			< 1	< 0.1		601	41.7	88.7		40.9	8.0	7.3	1.0	6.4	30.7
SDC-1 Cert	103.00	21.00	0.220	127.00		180.00	290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
GXR-6 Meas	132	31.0	176	64.6	11.4	39.9	44	0.3	0.37	< 0.1	< 1	0.7	< 0.1	1340	12.0	31.7		12.1	2.5	2.4	0.3	2.3	67.9
GXR-6 Cert	118	35.0	330	90.0	14.0	35.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
SAR-M (U.S.G.S.)	1010	16.9	35.4	114	29.7	152		22.5	11.7	1.0	2	5.3	0.9	732	52.2	109							324

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Meas																							
SAR-M (U.S.G.S.) Cert	930.0	17	38.8	146	28.00	151		29.9	13.1	1.08	2.76	6.0	0.96	801	57.4	122.0							331.0000
DNC-1a Meas	74.2				16.5	144	37					0.7		100	3.9			5.2					103
DNC-1a Cert	70.0				18.0	144.0	38.000					0.96		118	3.6			5.20					100.00
SBC-1 Meas	211	26.8	24.5	134	32.2	186	114	11.8	2.17		3	0.8		750	52.7	111	13.6	51.0	10.0	8.8	1.2	7.0	34.7
SBC-1 Cert	186.0	27.0	25.7	147	36.5	178.0	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0000
164026 Orig	107	20.5	3.3	6.2	18.3	109	4	< 0.1	0.63	< 0.1	< 1	< 0.1	< 0.1	55	3.8	9.5	1.4	6.5	2.1	2.9	0.5	3.4	228
164026 Dup	108	20.7	1.7	6.3	18.8	112	5	< 0.1	0.26	< 0.1	< 1	< 0.1	< 0.1	57	3.9	9.7	1.4	6.7	2.1	2.9	0.5	3.4	228
164069 Orig	33.6	18.0	3.9	10.8	12.4	223	162	7.9	0.82	< 0.1	1	0.2	0.1	242	11.2	25.7	3.4	13.7	2.8	2.8	0.4	2.4	4.7
164069 Split	33.3	17.7	6.4	13.3	14.0	229	151	5.6	1.10	< 0.1	1	0.3	0.4	255	14.1	32.0	4.2	16.8	3.3	3.4	0.5	2.9	4.5
164078 Orig	106	17.7	1.5	3.9	21.8	107	51	2.0	0.38	< 0.1	< 1	1.3	0.1	33	3.4	9.0	1.4	7.0	2.3	3.3	0.6	3.9	122
164078 Dup	123	20.4	2.0	4.6	25.3	127	27	< 0.1	0.21	< 0.1	< 1	0.5	< 0.1	39	3.9	10.5	1.6	8.1	2.6	3.7	0.7	4.4	141
164080 Orig	103	17.6	6.1	54.6	11.9	144	133	4.3	0.70	< 0.1	1	0.3	0.3	462	14.8	33.1	4.2	17.0	3.2	3.1	0.4	2.3	29.9
164080 Dup	104	18.2	6.1	61.9	12.0	147	136	3.9	0.73	< 0.1	< 1	0.3	0.5	477	15.5	34.6	4.3	17.1	3.3	3.1	0.4	2.4	31.7
164089 Orig	22.8	1.1	2.3	1.2	1.8	6.2	2	< 0.1	2.05	< 0.1	< 1	< 0.1	< 0.1	2	0.9	1.8	0.2	0.8	0.2	0.3	< 0.1	0.3	12.3
164089 Split	21.1	0.9	2.2	1.1	1.7	6.2	3	< 0.1	1.90	< 0.1	< 1	0.1	0.2	2	0.8	1.7	0.2	0.9	0.2	0.3	< 0.1	0.3	12.2
164099 Orig	83.3	27.5	0.9	32.3	32.4	161	71	0.9	0.41	0.1	1	0.1	0.1	120	12.4	34.0	5.2	24.6	6.8	7.5	1.1	6.8	149
164099 Split	106	27.2	2.6	33.6	35.0	175	71	0.7	0.49	0.1	1	0.2	0.1	150	12.4	33.8	5.2	24.8	6.8	7.8	1.2	7.5	144
164116 Orig	124	16.4	2.4	26.3	19.2	217	45	2.5	1.53	0.1	< 1	0.2	2.8	85	3.9	9.9	1.5	7.5	2.3	3.2	0.5	3.6	1330
164116 Dup	124	16.0	2.5	26.1	19.4	210	45	2.3	1.54	0.1	< 1	0.1	2.2	82	3.8	9.6	1.5	7.2	2.4	3.3	0.6	3.6	1280
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2

QC

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
GXR-1 Meas									< 1				0.0285	0.053	0.22
GXR-1 Cert									1.58				0.036	0.0650	0.257
GXR-4 Meas		0.2	0.9	0.1	0.5	32.1		2.95	46.6	8	16.5	4.9	0.286	0.129	1.68
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20	0.29	0.120	1.77
SDC-1 Meas		0.5	2.8		< 0.1	< 0.1		0.59	23.0	18	10.8	2.3	0.0746	0.058	
SDC-1 Cert		0.65	4.00		1.20	0.80		0.70	25.00	17.00	12.00	3.10	0.606	0.0690	
GXR-6 Meas		0.2	1.4	0.2	< 0.1	< 0.1		1.98	93.2	26	4.6	1.1		0.032	0.01
GXR-6 Cert		0.0320	2.40	0.330	0.485	1.90		2.20	101	27.6	5.30	1.54		0.0350	0.0160
SAR-M (U.S.G.S.) Meas						6.4		2.40	1010	9	14.7	3.7	0.375	0.066	
SAR-M (U.S.G.S.) Cert						9.78		2.7	982	7.83	17.2	3.57	0.38	0.07	
DNC-1a Meas			1.7							33			0.306		
DNC-1a Cert			2.0							31			0.29		
SBC-1 Meas		0.6	2.9	0.5	0.6	1.3		0.85	34.6	23	15.3	5.2	0.543		
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76	0.51		
164026 Orig	0.3	0.3	1.7	0.3	< 0.1	1.1	0.004	0.05	1.3	63	1.4	< 0.1	0.192	0.033	0.36
164026 Dup	0.3	0.3	1.7	0.3	< 0.1	1.0	0.004	< 0.05	1.3	64	1.3	< 0.1	0.196	0.035	0.37

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
164069 Orig	0.3	0.2	1.1	0.2	0.4	1.7	0.002	0.06	4.0	10	1.9	0.5	0.567	0.110	0.65
164069 Split	0.4	0.2	1.3	0.2	0.2	1.7	0.005	0.08	3.5	14	2.7	0.6	0.574	0.112	0.67
164078 Orig	0.6	0.4	2.1	0.3	< 0.1	2.8	0.004	< 0.05	1.7	48	0.4	< 0.1	0.658	0.034	0.27
164078 Dup	0.5	0.4	2.5	0.4	< 0.1	0.4	0.003	0.05	2.0	47	0.4	< 0.1	0.249	0.029	0.26
164080 Orig	0.3	0.2	1.0	0.2	< 0.1	0.4	0.004	0.38	8.3	14	1.9	0.4	0.551	0.109	0.73
164080 Dup	0.3	0.2	1.0	0.2	< 0.1	0.4	0.003	0.42	4.5	14	1.9	0.4	0.554	0.106	0.70
164089 Orig	0.3	< 0.1	0.1	< 0.1	< 0.1	< 0.1	0.003	< 0.05	0.6	< 1	< 0.1	< 0.1	0.0043	0.036	0.28
164089 Split	0.3	< 0.1	0.1	< 0.1	< 0.1	0.2	0.003	< 0.05	0.7	< 1	0.3	< 0.1	0.0045	0.036	0.28
164099 Orig	1.5	0.6	3.5	0.6	< 0.1	0.4	0.006	0.32	7.4	45	1.5	0.4	0.533	0.145	0.60
164099 Split	1.3	0.7	3.8	0.6	< 0.1	0.6	0.005	0.35	7.4	44	2.0	0.4	0.598	0.177	0.69
164116 Orig	1.1	0.3	1.9	0.3	0.1	2.0	0.005	0.25	5.1	37	0.5	< 0.1	0.594	0.024	0.16
164116 Dup	1.0	0.3	1.9	0.3	0.1	1.7	0.004	0.25	5.1	37	0.4	< 0.1	0.568	0.023	0.15
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01



**Date Submitted:** 05-Nov-14  
**Invoice No.:** A14-08517-Au  
**Invoice Date:** 10-Nov-14  
**Your Reference:** PN 243

Trelawney Mining and Exploration  
130 King Street West  
Suite 2810 - PO Box 182  
Toronto ON M5X 1A6  
Canada

ATTN: Alan Smith

## CERTIFICATE OF ANALYSIS

38 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1A2-Sudbury Au - Fire Assay AA

REPORT **A14-08517-Au**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control





**Date Submitted:** 05-Nov-14  
**Invoice No.:** A14-08517-Au  
**Invoice Date:** 10-Nov-14  
**Your Reference:** PN 243

Trelawney Mining and Exploration  
130 King Street West  
Suite 2810 - PO Box 182  
Toronto ON M5X 1A6  
Canada

ATTN: Alan Smith

## CERTIFICATE OF ANALYSIS

38 Rock samples were submitted for analysis.

The following analytical package was requested:

Code UT-6 Total Digestion ICP & ICP/MS

REPORT **A14-08517-Au**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control



**Results**

Analyte Symbol	Au
Unit Symbol	ppb
Lower Limit	5
Method Code	FA-AA
164118	5
164119	9
164120	< 5
164121	< 5
164122	< 5
164123	< 5
164124	< 5
164125	< 5
164126	< 5
164127	< 5
164128	< 5
164129	9
164130	9
164131	8
164132	6
164133	< 5
164134	< 5
164135	< 5
164136	1010
164137	< 5
164138	< 5
164139	< 5
164140	< 5
164141	6
164142	< 5
164143	< 5
164144	24
164145	< 5
164146	< 5
164147	< 5
164148	< 5
164149	5
164150	6
164155	8
164156	7
164157	< 5
164158	14
164159	< 5

## QC

Analyte Symbol	Au
Unit Symbol	ppb
Lower Limit	5
Method Code	FA-AA
OxD108 Meas	405
OxD108 Cert	414.000
OxD108 Meas	415
OxD108 Cert	414.000
SG66 Meas	1050
SG66 Cert	1090
SG66 Meas	1060
SG66 Cert	1090
164127 Orig	< 5
164127 Dup	< 5
164137 Orig	< 5
164137 Dup	11
164147 Orig	< 5
164147 Split	< 5
164147 Orig	< 5
164147 Dup	< 5
Method Blank	< 5
Method Blank	< 5
Method Blank	< 5
Method Blank	< 5



**Date Submitted:** 05-Nov-14  
**Invoice No.:** A14-08517-TD  
**Invoice Date:** 20-Nov-14  
**Your Reference:** PN 243

Trelawney Mining and Exploration  
130 King Street West  
Suite 2810 - PO Box 182  
Toronto ON M5X 1A6  
Canada

ATTN: Alan Smith

## CERTIFICATE OF ANALYSIS

38 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1A2-Sudbury Au - Fire Assay AA

REPORT **A14-08517-TD**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control







**Date Submitted:** 05-Nov-14  
**Invoice No.:** A14-08517-TD  
**Invoice Date:** 20-Nov-14  
**Your Reference:** PN 243

Trelawney Mining and Exploration  
130 King Street West  
Suite 2810 - PO Box 182  
Toronto ON M5X 1A6  
Canada

ATTN: Alan Smith

## CERTIFICATE OF ANALYSIS

38 Rock samples were submitted for analysis.

The following analytical package was requested:

Code UT-6 Total Digestion ICP & ICP/MS

REPORT **A14-08517-TD**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control



## Results

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
164118	23.6	0.34	1.33	4.14	1.91	0.34	0.1	100	84.6	462	6.39	1.5	< 10	32.4	1.4	< 0.1	0.5	0.16	1.86	25.1	0.53	2.11	1.6
164119	10.4	0.73	0.45	2.18	1.35	0.19	0.1	37	59.4	182	2.45	0.6	< 10	14.8	0.5	0.3	0.2	0.27	0.85	11.9	0.23	3.79	0.2
164120	11.0	0.09	0.14	1.25	1.25	0.02	0.1	13	76.3	71	0.76	0.2	< 10	7.2	0.2	< 0.1	< 0.1	0.09	1.05	1.5	0.12	1.16	< 0.1
164121	26.1	0.44	0.23	1.86	1.29	0.06	0.1	23	77.5	92	0.87	0.4	< 10	11.5	0.3	< 0.1	< 0.1	0.07	1.18	2.7	0.15	0.63	< 0.1
164122	10.5	> 3.00	0.27	8.58	1.84	1.02	0.1	9	14.7	159	0.62	1.6	< 10	5.5	0.1	1.2	< 0.1	0.15	2.37	5.3	0.13	0.24	< 0.1
164123	13.4	> 3.00	0.49	8.64	1.59	1.91	0.2	39	28.6	357	1.98	2.3	< 10	6.8	0.6	0.9	0.2	0.10	1.85	4.9	0.55	0.07	0.5
164124	18.8	> 3.00	1.21	8.95	2.35	3.65	0.2	69	29.3	775	4.67	2.6	< 10	12.0	3.5	2.3	1.2	0.09	1.17	15.8	1.39	0.04	0.6
164125	16.2	> 3.00	0.38	9.02	2.52	1.08	0.2	12	19.2	110	0.73	1.4	< 10	7.2	0.1	1.3	< 0.1	0.06	2.59	2.5	0.08	0.06	< 0.1
164126	5.9	> 3.00	0.32	8.40	1.75	1.43	0.1	18	23.3	176	1.29	1.9	< 10	3.8	0.2	1.8	< 0.1	0.13	0.62	5.8	0.21	0.17	0.3
164127	46.8	> 3.00	4.66	6.49	1.62	2.79	0.2	97	585	727	4.28	2.0	< 10	312	1.0	1.2	0.4	0.14	8.01	33.5	1.00	0.17	0.7
164128	13.1	> 3.00	0.35	9.17	1.50	1.80	0.2	11	21.3	92	0.80	1.4	< 10	7.0	0.1	1.2	< 0.1	0.08	1.27	8.8	0.09	0.07	< 0.1
164129	18.9	> 3.00	0.80	8.41	1.50	0.96	0.2	37	38.8	283	1.66	1.9	< 10	27.3	0.4	0.7	0.1	3.66	1.78	4.9	0.32	0.13	< 0.1
164130	14.9	2.19	2.73	6.50	0.30	5.15	0.2	136	27.2	1530	10.5	0.1	< 10	31.5	3.3	0.9	1.2	0.05	0.50	49.8	1.37	0.05	1.5
164131	20.8	2.30	2.46	6.74	0.27	3.65	0.2	129	20.5	1790	11.2	< 0.1	< 10	30.6	3.5	0.7	1.2	< 0.05	3.79	51.3	1.39	0.04	0.8
164132	21.9	2.09	2.37	7.85	0.09	5.33	0.2	165	46.0	2400	10.4	0.2	< 10	47.6	3.4	0.6	1.2	< 0.05	0.29	51.7	1.36	0.05	0.8
164133	21.7	> 3.00	0.44	9.41	2.12	0.83	< 0.1	16	17.2	125	0.88	1.2	< 10	7.5	0.3	0.9	< 0.1	< 0.05	3.32	2.3	0.16	0.04	< 0.1
164134	4.9	1.76	3.86	4.41	0.61	7.03	0.2	153	616	2400	13.9	1.1	< 10	431	2.4	2.8	1.0	0.14	0.28	61.2	2.36	0.14	0.9
164135	12.6	2.34	3.52	6.63	0.23	6.01	0.3	328	61.5	1840	11.0	1.0	< 10	64.9	2.5	0.3	0.9	0.19	0.39	58.4	1.07	0.13	0.4
164136	9.1	2.42	3.64	6.90	0.70	5.41	0.2	114	152	2400	10.1	2.7	< 10	143	2.6	1.3	1.0	0.23	2.47	42.2	1.78	0.09	1.3
164137	6.6	> 3.00	0.38	6.78	0.50	0.48	< 0.1	17	52.2	135	0.88	0.8	< 10	28.2	0.2	0.3	< 0.1	0.14	0.62	12.3	0.14	0.22	< 0.1
164138	25.3	> 3.00	2.31	7.01	0.82	3.87	0.2	111	162	833	5.71	2.6	< 10	103	2.3	0.9	0.8	0.17	1.25	31.8	1.01	0.15	0.7
164139	16.5	> 3.00	1.34	7.99	1.80	1.39	0.2	34	70.5	261	1.37	1.6	< 10	89.8	0.3	1.6	< 0.1	0.07	1.21	10.5	0.14	0.09	0.4
164140	21.8	> 3.00	0.36	8.59	2.01	1.49	0.1	11	15.0	243	0.75	1.2	< 10	7.9	0.1	1.5	< 0.1	< 0.05	1.29	3.6	0.09	0.05	< 0.1
164141	9.1	> 3.00	0.26	8.67	1.64	1.23	0.1	8	20.8	90	0.65	1.4	< 10	3.5	0.1	1.4	< 0.1	< 0.05	1.49	1.5	0.05	0.06	< 0.1
164142	22.2	> 3.00	2.81	6.50	0.75	1.73	0.2	43	131	486	2.21	1.6	< 10	218	0.5	1.4	0.2	0.11	0.39	19.1	0.32	0.10	0.6
164143	13.5	> 3.00	0.37	8.32	2.39	1.47	0.2	19	17.5	200	0.86	1.4	< 10	11.1	0.2	2.1	< 0.1	0.05	1.81	4.6	0.10	0.05	0.2
164144	44.9	1.69	0.93	4.26	1.64	0.12	0.2	82	107	208	2.72	1.6	40	79.5	0.9	0.9	0.3	0.21	4.05	24.9	0.52	8.16	0.6
164145	80.7	1.65	2.96	4.99	0.12	2.52	0.3	280	116	1430	8.08	2.0	< 10	81.5	0.9	0.7	0.3	0.11	0.26	50.2	0.34	0.17	0.4
164146	9.5	> 3.00	0.23	8.14	1.85	0.31	0.1	10	17.5	62	0.60	1.8	< 10	3.5	0.1	1.5	< 0.1	0.07	1.49	3.2	0.06	0.08	0.3
164147	11.4	> 3.00	0.29	8.33	1.38	1.27	0.1	10	18.5	83	0.71	1.6	< 10	5.0	0.1	1.3	< 0.1	0.05	1.69	2.5	0.09	0.05	< 0.1
164148	18.0	> 3.00	1.02	7.86	2.01	3.18	0.2	59	22.7	700	4.38	2.5	< 10	11.3	3.1	2.4	1.1	0.09	1.16	25.9	1.41	0.05	0.7
164149	31.3	2.87	1.62	8.13	1.88	0.81	0.2	92	146	500	4.18	3.2	< 10	77.9	1.2	1.3	0.4	0.14	3.19	18.3	0.90	0.33	0.4
164150	7.2	> 3.00	0.28	8.98	0.50	1.52	0.2	7	15.9	119	0.54	1.8	< 10	7.9	0.1	1.6	< 0.1	0.06	0.54	2.9	0.09	0.06	< 0.1
164155	3.9	> 3.00	0.21	7.70	1.88	0.91	0.1	12	17.2	95	0.68	1.6	< 10	4.5	0.1	1.5	< 0.1	0.07	2.52	3.5	0.09	0.08	< 0.1
164156	29.9	0.83	3.54	7.33	0.05	5.72	0.2	233	107	2440	10.9	0.4	< 10	91.6	2.7	0.5	0.9	0.09	0.46	45.9	1.16	0.05	0.6
164157	44.7	0.56	4.72	6.66	0.81	7.94	0.3	100	50.8	1890	12.6	1.2	< 10	74.7	5.7	1.1	1.9	0.05	1.95	48.8	2.05	0.07	1.4
164158	60.1	1.14	2.36	6.50	0.94	3.38	0.2	84	59.8	1130	9.56	0.7	< 10	42.3	5.6	1.7	1.9	< 0.05	2.10	38.3	1.81	0.05	1.4
164159	19.2	2.42	0.44	5.51	1.47	2.18	0.2	28	21.4	274	1.31	2.4	30	10.8	0.2	2.3	< 0.1	0.06	2.60	5.3	0.32	0.04	0.1

