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# **MELEMA WEST PROPERTY**

**WORK REPORT OF THE  
OCTOBER 2020 EXPLORATION PROGRAM ON  
THE MELEMA WEST PROPERTY,  
ATIKOKAN AREA, ONTARIO  
For  
PORTOFINO RESOURCES INC.**

**NTS Map sheet 52B/14**

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**-TABLE OF CONTENTS-**

1.0 Summary.....	1
2.0 Introduction.....	1
2.1 Property Description, Location and Access .....	1
2.2 Climate, Local Resources, Local Infrastructure and Physiography .....	2
2.3 Personnel.....	2
3.0 Geology.....	6
3.1 Regional Geology.....	6
3.2 Local and Property Geology .....	6
4.0 Exploration History.....	8
4.1 Melema Cell-Claims .....	8
4.2 Detailed Description of Historical Work .....	8
5.0 2019 Exploration Program.....	10
5.1 Introduction.....	10
5.2 Results.....	11
6.0 Discussion of Results and Recommendations .....	12
6.1 Discussion of Results.....	12
6.2 Recommendations .....	13
7.0 Statement of Qualifications .....	14
8.0 References.....	15

**-APPENDICES-**

Appendix I	Rock Sample Description Sheets (Table 1)
Appendix II	Rock Assay Certificates
Appendix III	Soil Sample Description Sheets (Table 2)
Appendix IV	Soil Assay Certificates
Appendix V	Lake Sediment Sample Description Sheet (Table 3)
Appendix VI	Lake Sediment Assay Certificates
Appendix VII	Actlabs Analytical Descriptions
Appendix VIII	Point of Interest Table (Table 4)
Appendix IX	List of Mining Cells-Claims (Table 5)
Appendix X	Daily Log
Appendix XI	Statement of Expenditures
Appendix XII	Map Sheets A-D
Appendix XIII	Photos

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**-MAPS-**

Melema West Grab Sample and Point of Interest Location Sheet  
Melema West Soil Sample North Sheet  
Melema West Soil Sample South Sheet  
Melema West Lake Sediment Sample Sheet

**-LIST OF FIGURES-**

Figure 1- General Location Map .....3  
Figure 2- Melema West Property Location and Access Map.....4  
Figure 3: Melema West Property Cell-Claim Map .....5  
Figure 4: Regional Geology Map .....7

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## 1.0 -SUMMARY-

In October of 2020, an exploration program was carried out by Emerald Geological Services (EGS) on Portofino Resources' Melema claim group, see Figure 3.

The Melema West Property is located approximately 26km northeast of the town of Atikokan, Ontario, see Figure 2.

21 grab samples, 80 A horizon soil samples, 70 B horizon soil samples and 9 lake sediment samples were collected on the Melema cell-claims during the 2020 field program. Grab samples were collected of favorable alteration and mineralization; soil lines targeted northeast-trending linear magnetic features and lineaments thought to be associated with gold mineralization south of the property on the Traxxin-Agnico property (Young-Corrigan structure), and lake sediment samples were collected in Melema Lake.

Grab samples yielded values up to **97ppb Au** from weakly sheared, silicified felsic intrusive with iron carbonate alteration, local quartz veins and minor pyrite in the central claims, where the linear magnetic feature and swampy lineament cross the property. A single ~265-metre-long soil line here returned the most consistent Au anomalies of the program, with three samples returning **>40ppb Au** up to **45ppb Au**, while B horizon returned up to **11ppb Au**. The highest B horizon results of **62ppb Au** and **33ppb Au** were returned from two lines in the northeast claims of the property, in the same general area of one grab sample which returned **73ppb Au** from granite gneiss with minor quartz blebs and pyrite. A few A horizon anomalies up to **40ppb Au** were obtained immediately southeast of the main linear magnetic feature and coinciding swampy lineament north of Melema Lake.

The discovery of gold anomalies in rock and soil samples is encouraging and will require follow-up work.

## 2.0 -INTRODUCTION-

Portofino acquired the Melema West Property in June 2020. The main target mineral is gold based on previous discoveries in the area such as the Hammond Reef deposit currently owned by Agnico Eagle, as well as the Minto shaft south of the property and new gold discoveries by Traxxin Resources Inc. south and east of the property.

### 2.1 PROPERTY DESCRIPTION, PERMIT, LOCATION AND ACCESS

Portofino's Melema West Project is located approximately 26km northeast of the town of Atikokan, Ontario.

Access to the property is best achieved by truck. From Atikokan one can travel approximately 3km south on highway ON-11B S, then turn left at Highway ON-11E (Trans-Canada) for approximately 21.5km. One then turns left at the turnoff for ON-623 N towards Sapawe, travelling 5km at which point the road turns into the all-weather Sapawe-Upsala Road. The southern boundary of the Melema property is located approximately 10km further along this road to the northeast.

The Melema West Property is comprised of 6 claims, including 4 Single-Cell Mining Claim and 2 Multi-cell Mining Claims, See Figure 3.

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## **2.2 CLIMATE, RESOURCES, LOCAL INFRASTRUCTURE AND PHYSIOGRAPHY**

The Melema West Project is located within the Canadian Shield, which is a major physiographic division of Canada. The property is situated in an area of swamps, small to moderate-sized lakes, and moderate to steep hills, with scattered to locally moderate outcrop. Elevation across the project area ranges from 410 to 440m where explored.

The Property is covered with a thick growth of birch, balsam fir, black spruce, red cedar, jack pine, and poplar.

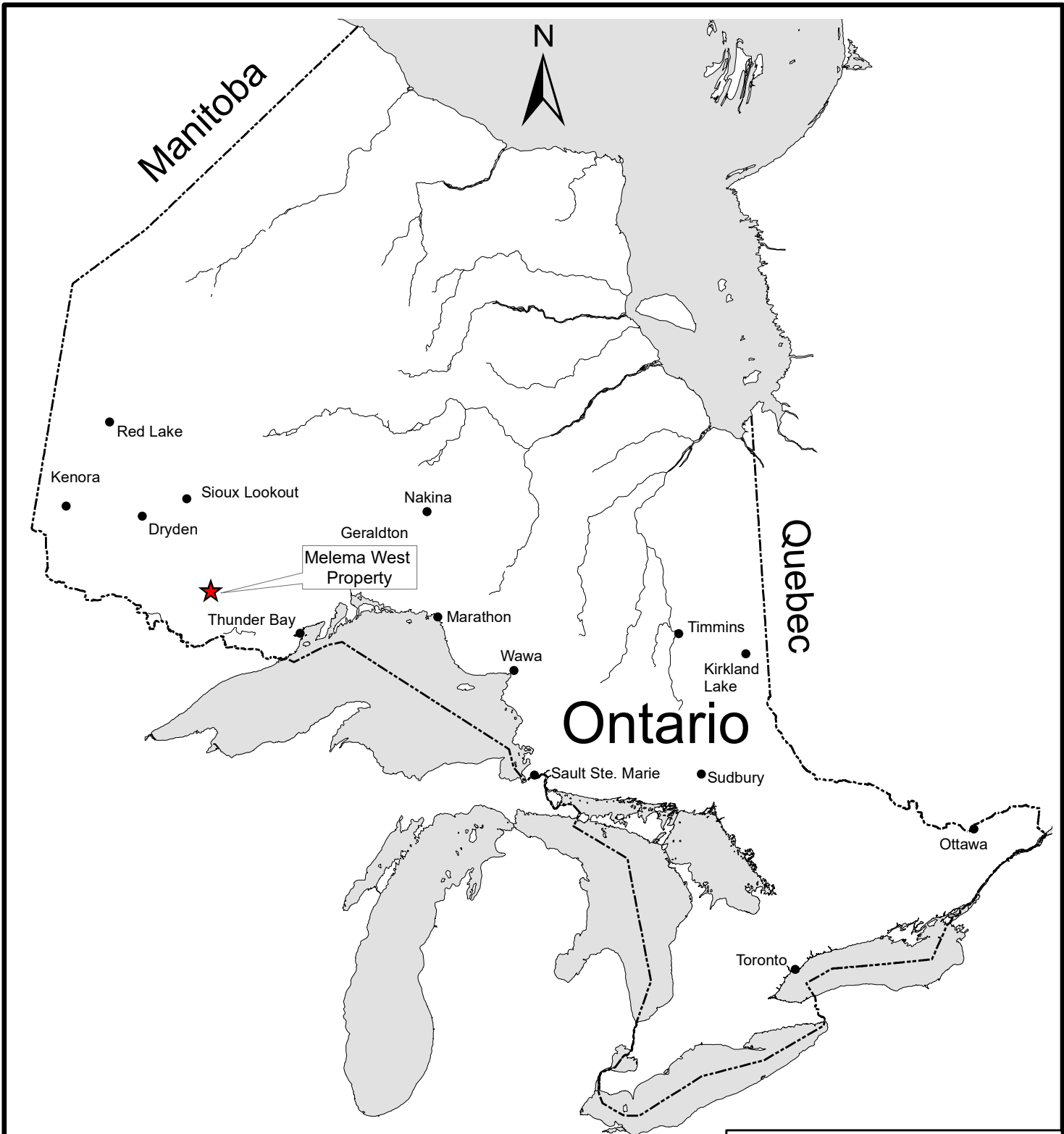
The Melema West Property is situated approximately 26km northeast of the town of Atikokan, Ontario (population ~2750). Access for the 2020 exploration program was achieved by truck based out of the Camp Quetico lodge on Highway ON-11 West and later out of Brown's Clearwater West Lodge off of Highway 622 north of Atikokan.

Climate in the area is typical of Northern Ontario, with cold winters and warm summers. Average January minimum temperatures range from -18°C to -32°C, and average July temperatures are between 24°C and 32°C. Exploration work can be carried out (subject to snow and freezing) for most of the year. Certain mapping, mechanized stripping, and soil sampling activities are best performed in snow-free conditions, whereas drilling can occur any time of the year.

## **2.3 PERSONNEL**

The 2020 field program was carried out by Bruce MacLachlan and Coleman Robertson of Emerald Geological Services (EGS).