## Results

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
164118	66.1	10.6	3.5	105	11.3	76.9	58	3.1	1.08	< 0.1	< 1	0.2	0.2	257	3.9	9.5	1.3	5.3	1.5	1.9	0.3	2.2	12.2
164119	42.3	4.8	7.0	56.9	4.2	53.6	27	1.3	2.58	< 0.1	< 1	0.2	0.3	216	2.2	4.8	0.6	2.2	0.6	0.7	0.1	0.8	8.9
164120	8.0	2.7	1.0	61.5	1.6	23.4	13	0.7	5.72	< 0.1	< 1	0.1	< 0.1	282	2.1	3.4	0.5	1.6	0.3	0.4	< 0.1	0.3	13.2
164121	14.3	4.3	2.9	70.3	2.1	40.0	19	1.0	0.79	< 0.1	< 1	0.2	0.1	264	3.1	5.9	0.8	2.8	0.6	0.5	< 0.1	0.5	14.4
164122	21.8	16.3	142	72.7	1.1	341	54	1.5	0.35	< 0.1	< 1	0.5	< 0.1	577	1.2	2.5	0.3	1.2	0.3	0.3	< 0.1	0.2	12.0
164123	54.7	21.6	7.5	40.7	5.5	293	85	2.9	0.38	< 0.1	< 1	0.2	< 0.1	337	10.3	20.8	2.3	8.3	1.5	1.4	0.2	1.1	11.7
164124	88.9	22.6	0.4	114	32.0	409	102	2.2	0.39	< 0.1	< 1	< 0.1	< 0.1	701	25.4	57.3	7.6	29.9	6.4	6.7	1.0	6.3	24.4
164125	23.4	16.6	9.9	86.5	1.0	229	53	0.8	0.70	< 0.1	< 1	0.3	0.2	1270	1.3	2.5	0.3	1.3	0.3	0.3	< 0.1	0.2	19.5
164126	38.1	23.8	9.4	42.5	1.7	767	76	3.1	0.28	< 0.1	< 1	0.2	< 0.1	946	4.9	10.4	1.2	4.1	0.7	0.6	< 0.1	0.4	48.3
164127	95.0	13.3	1.5	54.3	8.9	324	74	3.5	0.60	< 0.1	< 1	0.3	< 0.1	728	13.0	30.1	3.9	15.6	3.4	3.2	0.4	2.0	64.8
164128	18.9	14.8	5.5	59.7	0.7	415	52	0.9	0.13	< 0.1	< 1	0.3	< 0.1	718	1.3	2.6	0.3	1.2	0.3	0.3	< 0.1	0.2	14.9
164129	61.3	15.1	8.1	57.2	2.9	218	70	0.7	0.29	< 0.1	< 1	< 0.1	< 0.1	521	8.3	17.0	2.0	7.1	1.2	1.0	0.1	0.6	18.3
164130	135	22.2	14.1	10.1	28.5	263	6	0.1	0.13	0.1	< 1	< 0.1	0.1	115	7.0	17.4	2.6	12.1	3.6	5.0	0.9	5.8	107
164131	145	22.7	4.1	13.6	29.9	169	4	< 0.1	0.09	< 0.1	< 1	0.1	< 0.1	148	7.5	18.6	2.8	12.5	3.8	5.2	0.9	5.9	70.3
164132	121	22.4	15.8	3.2	28.3	182	8	0.2	0.11	< 0.1	< 1	0.1	< 0.1	35	7.4	17.9	2.7	12.3	3.7	5.0	0.9	5.7	87.1
164133	20.1	14.5	2.0	82.2	2.2	259	45	0.8	0.12	< 0.1	< 1	0.3	< 0.1	693	2.2	3.9	0.5	2.2	0.5	0.5	< 0.1	0.5	24.5
164134	169	19.3	2.5	16.4	21.2	376	37	2.4	0.30	0.1	1	0.1	< 0.1	409	25.2	58.6	8.2	33.0	7.3	7.1	1.0	5.5	206
164135	132	20.2	4.5	8.9	21.7	169	29	3.1	0.48	< 0.1	< 1	0.1	< 0.1	72	4.7	12.0	1.8	8.6	2.7	3.8	0.6	4.2	64.3
164136	131	18.1	368	25.0	23.8	365	108	6.0	2.22	< 0.1	1	0.4	< 0.1	435	22.4	40.3	5.7	22.9	5.3	6.0	0.9	5.2	101
164137	18.0	10.3	16.7	15.1	1.9	189	31	0.8	2.05	< 0.1	< 1	0.4	< 0.1	147	0.7	1.8	0.2	1.1	0.3	0.4	< 0.1	0.4	61.6
164138	103	16.5	6.1	36.1	19.6	172	97	3.3	1.08	< 0.1	1	0.2	< 0.1	311	16.3	34.9	4.4	16.6	3.5	3.9	0.6	3.7	49.3
164139	55.5	14.2	4.0	55.6	2.2	368	56	1.5	0.38	< 0.1	< 1	0.2	0.2	1140	1.0	2.5	0.3	1.5	0.4	0.5	< 0.1	0.5	45.7
164140	50.4	14.3	1.1	76.1	0.8	347	47	1.0	0.29	< 0.1	< 1	0.2	0.1	643	1.5	2.6	0.3	1.1	0.2	0.3	< 0.1	0.2	40.0
164141	19.7	14.6	0.4	75.8	0.6	357	50	0.9	0.24	< 0.1	< 1	0.1	0.2	655	0.7	1.2	0.2	0.6	0.2	0.2	< 0.1	0.2	2.4
164142	56.5	12.8	2.4	24.5	3.9	369	55	1.6	0.33	< 0.1	< 1	0.1	0.2	320	3.0	6.9	0.9	3.8	1.0	1.0	0.1	0.8	20.0
164143	37.9	14.7	0.4	79.9	0.9	515	56	1.0	0.45	< 0.1	< 1	0.1	0.3	1110	1.1	2.3	0.3	1.1	0.3	0.3	< 0.1	0.3	2.4
164144	38.9	10.2	8.2	80.0	7.5	55.7	65	2.8	6.04	< 0.1	< 1	0.1	0.2	644	15.1	36.2	4.1	13.4	2.0	1.7	0.2	1.4	53.2
164145	124	18.6	22.3	1.3	5.4	66.6	71	3.4	0.40	< 0.1	< 1	0.2	< 0.1	86	1.3	4.4	0.7	3.2	1.1	1.3	0.2	1.3	42.0
164146	21.0	14.1	2.1	71.8	0.7	392	59	1.1	0.63	< 0.1	< 1	0.2	0.2	699	0.7	1.0	0.2	0.8	0.2	0.2	< 0.1	0.2	8.1
164147	23.6	13.2	1.0	63.7	0.7	301	53	1.1	0.18	< 0.1	< 1	0.2	< 0.1	554	1.0	1.9	0.3	1.0	0.2	0.2	< 0.1	0.2	7.3
164148	77.7	19.6	0.2	104	28.1	390	93	2.8	0.22	< 0.1	< 1	< 0.1	< 0.1	740	24.9	55.0	7.3	28.5	6.0	5.9	0.9	5.4	46.4
164149	90.4	20.6	39.6	87.9	10.4	274	123	4.0	0.78	< 0.1	< 1	0.3	0.2	683	26.6	52.3	6.3	22.4	3.8	3.2	0.4	2.2	28.7
164150	32.8	20.6	1040	13.8	0.8	155	61	1.2	0.16	< 0.1	< 1	0.3	0.2	247	0.8	1.8	0.2	0.9	0.2	0.3	< 0.1	0.2	3.2
164155	12.6	14.6	23.4	67.6	0.8	281	57	0.9	0.39	< 0.1	< 1	0.3	< 0.1	561	1.4	2.8	0.3	1.4	0.3	0.3	< 0.1	0.2	11.7
164156	112	21.8	18.6	2.5	22.9	215	9	1.4	0.59	< 0.1	< 1	0.3	< 0.1	27	5.4	13.8	2.1	10.0	3.0	4.0	0.7	4.5	70.0
164157	187	21.0	0.1	30.8	47.6	81.0	41	0.5	0.16	< 0.1	< 1	< 0.1	< 0.1	68	9.7	24.5	3.8	17.7	5.3	7.4	1.3	8.7	12.4
164158	144	23.2	< 0.1	28.2	45.5	71.1	26	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	176	10.7	28.4	4.3	19.7	5.6	7.6	1.3	8.9	7.0
164159	49.5	20.3	< 0.1	53.5	1.3	308	82	1.2	0.22	< 0.1	< 1	0.1	0.3	387	2.0	7.0	0.7	3.3	0.8	0.6	< 0.1	0.4	3.9

## Results

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
164118	0.1	0.2	1.3	0.2	0.1	4.3	0.040	1.03	11.3	21	1.6	0.6	0.426	0.028	2.35
164119	< 0.1	< 0.1	0.5	< 0.1	< 0.1	0.4	0.033	0.47	36.3	6	0.9	0.4	0.159	0.012	0.93
164120	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	0.039	0.48	2.8	2	0.7	0.6	0.0560	0.006	0.03
164121	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	0.037	0.52	3.2	4	1.1	0.3	0.0848	0.011	0.04
164122	0.1	< 0.1	0.1	< 0.1	< 0.1	0.3	0.033	0.44	8.3	1	0.6	0.4	0.0827	0.016	0.02
164123	0.5	< 0.1	0.5	< 0.1	0.2	0.5	0.034	0.22	5.0	4	2.0	0.6	0.207	0.035	0.04
164124	0.6	0.5	3.0	0.5	< 0.1	< 0.1	0.035	0.54	12.8	14	4.1	1.3	0.294	0.084	0.11
164125	0.3	< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.037	0.41	6.0	2	0.4	0.2	0.0851	0.017	0.01
164126	0.1	< 0.1	0.2	< 0.1	< 0.1	0.4	0.039	0.26	13.4	2	0.9	0.5	0.123	0.030	0.27
164127	0.8	0.1	0.8	0.1	0.1	< 0.1	0.032	0.54	8.2	12	3.0	1.0	0.301	0.120	0.03
164128	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.034	0.41	12.2	1	0.3	1.0	0.0864	0.015	0.01
164129	< 0.1	< 0.1	0.4	< 0.1	< 0.1	< 0.1	0.029	0.40	6.2	5	2.2	0.6	0.171	0.028	0.03
164130	0.4	0.5	2.7	0.4	< 0.1	< 0.1	0.046	0.09	3.1	39	0.9	0.2	0.190	0.047	0.26
164131	0.3	0.5	2.6	0.4	< 0.1	< 0.1	0.033	0.07	2.1	39	0.9	0.2	0.208	0.047	0.08
164132	0.3	0.5	2.6	0.3	< 0.1	< 0.1	0.023	< 0.05	2.8	42	0.8	0.2	0.242	0.055	0.30
164133	0.2	< 0.1	0.2	< 0.1	< 0.1	< 0.1	0.031	0.50	3.3	2	0.3	0.2	0.0876	0.016	< 0.01
164134	0.5	0.3	1.6	0.2	< 0.1	< 0.1	0.037	0.15	9.4	39	3.5	0.9	0.530	0.073	0.40
164135	0.8	0.4	2.2	0.3	< 0.1	< 0.1	0.036	0.07	5.0	39	0.6	0.9	0.743	0.036	0.20
164136	0.4	0.3	2.0	0.3	< 0.1	< 0.1	0.041	0.12	5.6	19	4.3	1.1	0.632	0.144	0.76
164137	< 0.1	< 0.1	0.2	< 0.1	< 0.1	1.4	0.038	0.11	2.9	2	0.2	0.2	0.0687	0.019	0.02
164138	0.5	0.3	2.0	0.3	< 0.1	< 0.1	0.043	0.19	5.3	20	2.7	5.2	0.443	0.062	0.70
164139	0.2	< 0.1	0.2	< 0.1	< 0.1	0.2	0.042	0.36	5.7	4	0.4	0.4	0.119	0.028	0.02
164140	0.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.040	0.46	5.9	1	0.3	0.2	0.105	0.018	0.01
164141	0.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.039	0.50	4.9	1	0.1	0.2	0.0773	0.011	< 0.01
164142	0.4	< 0.1	0.4	< 0.1	< 0.1	< 0.1	0.045	0.22	6.9	7	0.6	0.3	0.151	0.036	0.02
164143	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.047	0.49	7.6	2	0.3	0.2	0.102	0.020	< 0.01
164144	0.1	0.1	0.9	0.1	0.1	1.9	0.047	0.51	4.5	12	3.1	1.1	0.211	0.035	0.43
164145	0.8	0.1	1.0	0.2	0.2	0.6	0.036	0.09	1.6	33	0.5	0.2	0.603	0.037	0.02
164146	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.043	0.40	2.6	1	0.1	0.2	0.0759	0.016	< 0.01
164147	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.032	0.38	5.3	2	0.2	0.2	0.0921	0.016	0.01
164148	0.6	0.4	2.6	0.4	< 0.1	< 0.1	0.041	0.52	13.1	15	4.1	1.3	0.195	0.079	0.10
164149	0.7	0.2	1.1	0.2	0.2	1.5	0.039	0.55	13.2	18	7.4	1.9	0.212	0.059	0.02
164150	< 0.1	< 0.1	0.1	< 0.1	< 0.1	2.5	0.046	0.10	5.5	1	0.5	0.2	0.0771	0.020	0.06
164155	0.1	< 0.1	0.1	< 0.1	< 0.1	1.1	0.036	0.45	5.0	2	0.4	0.2	0.114	0.026	0.07
164156	0.7	0.4	2.0	0.3	< 0.1	< 0.1	0.042	< 0.05	2.4	43	0.6	0.2	0.527	0.028	0.17
164157	0.3	0.8	5.2	0.8	< 0.1	< 0.1	0.042	0.26	3.1	36	0.9	0.2	0.400	0.092	0.04
164158	0.3	0.8	5.3	0.8	< 0.1	< 0.1	0.035	0.29	8.4	34	1.3	0.4	0.125	0.091	0.02
164159	0.2	< 0.1	0.2	< 0.1	< 0.1	0.5	0.055	0.47	10.6	2	0.3	0.2	0.210	0.034	0.02

QC

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Hg	Ni	Er	Be	Ho	Ag	Cs	Co	Eu	Bi	Se
Unit Symbol	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	10	0.5	0.1	0.1	0.1	0.05	0.05	0.1	0.05	0.02	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas	7.3	0.05	0.17	1.99	0.04	0.80	2.5	76	22.8	849	24.9	0.4	3900	38.4		0.7		30.5	2.84	7.8	0.58	1440	14.9
GXR-1 Cert	8.20	0.0520	0.217	3.52	0.050	0.960	3.30	80.0	12.0	852	23.6	0.960	3900	41.0		1.22		31.0	3.00	8.20	0.690	1380	16.6
GXR-4 Meas	10.0	0.55	1.43	5.91	2.23	0.93	0.2	81	47.6	142	3.07	1.1		39.2		1.9		2.96	2.62	14.0	1.37	17.7	5.6
GXR-4 Cert	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30		42.0		1.90		4.00	2.80	14.6	1.63	19.0	5.60
SDC-1 Meas	33.8	1.59	0.86	7.44	2.45	0.95		35	53.0	792	4.75	0.7		33.5	3.7	2.9	1.3		4.03	17.7	1.56		
SDC-1 Cert	34.00	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30		38.0	4.10	3.00	1.50		4.00	18.0	1.70		
GXR-6 Meas	32.5	0.10	0.47	> 10.0	1.76	0.15	0.2	120	66.0	1030	5.82	1.7		24.2		0.7		0.23	4.22	14.0	0.61	0.20	0.8
GXR-6 Cert	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30		27.0		1.40		1.30	4.20	13.8	0.760	0.290	0.940
SAR-M (U.S.G.S.) Meas	26.3	1.21	0.38	5.37	2.49	0.54	4.3	47	78.1	4490	3.19			40.8		2.3		2.45		10.3		1.60	1.1
SAR-M (U.S.G.S.) Cert	27.4	1.140	0.50	6.30	2.94	0.61	5.27	67.2	79.7	5220	2.99			41.5		2.20		3.64		10.70		1.94	0.39
DNC-1a Meas	4.8							135	129					263						57.6	0.61		
DNC-1a Cert	5.20							148.00	270					247						57.0	0.59		
SBC-1 Meas	157						0.5	196	94.0			3.2		83.9	3.6	3.4	1.3		8.28	22.5	1.81	0.68	
SBC-1 Cert	163.0						0.40	220.0	109			3.7		82.8	3.80	3.20	1.40		8.2	22.7	1.98	0.70	
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
164136 Orig	8.8	2.37	3.56	6.66	0.70	5.33	0.2	127	141	2370	10.00	3.0	< 10	141	2.6	1.7	1.0	0.27	2.42	41.5	1.75	0.10	1.2
164136 Dup	9.5	2.47	3.71	7.13	0.71	5.48	0.2	101	162	2430	10.2	2.5	< 10	145	2.6	1.0	1.0	0.19	2.51	42.9	1.80	0.07	1.3
164147 Orig	11.4	> 3.00	0.29	8.33	1.38	1.27	0.1	10	18.5	83	0.71	1.6	< 10	5.0	0.1	1.3	< 0.1	0.05	1.69	2.5	0.09	0.05	< 0.1
164147 Split	11.1	> 3.00	0.29	7.70	1.28	1.18	0.2	10	19.8	97	0.72	1.5	< 10	5.0	0.1	1.2	< 0.1	0.06	1.69	2.6	0.08	0.05	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1
Method Blank	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 10	< 0.5	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02	< 0.1

QC

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas	808	10.4	397	3.3	29.6	291	21	0.8	18.5	0.8	25	28.8	8.9	722	7.3	14.3		7.9	2.7	4.0	0.7	4.7	1070
GXR-1 Cert	760	13.8	427	14.0	32.0	275	38.0	0.800	18.0	0.770	54.0	122	13.0	750	7.50	17.0		18.0	2.70	4.20	0.830	4.30	1110
GXR-4 Meas	75.2	17.7	94.7	124	14.1	215	42	9.1	314	0.2	6	4.6	1.1	217	55.6	101		38.2	5.9	4.4	0.5	2.7	6310
GXR-4 Cert	73.0	20.0	98.0	160	14.0	221	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
SDC-1 Meas	107	21.0	1.3	129		177	31	1.4			< 1	0.1		664	40.4	85.8		38.5	7.5	7.1	1.1	6.5	30.5
SDC-1 Cert	103.00	21.00	0.220	127.00		180.00	290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
GXR-6 Meas	139	29.5	252	88.3	13.1	37.0	69	0.9	1.05	< 0.1	< 1	0.8	< 0.1	1170	12.6	33.6		11.8	2.5	2.4	0.4	2.4	78.2
GXR-6 Cert	118	35.0	330	90.0	14.0	35.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
SAR-M (U.S.G.S.) Meas	905	17.9	29.5	142	35.5	150		4.7	6.65	0.9	3	4.6	0.5	780	55.3	111							304
SAR-M (U.S.G.S.) Cert	930.0	17	38.8	146	28.00	151		29.9	13.1	1.08	2.76	6.0	0.96	801	57.4	122.0							331.0000
DNC-1a Meas	72.9				17.5	146	38					1.3		114	3.9			4.9					95.6
DNC-1a Cert	70.0				18.0	144.0	38.000					0.96		118	3.6			5.20					100.00
SBC-1 Meas	205	25.8	25.8	149	32.9	182	117	14.6	2.42		3	1.2		804	48.2	98.0	12.0	44.0	8.7	8.2	1.1	6.6	31.1
SBC-1 Cert	186.0	27.0	25.7	147	36.5	178.0	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0000
OREAS 45d (4-Acid) Meas																							

Analyte Symbol	Zn	Ga	As	Rb	Y	Sr	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.2	0.1	0.1	0.2	0.1	0.2	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
OREAS 45d (4-Acid) Cert																							
164136 Orig	130	17.9	379	24.5	23.4	360	121	8.8	2.42	< 0.1	1	0.4	< 0.1	433	22.2	39.9	5.6	22.4	5.3	6.0	0.9	5.2	97.8
164136 Dup	133	18.2	356	25.5	24.1	371	95	3.1	2.03	< 0.1	1	0.5	< 0.1	438	22.6	40.6	5.7	23.3	5.3	6.0	0.9	5.2	105
164147 Orig	23.6	13.2	1.0	63.7	0.7	301	53	1.1	0.18	< 0.1	< 1	0.2	< 0.1	554	1.0	1.9	0.3	1.0	0.2	0.2	< 0.1	0.2	7.3
164147 Split	24.3	13.4	1.4	62.7	0.7	302	53	1.3	0.50	< 0.1	< 1	0.2	0.2	558	0.8	1.7	0.2	0.8	0.2	0.2	< 0.1	0.2	8.0
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2
Method Blank	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2

QC

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	W	Re	Tl	Pb	Sc	Th	U	Ti	P	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.05	0.5	1	0.1	0.1	0.0005	0.001	0.01
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-ICP
GXR-1 Meas		0.4	2.1	0.3	< 0.1	138		0.44	745	2	3.0	31.4	0.0269	0.061	0.26
GXR-1 Cert		0.430	1.90	0.280	0.175	164		0.390	730	1.58	2.44	34.9	0.036	0.0650	0.257
GXR-4 Meas		0.2	1.0	0.1	0.5	32.0		3.15	47.0	8	18.0	5.1	0.290	0.134	1.74
GXR-4 Cert		0.210	1.60	0.170	0.790	30.8		3.20	52.0	7.70	22.5	6.20	0.29	0.120	1.77
SDC-1 Meas		0.5	3.2		< 0.1	< 0.1		0.67	25.1	17	12.3	3.8	0.108	0.057	
SDC-1 Cert		0.65	4.00		1.20	0.80		0.70	25.00	17.00	12.00	3.10	0.606	0.0690	
GXR-6 Meas		0.2	1.6	0.2	< 0.1	< 0.1		2.30	101	27	5.2	1.3		0.038	0.02
GXR-6 Cert		0.0320	2.40	0.330	0.485	1.90		2.20	101	27.6	5.30	1.54		0.0350	0.0160
SAR-M (U.S.G.S.) Meas						1.3		2.85	895	10	16.6	3.8	0.271	0.063	
SAR-M (U.S.G.S.) Cert						9.78		2.7	982	7.83	17.2	3.57	0.38	0.07	
DNC-1a Meas			2.1							31			0.288		
DNC-1a Cert			2.0							31			0.29		
SBC-1 Meas		0.5	3.4	0.5	0.8	1.0		0.96	36.0	20	15.8	5.4	0.534		
SBC-1 Cert		0.56	3.64	0.54	1.10	1.60		0.89	35.0	20.0	15.8	5.76	0.51		
OREAS 45d (4-Acid) Meas										45			0.641	0.037	0.05
OREAS 45d (4-Acid) Cert										49.30			0.773	0.042	0.049
164136 Orig	0.5	0.3	2.0	0.3	< 0.1	< 0.1	0.043	0.12	5.6	19	4.3	1.2	0.709	0.144	0.75
164136 Dup	0.4	0.3	2.0	0.3	< 0.1	< 0.1	0.039	0.12	5.6	19	4.3	1.1	0.554	0.143	0.77
164147 Orig	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.032	0.38	5.3	2	0.2	0.2	0.0921	0.016	0.01
164147 Split	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	0.045	0.38	5.3	1	0.2	0.2	0.0962	0.015	0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	0.0005	< 0.001	< 0.01
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 0.05	< 0.5	< 1	< 0.1	< 0.1	< 0.0005	< 0.001	< 0.01

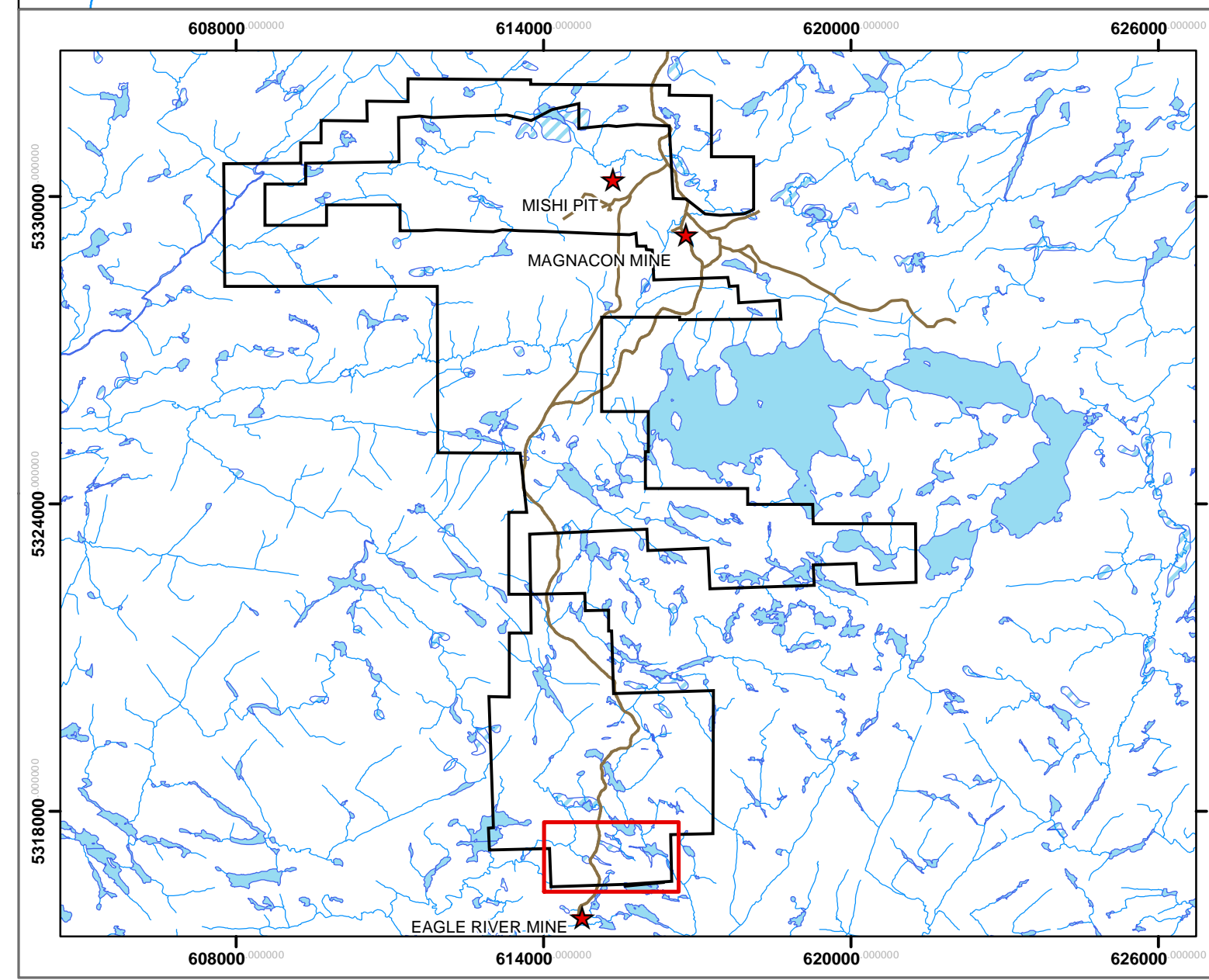
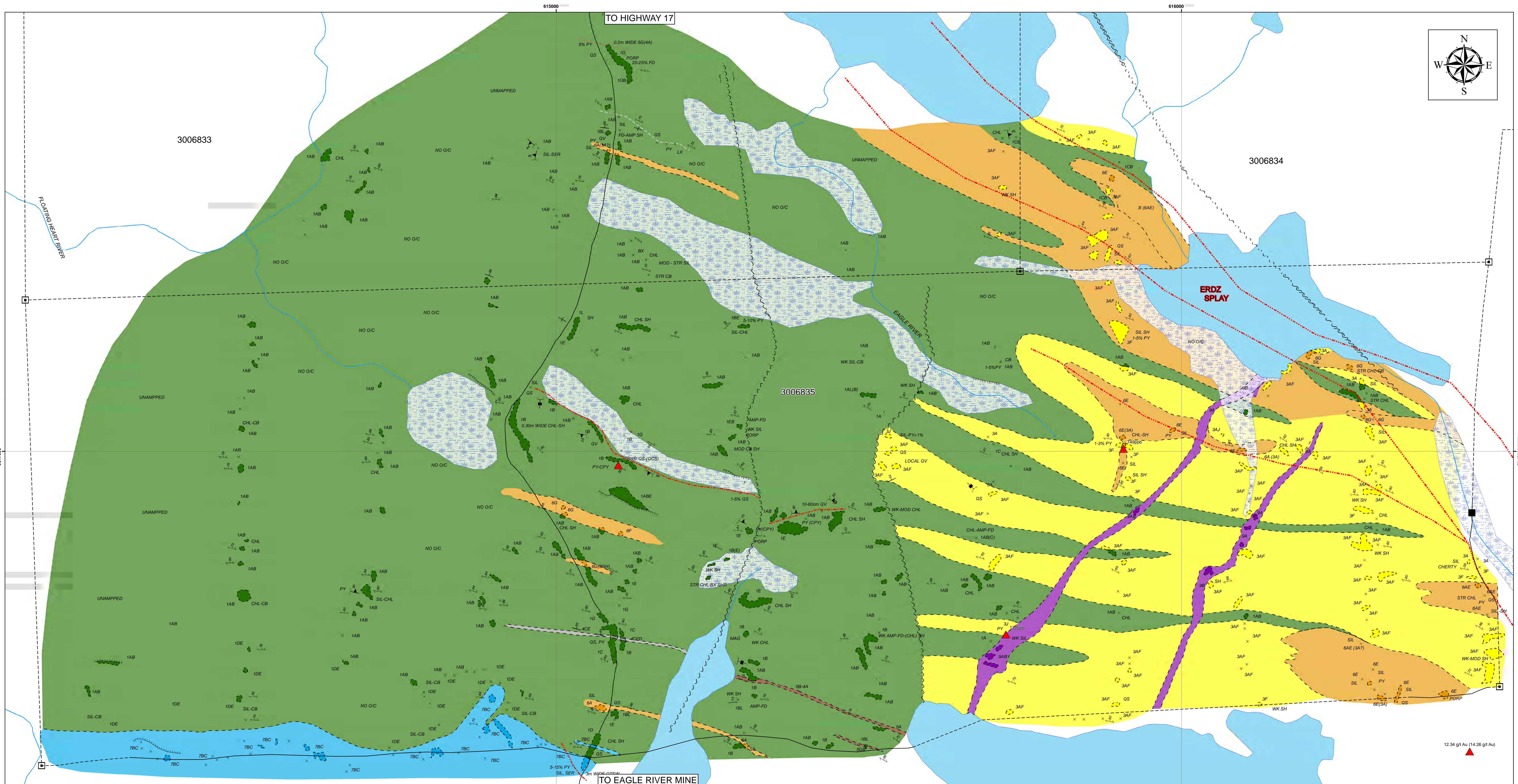
### **Appendix 3**

2014 Geology Maps of ERDZ Splay Area (1:2500),

Cameron Lake Area (1:2500),

and

Rook Lake Deformation Zone Area (1:10,000)



**Lithology**

9A	Unsubdivided	9A	Unsubdivided	3F	Tuff
9B	Fine-grained Diabase dikes	6D	Tonalite/Trochhemite	3G	Lapilli Tuff
9C	Coarse-grained Diabase dikes	6E	Granodiorite - Monzoniorite	3H	Tuff breccia
9D	Porphyritic Diabase dikes	6F	Quartz Diorite - Diorite	3I	Crystal Tuff
8A	Unsubdivided	6G	Quartz Porphyry	3J	Volcaniclastic - epiclastic
8B	Granite	6H	Feldspar Porphyry	2A	Unsubdivided
8C	Syenite	5A	Quartz - Feldspar Porphyry	2B	Massive flow
8D	Monzonite - Quartz Monzonite	5B	Arenaceous - Arenite (Sandstone)	2C	Banded flow
8E	Tonalite/Trochhemite	5C	Arkose - Arkosic Wacke	2D	Spherulitic flow
8F	Granodiorite - Monzoniorite	5D	Greywacke	2E	Autobreccia - flow breccia
8G	Felsic - Aplite dikes/sills	5E	Argillite - Shale - Slate	2F	Tuff
8H	Pegmatite dikes/sills	5F	Polymictic Conglomerate	2G	Lapilli Tuff
7A	Unsubdivided	5G	Volcaniclastic - Epiclastic	2H	Tuff breccia
7B	Diorite - Quartz Diorite	4A	Unsubdivided	2I	Crystal Tuff
7C	Gabbro	4B	Unsubdivided	2J	Volcaniclastic - epiclastic
7C1	Leucocratic Gabbro	4C	Chert - Cherty Tuff	1A	Unsubdivided
7Cm	Melanocratic Gabbro	4D	Banded Magnetite - Chert Iron Formation	1B	Massive flow
7D	Hornblende - Feldspar Porphyry	4E	Banded Carbonate - Chert Iron Formation	1C	Banded flow
6A	Unsubdivided	4F	Banded Silicate Iron Formation	1D	Spherulitic flow
6B	Granite	3A	Unsubdivided	1E	Autobreccia - flow breccia
3A	Unsubdivided	3B	Massive flow	1F	Tuff
3C	Banded flow	3D	Spherulitic flow	1G	Lapilli Tuff
3E	Autobreccia - flow breccia	3E	Autobreccia - flow breccia	1H	Tuff breccia
				1I	Crystal Tuff
				1J	Volcaniclastic - epiclastic

**Abbreviations**

**Ateration**

AMP Amphibole  
CB Carbonate  
CHL Chlorite  
FD Feldspar  
MAG Magnetite  
SIL Silicified

**Mineralization**

CPY Chalcopyrite  
PO Pyrrhotite  
PY Pyrite

**Structure/Texture**

BX Breccia  
PORP Porphyritic  
SH Shear

**Symbols**

▲ Anomalous Au (> 0.1g/t)  
+ Bedding (Inclined)  
~ Foliation (Inclined)  
+ Vein (Inclined)  
+ Bedding (Vertical)  
+ Foliation (Vertical)  
+ Vein (Vertical)

**Claims**

□ Inferred claim/line/witness posts  
■ Observed claim/line/witness posts  
--- Inferred claim lines  
— Observed claim lines

**Basemap features**

— Roads  
— Watercourse  
----- Base of slope  
□ Wetland  
■ Waterbody

QS Quartz Stringer  
QV Quartz Vein  
QTSW Quartz Stockwork

**IAMGOLD CORPORATION**

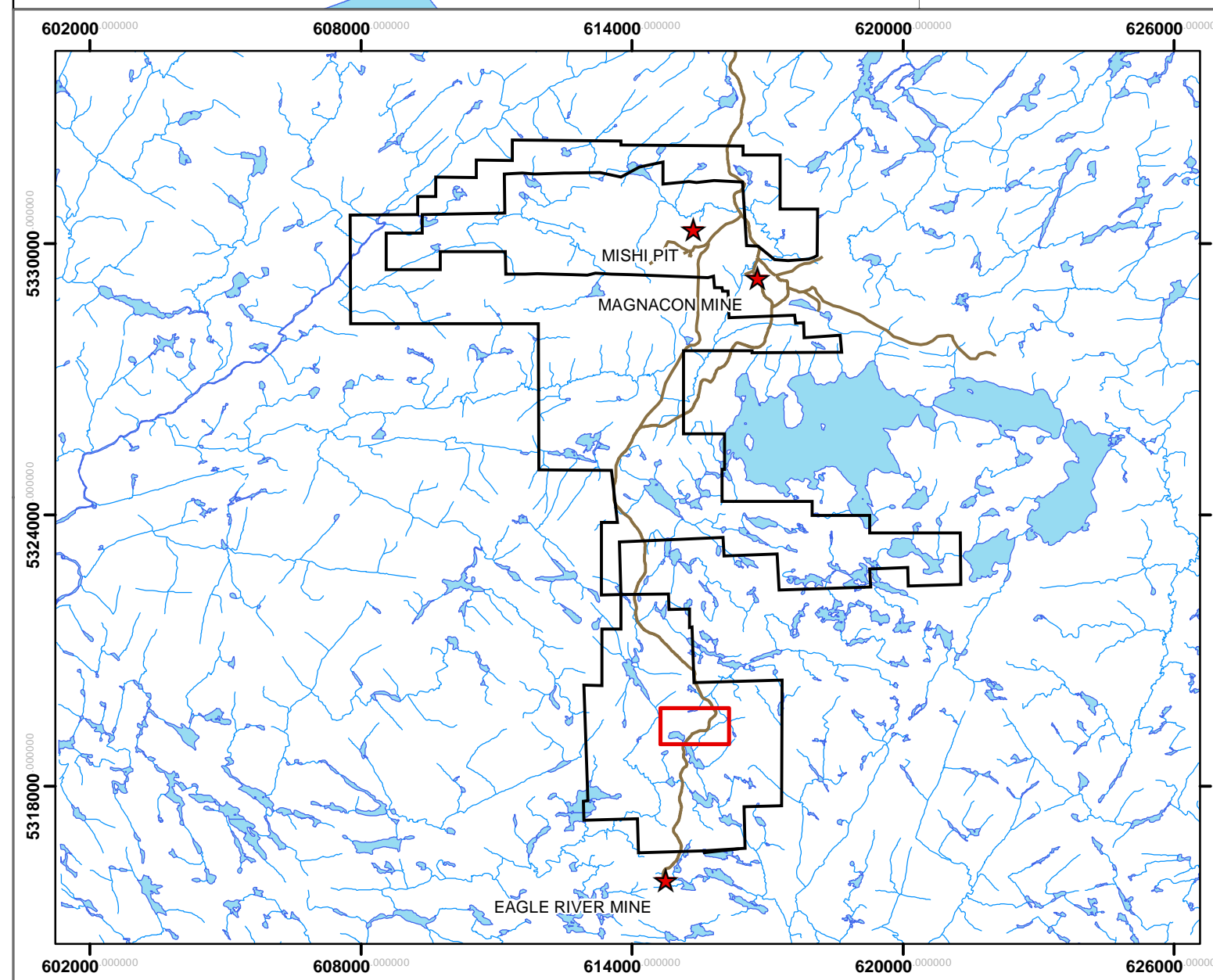
**TRELAWNEY**  
Mining and Exploration Inc.