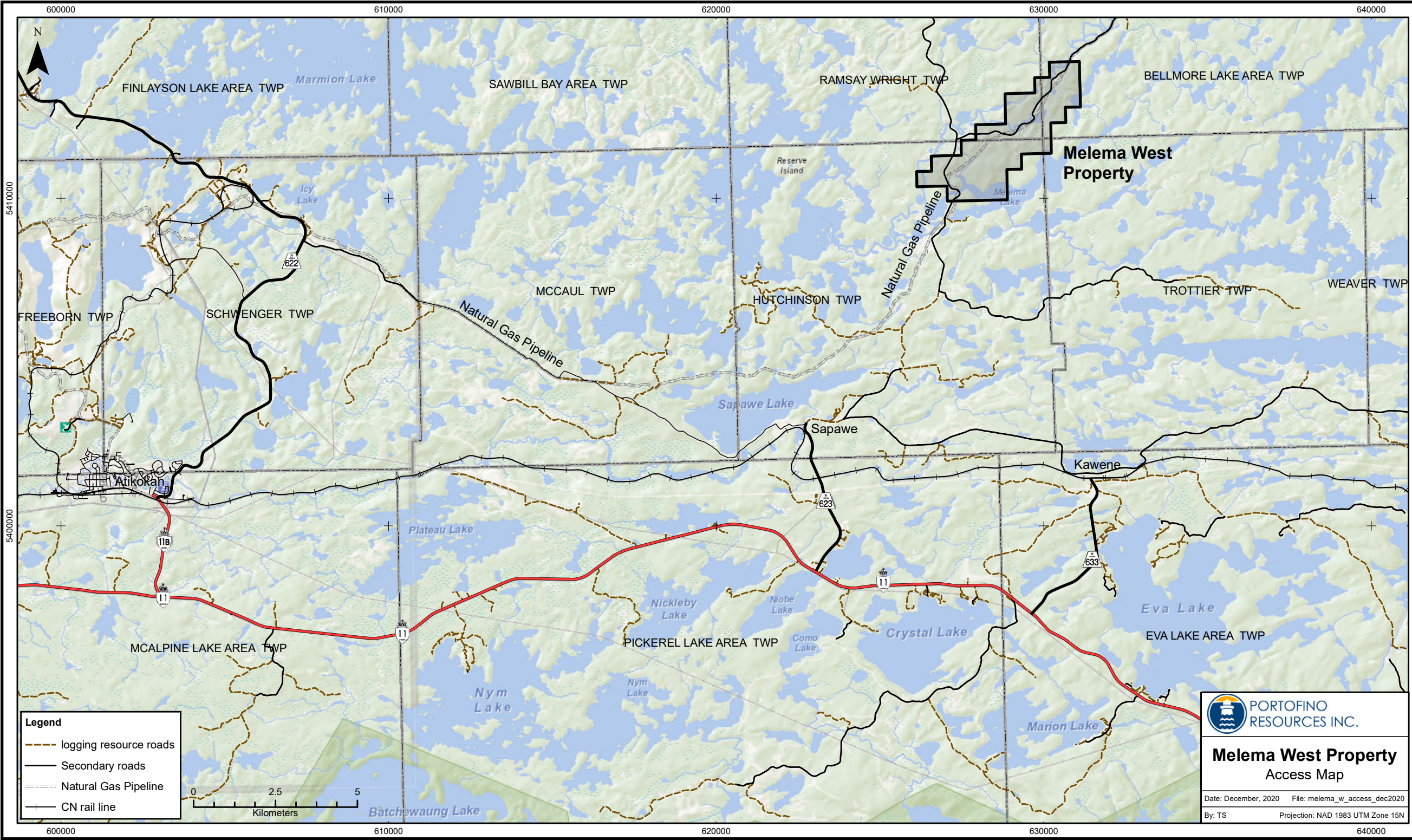
Tom Savage of Superior Geospatial provided drafting and GIS support.



**Melema West Property**  
 General Location Map

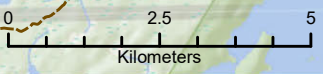
Date: December, 2020


Name: TS File: ontloc\_melema\_w\_2020



**Legend**

- logging resource roads
- Secondary roads
- Natural Gas Pipeline
- CN rail line





**PORTOFINO  
RESOURCES INC.**

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**Melema West Property  
Access Map**

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Date: December, 2020    File: melema\_w\_access\_dec2020  
By: TS    Projection: NAD 1983 UTM Zone 15N



626000

628000

630000



5414000

5414000

5412000

5412000

5410000

5410000

RAMSAY WRIGHT

BELLMORE LAKE AREA

586094

586299

586298

586297

586296

586095



HUTCHINSON

TROTTIER

Melema Lake

Melema Lake

**Legend**

-  Portofino Resources Mining Claims
-  Natural Gas Pipeline



**PORTOFINO  
RESOURCES INC.**

# Melema West Property Claim Map

Date: December, 2020 File: melema\_w\_prop\_dec2020

By: TS Projection: NAD 1983 UTM Zone 15N



626000

628000

630000

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### 3.0 -GEOLOGY-

#### 3.1 REGIONAL GEOLOGY

**The following is per Puumala, M.A. et al., 2019:**

The regional geology of the Melema Lake area was mapped by Smith and McInnes (1897), Pirie (1978) and more recently by Stone (2005, 2010a). The Melema Lake property is situated near the southern margin of the Marmion terrane within the central Wabigoon Subprovince. The Marmion terrane represents a block of old crustal material made up of a basement complex (Marmion batholith, ~ 3.0 Ga) mantled by younger greenstone sequences. The southern margin of the Marmion terrane comprises tonalitic to granitic rocks of the Marmion batholith and metamorphosed volcanic, sedimentary and plutonic rocks of the Lac des Mille Lacs greenstone belt, which extends from Atikokan east to Lac des Mille Lacs, where the belt subsequently tapers off to the northeast toward Legris Lake. To the south, the Marmion terrane is in fault contact with the metasedimentary rocks of the Quetico Subprovince (Stone 2004). These metasedimentary rocks of the Quetico Subprovince represent an accretionary prism that is interpreted to have been tectonically joined to the south margin of the Wabigoon Subprovince at 2.69 Ga (Percival and Williams 1989). The fault contact is the dominant feature in the regional geological setting, approximately 1.3 km south of the property. This boundary, a major east-trending structural zone that is characterized by intense and steeply dipping foliations and deformation, is referred to as the Quetico Fault. This fault zone is, in some places, up to 1 km or more in width (Purdon 1989). Dextral displacement along the Quetico Fault is estimated by various workers to be in the order of 120 km (Bau 1979; Williams 1991).

Within the Marmion batholith, gold is associated with large-scale deformation zones and northeast-trending fault zones. These structures appear to be secondary splay faults off the main Quetico Fault zone.

#### 3.2 PROPERTY GEOLOGY

*The following is per Schneider, A. and Frymire, M., 2019, as the geology in the current Melema property appears similar to that described by Traxxin Resources.*

The Melema property lies within the central portion of the Marmion Lake Batholith, which consists of a complex of foliated granitic rocks including tonalite, trondjemite, granodiorite, quartz monzonite, quartz diorite and amphibolite. It has a gneissic core which contains numerous massive intrusions (Schnieders, Dutka 1985).

- Legend**  
OGS map m2663
- Mafic Intrusives
  - Granite-Granodiorite
  - Diorite-Monzonite-Granodiorite
  - Granite-Granodiorite
  - Foliated Tonalite Suite
  - Gneissic Tonalite Suite
  - Gabbro
  - Ultramafic Plutonic Rocks
  - Iron Formation
  - Coarse Clastic Sedimentary Rocks
  - Mixed Clastic Sedimentary Rocks
  - Felsic Volcanic Rocks
  - Felsic and Intermediate Volcanic Rocks
  - Mafic Volcanic Rocks
  - Ultramafic to Mafic Volcanic Rocks

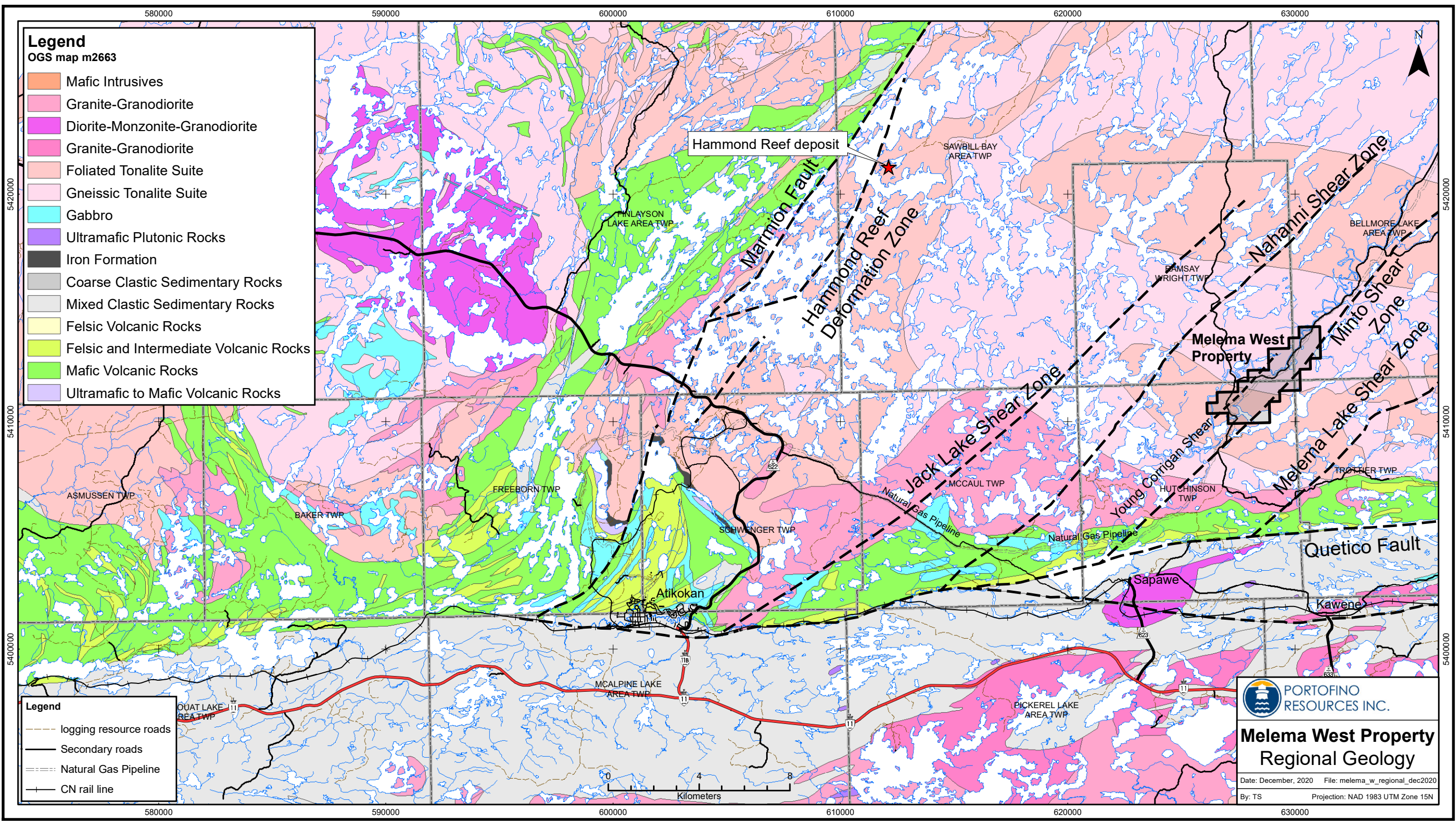
- Legend**
- logging resource roads
  - Secondary roads
  - Natural Gas Pipeline
  - CN rail line



**PORTOFINO  
RESOURCES INC.**

**Melema West Property  
Regional Geology**

Date: December, 2020    File: melema\_w\_regional\_dec2020  
By: TS    Projection: NAD 1983 UTM Zone 15N



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## 4.0 -EXPLORATION HISTORY-

### 4.1 MELEMA WEST CELL-CLAIMS

No known exploration besides an airborne geophysical survey has occurred on the claims of Portofino's Melema West Property, although work in the area dates back over a century. Recent activity by Traxxin Resources southeast of the current property sparked interest in the area, especially since northeast-trending structures thought to control gold mineralization strike onto the current property.

### 4.2 DETAILED DESCRIPTION OF HISTORICAL WORK

**1981:** Fern Elizabeth Gold Mining Company Limited carried out stripping and trenching at the Moose Horn showing southeast of the historical Minto shaft (both south of the current Melema property) (MDI52B14SW00028).

**1982-1996:** Michael Wicheruk conducted exploration programs on the Minto property south of the current Melema property, on which a shaft had been sunk in 1903 on the 'South Showing', as it was now called. Some stripping, trenching and sampling was carried out in 1982. Following an airborne geophysical survey in 1988, a trenching program was undertaken on the Minto North showing, expanding two very old trenches 1750ft (533m) northeast of the South Showing, which exposed quartz veins within a northeast-southwest-trending shear assumed to be the northward extension of the South Showing. The shear/vein system was exposed for 400ft (122m) along strike while not being cut off, and was discovered to average about 30ft (9m) in width, up to 60ft (18m). The stripped area was washed by Wajax pump in 1989. Low gold values were obtained from 48 channel samples and 12 select grab samples, with only 6 returning between **0.05 to 0.10 oz/ton Au (1.7 to 3.4gpt Au)**. The projection of this shear system would strike onto the Melema property. (Oja, R.V., 1990, file 52B14SW0002).

Further work was conducted in 1992 on the Minto property on the mine extensions to the south and in search of parallel structures, which failed to locate new occurrences. Work, including prospecting and trenching, was also conducted on new staked claims in Hutchison Township further south which located a cobalt bloom occurrence and gold up to **423ppb Au**. A series of short holes were drilled into the cobalt bloom occurrence (Wicheruk, M., 1992, file 52B14SW0052).

Further sampling at the north vein in 1996 returned up to **3.65** and **6.33gpt Au** (Wicheruk, M., 1997, file 52B14SW0072).

**1988:** Atiko Gold Mines Corporation flew an airborne magnetic and VLF-EM survey over a claim block which included the west part of the current Melema property (Killin, K., 1988, file 20000005164).

**2017-2019:** Traxxin Resources began a broad exploration program in 2017 on their Melema Lake property, targeting a structure interpreted from large scale magnetic surveys. The property adjoins Portofino's current Melema property to the south and east and includes the Minto shaft, the Minto North zone and the Moosehorn showing. Two new discoveries were made in 2017, including the Moffat Gold Zone and the North Melema Gold Zone in the northeastern claims of the Traxxin property. The Moffat Gold Zone consists of a 3.5m wide section of altered granite,

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and 16 out of 30 samples returned **>3gpt Au**, up to **17.8gpt Au**. Gold was thought to be related to northeast-trending splays off the Quetico fault to the south, and it was noted that east-southeast-trending structures often intersect these splays in areas of gold mineralization (Schneider, A. and Frymire, M., 2018, file 20000017090).

In 2018, hand stripping, sampling and outcrop mapping were carried out at the main mineralization zone (Moffat), and further prospecting was conducted northward. Mineralization was discovered approximately 2km further along strike (Schneider, A. and Frymire, M., 2019, file 20000017091).

In 2019, a paper copy of a 1962 diamond drill log by D.R. Young and E. Corrigan was discovered in the Thunder Bay Resident Geologist Program Library, leading to a new gold discovery at the west end of Melema Lake on Traxxin Resources' ground south of Portofino's current Melema property. Values **>10,000ppb Au** were returned from quartz veins within the host 'Young-Corrigan' structure, a generally 030-degree-trending shear zone consisting of iron-chlorite schist (altered tonalite to granodiorite), with local folding. This structure strikes onto the current Melema property to the northeast (Puumala, M.A. et al., 2019).

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## 5.0 -2020 EXPLORATION PROGRAM -

### 5.1 INTRODUCTION

From October 12<sup>th</sup> to October 27<sup>th</sup>, 2020, a prospecting, soil sampling and lake sediment sampling program was carried out on the Melema West Property, located approximately 26 kilometers northeast of the town of Atikokan, see Figure 2.

Field work for the Fall program was carried out by truck from Camp Quetico lodge on Highway ON-11 and later from Brown's Clearwater West Lodge off highway 622 north of Atikokan.

All the work and sample locations were defined using a handheld Garmin GPS. The measurements were plotted using UTM: NAD 83 in Zone 15 metric coordinates. Foot, truck and boat traverses were collected by GPS, saved as separate files and plotted with labels on the various Figures. All samples were routinely entered in an Excel database then imported into MapInfo for reviewing current work and planning future programs.

A total of 21 rock grab samples, 80 A horizon soil samples, 70 B horizon soil samples, and 9 lake sediment samples were collected for gold and multi-element ICP analyses. Rock grab samples and lake sediment samples were collected in individual plastic sample bags, which were labelled and placed in rice bags. Soil samples were collected in paper Kraft bags which were labelled and placed in plastic bins, which were transported to Actlabs Thunder Bay by truck along with the grab and lake sediment samples. Lake sediment samples were collected using a metal sampling 'torpedo' from a small boat on Melema Lake, rented from Camp Quetico lodge. The boat was deployed from a boat launch on the south shore of Melema Lake close to the Sapawe Upsala road.

All samples were photographed in the field and photos were labeled by sample number, direction the photo was taken and type (outcrop-frost heave-talus-rubble-float for grab samples, A or B horizon for soils). A representative rock sample "Rep" was labeled of every rock sample sent for analysis and kept for future reference. In addition to the grab sample photos, photos were collected and labeled of various outcrops and other features in the field.

The Rock Sample Description Table is presented as Table I in Appendix I, and Rock Assay Certificates are presented in Appendix II. The Soil Sample Description Table is presented as Table 2 in Appendix III, and the soil assay certificates are presented in Appendix IV. The Lake Sediment Sample Description Table is presented as Table 3 in Appendix V, and Lake Sediment Assay Certificates are presented in Appendix VI. Descriptions of the Act Labs analytical procedures and packages are presented in Appendix VII. The Point of Interest (POI – geological and non-geological observations) Table 4 is presented in Appendix VIII and a list of the Melema Cell-Claims is presented in Table 5 Appendix IX. The daily logs are presented in Appendix X, a Statement of Expenditures is presented in Appendix XI, Map sheets A-D display the locations of the grab samples, soil samples, lake sediment samples and Point of Interests and are presented in Appendix XII, and a few photos are presented in Appendix XIII.

Results are presented below.

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## 5.2 RESULTS

A total of 21 grab samples, 80 A horizon soil samples, 70 B horizon soil samples, and 9 lake sediment samples were collected on the Melema property. See Map Sheets A-D.

### Grab Samples

Seven (7) grab samples (A685870-A685876) were collected in the central claims west of a pipeline alienation and meters from the Sapawe-Upsala road. These consisted of weakly sheared, silicified felsic intrusive with iron carbonate alteration and quartz veining/banding with minor pyrite blebs. These returned up to **97ppb Au** (A685871). Samples came from a low mound of outcrop. It was difficult to determine the orientation of shearing as there was not much exposure, although it would be easy to strip off the outcrop with a backhoe.

*Sample A685874: silicified felsic intrusive, quartz veining, iron carbonate, pyrite blebs.*



Three (3) grab samples (A685856-A685858) were collected in the northeastern claims in a logged area, consisting of granite gneiss with minor quartz blebs, minor iron carbonate alteration and minor pyrite. These returned up to **73ppb Au** (A685856).

Four (4) grab samples (A685860-A685863) were collected in the southwestern claims west of the Sapawe Upsala road, and consisted of quartz veins or felsic intrusive rock with minor pyrite. These returned **<5ppb Au**.

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One (1) grab sample (A685864) was collected on the shore of Melema lake and consisted of weakly foliated diorite with minor quartz blebs and minor pyrite, with foliation at 125 degrees. This sample returned **<5ppb Au**.

Six (6) grab samples (A685866-A685869, A685877-A685878) were collected north of Melema Lake and consisted of intermediate (diorite, possible feldspar porphyry) to felsic intrusive rock with minor quartz veining and minor pyrite. These returned **<5ppb Au**.

#### Soil Samples

Two ~750 metre southeast-northwest-trending soil lines at ~180metre spacing were sampled north of Melema Lake to test the strike extension of mineralization to the south of the property and a linear northeast-trending magnetic high. These lines returned up to **40ppb Au** from A horizon, with a few anomalous values immediately southeast of the linear magnetic high and coinciding swampy lineament. B horizon returned up to **11ppb Au** with most values returning **<5ppb Au**.

One 260metre north-northwest-south-southeast-trending soil line was sampled in the central claims west of a pipeline alienation and in the vicinity of altered outcrop which later returned up to **97ppb Au**. A horizon samples returned up to **45ppb Au**, with two other samples returning **>40ppb Au**, averaging **25ppb Au** over 10 samples. This line yielded the most consistently anomalous values of the program. All but two B horizon samples returned **<5ppb Au**; the other two returned **7** and **11ppb Au**.