**MISHIBISHU PROPERTY  
ERDZ SPLAY  
2014 MAPPING PROGRAM**

1:2,500  
Prepared for Trelawney Mining and Exploration Inc., a wholly owned subsidiary of IAMGOLD Corp  
NTS: 041N14 | 042C03 | 042C04  
NOVEMBER 26 2014 DATUM: UTM NAD83 ZONE 18

500 Meters





**Lithology**

- Proterozoic to Archaean Mafic Intrusive**
  - 9A Unsubdivided
  - 9B Fine-grained Diabase dikes
  - 9C Coarse-grained Diabase dikes
  - 9D Porphyritic Diabase dikes
- Felsic to Intermediate Intrusives**
  - 8A Unsubdivided
  - 8B Granite
  - 8C Syenite
  - 8D Monzonite - Quartz Monzonite
  - 8E Tonalite/Trondhemitic
  - 8F Granodiorite - Monzodiorite
  - 8G Felsic - Aplite dikes/sills
  - 8H Pegmatite dikes/sills
- Mafic Intrusives**
  - 7A Unsubdivided
  - 7B Diorite - Quartz Diorite
  - 7C Gabbro
  - 7C1 Leucocratic Gabbro
  - 7Cm Melanocratic Gabbro
  - 7D Hornblende - Feldspar Porphyry
- Synvolcanic Felsic to Intermediate Intrusives**
  - 6A Unsubdivided
  - 6B Granite

- 6C Tonalite/Trondhemitic
  - 6D Granodiorite - Monzodiorite
  - 6E Quartz Diorite - Diorite
  - 6F Quartz Porphyry
  - 6G Feldspar Porphyry
  - 6H Quartz - Feldspar Porphyry
- Classic Metasediments**
- 5A Unsubdivided
  - 5B Arenaceous - Arenite (Sandstone)
  - 5C Arkose - Arkosic Wacke
  - 5D Greywacke
  - 5E Argillite - Shale - Slate
  - 5F Polymictic Conglomerate
  - 5G Volcaniclastic - Epiclastic
- Chemical Metasediments**
- 4A Unsubdivided
  - 4B Chert - Cherty Tuff
  - 4C Banded Magnetite - Chert Iron Formation
  - 4D Banded Carbonate - Chert Iron Formation
  - 4E Banded Silicate Iron Formation
  - 4F Banded Sulphide Iron Formation
- Felsic Metavolcanics**
- 3A Unsubdivided
  - 3B Massive flow
  - 3C Banded flow
  - 3D Spherulitic flow
  - 3E Autobreccia - flow breccia

- 3F Tuff
  - 3G Lapilli Tuff
  - 3H Tuff breccia
  - 3I Crystal Tuff
  - 3J Volcaniclastic - epiclastic
- Intermediate Metavolcanics**
- 2A Unsubdivided
  - 2B Massive flow
  - 2C Banded flow
  - 2D Spherulitic flow
  - 2E Autobreccia - flow breccia
  - 2F Tuff
  - 2G Lapilli Tuff
  - 2H Tuff breccia
  - 2I Crystal Tuff
  - 2J Volcaniclastic - epiclastic
- Mafic Metavolcanics**
- 1A Unsubdivided
  - 1B Massive flow
  - 1C Banded flow
  - 1D Spherulitic flow
  - 1E Autobreccia - flow breccia
  - 1F Tuff
  - 1G Lapilli Tuff
  - 1H Tuff breccia
  - 1I Crystal Tuff
  - 1J Volcaniclastic - epiclastic

**Abbreviations**

- Ateration**
- CB Carbonate
  - CHL Chlorite
  - GAR Garnet
  - MAG Magnetite
  - SER Sericite
  - SIL Silicified
- Structure**
- BX Breccia
  - MSV Massive Shear
  - SH Shear
- Mineralization**
- CPY Chalcopyrite
  - PO Pyrrhotite
  - PY Pyrite

**Symbols**

- ▲ Mapped outcrops
- ▲ Anomalous Au (> 0.1g/t)
- ↑ Plunge of fold axis with plunge and plunge direction
- ↗ Bedding (Inclined)
- ↘ Foliation (Inclined)
- ↖ Vein (Inclined)
- ↗ Bedding (Vertical)
- ↘ Foliation (Vertical)
- ↖ Vein (Vertical)
- ⚡ Fault traces
- QS Quartz Stringer
- QV Quartz Vein
- QTSW Quartz Stockwork

**Claims**

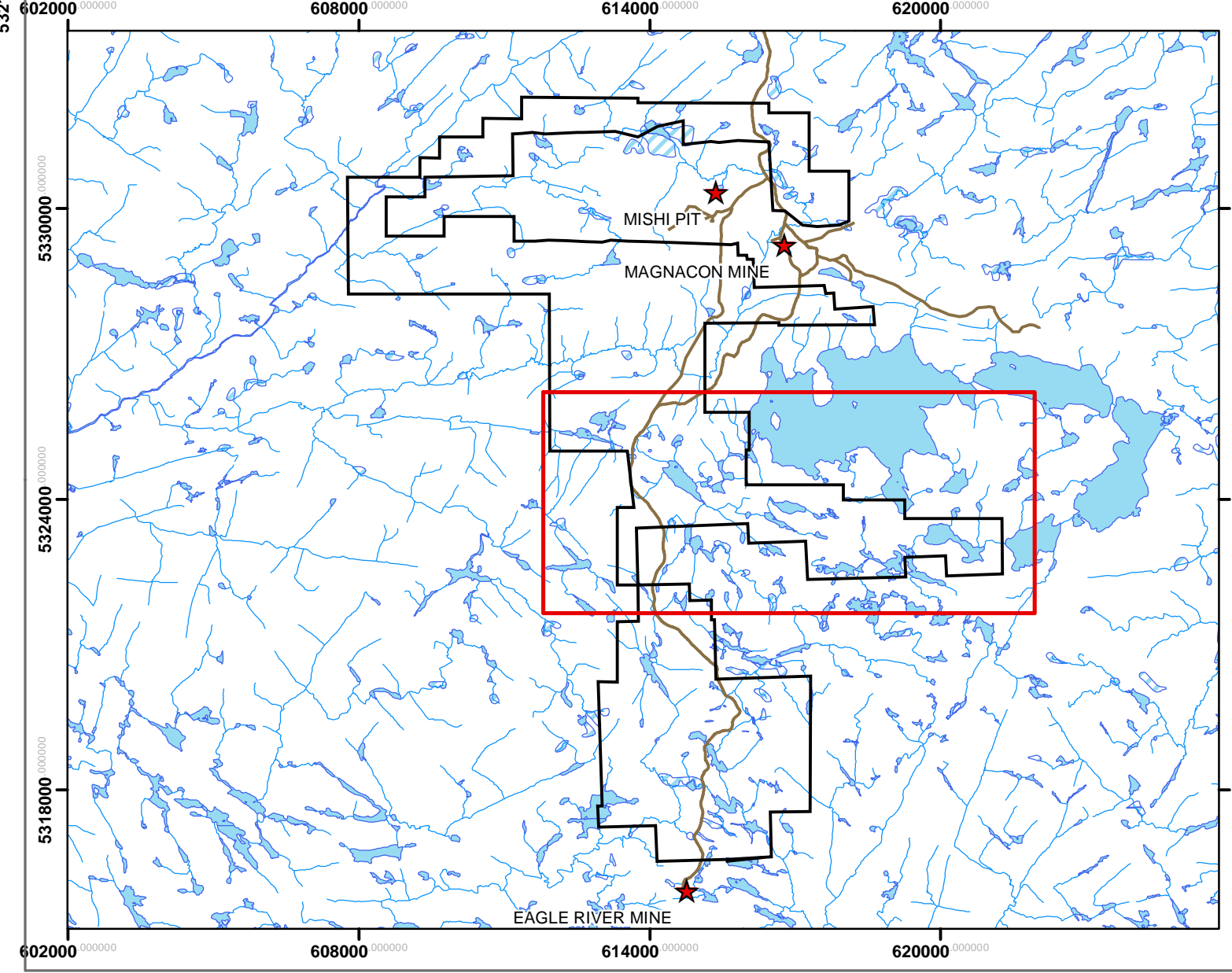
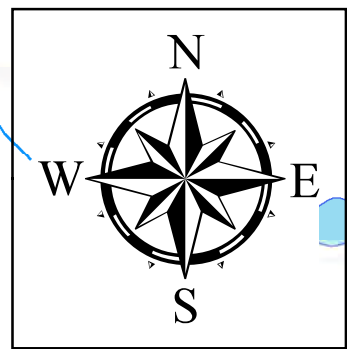
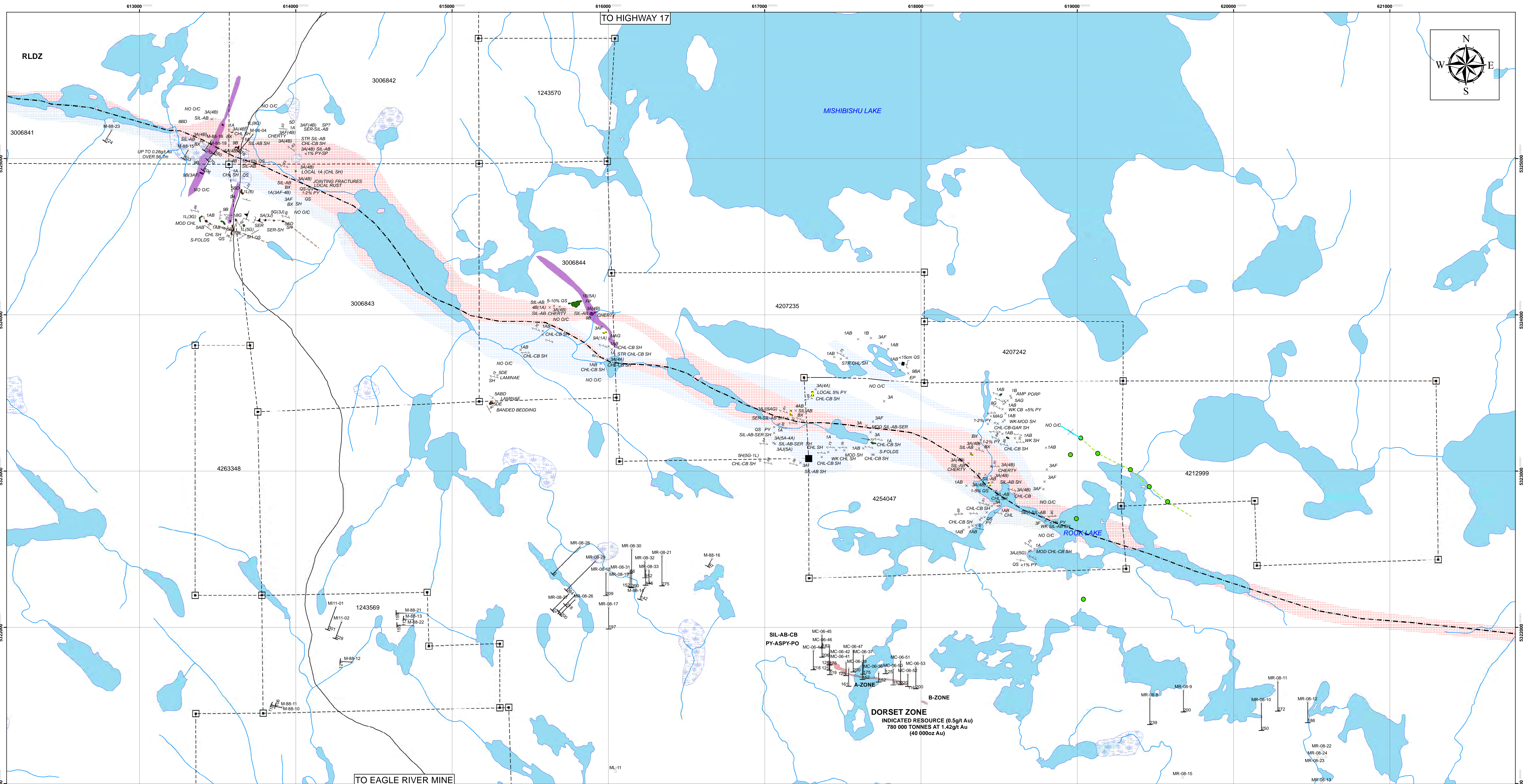
- ◻ Inferred claim/line/witness posts
- ◻ Observed claim/line/witness posts
- Inferred claim lines
- Observed claim lines
- Collar Location
- Surface Trace

**Basemap features**

- Roads
- Watercourse
- Base of slope
- Wetland
- Waterbody



**MISHIBISHU PROPERTY  
CAMERON LAKE AREA  
2014 MAPPING PROGRAM**



Lithology	
<b>Proterozoic to Archaean Mafic Intrusive</b>	<ul style="list-style-type: none"> <li>9A Unsubdivided</li> <li>9B Fine-grained Diabase dikes</li> <li>9C Coarse-grained Diabase dikes</li> <li>9D Porphyritic Diabase dikes</li> </ul>
<b>Felsic to Intermediate Intrusives</b>	<ul style="list-style-type: none"> <li>8A Unsubdivided</li> <li>8B Granite</li> <li>8C Syenite</li> <li>8D Monzonite - Quartz Monzonite</li> <li>8E Tonallite/Trochilomylonite</li> <li>8F Granodiorite - Monzodiorite</li> <li>8G Felsic - Aplite dikes/sills</li> <li>8H Pegmatite dikes/sills</li> </ul>
<b>Mafic Intrusives</b>	<ul style="list-style-type: none"> <li>7A Unsubdivided</li> <li>7B Diorite - Quartz Diorite</li> <li>7C Gabbro</li> <li>7Cm Leucocratic Gabbro</li> <li>7D Hornblende - Feldspar Porphyry</li> </ul>
<b>Synvolcanic Felsic to Intermediate Intrusives</b>	<ul style="list-style-type: none"> <li>6A Unsubdivided</li> <li>6B Granite</li> </ul>
<b>Clastic Metasediments</b>	<ul style="list-style-type: none"> <li>5A Unsubdivided</li> <li>5B Arenaceous - Arenite (Sandstone)</li> <li>5C Arkose - Arkosic Wacke</li> <li>5D Greywacke</li> <li>5E Argillite - Shale - Slate</li> <li>5F Polymictic Conglomerate</li> <li>5G Volcaniclastic - Epiclastic</li> </ul>
<b>Chemical Metasediments</b>	<ul style="list-style-type: none"> <li>4A Unsubdivided</li> <li>4B Chert - Cherty Tuff</li> <li>4C Banded Magnetite - Chert Iron Formation</li> <li>4D Banded Carbonate - Chert Iron Formation</li> <li>4E Banded Silicate Iron Formation</li> <li>4F Banded Sulphide Iron Formation</li> </ul>
<b>Felsic Metavolcanics</b>	<ul style="list-style-type: none"> <li>3A Unsubdivided</li> <li>3B Massive flow</li> <li>3C Banded flow</li> <li>3D Spherulitic flow</li> <li>3E Autobreccia - flow breccia</li> </ul>
<b>Intermediate Metavolcanics</b>	<ul style="list-style-type: none"> <li>2A Unsubdivided</li> <li>2B Massive flow</li> <li>2C Banded flow</li> <li>2D Spherulitic flow</li> <li>2E Autobreccia - flow breccia</li> <li>2F Tuff</li> <li>2G Lapilli Tuff</li> <li>2H Tuff breccia</li> <li>2I Crystal Tuff</li> <li>2J Volcaniclastic - epiclastic</li> </ul>
<b>Mafic Metavolcanics</b>	<ul style="list-style-type: none"> <li>1A Unsubdivided</li> <li>1B Massive flow</li> <li>1C Banded flow</li> <li>1D Spherulitic flow</li> <li>1E Autobreccia - flow breccia</li> <li>1F Tuff</li> <li>1G Lapilli Tuff</li> <li>1H Tuff breccia</li> <li>1I Crystal Tuff</li> <li>1J Volcaniclastic - epiclastic</li> </ul>