Two ~225metre southeast-northwest-trending soil lines at ~130metre spacing were sampled in the far northeastern claims of the property to test the extension of the primary linear magnetic feature of interest. These lines returned up to **28ppb Au** from A horizon and up to **62ppb Au** from B horizon, the highest value obtained from the program. Another value of **33ppb Au** was obtained from B horizon on the same line.

Two ~200m southeast-northwest-trending soil lines at ~100metre spacing were sampled in the southeastern claims south of Melema Lake to test a second northeast-trending linear magnetic feature. These lines returned up to **8ppb Au** from A horizon and up to **7ppb Au** from B horizon.

#### Lake Sediment Samples

Nine (9) lake sediment samples were collected in Melema Lake. They all returned **<5ppb Au**.

## **6.0 -DISCUSSION OF RESULTS AND RECOMMENDATIONS-**

### **6.1 DISCUSSION OF RESULTS**

The new discovery of gold-bearing weakly sheared, silicified felsic intrusive rock with iron carbonate alteration, quartz veining and pyrite is interesting and will require follow-up. The target northeast-trending interpreted structure, roughly along strike from the Young-Corrigan structure to the southwest of the property, seems at least on a first pass to be associated with anomalous gold in both rock and soil, even if not strongly anomalous.



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## **6.2 RECOMMENDATIONS**

-Outcrop stripping at the location of samples A685870-A685876 to better expose the shearing/veining/alteration, collect additional samples and collect structural measurements.

-Further soil sampling and prospecting along the main target structure as well as follow up soil sampling along strike from where the current anomalous soil samples are located.

-Carry out a High Resolution Magnetic and Radiometric Survey.

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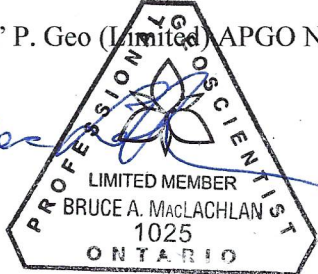
## 7.0 -STATEMENT OF QUALIFICATIONS-

I, Bruce A. MacLachlan P. Geo (Limited), residing at 222 Emerald St., Timmins, Ontario, do hereby certify that:

- 1) Portofino Resources Inc. currently contracts me as a consulting Geological Technician and Prospector.
- 2) I am a P. Geo (Limited), registered in the province of Ontario (APGO No. 1025).
- 3) I have continuously practiced my profession as a Geological Technician and Prospector for over 36 years. I have prepared reports, conducted, supervised and managed exploration programs for several major and junior mining companies including Noranda Exploration Company Limited, CanAlaska Uranium Ltd., Noront Resources Ltd., Bold Ventures Inc., GoldON Resources Inc., and others.
- 4) I am responsible for the preparation of this report titled 'Work Report of the Fall 2020 Exploration Program on the Melema West Property, Atikokan Area, Ontario.'
- 5) I have worked extensively across the Property.

Dated at Timmins, Ontario, this 4<sup>th</sup> day of February 2021.

"Bruce A. MacLachlan" P. Geo (Limited) APGO No. 1025  
(Signed and Sealed)

Bruce A. MacLachlan  
2099840 Ontario Inc.  
"Emerald Geological Services"

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## 8.0 - REFERENCES-

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## **APPENDIX I**

### **Rock-Grab Sample Descriptions (Table 1)**

Table 1													
Melema West Rock Sample Descriptions													
Sample	Easting	Northing	Elevation	Date	Area	Project	Claim	Sample Type	Rock Type	Rock Code	Description	Assay Certificate No.	Au_ppb_final
A685856	630794	5413677	430	13-Oct-20	Northeast Claims in Logged Area	Melema	586094	Grab	Granite	GRAN	Granite gneiss with minor quartz blebs, minor Fe-carb, minor pyrite within quartz. Fractured outcrop.	A20-13458	73
A685857	630795	5413682	436	13-Oct-20	Northeast Claims in Logged Area	Melema	586094	Grab	Granite	GRAN	Granite gneiss with minor quartz blebs, minor Fe-carb, minor pyrite within quartz. Fractured outcrop.	A20-13458	2.5
A685858	630791	5413685	432	13-Oct-20	Northeast Claims in Logged Area	Melema	586094	Grab	Granite	GRAN	Granite gneiss with minor-moderate 2-3cm glassy, white-grey quartz blebs, minor pyrite overall, some within quartz. Minor mafic fragments. Fractured outcrop.	A20-13458	2.5
A685860	626793	5410513	432	14-Oct-20	Southwest Claims West of Road	Melema	586095	Grab	Quartz Porphyry	QPOR	Possible altered quartz porphyry with moderate glassy, white-grey quartz stringers, minor hematite, rust. Outcrop 3m W, 1m N of sample A685862.	A20-13458	2.5
A685861	626792	5410513	432	14-Oct-20	Southwest Claims West of Road	Melema	586095	Grab	Quartz Vein	QV	Glassy, grey-white quartz vein with minor pyrite overall, locally up to 1% within the quartz. Outcrop 1m W of sample A685860.	A20-13458	2.5
A685862	626796	5410512	432	14-Oct-20	Southwest Claims West of Road	Melema	586095	Grab	Quartz Vein	QV	Glassy, white-grey hematized quartz vein in possible altered quartz porphyry, minor white mica. Outcrop.	A20-13458	2.5
A685863	626792	5411002	421	14-Oct-20	Southwest Claims West of Road	Melema	586297	Grab	Felsic Intrusive	FI	Somewhat rusty, quartz-rich felsic intrusive, minor white mica. Outcrop.	A20-13458	2.5
A685864	628046	5410011	411	15-Oct-20	Shore of Melema Lake	Melema	586095	Grab	Diorite	DIO	Fine-medium-grained, weakly foliated, porphyritic diorite (?) with minor quartz blebs, minor mica, minor pyrite. Foliation at 125 degrees in outcrop.	A20-13458	2.5
A685866	627262	5410372	430	19-Oct-20	North of Melema Lake Northwest of Bridge	Melema	586095	Grab	Feldspar Porphyry	FP	Somewhat rusty possible feldspar porphyry (50% dark grey matrix, 50% mm-sized feldspar phenocrysts), minor pyrite blebs. Outcrop.	A20-13458	2.5
A685867	627265	5410369	431	19-Oct-20	North of Melema Lake Northwest of Bridge	Melema	586095	Grab	Feldspar Porphyry	FP	Possible feldspar porphyry (40% dark grey matrix, 60% mm-sized feldspar phenocrysts), minor-moderate mica, local rusty. Frost heave 3m SE of sample A685866.	A20-13458	2.5
A685868	627229	5410376	430	19-Oct-20	North of Melema Lake Northwest of Bridge	Melema	586095	Grab	Diorite	DIO	Weakly silicified diorite with minor pyrite blebs throughout, somewhat porphyritic. Outcrop.	A20-13458	2.5
A685869	627178	5410401	430	19-Oct-20	North of Melema Lake Northwest of Bridge	Melema	586095	Grab	Felsic Intrusive	FI	Quartz-rich felsic intrusive with local rust, trace pyrite specks. Possible altered quartz porphyry based on adjacent outcrop.	A20-13458	2.5
A685870	628673	5411967	428	22-Oct-20	Central Claims West of Alienation, South of Road	Melema	586094	Grab	Felsic Intrusive	FI	Weakly-moderately silicified, somewhat rusty felsic intrusive (QFP?) with minor Fe-carb, trace pyrite blebs within silicification. Outcrop.	A20-13458	2.5
A685871	628673	5411968	428	22-Oct-20	Central Claims West of Alienation, South of Road	Melema	586094	Grab	Felsic Intrusive	FI	Weakly-moderately silicified, somewhat rusty felsic intrusive (QFP?) with minor 1-2mm parallel white quartz stringers, minor Fe-carb, trace pyrite blebs within silicification. Outcrop 1m N of sample A685670.	A20-13458	97
A685872	628673	5411971	428	22-Oct-20	Central Claims West of Alienation, South of Road	Melema	586094	Grab	Felsic Intrusive	FI	Weakly-moderately silicified, somewhat rusty felsic intrusive (QFP?) with minor Fe-carb, trace pyrite blebs within somewhat 'bleached' looking silicification. Outcrop 3m N of sample A685671.	A20-13458	6
A685873	628666	5411969	426	22-Oct-20	Central Claims West of Alienation, South of Road	Melema	586094	Grab	Felsic Intrusive	FI	Rusty, wkly sheared, wkly silicified felsic intrusive, mod. banding of mainly washed out qtz-feldspar phenos, seems to be some additional silica injected in these bands; min-mod Fe-carb. Fractured outcrop, shr orientation difficult to determine.	A20-13458	21
A685874	628667	5411970	426	22-Oct-20	Central Claims West of Alienation, South of Road	Melema	586094	Grab	Felsic Intrusive	FI	Rusty, weakly sheared, weakly silicified felsic intrusive with 2-3cm quartz-rich band/vein as described in previous sample A685673, minor pyrite blebs within the quartz. Fractured outcrop 1m NE of previous sample.	A20-13458	6

A685875	628667	5411971	426	22-Oct-20	Central Claims West of Alienation, South of Road	Melema	586094	Grab	Felsic Intrusive	FI	Moderately to strongly silicified felsic intrusive with minor Fe-carb alteration, trace pyrite blebs within silicification. Fractured outcrop 1m N of sample A685874.	A20-13458	2.5
A685876	628666.5	5411973	426	22-Oct-20	Central Claims West of Alienation, South of Road	Melema	586094	Grab	Felsic Intrusive	FI	Somewhat rusty, silicified felsic intrusive. Outcrop 2m NNW of sample A685875.	A20-13458	2.5
A685877	627073	5410756	428	23-Oct-20	North of Melema Lake Close to Road	Melema	586095	Grab	Felsic Intrusive	FI	Somewhat gneissic felsic intrusive with 1-2cm quartz stringer, minor rust, minor pyrite blebs within qs. Fractured outcrop.	A20-13458	2.5
A685878	627425	5410447	429	23-Oct-20	North of Melema Lake Northeast of Bridge	Melema	586095	Grab	Quartz Vein	QV	2-3cm glassy, grey-white quartz vein/bleb in felsic intrusive, minor rust. Outcrop.	A20-13458	2.5

## **APPENDIX II**

### **Rock Assay Certificates (Act Labs)**





Report No.: A20-13458
Report Date: 26-Nov-20
Date Submitted: 27-Oct-20
Your Reference: MEL