Abbreviations	
<b>Structure</b>	<ul style="list-style-type: none"> <li>BX Breccia</li> <li>SH Shear</li> </ul>
<b>Mineralization</b>	<ul style="list-style-type: none"> <li>CPY Chalcopyrite</li> <li>PO Pyrrhotite</li> <li>PY Pyrite</li> </ul>
<b>Alteration</b>	<ul style="list-style-type: none"> <li>AB Albite (albitized)</li> <li>AMP Amphibole class</li> <li>ANK Ankerite</li> <li>BIO Biotite</li> <li>CB Carbonate alteration (unspecified)</li> <li>CHL Chlorite (chloritized)</li> <li>EP Epidote</li> <li>FD Feldspar</li> <li>GAR Garnet</li> <li>KSP K-feldspar</li> <li>LX Leucoxene</li> <li>QE Quartz-eyes</li> <li>SER Sericite</li> <li>SER Serpentinized</li> <li>RL EM Conductors_1</li> </ul>
<b>Mapped outcrops</b>	<ul style="list-style-type: none"> <li>Mapped outcrops</li> <li>Anomalous Au (&gt; 0.1g/t)</li> <li>Bedding (Inclined)</li> <li>Fold Plunge (Inclined)</li> <li>Foliation (Inclined)</li> <li>Vein (Inclined)</li> <li>Bedding (Vertical)</li> <li>Foliation (Vertical)</li> <li>Vein (Vertical)</li> <li>Fault traces</li> <li>QS Quartz Stringer</li> <li>QV Quartz Vein</li> <li>QTSW Quartz Stockwork</li> <li>QCS Quartz-Carbonate Stringer</li> <li>OCV Quartz-Carbonate Vein</li> </ul>
<b>Claims</b>	<ul style="list-style-type: none"> <li>Inferred cornerline/witness posts</li> <li>Observed cornerline/witness posts</li> <li>Inferred claim lines</li> <li>Observed claim lines</li> <li>Collar Location</li> <li>Surface Trace</li> <li>EM Conductor</li> </ul>
<b>Basemap features</b>	<ul style="list-style-type: none"> <li>Roads</li> <li>Watercourse</li> <li>Base of slope</li> <li>Wetland</li> <li>Waterbody</li> </ul>



**MISHIBISHU PROPERTY  
ROOK LAKE AREA  
2014 MAPPING PROGRAM**

1:10,000  
Prepared for Trelawney Mining and Exploration Inc., a wholly owned subsidiary of IAMGOLD Corp. NTS: 041N14 | 042C03 | 042C04  
NOVEMBER 28 2014 DATUM: UTM NAD83 ZONE 18  
Meters

## **Appendix 4**

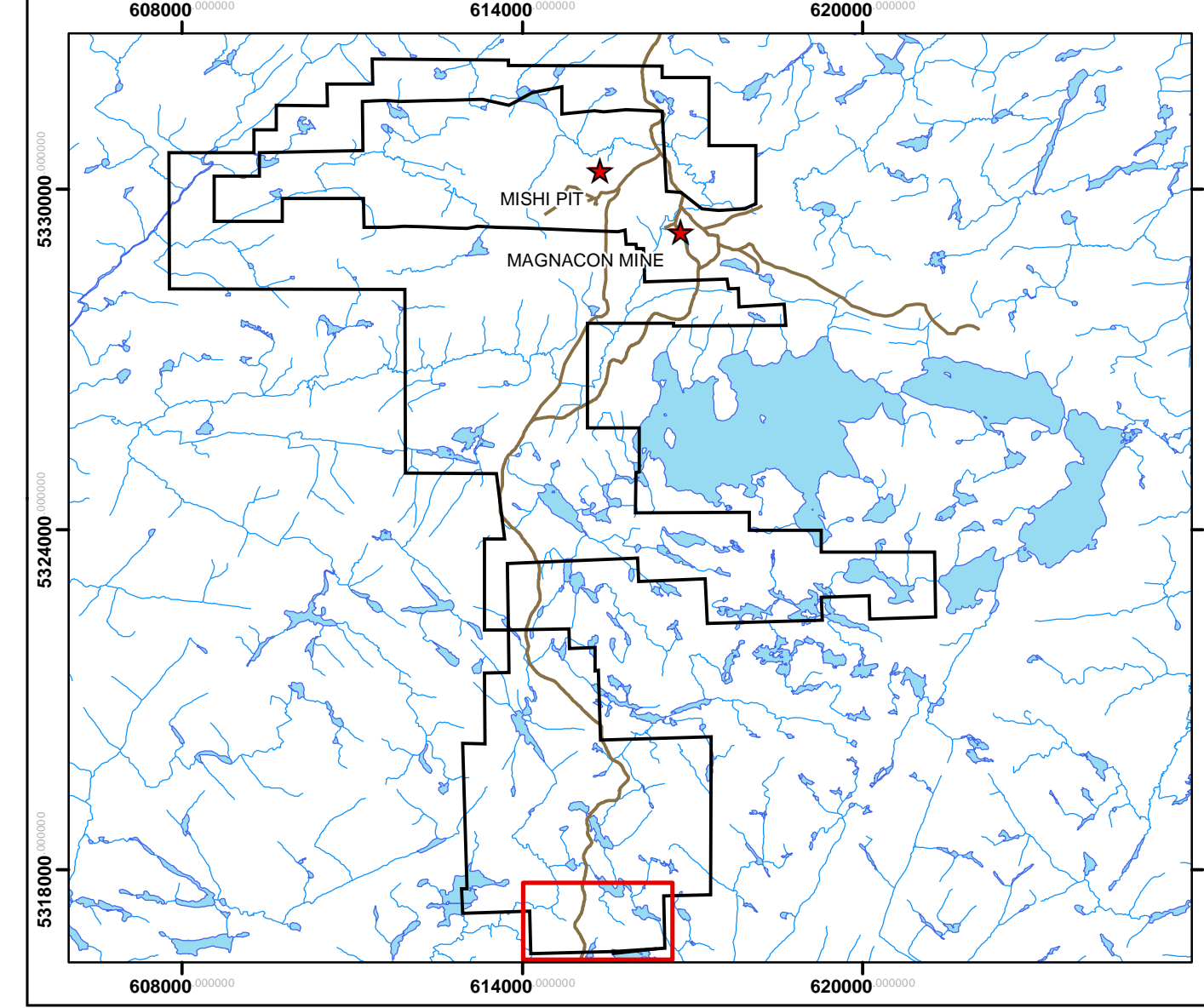
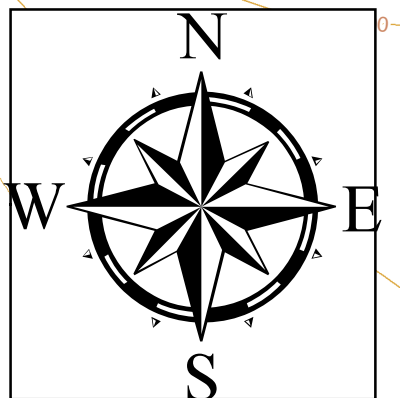
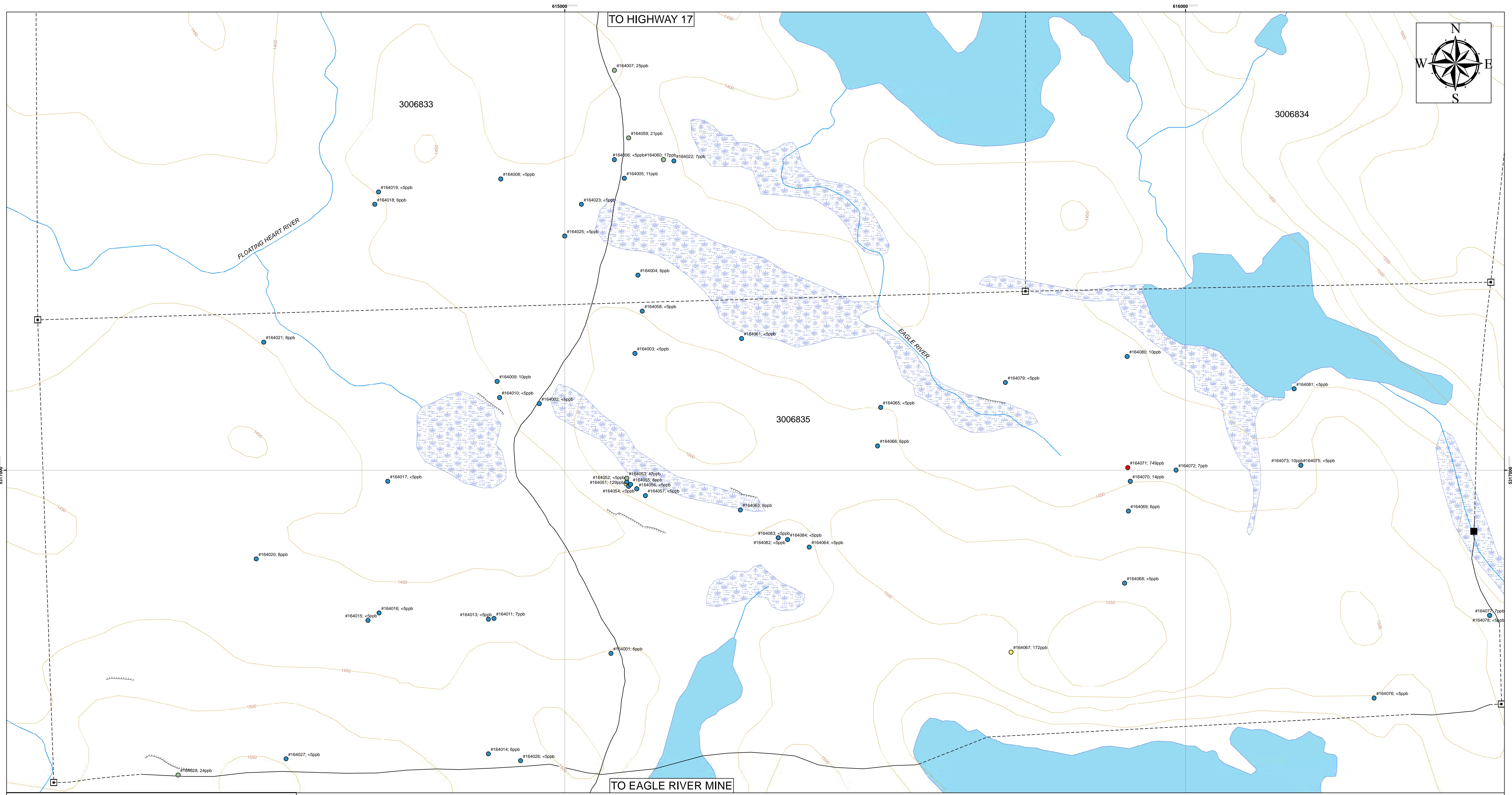
2014 Sample Location and Gold Geochemistry Maps

of

ERDZ Splay Area (1:2500),

Cameron Lake Area (1:2500),

and Rook Lake Deformation Zone Area (1:10,000)



- 2014 Au Assay Results (ppb) Claims**
- <5 - 14
  - 15 - 47
  - 48 - 172
  - 173 - 412
  - 413 - 1100
- Claims**
- Inferred claim/line/witness posts
  - Observed claim/line/witness posts
  - Inferred claim lines
  - Observed claim lines
- Basemap features**
- Roads
  - Watercourse
  - ..... Base of slope
  - Topography
  - Wetland
  - Waterbody

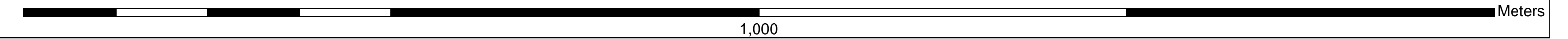


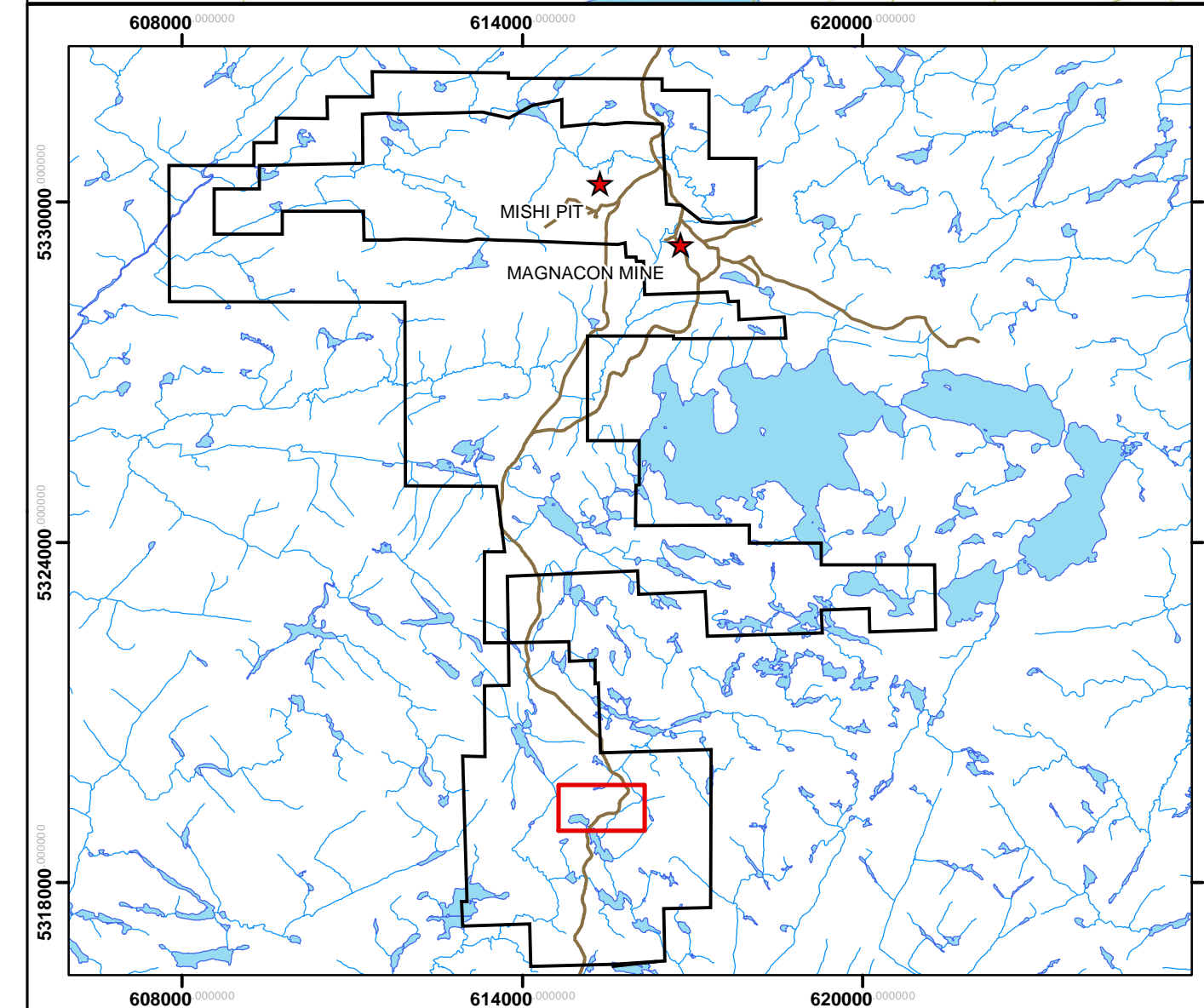
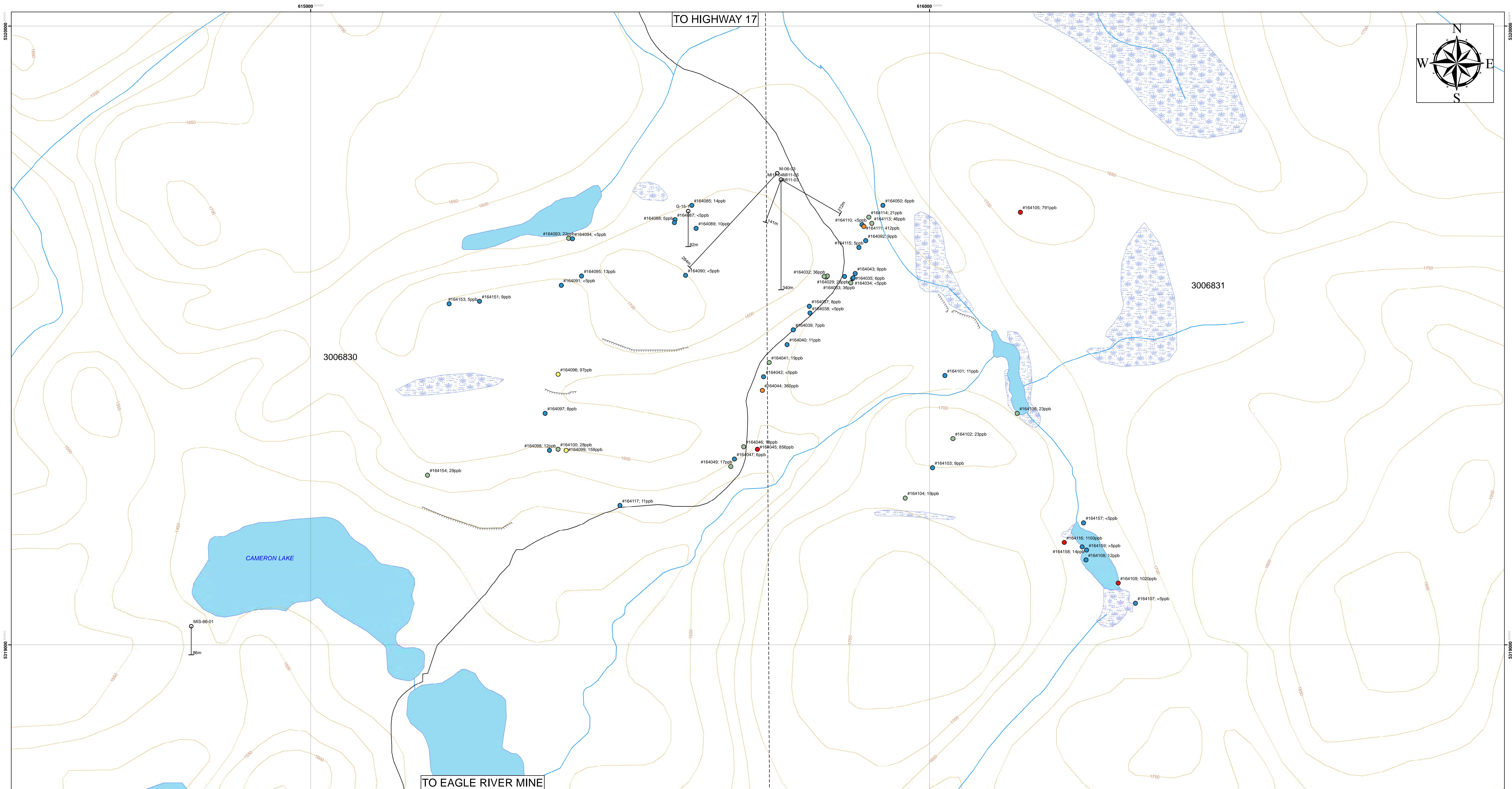
1:2,500