Portofino Resources
Suite 520-470 Granville St
Vancouver BC V6C1V5
Canada

ATTN: David Tafel

CERTIFICATE OF ANALYSIS

21 Rock samples were submitted for analysis.

Table with 2 columns: The following analytical package(s) were requested: and Testing Date:
Row 1: UT-6M, QOP Total/QOP Ultratrace- 4acid Digest (Total Digestion ICPOES/ICPMS), 2020-11-19 12:44:13

REPORT A20-13458

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:

Handwritten signature of Emmanuel Esemé

Emmanuel Esemé, Ph.D.
Quality Control Coordinator

ACTIVATION LABORATORIES LTD.
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

**Report No.: A20-13458**  
**Report Date: 26-Nov-20**  
**Date Submitted: 27-Oct-20**  
**Your Reference: MEL**

**Portofino Resources**  
**Suite 520-470 Granville St**  
**Vancouver BC V6C1V5**  
**Canada**

**ATTN: David Tafel**

**CERTIFICATE OF ANALYSIS**

21 Rock samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
1A2-50-Tbay	GOP AA-Au (Au - Fire Assay AA)	2020-11-10 07:24:10

REPORT **A20-13458**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

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

Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:



Emmanuel Eseme , Ph.D.  
 Quality Control Coordinator

**ACTIVATION LABORATORIES LTD.**  
 1201 Walsh Street West, Thunder Bay, Ontario, Canada, P7E 4X6  
 TELEPHONE +807 622-6707 or +1.888.228.5227 FAX +1.905.648.9613  
 E-MAIL Tbay@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

## Results

## Activation Laboratories Ltd.

## Report: A20-13458

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%
Lower Limit	5	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01
Method Code	FA-AA	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
A685856	73	0.09	10.4	18.8	1060	1.25	0.03	1.42	< 0.02	31.5	6.0	12	0.83	12.3	1.77	11.3	< 0.05	2.2	0.020	3.00	14.9	7.1	0.75
A685857	< 5	0.05	8.32	3.8	830	1.01	0.05	0.46	0.04	41.9	4.5	11	0.68	13.7	1.45	11.9	0.05	2.3	0.018	2.61	21.3	7.6	0.49
A685858	< 5	0.04	7.08	0.8	910	1.24	0.18	1.46	< 0.02	25.9	2.9	8	0.89	23.9	1.53	10.9	< 0.05	2.1	0.020	2.59	12.7	7.3	0.92
A685860	< 5	0.14	7.33	2.3	440	1.85	0.25	0.54	0.03	35.0	2.9	8	0.99	10.7	1.41	12.2	0.06	2.2	0.014	2.15	15.8	24.4	0.24
A685861	< 5	0.11	0.32	9.0	30	0.12	0.13	0.07	< 0.02	5.09	1.2	6	0.06	8.3	0.62	0.85	0.10	0.2	< 0.005	0.12	2.1	1.5	0.02
A685862	< 5	0.41	3.35	28.4	320	0.93	0.65	0.51	0.16	11.7	2.8	11	0.53	8.7	1.19	6.67	< 0.05	1.1	0.006	1.31	5.7	14.3	0.15
A685863	< 5	0.04	9.56	50.4	310	1.63	0.05	0.24	< 0.02	2.67	0.3	5	0.32	6.2	0.58	21.9	< 0.05	0.6	0.008	1.24	1.2	6.0	0.05
A685864	< 5	0.05	7.61	40.5	270	0.92	0.06	1.50	0.07	36.7	17.5	160	0.43	31.2	4.57	16.0	0.06	2.9	0.036	1.64	16.1	37.0	2.23
A685866	< 5	0.28	9.30	2.0	130	0.63	0.13	5.12	0.10	40.2	21.5	46	0.44	178	6.59	21.0	0.20	1.5	0.058	0.56	18.2	30.7	1.79
A685867	< 5	0.03	9.95	0.4	230	0.78	0.02	3.87	< 0.02	25.2	10.1	55	0.61	33.6	7.18	24.2	0.17	2.6	0.047	0.73	16.1	39.3	2.12
A685868	< 5	0.13	8.79	12.0	350	0.98	0.01	3.18	0.09	60.8	14.8	29	0.82	49.0	4.94	15.2	0.24	2.5	0.056	2.88	26.7	49.2	1.64
A685869	< 5	0.13	7.68	1.6	160	0.75	0.01	0.58	< 0.02	20.7	1.2	8	0.18	29.1	0.64	17.0	< 0.05	2.6	0.006	1.02	8.7	9.2	0.08
A685870	< 5	0.03	8.26	7.8	610	0.78	0.02	0.67	0.05	17.1	2.3	7	0.51	3.8	1.13	11.5	< 0.05	1.6	0.013	2.02	8.3	5.9	0.28
A685871	97	0.37	7.99	6.9	420	0.86	0.03	0.60	0.04	15.2	4.7	11	0.45	4.5	1.57	13.6	< 0.05	2.3	0.009	1.46	7.3	5.8	0.22
A685872	6	0.10	8.29	17.8	400	1.03	0.05	0.51	0.05	30.4	5.9	11	0.45	6.2	1.42	15.1	< 0.05	3.5	0.012	2.04	14.1	6.2	0.22
A685873	21	0.07	7.55	4.2	300	0.90	0.07	1.13	0.06	16.4	3.0	9	0.32	7.4	1.22	13.9	< 0.05	2.4	0.009	1.82	7.6	4.4	0.40
A685874	6	0.09	7.55	5.4	370	0.88	0.14	1.08	0.03	46.0	4.1	7	0.32	21.5	1.70	12.9	< 0.05	3.3	0.012	1.62	21.8	7.2	0.30
A685875	< 5	0.04	10.9	0.5	790	0.88	0.03	0.70	< 0.02	2.08	0.4	4	0.42	0.9	0.63	11.3	< 0.05	1.7	0.010	2.09	1.0	5.3	0.14
A685876	< 5	0.05	7.44	34.6	520	0.73	0.05	0.18	< 0.02	12.6	2.2	13	0.37	7.3	1.05	11.4	< 0.05	1.3	0.006	1.77	5.7	4.0	0.20
A685877	< 5	0.06	6.56	6.8	470	0.79	0.11	0.72	0.06	17.5	0.9	7	0.48	4.2	0.97	11.9	< 0.05	1.6	0.014	1.67	7.5	17.7	0.14
A685878	< 5	0.05	5.56	1.1	180	0.47	0.01	0.28	< 0.02	10.6	0.5	8	0.38	4.3	0.92	11.6	< 0.05	3.3	< 0.005	2.56	4.8	6.2	0.06

Analyte Symbol	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1
Method Code	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS
A685856	335	0.31	4.85	4.0	9.8	380	4.1	68.6	< 0.002	0.35	0.18	4.5	< 1	0.6	325	0.18	0.11	2.63	0.177	0.36	1.8	47	2.8
A685857	324	0.24	3.15	3.1	6.8	580	2.8	57.6	< 0.002	0.05	0.12	3.4	< 1	0.4	156	0.11	0.05	4.84	0.187	0.25	0.5	37	2.2
A685858	291	0.31	1.87	2.5	3.7	330	2.3	62.6	< 0.002	0.11	0.09	3.9	< 1	0.7	110	0.21	0.10	3.56	0.103	0.24	0.5	44	1.3
A685860	256	0.19	2.77	4.2	1.2	260	6.3	65.8	< 0.002	< 0.01	< 0.05	2.3	< 1	0.7	108	0.16	0.06	4.66	0.111	0.24	0.7	16	2.4
A685861	113	0.37	0.07	1.0	0.9	40	5.7	3.7	< 0.002	0.07	0.06	0.3	< 1	< 0.2	4.4	0.11	0.06	0.39	0.030	0.03	0.4	2	0.6
A685862	176	0.19	0.68	2.7	1.2	120	27.7	40.9	< 0.002	0.11	0.28	1.6	< 1	0.5	23.4	0.16	0.08	2.40	0.051	0.15	0.5	11	1.6
A685863	53	0.26	5.45	1.9	0.2	20	5.5	31.7	< 0.002	< 0.01	0.07	0.8	< 1	0.4	105	0.27	< 0.05	2.16	0.013	0.12	2.1	5	0.7
A685864	802	0.07	2.40	0.7	95.9	720	3.1	39.9	< 0.002	0.02	< 0.05	10.6	< 1	0.7	102	0.07	< 0.05	4.07	0.270	0.17	0.8	71	0.2
A685866	799	0.52	2.44	5.6	29.3	1130	8.2	19.9	< 0.002	0.34	0.27	12.9	< 1	1.7	567	0.34	0.06	4.28	0.419	0.17	0.9	130	0.3
A685867	949	0.07	3.15	0.5	14.7	1430	7.5	30.1	< 0.002	0.02	< 0.05	9.7	< 1	1.2	452	< 0.05	< 0.05	10.6	0.256	0.15	0.8	43	< 0.1
A685868	957	0.15	1.78	0.9	23.4	1140	6.3	76.2	< 0.002	0.12	< 0.05	16.1	< 1	1.1	216	< 0.05	< 0.05	5.19	0.315	0.34	1.6	96	0.1
A685869	121	0.23	4.52	0.9	1.5	80	7.1	27.1	< 0.002	0.03	0.47	1.3	< 1	0.4	175	0.08	< 0.05	8.36	0.016	0.11	2.5	5	0.7
A685870	228	0.25	3.38	1.6	4.9	180	3.2	51.6	< 0.002	0.01	0.10	1.8	< 1	0.3	195	< 0.05	< 0.05	2.06	0.089	0.25	0.3	16	1.0
A685871	334	0.18	4.03	2.2	6.5	170	4.1	38.9	< 0.002	0.09	0.23	3.7	< 1	0.5	194	0.13	0.22	1.76	0.137	0.19	0.4	34	4.1
A685872	492	0.28	3.51	4.2	19.0	170	4.5	46.6	< 0.002	0.02	0.13	3.4	< 1	0.7	186	0.45	< 0.05	4.77	0.096	0.30	1.5	20	1.7
A685873	236	0.12	3.17	3.0	3.4	180	5.5	40.3	< 0.002	0.08	0.16	2.3	< 1	0.5	194	0.20	< 0.05	2.18	0.080	0.23	0.7	13	1.1
A685874	216	0.30	3.10	3.4	2.7	210	8.4	37.8	< 0.002	0.25	0.24	2.6	< 1	0.6	183	0.22	0.06	5.14	0.100	0.18	0.6	18	1.3
A685875	110	0.13	5.28	1.6	0.3	20	4.9	35.8	< 0.002	< 0.01	0.05	1.2	< 1	0.7	225	0.10	< 0.05	0.29	0.032	0.16	0.4	22	1.2
A685876	159	0.37	3.24	1.9	3.3	140	5.7	32.9	< 0.002	0.09	0.32	1.8	< 1	0.4	157	0.14	< 0.05	1.73	0.064	0.15	0.5	16	1.9
A685877	256	0.15	2.81	3.3	0.9	100	4.1	44.7	< 0.002	< 0.01	< 0.05	2.3	< 1	0.7	111	0.23	0.06	2.85	0.055	0.15	0.5	12	0.9
A685878	157	0.23	2.19	1.1	0.3	50	10.0	45.5	< 0.002	< 0.01	0.06	1.0	< 1	0.3	52.3	0.08	< 0.05	4.94	0.019	0.20	1.9	4	0.2

Analyte Symbol	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm
Lower Limit	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS
A685856	3.3	20	73.9
A685857	4.8	25	82.3
A685858	4.1	27	70.3
A685860	5.5	36	97.5
A685861	1.0	6	6.9
A685862	3.7	49	35.1
A685863	4.3	11	10.2
A685864	16.0	97	111
A685866	17.4	92	49.7
A685867	8.7	109	92.9
A685868	13.1	100	88.3
A685869	13.3	15	50.6
A685870	2.0	27	69.1
A685871	1.9	24	79.1
A685872	6.0	43	84.7
A685873	3.9	32	61.2
A685874	5.6	32	111
A685875	1.1	10	39.3
A685876	2.5	14	25.5
A685877	4.4	23	50.9
A685878	13.0	17	62.9

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%
Lower Limit	5	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01
Method Code	FA-AA	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
SDC-1 Meas			8.54	0.4	650	3.14		1.09		85.6	18.3	54	3.88	33.6	4.97	15.1		0.9		3.02	37.9	36.6	1.05
SDC-1 Cert			8.34	0.220	630	3.00		1.00		93.00	18.0	64.00	4.00	30.000	4.82	21.00		8.30		2.72	42.00	34.0	1.02
SDC-1 Meas			7.42		590			0.98				51			4.44					2.76			0.95
SDC-1 Cert			8.34		630			1.00				64.00			4.82					2.72			1.02
Oreas 72a (4 Acid Digest) Meas												191			9.66								
Oreas 72a (4 Acid Digest) Cert												228			9.63								
Oreas 72a (4 Acid Digest) Meas												157			8.67								
Oreas 72a (4 Acid Digest) Cert												228			9.63								
OREAS 101b (4 Acid) Meas															10.5					2.18			1.20
OREAS 101b (4 Acid) Cert															10.7					2.36			1.23
OREAS 101b (4 Acid) Meas															11.0					2.58			1.28
OREAS 101b (4 Acid) Cert															10.7					2.36			1.23
OREAS 101b (4 Acid) Meas															9.75					2.28			1.16
OREAS 101b (4 Acid) Cert															10.7					2.36			1.23
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
DNC-1a Meas					100			7.72				147			7.27								
DNC-1a Cert					118			8.21				270			6.97								
DNC-1a Meas					90			7.09				145			6.43								
DNC-1a Cert					118			8.21				270			6.97								
OREAS 13b (4-Acid) Meas		0.91		59.8							78.3	> 10000		2100									
OREAS 13b (4-Acid) Cert		0.86		57							75	8650.00		2327.000									
OREAS 13b (4-Acid) Meas												> 10000											
OREAS 13b (4-Acid) Cert												8650.00											
OREAS 904 (4 ACID) Meas		0.55	6.80	95.4	210	6.89	3.89	0.05		80.2	78.3	66	3.54	5480	7.33	12.9	0.09	3.9	0.194	3.82	38.6	13.9	0.62
OREAS 904 (4 ACID) Cert		0.551	6.30	98.0	194	7.86	4.05	0.0460		86.0	83.0	54.0	3.79	6120	6.68	16.7	0.180	5.00	0.220	3.31	43.2	16.7	0.556
OREAS 904 (4 ACID) Meas			6.56		200			0.05				59			7.00					3.19			0.60
OREAS 904 (4 ACID) Cert			6.30		194			0.0460				54.0			6.68					3.31			0.556
OREAS 904 (4 ACID) Meas			6.75		210			0.05				67			7.11					3.78			0.61
OREAS 904 (4 ACID) Cert			6.30		194			0.0460				54.0			6.68					3.31			0.556
OREAS 45d			8.36		180			0.21				560			14.9					0.44			0.26

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%
Lower Limit	5	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01
Method Code	FA-AA	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
(4-Acid) Meas																							
OREAS 45d (4-Acid) Cert			8.150		183.0			0.185				549			14.5					0.412			0.245
OREAS 45d (4-Acid) Meas			8.53		190			0.21				628			15.2					0.42			0.26
OREAS 45d (4-Acid) Cert			8.150		183.0			0.185				549			14.5					0.412			0.245
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 923 (4 Acid) Meas			7.57		340			0.51				85			6.71					2.63			1.78
OREAS 923 (4 Acid) Cert			7.29		434			0.473				71.0			6.43					2.51			1.69
OREAS 621 (4 Acid) Meas		56.2	6.57	68.8		1.34	3.85	2.10	262	44.5	26.1	34	3.06	3150	3.80	13.2		4.0	1.64	2.42	18.6	12.2	0.53
OREAS 621 (4 Acid) Cert		69.0	6.40	77.0		1.69	3.93	1.97	284	46.6	29.3	37.1	3.28	3630	3.70	24.6		4.41	1.83	2.20	21.6	14.2	0.507
OREAS 621 (4 Acid) Meas			6.00					1.98				31			3.51					2.18			0.49
OREAS 621 (4 Acid) Cert			6.40					1.97				37.1			3.70					2.20			0.507
OREAS 522 (4 Acid) Meas		1.17	4.07	388		0.69	8.71	3.69		74.3	487	44	0.57	7630	24.6	14.1		2.7	0.215	2.89	47.5	12.5	1.19
OREAS 522 (4 Acid) Cert		1.31	3.95	490		0.700	8.72	3.65		148	550	29.6	0.640	9160	24.6	16.0		2.96	0.230	2.83	171	16.2	1.12
OREAS 522 (4 Acid) Meas			4.13					3.75				38			25.2					2.92			1.21
OREAS 522 (4 Acid) Cert			3.95					3.65				29.6			24.6					2.83			1.12
OREAS 238 (Fire Assay) Meas	3070																						
OREAS 238 (Fire Assay) Cert	3030																						
Oreas E1336 (Fire Assay) Meas	506																						
Oreas E1336 (Fire Assay) Cert	510																						
A685863 Orig	< 5																						
A685863 Dup	< 5																						
A685873 Orig		0.07	7.26	4.5	300	1.01	0.06	1.09	0.05	16.4	3.0	11	0.32	7.2	1.19	13.9	< 0.05	2.4	0.009	1.81	7.6	4.5	0.40
A685873 Dup		0.07	7.85	3.9	310	0.80	0.07	1.16	0.07	16.4	3.0	6	0.32	7.6	1.25	13.9	< 0.05	2.3	0.009	1.84	7.7	4.4	0.41
A685874 Orig	6																						
A685874 Dup	5																						
A685878 Orig	7																						
A685878 Dup	< 5																						
Method Blank			< 0.01		< 10			< 0.01				9			< 0.01					< 0.01			< 0.01
Method Blank			< 0.01		< 10			< 0.01				3			< 0.01					< 0.01			< 0.01
Method Blank			< 0.01		< 10			< 0.01				5			< 0.01					< 0.01			< 0.01
Method Blank			< 0.01		< 10			< 0.01				7			< 0.01					< 0.01			< 0.01
Method Blank			< 0.01		< 10			< 0.01				7			< 0.01					< 0.01			< 0.01

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%
Lower Limit	5	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01
Method Code	FA-AA	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
Method Blank			< 0.01		< 10			< 0.01				4			< 0.01					< 0.01			< 0.01
Method Blank			< 0.01		< 10			< 0.01				3			< 0.01					< 0.01			< 0.01
Method Blank		< 0.01	< 0.01	< 0.2	< 10	< 0.05	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	7	< 0.05	< 0.2	< 0.01	0.14	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank		< 0.01	< 0.01	< 0.2	< 10	0.10	< 0.01	< 0.01	< 0.02	0.01	< 0.1		< 0.05	0.4	< 0.01	0.14	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank	< 5																						



Analyte Symbol	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1
Method Code	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS
SDC-1 Meas	892		1.54	< 0.1	33.5	560	23.3	102			< 0.05	14.9		0.2	180	< 0.05		12.1	0.114	0.58	2.8	40	< 0.1
SDC-1 Cert	880.00		1.52	21.00	38.0	690	25.00	127.00			0.54	17.00		3.00	180.00	1.20		12.00	0.606	0.70	3.10	102.00	0.80
SDC-1 Meas	810		1.44			520													0.074				31
SDC-1 Cert	880.00		1.52			690													0.606				102.00
Oreas 72a (4 Acid Digest) Meas											1.69												
Oreas 72a (4 Acid Digest) Cert											1.74												
Oreas 72a (4 Acid Digest) Meas											1.64												
Oreas 72a (4 Acid Digest) Cert											1.74												
OREAS 101b (4 Acid) Meas	986					1200													0.368				81
OREAS 101b (4 Acid) Cert	927					1118													0.35				77
OREAS 101b (4 Acid) Meas	946					1070													0.299				66
OREAS 101b (4 Acid) Cert	927					1118													0.35				77
OREAS 101b (4 Acid) Meas	885					1080													0.327				73
OREAS 101b (4 Acid) Cert	927					1118													0.35				77
OREAS 98 (4 Acid) Meas											> 10.0												
OREAS 98 (4 Acid) Cert											15.5												
OREAS 98 (4 Acid) Meas											> 10.0												
OREAS 98 (4 Acid) Cert											15.5												
DNC-1a Meas			1.47																0.264				146
DNC-1a Cert			1.40																0.29				148
DNC-1a Meas			1.36																0.254				134
DNC-1a Cert			1.40																0.29				148
OREAS 13b (4-Acid) Meas		9.56			2020						1.21												
OREAS 13b (4-Acid) Cert		9.0			2247.000						1.2												
OREAS 13b (4-Acid) Meas											1.19												
OREAS 13b (4-Acid) Cert											1.2												
OREAS 904 (4 ACID) Meas	454	1.90	0.04		37.4	1090	10.2	121		0.06	1.32	10.0	2	2.5	23.8	0.47		14.0		0.51	8.4	88	2.4
OREAS 904 (4 ACID) Cert	410	2.12	0.0340		40.1	980	10.6	130		0.0630	1.48	11.2	3.30	2.83	27.2	0.540		14.3		0.520	8.43	76.0	2.12
OREAS 904 (4 ACID) Meas	425		0.04			910				0.06													74
OREAS 904 (4 ACID) Cert	410		0.0340			980				0.0630													76.0
OREAS 904 (4 ACID) Meas	452		0.04			1060				0.06													87
OREAS 904 (4 ACID) Cert	410		0.0340			980				0.0630													76.0
OREAS 45d	515		0.10			360				0.05									0.183				111