**MISHIBISHU PROPERTY  
ERDZ SPLAY  
ROCK SAMPLE LOCATION AND GEOCHEMISTRY (GOLD)**

*Prepared for Trelawney Mining and Exploration Inc, a wholly owned subsidiary of IAMGOLD Corp*

NTS: 041N14 | 042C03 | 042C04  
DATUM: UTM NAD83 ZONE 16  
NOVEMBER 26 2014





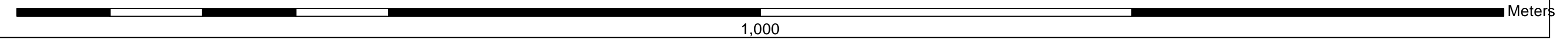
- 2014 Au Assay Results (ppb) Claims**
- <5 - 14
  - 15 - 47
  - 48 - 172
  - 173 - 412
  - 413 - 1100
- Claims**
- Inferred claim/line/witness posts
  - Observed claim/line/witness posts
  - Inferred claim lines
  - Observed claim lines
- Basemap features**
- Roads
  - Watercourse
  - Base of slope
  - Topography
  - Wetland
  - Waterbody
- Historic DDH**
- Collar
  - Surface Trace

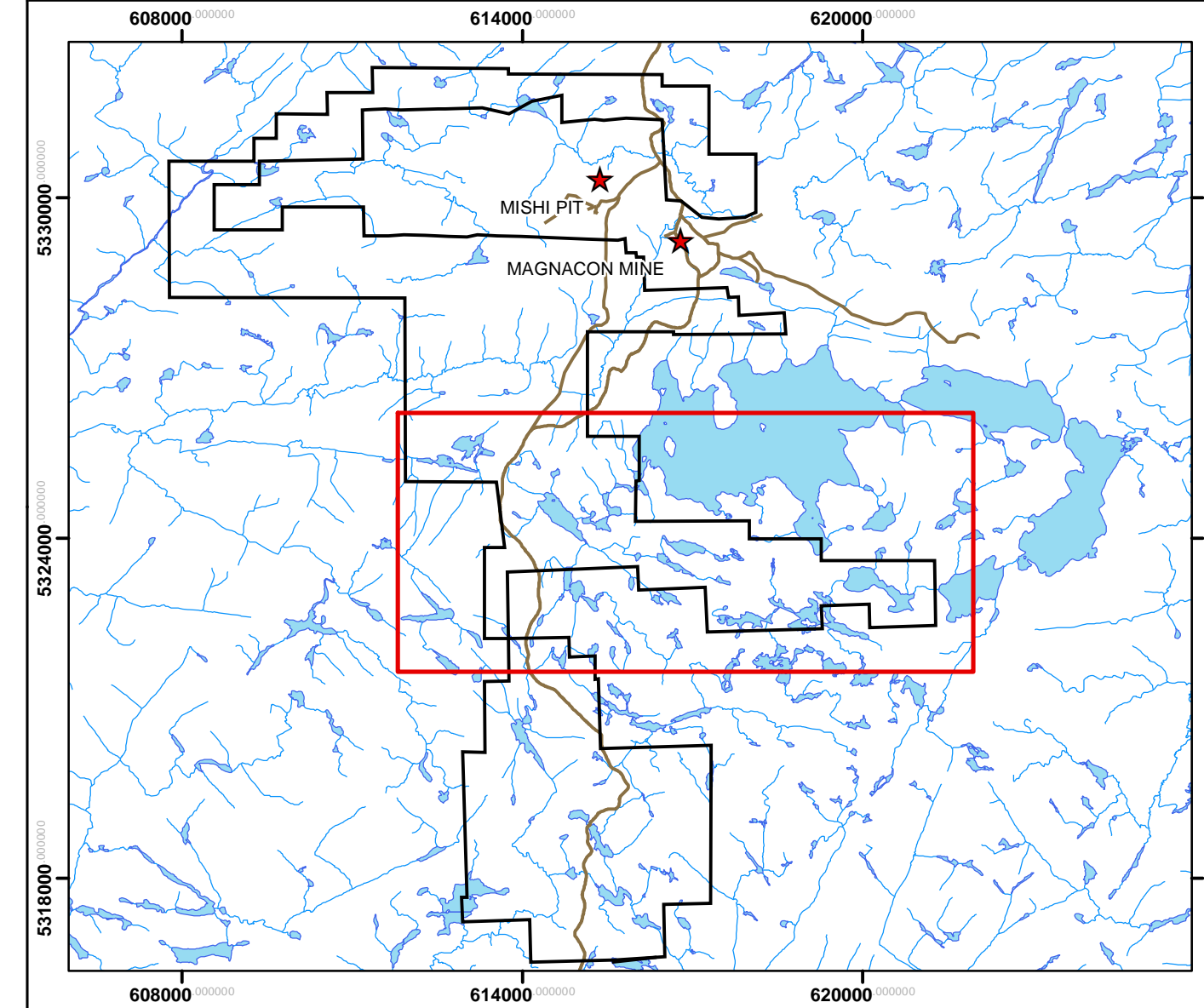
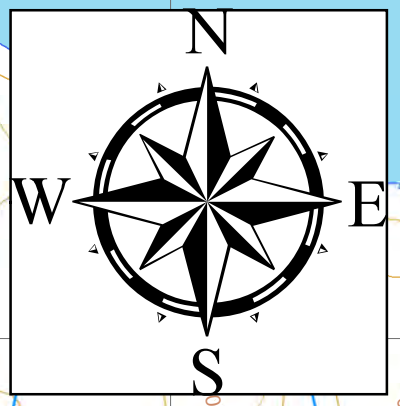


## MISHIBISHU PROPERTY CAMERON LAKE AREA ROCK SAMPLE LOCATION AND GEOCHEMISTRY (GOLD)

Prepared for Trelawney Mining and Exploration Inc, a wholly owned subsidiary of IAMGOLD Corp

NOVEMBER 26 2014  
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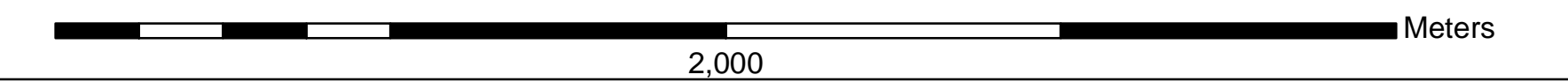
## MISHIBISHU PROPERTY ROOK LAKE AREA ROCK SAMPLE LOCATION AND GEOCHEMISTRY (GOLD)

Prepared for Trelawney Mining and Exploration Inc, a wholly owned subsidiary of IAMGOLD Corp

NOVEMBER 28 2014

NTS: 041N14 | 042C03 | 042C04  
DATUM: UTM NAD83 ZONE 16

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## **Appendix 5**

### 2014 Rock Sample Descriptions

HEADER							SAMPLE		Lithology			
Date	Geologist	Project	Property	UTM Easting (Stn)	UTM Northing (Stn)	Elevation (Stn)	Sample_No	Sample Type	Lithology	Rock Code	Description	Au (ppb)
18-09-2014	Sam Tyler	Mishi	Mishi	615079	53116700		164001	Outcrop grab	Quartz Vein	QV	Interflow BIF frags and QV in MAS MV flows. Trace pyrite in QV and BIF.	6
19-09-2014	Sam Tyler	Mishi	Mishi	614959	5317107		164002	Outcrop grab	Quartz Vein	QV	Pinch/swell QV in MAS MV flow. Str chl alt. Rusty patches, no visible sulphides.	< 5
19-09-2014	Sam Tyler	Mishi	Mishi	615113	5317188		164003	Outcrop grab	Massive Mafic Flow	1b	MAS MV flow. Local 5% py on joint surfaces	< 5
19-09-2014	Sam Tyler	Mishi	Mishi	615118	5317314		164004	Outcrop grab	Massive Mafic Flow	1b	MAS MV flow. 1-2% py on FP. Wk to Mod ser alt. Mod to str chl alt. FOL 130/88	6
20-09-2014	Sam Tyler	Mishi	Mishi	615096	5317470		164005	Outcrop grab	Quartz Vein	QV	1-2cm Quartz Vein – with cherty interflow sediments in MAS MV. 0.8% dis py. Wk 10-12cm shr gouge // FOL @ 305/82.	11
20-09-2014	Sam Tyler	Mishi	Mishi	615080	5317500		164006	Outcrop grab	Quartz Vein	QV	8-10cm QV + interflow sediments in MAS fels-int volc flows.	< 5
20-09-2014	Sam Tyler	Mishi	Mishi	615080	5317644		164007	Outcrop grab	Quartz Vein	QV	5-8cm QV in MAS MV, CRSCUT FOL @ 245/60	25
21-09-2014	Sam Tyler	Mishi	Mishi	614897	5317469		164008	Outcrop grab	Massive Mafic Flow	1b	MAS MV flow, trace disseminated pyrite, weak pervasive carbonate alteration, sparse irregular Qvs <1cm.	< 5
9/22/2014	Sam Tyler	Mishi	Mishi	614891	5317143		164009	Outcrop grab	Amygdaloidal Mafic Flow	1d	AMYG MV, weakly foliated (no measure surface), moderately silicified (PV), trace disseminated pyrite	1< 5
9/22/2014	Sam Tyler	Mishi	Mishi	614895	5317117		164010	Outcrop grab	Amygdaloidal Mafic Flow	1d	AMYG MV, weak chlorite alteration (FP). No visible sulphides.	< 5
9/22/2014	Sam Tyler	Mishi	Mishi	614886	5316761		164011	Outcrop grab	Massive Mafic Flow	1b	MAS MV flow, foliated at 286/84. Strong silica and sericite alteration (pervasive and stronger in patches). Moderate chlorite alteration on foliation planes. Trace disseminated pyrite.	7
	Sam Tyler	Mishi	Mishi	N/A	N/A		164012	Standard			Standard	239
9/22/2014	Sam Tyler	Mishi	Mishi	614877	5316760		164013	Outcrop grab	Massive Mafic Flow	1b	MAS MV, moderate PV silicification and chlorite on FP. Trace disseminated py + cpy.	< 5
9/22/2014	Sam Tyler	Mishi	Mishi	614877	5316543		164014	Outcrop grab	Dike?		Rusty patches, 0.8% py on FP. No structure or apparent alteration.	6



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9/22/2014	Sam Tyler	Mishi	Mishi	614683	5316758		164015	Outcrop grab	Massive Mafic Flow	1b	MAS MV, strongly foliated at 284/78. Minor epidote, moderate chlorite on FP. Weak shear at 158/42.	< 5
9/22/2014	Sam Tyler	Mishi	Mishi	614701	5316770		164016	Outcrop grab	Massive Mafic Flow	1b	MAS MV, strongly foliated at 282/80. Strong chlorite alteration on FP. 8Cm QV // FOL. Moderate silicification local to QV. Trace disseminated pyrite in wallrock local to QV. Sampled QV + wallrock.	< 5
9/22/2014	Sam Tyler	Mishi	Mishi	614715	5316982		164017	Outcrop grab	Massive Mafic Flow, some plag phenocrysts	1b/e	Strong pervasive carbonate, moderate chlorite on FP. Weak foliation at 272/89. 1-2% disseminated py, cpy, apy(?).	< 5
9/22/2014	Sam Tyler	Mishi	Mishi	614694	5317428		164018	Outcrop grab	Massive mafic – intermediate flow	1-2b	Pervasive silica (moderate) and carbonate (weak). Moderate foliation at 284/76. 0.5-1% disseminated py throughout. 1-4mm interflow sed laminae, with some cherty bands. Non-magnetic. 1-2% diss py and strong PV carbonate local to interflow bands.	6
9/22/2014	Sam Tyler	Mishi	Mishi	614700	5317448		164019	Outcrop grab	Massive Mafic Flow	1b	Moderately foliated at 292/88. Strong PV silica. 0.5-1% disseminated py + cpy. Qtz lenses with some rust <1cm by 2-3cm	< 5
9/23/2014	Sam Tyler	Mishi	Mishi	614503	5316857		164020	Outcrop grab	Quartz Vein	QV	~6cm QV (238/50) in 1b, pinching off down dip. 15% QV + 75% wall rock. TR DIS PY + CPY in QV + wall rock	8
9/23/2014	Sam Tyler	Mishi	Mishi	614515	5317206		164021	Outcrop grab	Mass mafic flow	1b	Wk-mod PV SIL, CHL. Trace to 1% DIS py throughout	8
9/24/2014	Sam Tyler	Mishi	Mishi	615176	5317498		164022	Outcrop grab	Cherty felsic tuff	4b	1-2% DIS PY/CPY/PO/APY(?). V str PV SIL (cherty). Mod fol @ 280/86. Wk SPT CHL.	7
9/24/2014	Sam Tyler	Mishi	Mishi	615027	5317428		164023	Outcrop grab	Quartz Vein	QV	Mod. PV SIL + CHL. 1% DIS PY + TR CPY/PO/APY(?), smeared on FOL @ 282/78. 1-2cm irreg QV. 10% QV in sample.	< 5
	Sam Tyler	Mishi	Mishi	N/A	N/A		164024	Standard				< 5

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9/24/2014	Sam Tyler	Mishi	Mishi	615000	5317377		164025	Outcrop grab	Quartz Vein	QV	20cm irreg bull qtz in 1b. No visible sulphides. Mod chl (FP), mod-str sil (pv). 70% QV in sample.	< 5
9/30/2014	Sam Tyler	Mishi	Mishi	614929	5316532	459	164026	Outcrop grab	Quartz Diorite	6G	Rusty patches. Near gradational contact with 7C.	< 5
9/30/2014	Sam Tyler	Mishi	Mishi	614551	5316535	478	164027	Outcrop grab	Gabbro Dike	7C	2-3% DIS PyPo	< 5
9/30/2014	Sam Tyler	Mishi	Mishi	614377	5316509	475	164028	Outcrop grab	Gabbro Dike	7C	1-2% DIS PyPo. Schistose foliation 274/84 (amphibolite). Strong carb alt on FP.	24
10/1/2014	Sam Tyler	Mishi	Mishi	615833	5319594	503	164029	Outcrop grab	Chert-magnetite IF	4C	Oxide BIF, brecciated. Very rusty (brwn-blk) on weathered surface. 1-2% DIS Py + Po + Cpy (locally up to 5%). 15cm wide breccia zone.	25
10/1/2014	Sam Tyler	Mishi	Mishi	615835	5319596	501	164030	Outcrop grab	Chert-magnetite IF	4C	Oxide BIF, brecciated. 3% blebby and disseminated Py + Po. 15cm wide breccia zone.	18
10/1/2014	Sam Tyler	Mishi	Mishi	615863	5319595	501	164031	Outcrop grab	Chert-magnetite IF	4C	Oxide BIF. 4cm wide chert band. Trace DIS Py.	12
10/1/2014	Sam Tyler	Mishi	Mishi	615830	5319595	502	164032	Outcrop grab	Chert-magnetite IF	4C	Oxide BIF, brecciated. 3-5% blebby and disseminated Py + Po + Apy.	36
10/1/2014	Sam Tyler	Mishi	Mishi	615873	5319585	500	164033	Outcrop grab	Chert-magnetite IF	4C	Oxide BIF. Trace DIS Py.	36
10/1/2014	Sam Tyler	Mishi	Mishi	615876	5319592	499	164034	Outcrop grab	Chert-magnetite IF	4C	Oxide BIF. No visible sulphides.	< 5
10/1/2014	Sam Tyler	Mishi	Mishi	615877	5319593	499	164035	Outcrop grab	Chert-magnetite IF	4C	Oxide BIF. 15% QV in sample. TR DIS Py.	6
	Sam Tyler	Mishi	Mishi	N/A	N/A		164036	Standard				1020
10/1/2014	Sam Tyler	Mishi	Mishi	615806	5319547	497	164037	Outcrop grab	Mafic Volcanics	1B	Irregular QVs. 2% Py + Po + Cpy. Pink garnets, 1 - 5mm	8

Date	Geologist	Project	Property	UTM Easting (Stn)	UTM Northing (Stn)	Elevation (Stn)	Sample_No	Sample Type	Lithology	Rock Code	Description	Au (ppb)
10/1/2014	Sam Tyler	Mishi	Mishi	615807	5319536	496	164038	Outcrop grab	Mafic Volcanics	1B	1-4mm QC veinlets. 2-3% blebby to massive Py + Po + Cpy	< 5
10/1/2014	Sam Tyler	Mishi	Mishi	615780	5319509	493	164039	Outcrop grab	Mafic Volcanics	1B	10cm SHRZN with 2cm QCV, both at 082/80. 1% disseminated and blebby Py. 15% QCV in sample.	7
10/1/2014	Sam Tyler	Mishi	Mishi	615770	5319485	491	164040	Outcrop grab	Mafic Volcanics	1B	Boulder. Irreg Qvs (15% in sample). Pink staining on surface. 3-5% blebby Py + Po.	11
10/1/2014	Sam Tyler	Mishi	Mishi	615741	5319456	487	164041	Outcrop grab	Chert-magnetite IF	4C	2-3% Py + Po + Cpy, disseminated and fracture fill.	19
10/1/2014	Sam Tyler	Mishi	Mishi	615732	5319433	483	164042	Outcrop grab	Arenite-Wacke	5BC	Quartz stockwork in clastic sediments. 60cm wide, 5-7% quartz stringers. No visible sulphides.	< 5
10/1/2014	Sam Tyler	Mishi	Mishi	615880	5319600	490	164043	Outcrop grab	Chert-magnetite IF	4C	No visible sulphides. Rusty on surface.	9
10/2/2014	Sam Tyler	Mishi	Mishi	615730	5319411	474	164044	Outcrop grab	Wacke	5D	2-5% thin magnetite bands. 2-3% banded and disseminated Py.	360
10/2/2014	Sam Tyler	Mishi	Mishi	615722	5319316	470	164045	Outcrop grab	Arkosic wacke	5C	Very weak Shr at 330/86 (25cm). Very rust (brown) on surface. 2013 sample 402101 (~2.5g/t).	856
10/2/2014	Sam Tyler	Mishi	Mishi	615700	5319320	473	164046	Outcrop grab	Arkosic wacke	5C	Cherty bands. Irreg QVs and knobs. 10% QV in sample. Very rusty on surface.	18
10/2/2014	Sam Tyler	Mishi	Mishi	615685	5319300	476	164047	Outcrop grab	Massive mafic flow	1B	20cm rusty band // FOL (280/80). 0.5-1% DIS Py.	6
	Sam Tyler	Mishi	Mishi	N/A	N/A		164048	Standard				< 5
10/2/2014	Sam Tyler	Mishi	Mishi	615679	5319288	474	164049	Outcrop grab	Massive mafic flow	1B	4cm QV at 010/15. 3-5% Py(Apy/Po?). 10% QV in sample.	17
10/4/2014	Sam Tyler	Mishi	Mishi	615925	5319710	490	164050	Outcrop grab	Chert-magnetite IF	4C	45cm irregular breccia zone. 10-15% banded magnetite. 2-3% blebby Po.	6

Date	Geologist	Project	Property	UTM Easting (Stn)	UTM Northing (Stn)	Elevation (Stn)	Sample_No	Sample Type	Lithology	Rock Code	Description	Au (ppb)
19/09/2014	Stephen Roach	Mishi	Mishi	615099	5316978	462	164051	Erratic/Sub-o/c Grab	Quartz Vein	QV	Quartz Vein - white to grayish-white weathered and fresh color, quartz composition being sugary/re-crystallized, vfg, fractured with very thin seams of chl-(amp) stylonitic fractures, local splash of py < 0.5% (re-sample of sample 8067 - 5.35 g/t Au and 5.62 g/t Au)	129
19/09/2014	Stephen Roach	Mishi	Mishi	615100	5316981	458	164052	Outcrop Grab	Quartz Veinlet	QV	Quartz Veinlet - grayish-white and white colors with green inclusions, quartz composition being sugary; vfg, stylonitic texture with well developed thin ribboned chl seams/inclusions, barren to trace pyrite (<0.5%), 10 cm wide veinlet	< 5
19/09/2014	Stephen Roach	Mishi	Mishi	615100	5316987	460	164053	Outcrop Grab	Fractured Mafic Flow	1Bfract	Fractured Mafic Flow - dark green and white colors, mafic composition of wallrock with moderate chl-bio and no-weak cb, msv flow being fractured with 5% to 10% qs up to 10 cm wide, 1% to 3% vfg scattered to weakly disseminated py>po	47
19/09/2014	Stephen Roach	Mishi	Mishi	615103	5316974	462	164054	Outcrop Grab	Fractured Mafic Flow	1Bfract	Fractured Mafic Flow - dark green, greenish black and white colors, mafic composition of wallrock with weak chl-cb, msv flow being fractured with 10% qs up to 10 cm wide, occasional py < 0.5%	< 5
19/09/2014	Stephen Roach	Mishi	Mishi	615106	5316977	459	164055	Outcrop Grab	Fractured Mafic Flow	1Bfract	Fractured Mafic Flow - dark green and pinkish-white colors, mafic composition of wallrock with weak chl and moderate to strong pink calcite in fractures and joints, local sil, msv flow being fractured with 5% to 15% qs/cs up to 5 cm wide, occasional to weakly disseminated py>cpy>aspy? ranging < 1% to local 5% in fractures and altered wallrock contacts	8

Date	Geologist	Project	Property	UTM Easting (Stn)	UTM Northing (Stn)	Elevation (Stn)	Sample_No	Sample Type	Lithology	Rock Code	Description	Au (ppb)
19/09/2014	Stephen Roach	Mishi	Mishi	615116	5316970	461	164056	Outcrop Grab	Quartz Vein	QV	Quartz Vein/Veinlet - grayish white to white colors, quartz composition with 10% chl-bio-(tour?) inclusions and local seams; weakly sugary and vfg to fg, occasional py (<0.5%), 12 cm wide vein/veinlet	< 5
19/09/2014	Stephen Roach	Mishi	Mishi	615130	5316959	463	164057	Outcrop Grab	Quartz Vein/Mafic Flow	QV/1B	Quartz Vein x-cutting Mafic Flow - green and white colors, mafic composition being weakly chl-bio and msv, wallrock xcut by 10 cm wide quartz vein (80% of sample), local scattered to weakly disseminated py <1% to 2%	<5
19/09/2014	Stephen Roach	Mishi	Mishi	615125	5317256	450	164058	Outcrop Grab	Carbonate-Altered Mafic Flow	1Bcb	Carbonate-Altered Massive Mafic Flow - brownish-white on weathered surface and greenish-gray fresh surface colors, altered mafic composition with strong pervasive cb (calcite) alteration, msv and weakly foliated, vfg, occasional py (< 0.5%)	< 5
20/09/2014	Stephen Roach	Mishi	Mishi	615103	5317535	444	164059	Outcrop Grab	Pyritic Cherty Tuff/Sulphide BIF	4AF	Pyritic Cherty Tuff/Sulphide BIF - rusty weathered color and gray fresh color, dirty pyritic siliceous composition with weak carbonaceous / graphitic being vfg, <1% qs, relict laminations with thin py seams and disseminated pyrite varying from 5% to 20%; py is vfg to fg - zone is 20 cm wide	21
21/09/2014	Stephen Roach	Mishi	Mishi	615159	5317500	436	164060	Outcrop Grab	Pyritic Cherty Tuff/Sulphide BIF	4AF	Pyritic Cherty Tuff - rusty weathered surface and bleached grayish white fresh colors, strongly silicified wallrock being vfg, up to 1% qs, 5% to 10% vfg disseminated pyrite	17
21/09/2014	Stephen Roach	Mishi	Mishi	615285	5317212	435	164061	Outcrop Grab	Silicified Mafic Porphyritic Flow	1Esil	Silicified Mafic Porphyritic Flow - bn-white weathered color and grayish-green fresh color, mafic composition being moderately interstitial silicification, moderate chl along shear planes, < 1% qs, vdf to fg (<0.10 cm) disseminated py with 1% to 5% py porphyroblasts overprint shearing	<5

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21/09/2014	Stephen Roach	Mishi	Mishi				164062	Standard 204			Standard 204	2170
21/09/2014	Stephen Roach	Mishi	Mishi	615283	5316936	457	164063	Outcrop Grab	Fractured Mafic Flow	1Bfract	Fractured Mafic Flow - green and white colors, mafic composition with weak pervasive sil, massive, fractured wallrock with 5% to 10% qs ranging from < 1 to 5 cm wide, occasional py < 1%	9
21/09/2014	Stephen Roach	Mishi	Mishi	615394	5316876	461	164064	Outcrop Grab	Quartz Vein	QV	Quartz Vein - milky white to white color, quartz composition with 5% to 10% chloritic wallrock inclusions, occasional and local splash of py-po (<0.5%) in wallrock	< 5
21/09/2014	Stephen Roach	Mishi	Mishi	615509	5317121	448	164065	Outcrop Grab	Mafic Flow	1B	Mafic Flow - green weathered and fresh colors, mafic composition with weak to moderate sil and weak cb (calcite) in fractures, up to 1% thin hairline qs, 1% to 2% scattered py associated in sil/qcs contact.	< 5
22/09/2014	Stephen Roach	Mishi	Mishi	615524	5317039	455	164066	Outcrop Grab	Silicified Felsic Tuff	3Fsil	Silicified Felsic Tuff - rusty brown on weathered surface and grayish-white to white on fresh surface, felsic composition being strongly pervasive and fracture-controlled sil, weak to moderate cb in fractures, <1% to 2% qs, scattered vfg py cubes up to 1%	6
23/09/2014	Stephen Roach	Mishi	Mishi	615719	5316727	474	164067	Outcrop Grab	Pyritic Felsic Volcaniclastic Tuff	3J	Pyritic Felsic Tuff Volcaniclastic - greenish-gray with local rusty brown on weathered color and dull grayish-green fresh surface color, felsic composition with weak to moderate sil, massive texture, <1% to 2% qs, 2% to 4% fg to mg ( $\leq 0.20$ cm) py porphyroblastic cubes	172
23/09/2014	Stephen Roach	Mishi	Mishi	615902	5316818	478	164068	Outcrop Grab	Felsic Tuff	3F	Felsic Tuff - locally rusty weathered surface and grayish-white fresh surface, felsic composition being weakly sil, foliated fragmental texture, <1% qs, occasional py (< 0.5%)	<5

Date	Geologist	Project	Property	UTM Easting (Stn)	UTM Northing (Stn)	Elevation (Stn)	Sample_No	Sample Type	Lithology	Rock Code	Description	Au (ppb)
26/09/2014	Stephen Roach	Mishi	Mishi	615908	5316934	455	164069	Outcrop Grab	Silicified Felsic Tuff	3Fsil	Silicified Felsic Tuff - grayish-brown weathered color & light gray fresh color, altered felsic composition with moderate to strong pervasive sil with cherty type matrix at mafic contact, foliated, <1% qs, 5% to 10% vfg to fg disseminated>fracture-controlled pyrite	6
26/09/2014	Stephen Roach	Mishi	Mishi	615911	5316982	454	164070	Outcrop Grab	Quartz Diorite	6E	Quartz Diorite - gray-brownish to gray weathered and fresh colors, felsic to intermediate in composition with weak to moderate interstitial matrix silicification, <1% to 5% blue quartz-eyes, sub-porp to equigranular texture, vfg to mg, moderately foliated/sheared, < 1% qs, 3% to 5% disseminated and fractured controlled py with occasional sp (<0.5%)	14
26/09/2014	Stephen Roach	Mishi	Mishi	615901	5317024	439	164071	Outcrop Grab	Silicified Quartz Diorite or Felsic Tuff	6E/3Fsil	Silicified Quartz Diorite/Felsic Tuff - rusty brown weathered color & grayish-white fresh color, altered felsic to intermediate composition with moderate to strong shear-controlled chl alteration, moderately sh/foliated (unknown protolith), 2% qs, 1% to 3% scattered py with < 0.5% scattered cpy in qs and occasional sp (<0.5%)	749
26/09/2014	Stephen Roach	Mishi	Mishi	615985	5317022	442	164072	Outcrop Grab	Silicified Quartz Diorite	6Esil	Silicified Quartz Diorite - brownish-gray to gray weathered and fresh color, altered felsic to intermediate composition with moderate to strong interstitial matrix sil, relict fg to mg ( $\leq 0.20$ cm) amp (10%-20%) giving a sub-equigranular to porphyritic texture, weak to (moderately) foliated/sheared, <1% qs, scattered to locally disseminated py < 1% to 5% and occasional cpy (< 0.5%)	7
27/09/2014	Stephen Roach	Mishi	Mishi	616186	5317008	446	164073	Outcrop Grab	Silicified Felsic Tuff	3Fsil	Silicified Felsic Tuff - rusty brown weathered color & bleached grayish-white fresh color, altered felsic composition with strong pervasive sil with cherty type alteration, moderately sheared/foliated, <1% qs, 2% to 10% vfg to fg sheared disseminated grains/cubes py	10

Date	Geologist	Project	Property	UTM Easting (Stn)	UTM Northing (Stn)	Elevation (Stn)	Sample_No	Sample Type	Lithology	Rock Code	Description	Au (ppb)
27/09/2014	Stephen Roach	Mishi	Mishi				164074	Blank			Blank	< 5
27/09/2014	Stephen Roach	Mishi	Mishi	616186	5317008	446	164075	Outcrop Grab	Quartz Vein	QV	Quartz Vein - white and green weathered and fresh colors, quartz composition with sheared chl wallrock septae, moderate to strong chl wallrock and chl seams/shear fractures, 5% to 20% chlorite wr/seams, barren (<0.1%)	< 5
27/09/2014	Stephen Roach	Mishi	Mishi	616304	5316633	451	164076	Outcrop Grab	Silicified Quartz Diorite	6Esil	Silicified Quartz Diorite - local brown and bleached white weathered and fresh colors, altered felsic to intermediate composition with strong sil interstitial matrix alteration with 5% reddish-brown biotite (alt amp?) varying < 0.10 to 0.15 cm in size, weakly sh/fol, <1% to 5% hairline qs < 0.20 cm wide, scattered 1% to local 2% py	< 5
27/09/2014	Stephen Roach	Mishi	Mishi	616490	5316766	444	164077	Outcrop Grab	Chloritic Quartz Diorite	6Echl	Chloritic Quartz Diorite - grayish-green to greenish-black fresh surface, altered felsic to intermediate composition with wk-mod pervasive chl and weak sil along joints, jointed/fractured appearance, 1% to 2% qs (<0.20 cm wide), scattered 1% to local 3% py, particularly along sil joints	7
28/09/2014	Stephen Roach	Mishi	Mishi	615710	5317141	433	164078	Outcrop Grab	Carbonate Altered Mafic Flow	1Bcb	Carbonate Altered Mafic Flow - greenish-gray and green weathered and fresh colors, altered mafic composition with moderate to strong carbonate alteration in matrix and joints, massive-jointed, <1% qcs (<0.1 cm in size), scattered to locally disseminated <1% to 5% py as vfg to fg cubes in matrix and along joints	< 5
28/09/2014	Stephen Roach	Mishi	Mishi	615894	5317430	436	164079	Outcrop Grab	Quartz Diorite	6E	Quartz Diorite - speckled creamy white/green weathered and fresh color, felsic to intermediate composition with weak to moderate interstitial sil with scattered reddish-brown to burnt red biotite or spahalerite up to 5%, 10% to 20% bio-chl varying in size from < 0.10-0.15 cm, phaneritic texture, <1% qs, occasional py (<0.5%)	< 5



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28/09/2014	Stephen Roach	Mishi	Mishi	615906	5317183	440	164080	Outcrop Grab	Silicified Felsic Tuff	3Fsil	Silicified Felsic Tuff - brownish-gray weathered and light gray fresh surface colors, altered felsic composition with strong pervasive sil cherty alteration and weak to (moderate) sh controlled ser alteration, sheared/foliated, < 1% qs, weakly disseminated sheared py (<1% to local 5%) averaging 1% to 2%	10
28/09/2014	Stephen Roach	Mishi	Mishi	616275	5317131	434	164081	Outcrop Grab	Chloritic Felsic Crystal Tuff/Feldspar Porphyry	3l/6Gchl	Chloritic Felsic Crystal Tuff/Feldspar Porphyry - rusty brown weathered color and green fresh color, altered felsic composition with strong pervasive chl with mod associated bio, wk-mod cb along fractures, jointed appearance, <1% qs, occasional py (<0.5%)	< 5
30/09/2014	Stephen Roach	Mishi	Mishi	615344	5316891	438	164082	Outcrop Grab	Quartz Vein	QV	Quartz Vein - white, smokey gray. and greenish white colors, quartz composition with 5% to 10% strongly chloritic sh seams/fractures (septae) giving a stylonitic texture, strongly fractured sub-glassy quartz, occasional to locally scattered py (<1% to 2%) associated with chl alteration at vein/mafic wallrock contact, quartz vein is 60 cm wide	< 5
30/09/2014	Stephen Roach	Mishi	Mishi	615344	5316891	438	164083	Outcrop Grab	Quartz Vein	QV	Quartz Vein - white, smokey gray. and greenish white colors, quartz composition, strongly fractured quartz, occasional py (<0.5%) associated with chl altered seams, same quartz vein as above and is 60 cm wide, sample taken away from QV/mafic contact	< 5
30/09/2014	Stephen Roach	Mishi	Mishi	615359	5316888	449	164084	Outcrop Grab	Quartz Vein	QV	Quartz Veinlet - grayish-white to smokey gray colors, quartz composition with < 1% to 2% strongly chl seams/sh fractures (septae), moderately fractured quartz, occasional py-cpy-sp associated with chl seam (<0.5%)	< 5

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04/10/2014	Stephen Roach	Mishi	Mishi	615616	5319710	499	164085	Outcrop Grab	Pyritic Chert	4Bpy	Pyritic Chert - rusty brown weathered surface and grayish-white to white fresh colors, siliceous being strongly pervasive sil with sugary quartz, relict banding, <1% to 2% qs parallel to bedding < 1 cm in width, vfg to fvg disseminated and relict banded py ranging from 25% to 35% py and occasional aspy < 0.5%	14
04/10/2014	Stephen Roach	Mishi	Mishi				164086	Standard			Standard - OREOS 504	1460
04/10/2014	Stephen Roach	Mishi	Mishi	615589	5319687	511	164087	Outcrop Grab	Oxide Facies BIF	4C	Oxide Facies BIF - brownish-gray weathered & black to dark gray fresh surface, alternating bands and laminations of magnetite and magnetiferous chert, 10% to 20% msv black magnetite bands, <1% qs, scattered vfg po (1%-2%), py (≤1%), and aspy (< 1%)	< 5
04/10/2014	Stephen Roach	Mishi	Mishi	615588	5319682	511	164088	Outcrop Grab	Quartz Stringer & BIF	QS/4C	Quartz Stringer and Oxide Facies BIF - grayish to reddish-white and smoky gray weathered and fresh surface colors, 20% oxide facies wallrock xcut by 3-8 cm wide smoky gray qs....composed of fractured,	5
04/10/2014	Stephen Roach	Mishi	Mishi	615623	5319673	509	164089	Outcrop Grab	Chert	4B	Chert - rusty brown weathered surface and grayish-white to white fresh surface colors, siliceous being strongly silicified...aphanitic vfg, <1% qs, vfg scattered < 1% to 5% py with < 1% to 2% aspy, and occasional po (< 0.5%)	10
04/10/2014	Stephen Roach	Mishi	Mishi	615606	5319597	519	164090	Outcrop Grab	Quartz Vein	QV	Quartz Vein - smoky gray to grayish-white weathered and fresh surface colors, quartz composition with < 1% 5% vfg well developed tourxtls, barren < 0.1% py	< 5
04/10/2014	Stephen Roach	Mishi	Mishi	615405	5319581	507	164091	Outcrop Grab	Chert in Oxide Facies BIF	4BC	Chert in Oxide Facies BIF - locally rusty brown, gray, and grayish-white colors, siliceous being strong pervasive sugary quartz, vfg..aphanitic, vfg disseminated 3% to 5% As py/py, <1% to 3% scattered vfg aspy, and occasional po (<0.5%)	< 5