Analyte Symbol	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1
Method Code	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS
(4-Acid) Meas																							
OREAS 45d (4-Acid) Cert	490.000		0.101			420.000				0.049									0.773			235.0	
OREAS 45d (4-Acid) Meas	529		0.10			400				0.05									0.388			169	
OREAS 45d (4-Acid) Cert	490.000		0.101			420.000				0.049									0.773			235.0	
OREAS 96 (4 Acid) Meas										4.28													
OREAS 96 (4 Acid) Cert										4.19													
OREAS 96 (4 Acid) Meas										4.46													
OREAS 96 (4 Acid) Cert										4.19													
OREAS 923 (4 Acid) Meas	989		0.33			670				0.72									0.413			96	
OREAS 923 (4 Acid) Cert	950		0.324			630				0.691									0.405			91.0	
OREAS 621 (4 Acid) Meas	520	12.1	1.34	8.3	24.1	370	> 10000	73.3		4.63	62.9	5.8	6	4.9	69.2			6.05	0.185	1.95	2.8	35	2.0
OREAS 621 (4 Acid) Cert	532	13.6	1.31	8.61	26.2	359	13600	84.0		4.48	139	6.24	5.64	5.25	91.0			7.48	0.149	1.96	2.83	31.8	2.35
OREAS 621 (4 Acid) Meas	490		1.27			340				4.45									0.169			32	
OREAS 621 (4 Acid) Cert	532		1.31			359				4.48									0.149			31.8	
OREAS 522 (4 Acid) Meas	3840	175	0.64	2.9	61.8	910	7.9	77.8	0.093	2.53	3.70	9.7	2	7.5	69.7	0.06	0.32	1.32	0.326	0.29	39.9	165	64.2
OREAS 522 (4 Acid) Cert	3970	206	0.633	5.66	70.0	890	12.5	82.0	0.0980	2.50	7.93	10.9	2.74	9.32	199	0.440	1.14	7.53	0.344	0.290	42.2	164	135
OREAS 522 (4 Acid) Meas	3920		0.64			930				2.52									0.368			173	
OREAS 522 (4 Acid) Cert	3970		0.633			890				2.50									0.344			164	
OREAS 238 (Fire Assay) Meas																							
OREAS 238 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
A685863 Orig																							
A685863 Dup																							
A685873 Orig	236	0.14	3.14	3.0	3.3	180	5.5	40.6	< 0.002	0.08	0.17	2.4	< 1	0.5	195	0.21	< 0.05	2.21	0.080	0.24	0.7	13	1.2
A685873 Dup	235	0.11	3.20	2.9	3.4	190	5.5	40.1	< 0.002	0.09	0.15	2.2	< 1	0.5	194	0.20	< 0.05	2.16	0.080	0.22	0.6	13	0.9
A685874 Orig																							
A685874 Dup																							
A685878 Orig																							
A685878 Dup																							
Method Blank	6		< 0.01			< 10				< 0.01									< 0.005			< 1	
Method Blank	< 5		< 0.01			< 10				< 0.01									< 0.005			< 1	
Method Blank	6		< 0.01			< 10				< 0.01									< 0.005			< 1	
Method Blank	< 5		< 0.01			< 10				< 0.01									< 0.005			< 1	
Method Blank	< 5		< 0.01			< 10				< 0.01									< 0.005			< 1	

Analyte Symbol	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1
Method Code	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS
Method Blank	< 5		< 0.01			< 10				< 0.01									< 0.005			< 1	
Method Blank	< 5		< 0.01			< 10				< 0.01									< 0.005			< 1	
Method Blank	< 5	< 0.05	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1	< 1	< 0.1
Method Blank	< 5	< 0.05	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	0.01	< 0.005	< 0.02	< 0.1	< 1	< 0.1
Method Blank																							

Analyte Symbol	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm
Lower Limit	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS
SDC-1 Meas		111	29.3
SDC-1 Cert		103.00	290.00
SDC-1 Meas		102	
SDC-1 Cert		103.00	
Oreas 72a (4 Acid Digest) Meas			
Oreas 72a (4 Acid Digest) Cert			
Oreas 72a (4 Acid Digest) Meas			
Oreas 72a (4 Acid Digest) Cert			
OREAS 101b (4 Acid) Meas			
OREAS 101b (4 Acid) Cert			
OREAS 101b (4 Acid) Meas			
OREAS 101b (4 Acid) Cert			
OREAS 101b (4 Acid) Meas			
OREAS 101b (4 Acid) Cert			
OREAS 101b (4 Acid) Meas			
OREAS 101b (4 Acid) Cert			
OREAS 98 (4 Acid) Meas		1370	
OREAS 98 (4 Acid) Cert		1360	
OREAS 98 (4 Acid) Meas		1270	
OREAS 98 (4 Acid) Cert		1360	
DNC-1a Meas		65	
DNC-1a Cert		70	
DNC-1a Meas		57	
DNC-1a Cert		70	
OREAS 13b (4-Acid) Meas		151	
OREAS 13b (4-Acid) Cert		133	
OREAS 13b (4-Acid) Meas		151	
OREAS 13b (4-Acid) Cert		133	
OREAS 904 (4 ACID) Meas	28.6	30	138
OREAS 904 (4 ACID) Cert	31.5	26.3	171
OREAS 904 (4 ACID) Meas		29	
OREAS 904 (4 ACID) Cert		26.3	
OREAS 904 (4 ACID) Meas		28	
OREAS 904 (4 ACID) Cert		26.3	
OREAS 45d		46	

Analyte Symbol	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm
Lower Limit	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS
(4-Acid) Meas			
OREAS 45d (4-Acid) Cert		45.7	
OREAS 45d (4-Acid) Meas		47	
OREAS 45d (4-Acid) Cert		45.7	
OREAS 96 (4 Acid) Meas		464	
OREAS 96 (4 Acid) Cert		457	
OREAS 96 (4 Acid) Meas		467	
OREAS 96 (4 Acid) Cert		457	
OREAS 923 (4 Acid) Meas		365	
OREAS 923 (4 Acid) Cert		345	
OREAS 621 (4 Acid) Meas	10.9	> 10000	141
OREAS 621 (4 Acid) Cert	11.1	52200	168
OREAS 621 (4 Acid) Meas		> 10000	
OREAS 621 (4 Acid) Cert		52200	
OREAS 522 (4 Acid) Meas	16.8	28	99.0
OREAS 522 (4 Acid) Cert	18.5	30.2	112
OREAS 522 (4 Acid) Meas		33	
OREAS 522 (4 Acid) Cert		30.2	
OREAS 238 (Fire Assay) Meas			
OREAS 238 (Fire Assay) Cert			
Oreas E1336 (Fire Assay) Meas			
Oreas E1336 (Fire Assay) Cert			
A685863 Orig			
A685863 Dup			
A685873 Orig	3.9	31	62.6
A685873 Dup	3.9	33	59.8
A685874 Orig			
A685874 Dup			
A685878 Orig			
A685878 Dup			
Method Blank		< 2	
Method Blank		< 2	
Method Blank		< 2	
Method Blank		< 2	
Method Blank		< 2	

Analyte Symbol	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm
Lower Limit	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS
Method Blank		< 2	
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## **APPENDIX III**