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05/10/2014	Stephen Roach	Mishi	Mishi	615397	5319653	498	164092	Outcrop Grab	Cherty Tuff	4B	Cherty Tuff - rusty brown weathered surface and grayish-white, white, to moderate gray fresh surface colors, siliceous with strong pervasive quartz with scattered < 1% mag in chert bands, banded/laminated texture, <1% qs, <1% to 2% scattered py and < 0.5% cpy	9
06/10/2014	Stephen Roach	Mishi	Mishi	615417	5319657	494	164093	Outcrop Grab	Chert in Oxide Facies BIF	4BC	Chert in Oxide Facies BIF - rusty brown weathered color and gray/grayish-white fresh color, alternating msv mag and chert with samples being silicified chert, vfg, banded and bedded texture, <1% qs, scattered 1% to 2% py with occasional aspy (<0.5%)	22
06/10/2014	Stephen Roach	Mishi	Mishi	615423	5319656	497	164094	Outcrop Grab	Oxide Facies BIF	4C	Oxide Facies BIF - light brown rusty weathered and dark gray/black fresh surface colors, banded/bedded chert and msv magnetite with chert showing well developed sil in matrix...vfg aphanitic, moderate chlorite as thin hairline shear seams, weak to moderately sheared, < 1% qs, disseminated/shear fracture 1% to 3% py with occasional aspy? (<0.5%)	< 5
06/10/2014	Stephen Roach	Mishi	Mishi	615428	5319596	522	164095	Outcrop Grab	Chert in Oxide Facies BIF	4BC	Chert on Oxide Facies BIF - rusty brown weathered and light to dark gray fresh surface colors, alternating msv chert and magnetite bands/laminations/beds, strong pervasive sil in chert, vfg and aphanitic, 2% qs ranging 1-2 cm in width, <1% to local 5% vfg disseminated py with 0.5%-1% cpy fractures, scattered vfg scattered aspy (1% to 2%)	13

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06/10/2014	Stephen Roach	Mishi	Mishi	615400	5319437	508	164096	Outcrop Grab	Chert in Oxide Facies BIF	4BC	Chert Oxide Facies BIF - rusty brown weathered surface and dark gray to gray fresh colors, alternating vfg msv black mag and white chert...strong pervasive, vfg sil matrix in chert, banded/bedded texture, <1% qs, <1% to local 2% scattered py and occasional po (<0.5%) and possible aspy?	97
06/10/2014	Stephen Roach	Mishi	Mishi	615379	5319374	501	164097	Outcrop Grab	Fractured & Silicified Mafic Flow	1Bsil,fract	Fractured & Silicified Mafic Flow - green and white weathered and fresh colors, altered mafic composition with moderate to strong pervasive sil, vfg and fractured with 20% qs as pods/lenses which are discontinuous and irregular, qs/qv range from 0.5 cm to 40 cm in width, occasional < 1% py localized in qs and wallrock/vein contacts	8
06/10/2014	Stephen Roach	Mishi	Mishi	615386	5319314	497	164098	Outcrop Grab	Chert in Silicate Facies BIF	4BE	Chert in Silicate Facies BIF - rusty brown weathered surface and gray to dark gray fresh surface colors, alternating magnetiferous chl/amp silicate bands with msv magnetite and chert, sample taken of silicate bands, banded/bedded texture, <1% qs ranging 0.5 cm to 1.0 cm wide, vfg scattered 1% to 2% py with occasional aspy < 0.5%	12
06/10/2014	Stephen Roach	Mishi	Mishi	615413	5319314	497	164099	Outcrop Grab	Lean Silicate Facies BIF	4E	Lean Silicate Facies BIF - brownish-gray weathered surface and grayish-green fresh surface colors, massive silicate silicate interbed composed of moderate to strongly sil alteration with a relict wk-mod chl in matrix, vfg and banded/bedded texture, <1% qs, 3% to local 5% disseminated and fracture-fill py with up to 1% aspy disseminated/fracture-fill aspy, non-magnetic interbed	159

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06/10/2014	Stephen Roach	Mishi	Mishi	615420	5319316	496	164100	Outcrop Grab	Lean Silicate Facies BIF	4E	Lean Silicate Facies BIF - brownish-gray weathered surface and dark greenish-gray fresh surface colors, massive silicate silicate interbed composed of moderate to strongly sil alteration with a relict wk chl in matrix, scattered 5% vfg pinkish-red garnets near qs fractures, vfg and banded/bedded texture, <1% to 5% qs up to 2 cm wide, 1% to 2% fracture-fill and scattered py-po with <0.5% fracture-fill aspy disseminated/fracture-fill aspy, non-magnetic interbed	28
10/4/2014	Sam Tyler	Mishi	Mishi	616025	5319435	503	164101	Outcrop grab	Chert-magnetite IF	4C	Rusty. 5-8% banded magnetite. No visible sulphides.	11
10/4/2014	Sam Tyler	Mishi	Mishi	616038	5319333	536	164102	Outcrop grab	Chert-magnetite IF	4C	60cm wide 4C band in 1B. Very rusty. No visible sulphides.	23
10/4/2014	Sam Tyler	Mishi	Mishi	616005	5319286	533	164103	Outcrop grab	Chert-magnetite IF	4C	20m wide 4C band. 5-8% banded magnetite. Very rusty. Sparse Po + Py blebs.	9
10/4/2014	Sam Tyler	Mishi	Mishi	615961	5319237	518	164104	Outcrop grab	Chert-magnetite IF	4C	5-8% banded magnetite. 2-3% disseminated Po+Py, locally up to 5%	19
10/5/2014	Sam Tyler	Mishi	Mishi	616147	5319699	535	164105	Outcrop grab	Chert-magnetite IF	4C	Rusty, no visible sulphides.	791
10/6/2014	Sam Tyler	Mishi	Mishi	616142	5319374	504	164106	Outcrop grab	Massive mafic volcanics	1AB	Strong pervasive silica. Cherty bands, rusty patchy. 1% disseminated PyPo	23
10/6/2014	Sam Tyler	Mishi	Mishi	616333	5319067	505	164107	Outcrop grab	Chert-magnetite IF	4C	Rusty, 2-5% banded magnetite. Trace disseminated Py.	< 5
10/6/2014	Sam Tyler	Mishi	Mishi	616253	5319137	506	164108	Outcrop grab	Felsic intrusive(?)	6A(?)	1% disseminated Py+Po. Qtz knob, 5% in sample.	12

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10/6/2014	Sam Tyler	Mishi	Mishi	616263	5319166		164109	Outcrop grab	Chert-magnetite IF	4C	Lean, 1-3% banded magnetite. Rusty patches, irregular quartz knob (10% in sample). Murgor sample # 27422 .	1050
10/7/2014	Sam Tyler	Mishi	Mishi	615891	5319679	499	164110	Outcrop grab	Massive Mafic Flow	1AB	Near contact with 4C. Very rusty. 5% disseminated Py+Po.	< 5
10/7/2014	Sam Tyler	Mishi	Mishi	615894	5319676	496	164111	Outcrop grab	Chert-magnetite IF	4C	Near contact with 1AB. Rusty patches. 5% Py/Po stringers. 5-8% banded magnetite.	412
	Sam Tyler	Mishi	Mishi	N/A	N/A		164112	Standard				1470
10/7/2014	Sam Tyler	Mishi	Mishi	615907	5319681	493	164113	Outcrop grab	Chert-magnetite IF	4C	Near contact wih 1AB. Rusty patches. 8-10% Py/Po, massive and disseminated.	46
10/7/2014	Sam Tyler	Mishi	Mishi	615902	5319691	493	164114	Outcrop grab	Massive Mafic Flow	1AB	Near contact with 4C. Very rusty. 5% disseminated Py+Po.	21
10/7/2014	Sam Tyler	Mishi	Mishi	615886	5319642	495	164115	Outcrop grab	Chert-magnetite IF	4C	15-20% banded magnetite. 5-8% disseminated Py/Po.	5
10/7/2014	Sam Tyler	Mishi	Mishi	616221	5319157	505	164116	Outcrop grab	Chlorite Schist	1A?	Chlorite and sericite/qtz bands. 1-2% disseminated py/cpy. Taken near small (1-2m) felsic dike.	1100
10/8/2014	Sam Tyler	Mishi	Mishi	615500	5319225		164117	Outcrop grab	Massive mafic volcanics	1AB	2-3% disseminated Py. Irregular discontinuous veinlets. Sampled rusty patch.	11
10/24/2014	Sam Tyler	Mishi	Mishi	613644	5324781		164118	Outcrop grab	Clastic sediments	5D	1% disseminated Py. Weak - moderate pervasive silica. Sampled rusty patch.	5
10/24/2014	Sam Tyler	Mishi	Mishi	613645	5324782		164119	Outcrop grab	Clastic sediments	5D	1% disseminated Py. Moderate pervasive silica. Irregular discontinuous Qtz veinlets. Sampled rusty patch.	9
10/24/2014	Sam Tyler	Mishi	Mishi	613628	5324979		164120	Outcrop grab	Cherty quartz breccia	4A	Strong pervasive silica. Trace disseminated Py on fragment boundaries. Sampled rusty patch.	< 5
10/24/2014	Sam Tyler	Mishi	Mishi	613635	5324983		164121	Outcrop grab	Cherty quartz breccia	4A	Strong pervasive silica. 0.5 to 1% disseminated Py.	< 5

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10/25/2014	Sam Tyler	Mishi	Mishi	617055	5323132		164122	Outcrop grab	Cherty felsic tuff	3A/4A	Moderate pervasive and shear controlled silica, moderate to strong shear-controlled sericite. Strong shear at 280/60. Weakly magnetic.	< 5
10/25/2014	Sam Tyler	Mishi	Mishi	617067	5323287		164123	Outcrop grab	Cherty felsic tuff	3A/4A	Strong pervasive silica. Strongly sheared at 308/58. Blue quartz eyes present. Trace disseminated Py.	< 5
10/25/2014	Sam Tyler	Mishi	Mishi	N/A	N/A		164124	Standard				< 5
10/25/2014	Sam Tyler	Mishi	Mishi	617166	5323386		164125	Outcrop grab	Cherty felsic tuff	3A/4A	Massive. Strong pervasive silica.	< 5
10/25/2014	Sam Tyler	Mishi	Mishi	617321	5323522		164126	Outcrop grab	Cherty felsic tuff	3A/4A	Grey-pink colour. Massive. Strong pervasive silica, moderate patchy chlorite. Irregular discontinuous qtz stringers. 1% disseminate Py local to irregular jointing. Trace disseminate Apy.	< 5
10/25/2014	Sam Tyler	Mishi	Mishi	617679	5323183		164127	Outcrop grab	Chlorite-Carbonate Schist	1AB	Moderate chlorite on foliation and shear planes. Moderate patchy carbonate on foliation and shear planes. Strong shear, no measurement.	< 5
10/26/2014	Sam Tyler	Mishi	Mishi	618371	5323164		164128	Outcrop grab	Cherty felsic tuff	3A/4A	Massive, grey. Strong pervasive silica. Up to 5% (locally) irregular qtz stringers.	< 5
10/26/2014	Sam Tyler	Mishi	Mishi	618429	5322781		164129	Outcrop grab	Quartz-Sericite Schist	4A	Strong pervasive silica. Moderate sericite on foliation planes. Moderate foliation at 306/28. Trace disseminate Py.	9
10/26/2014	Sam Tyler	Mishi	Mishi	618393	5322692		164130	Outcrop grab	Chlorite-Carbonate Schist	1A	Moderate chlorite and weak carbonate on foliation planes. Moderate foliation at 278/58. Trace disseminated Py.	9
10/26/2014	Sam Tyler	Mishi	Mishi	618341	5322647		164131	Outcrop grab	Chlorite-Carbonate Schist	1A	Moderate chlorite and strong carbonate on foliation planes. Moderate foliation at 276/64. Irregular discontinuous veinlets on foliation planes. Trace disseminated Py.	8
10/26/2014	Sam Tyler	Mishi	Mishi	618266	5322693		164132	Outcrop grab	Chlorite-Carbonate Schist	1A	Weak chlorite on foliation planes. Weak carbonate in patches and irregular discontinuous veinlets. Weak foliation at 270/64. Trace disseminated Py.	6

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10/26/2014	Sam Tyler	Mishi	Mishi	618448	5323023		164133	Outcrop grab	Chert	4A	Massive, grey. Strong pervasive silica. Weak foliation at 276/70.	< 5
10/26/2014	Sam Tyler	Mishi	Mishi	618485	5323310		164134	Outcrop grab	Undivided mafic volcanic	1A	Moderate carbonate on foliation planes and joints. Moderate foliation at 315/81. 1-5% garnets. Trace disseminated Mt. Trace Py disseminated along foliation planes.	< 5
10/26/2014	Sam Tyler	Mishi	Mishi	618534	5323378		164135	Outcrop grab	Undivided mafic volcanic	1A	Moderate carbonate in patches and irregular discontinuous veinlets. Weak epidote in irregular discontinuous veinlets. 2-3% Py disseminated in irregular discontinuous veinlets. Trace disseminated Mt.	< 5
	Sam Tyler	Mishi	Mishi	N/A	N/A		164136	Standard				1010
10/29/2014	Sam Tyler	Mishi	Mishi	613398	5325108		164137	Outcrop grab	Cherty felsic tuff	4B/3A	Very strong pervasive silica. Up to 5% blue-grey qtz stringers with tourmaline.	< 5
10/29/2014	Sam Tyler	Mishi	Mishi	613597	5324529		164138	Outcrop grab	Mafic volcanics and epiclastics	1L/5G	Moderate chlorite and biotite on foliation planes. Moderate pervasive silica. Moderate foliation at 180/80. 1-2% disseminated pyrite. Sampled 20cm rusty patch.	< 5
10/29/2014	Sam Tyler	Mishi	Mishi	613601	5325170		164139	Outcrop grab	Cherty felsic tuff	4B/3A	Very strong pervasive silica. Moderate chlorite on foliation (slip) planes. Moderate foliation at 275/56.	< 5
10/30/2014	Sam Tyler	Mishi	Mishi	614017	5325205		164140	Outcrop grab	Cherty felsic tuff	3AF/4A	Very strong pervasive silica and sericite. 1-2% disseminated Il/Mt/Sph(?). Trace disseminated Py.	< 5
10/30/2014	Sam Tyler	Mishi	Mishi	613985	5325155		164141	Outcrop grab	Cherty felsic tuff	3AF/4A	Strong pervasive silica and sericite. 1-2% disseminated Il/Mt/Sph(?).	6
10/30/2014	Sam Tyler	Mishi	Mishi	613997	5325050		164142	Outcrop grab	Cherty felsic tuff	3AF/4A	Strong pervasive silica. Moderate chlorite on foliation overprinting silica. Weak, patchy local carbonate. 1-2% disseminated Il/Mt/Sph(?). Trace disseminated Py.	< 5
10/30/2014	Sam Tyler	Mishi	Mishi	613992	5324920		164143	Outcrop grab	Cherty felsic tuff	3AF/4A	Strong pervasive silica and sericite. Weak chlorite; disseminated and on foliation planes. 1-2% disseminated Il/Mt/Sph(?). Trace disseminated Py.	< 5



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10/30/2014	Sam Tyler	Mishi	Mishi	614002	5324840		164144	Outcrop grab	Cherty felsic tuff	3AF/4A	Strong pervasive silica and sericite. >1% discontinuous veinlets. 1% disseminated Py.	24
10/31/2014	Sam Tyler	Mishi	Mishi	615440	5323768		164145	Outcrop grab	Chlorite-Carbonate Schist	1AB	Strong chlorite and carbonate on foliation planes. Strongly foliated at 275/52.	< 5
10/31/2014	Sam Tyler	Mishi	Mishi	615650	5324061		164146	Outcrop grab	Cherty felsic tuff	3AF/4A	Very strong pervasive silica and sericite.	< 5
10/31/2014	Sam Tyler	Mishi	Mishi	616014	5323977		164147	Outcrop grab	Felsic intrusive(?)	6G	Fine grained, massive. Very strong pervasive silica and sericite.	< 5
	Sam Tyler	Mishi	Mishi	N/A	N/A		164148	Standard				< 5
10/31/2014	Sam Tyler	Mishi	Mishi	615998	5323722		164149	Outcrop grab	Massive mafic volcanics	1AB	Weak to moderate pervasive silica and sericite. Moderate foliation at 258/60.	5
11/1/2014	Sam Tyler	Mishi	Mishi	618428	5322903		164150	Outcrop grab	Cherty felsic tuff	4B/3A	Very strong pervasive silica and sericite. Discontinuous, irregular veinlets. Rusty traces of disseminated Py, local to shearing at 297/60.	6
10/8/2014	Stephen Roach	Mishi	Mishi				164151	Outcrop Grab	Oxide Facies BIF	4C	Oxide Facies BIF - rusty brown weathered surface and bleached gray to light gray fresh surface, alternating bands/laminations of vfg, massive magnetite/magnetiferous chert /chert/magnetiferous silicates, weak to moderate sil, <1% qs, <1% to 5% vfg disseminated py and scattered splashes and fracture-fill cpy upto 1%, weak to non-magnetic	9
10/8/2014	Stephen Roach	Mishi	Mishi				164152	Blank			Blank	5
10/8/2014	Stephen Roach	Mishi	Mishi				164153	Outcrop Grab	Quartz Vein	QV	Quartz Vein - grayish to smoky white and white colors, quartz composition being moderately fractures, glassy to semi-translucent, 10% silicate BIF wallrock in sample, barren with < 0.1% py	5

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10/8/2014	Stephen Roach	Mishi	Mishi				164154	Outcrop Grab	Silicate Facies BIF	4E	Weakly Fractured Silicate Facies BIF - burnt brown weathered color and dark green to greenish black fresh colors with white qtz, alternating bands/laminations/beds of vfg msv magnetite/silicates, mod chl matrix as bands and weak to moderate sil in those silicate bands, banded/bedded texture, weakly fractured with 5% qs <0.5 cm wide, occasional py-cpy (<0.5%)	29
11/1/2014	Sam Tyler	Mishi	Mishi	618795	5322680		164155	Outcrop grab	Cherty felsic tuff	4B/3A	Pink on fresh surface. Fine grained. Trace disseminated pyrite. Strong shear (270/80).	8
11/1/2014	Sam Tyler	Mishi	Mishi	618729	5322491		164156	Outcrop grab	Massive mafic flow	1AB	Fine grained. Foliation (315/73). Trace disseminated pyrite.	7
11/1/2014	Sam Tyler	Mishi	Mishi	616249	5319197		164157	Outcrop grab	Pillowed mafic volcanics	1G	Strong chlorite on foliation and pillow salvages. Strong pervasive carbonate. Strong shear (274/78). Trace disseminated pyrite.	< 5
11/1/2014	Sam Tyler	Mishi	Mishi	616247	5319158		164158	Outcrop grab	Pillowed mafic volcanics	1G	QV (355/10), <5cm. Smoky grey, 10% of sample. Shear (278/70). Strong chlorite on shear and salvages.	14
11/1/2014	Sam Tyler	Mishi	Mishi	616254	5319154		164159	Outcrop grab	Quartz-feldspar porphyry dike	6H	Strong pervasive silicification. Moderate to strong pervasive sericite. Shear (285/64), with moderate to strong carbonate.	< 5