### **Soil Sample Descriptions (Table 2)**

Melema Soil Sample Descriptions																										
Sample	Date	Area	Easting	Northing	Elevation	Claim	Type	Depth (cm)	Ground level	Ground wetness	Ground inclination	Direction	Colour	Veg1	Veg2	Veg3	Tree1	Tree2	Tree3	Subjective quality	Vegetation in soil	Rocks in soil	Photo	Comments	Certificate No.	Au_ppb
A685902	20-Oct-20	Line 1 North of Melema Lake	626798	5410722	435	586095	A	2	Moderate	Dry	Gently Rolling		Dark Brown	Leaf Litter			Spruce	Birch		2	A lot		W		A20-13446	10
A685904	20-Oct-20	Line 1 North of Melema Lake	626825	5410705	435	586095	A	10	Moderate	Dry	On shallow slope facing	ENE	Dark Brown	Leaf Litter	Grass		Spruce	Birch	Balsam Fir	5	Moderate amount		WSW		A20-13446	15
A685906	20-Oct-20	Line 1 North of Melema Lake	626846	5410692	435	586095	A	5	Moderate	Dry	On shallow slope facing	E	Dark Brown	Leaf Litter	Moss		Spruce	Birch		6	Moderate amount		SW		A20-13446	8
A685908	20-Oct-20	Line 1 North of Melema Lake	626867	5410678	429	586095	A	5	Moderate	Dry	On shallow slope facing	S	Dark Brown	Leaf Litter			Spruce	Birch		5	Moderate amount		W		A20-13446	2.5
A685910	20-Oct-20	Line 1 North of Melema Lake	626888	5410664	428	586095	A	5	Moderate	Dry	Gently Rolling		Dark Brown	Leaf Litter	Ferns	Grass				7	Some		N		A20-13446	2.5
A685911	20-Oct-20	Line 1 North of Melema Lake	626912	5410648	428	586095	A	2	Moderate	Dry	On shallow slope facing	W	Dark Brown	Leaf Litter	Grass		Spruce	Birch	Balsam Fir	4	Quite a bit		E		A20-13446	2.5
A685913	20-Oct-20	Line 1 North of Melema Lake	626936	5410628	430	586095	A	2	High	Damp	On steep slope facing	SE	Dark Brown	Moss	Leaf Litter		Balsam Fir			7	Some		N		A20-13446	13
A685914	20-Oct-20	Line 1 North of Melema Lake	626956	5410617	419	586095	A	5	Low to moderate	Dry	Flat		Dark Brown	Leaf Litter			Poplar	Balsam Fir	Birch	7	Some		SW		A20-13446	12
A685916	20-Oct-20	Line 1 North of Melema Lake	626978	5410598	410	586095	A	5	Low to moderate	Dry	Flat		Dark Brown	Leaf Litter			Birch	Balsam Fir	Poplar	8	Some		N		A20-13446	40
A685918	20-Oct-20	Line 1 North of Melema Lake	626998	5410584	418	586095	A	10	Low	Dry	Flat		Dark Brown	Leaf Litter			Balsam Fir	Poplar	Birch	6	Moderate amount		N		A20-13446	5
A685920	20-Oct-20	Line 1 North of Melema Lake	627020	5410562	413	586095	A	20	Low to moderate	A bit damp	Flat		Dark Brown	Leaf Litter			Alder	Balsam Fir	Poplar	6	Quite a bit		SW		A20-13446	2.5
A685921	21-Oct-20	Line 1 North of Melema Lake	627104	5410499	427	586095	A	10	Moderate	Dry	Moderate rise to	NE	Dark Brown	Leaf Litter			Balsam Fir	Poplar	Spruce	6	Moderate amount		N		A20-13446	35
A685924	21-Oct-20	Line 1 North of Melema Lake	627128	5410484	425	586095	A	2	Moderate	Dry	Slight rise to	SE	Dark Brown	Leaf Litter			Balsam Fir	Poplar	Spruce	1	A lot		ESE	Mainly vegetation.	A20-13446	12
A685925	21-Oct-20	Line 1 North of Melema Lake	627146	5410468		586095	A	2	Moderate	Dry	Moderate slope facing	W	Dark Brown	Leaf Litter	Moss		Alder	Poplar	Balsam	6	Moderate amount		SE		A20-13446	21
A685927	21-Oct-20	Line 1 North of Melema Lake	627161	5410454	432	586095	A	5	Moderate	Dry	Moderate rise to	SSE	Medium Brown	Leaf Litter			Birch	Balsam Fir	Poplar	5	Moderate amount		E		A20-13446	8
A685929	21-Oct-20	Line 1 North of Melema Lake	627182	5410434	430	586095	A	5	Moderate	Dry	On shallow slope facing	NW	Dark Brown	Leaf Litter	Moss		Spruce	Balsam Fir	Birch	4	Quite a bit		E		A20-13446	16
A685931	21-Oct-20	Line 1 North of Melema Lake	627202	5410414	440	586095	A	2	Moderate	Dry	Slight rise to	NE	Dark Brown	Leaf Litter			Balsam Fir	Birch	Spruce	1	A lot		NNW		A20-13446	11
A685933	21-Oct-20	Line 1 North of Melema Lake	627220	5410405	459	586095	A	5	Moderate to high	Dry	Moderate drop to	SSW	Dark Brown				Balsam Fir	Birch	Spruce	4	Quite a bit		NW		A20-13446	6
A685935	21-Oct-20	Line 1 North of Melema Lake	627267	5410373	427	586095	A	5	Moderate	Dry	On shallow slope facing	SW	Dark Brown	Leaf Litter			Poplar	Birch	Balsam Fir	8	Some		NW		A20-13446	2.5
A685938	21-Oct-20	Line 1 North of Melema Lake	627308	5410341	432	586095	A	2	Moderate	Dry	Slight rise to	NNE	Dark Brown	Leaf Litter			Poplar	Balsam Fir		5	A lot		NNE	A bit mixed, more of an A.	A20-13446	2.5
A685939	21-Oct-20	Line 1 North of Melema Lake	627337	5410335	429	586095	A	10	High	Dry	On steep outcrop facing	S	Dark Brown	Moss			Poplar	Birch		7	Some		N	Outcrop may be feldspar porphyry.	A20-13446	2.5
A685940	21-Oct-20	Line 1 North of Melema Lake	627365	5410324	422	586095	A	5	Low	Dry	Flat		Dark Brown	Leaf Litter	Moss		Balsam Fir	Poplar		6	Moderate amount		S	A bit mixed, more of an A.	A20-13446	7
A685941	21-Oct-20	Line 1 North of Melema Lake	627385	5410311	419	586095	A	2	Low	Dry	Flat		Dark Brown	Leaf Litter			Balsam Fir	Poplar	Spruce	2	A lot		W	Loamy.	A20-13446	2.5
A685942	21-Oct-20	Line 2 North of Melema Lake	626906	5410871	415	586297	A	5	Low to moderate	Dry	Flat		Dark Brown	Leaf Litter	Grass		Poplar	Balsam Fir	Birch	3	A lot		SW		A20-13446	6
A685944	21-Oct-20	Line 2 North of Melema Lake	626921	5410855	421	586297	A	10	Low to moderate	Dry	Flat		Dark Brown				Birch	Poplar	Balsam Fir	5	Moderate amount		SSE		A20-13446	2.5
A685946	21-Oct-20	Line 2 North of Melema Lake	626941	5410839	427	586297	A	5	Low to moderate	Dry	Flat		Dark Brown	Leaf Litter	Firry shoots		Birch	Poplar	Balsam Fir	6	Moderate amount		S		A20-13446	2.5
A685948	22-Oct-20	Line 3 West of Alienation	628708	5411776	439	586095	A	1	Moderate	Dry	Slight rise to	W	Dark Brown	Leaf Litter			Balsam Fir	Poplar		4	Quite a bit		W		A20-13446	45
A685950	22-Oct-20	Line 3 West of Alienation	628700	5411805	438	586094	A	2 to 3	Moderate	Dry	Moderate rise to	SSE	Dark Brown	Leaf Litter	Moss		Balsam Fir	Birch		5	Moderate amount		SSE	A bit loamy.	A20-13446	43
A685952	22-Oct-20	Line 3 West of Alienation	628696	5411828	429	586094	A	10	Moderate	Dry	On moderate slope facing	NE	Dark Brown	Leaf Litter			Balsam Fir	Birch		2	A lot		S	Loamy.	A20-13446	31
A685954	22-Oct-20	Line 3 West of Alienation	628684	5411849	428	586094	A	5	Moderate	Dry	Moderate rise to	S	Dark Brown	Leaf Litter	Firry shoots	Moss	Balsam Fir	Birch		8	Some		SE		A20-13446	20
A685956	22-Oct-20	Line 3 West of Alienation	628686	5411875	424	586094	A	5	Moderate	Dry	On moderate slope facing	NNE	Dark Brown	Moss	Leaf Litter		Cedar	Balsam Fir		3	Quite a bit		SW	Roots/vegetation in soil.	A20-13446	10
A685958	22-Oct-20	Line 3 West of Alienation	628689	5411897	426	586094	A	10	Low	Dry	Flat		Dark Brown	Leaf Litter			Cedar	Spruce		8	Some		S		A20-13446	18
A685960	22-Oct-20	Line 3 West of Alienation	628678	5411915	419	586094	A	10	Low to moderate	Dry	Slight rise to	E	Dark Brown	Leaf Litter			Cedar	Spruce	Balsam Fir	5	Moderate amount		NE		A20-13446	13
A685962	22-Oct-20	Line 3 West of Alienation	628665	5411936	418	586094	A	10	Low to moderate	Dry	Gently Rolling		Dark Brown	Leaf Litter			Spruce			8	Some		S	Boulders below.	A20-13446	11
A685963	22-Oct-20	Line 3 West of Alienation	628662	5411970	420	586094	A	15	Low to moderate	Dry	Gently Rolling		Dark Brown	Leaf Litter	Moss		Spruce	Cedar	Birch	7	Some		NE	Gravelly beneath.	A20-13446	18
A685964	22-Oct-20	Line 3 West of Alienation	628667	5411981	436	586094	A	5	Low to moderate	Dry	Gently Rolling		Dark Brown	Leaf Litter	Moss		Spruce	Cedar	Birch	2	A lot		SE		A20-13446	41
A685966	23-Oct-20	Line 2 North of Melema Lake	626996	5410808	427	586095	A	2	Low to moderate	Dry	Gently Rolling		Dark Brown	Leaf Litter			Poplar	Birch		2	A lot		E	Disturbed ground.	A20-13446	9
A685967	23-Oct-20	Line 2 North of Melema Lake	627011	5410795	430	586095	A	5	Low to moderate	Dry	Slight rise to	S	Dark Brown	Leaf Litter	Firry shoots		Poplar	Balsam Fir	Birch	6	Moderate amount		E		A20-13446	17
A685969	23-Oct-20	Line 2 North of Melema Lake	627034	5410779	436	586095	A	3	Moderate	Dry	Slight rise to	NE	Dark Brown	Leaf Litter			Balsam Fir	Poplar	Birch	3	Quite a bit		E	A bit loamy.	A20-13446	8
A685971	23-Oct-20	Line 2 North of Melema Lake	627054	5410760	435	586095	A	5	Moderate	Dry	On shallow slope facing	SSE	Dark Brown	Leaf Litter			Balsam Fir	Poplar	Birch	5	Moderate amount		N		A20-13446	7
A685973	23-Oct-20	Line 2 North of Melema Lake	627076	5410748	427	586095	A	10	Low to moderate	Dry	Flat		Dark Brown	Leaf Litter	Grass		Balsam Fir	Birch	Spruce	4	Quite a bit		NW		A20-13446	7



A685975	23-Oct-20	Line 2 North of Melema Lake	627087	5410733	429	586095	A	5	Low	Dry	Flat		Dark Brown	Leaf Litter	Moss		Balsam Fir	Birch		6	Moderate amount		WNW	No B, mixed material below A.	A20-13446	2.5
A685976	23-Oct-20	Line 2 North of Melema Lake	627119	5410709	419	586095	A	15	Low	Wet	Flat		Dark Brown	Grass	Moss		Alder	Poplar		10	Not much		E		A20-13446	2.5
A685977	23-Oct-20	Line 2 North of Melema Lake	627140	5410696	417	586095	A	10	Low	Wet	Flat		Dark Brown	Grass			Poplar	Alder		10	Not much		NW		A20-13446	2.5
A685978	23-Oct-20	Line 2 North of Melema Lake	627163	5410685	414	586095	A	15	Low	Wet	Flat		Dark Brown	Labrador Tea	Grass		Alder			10	Not much		WNW		A20-13446	2.5
A685979	23-Oct-20	Line 2 North of Melema Lake	627185	5410661	417	586095	A	15	Low	Wet	Flat		Dark Brown	Grass	Labrador Tea					8	Some		NE		A20-13446	2.5
A685980	23-Oct-20	Line 2 North of Melema Lake	627199	5410646	412	586095	A	10	Low	Wet	Flat		Dark Brown	Grass	Labrador Tea					10	Not much		N		A20-13446	5
A685981	23-Oct-20	Line 2 North of Melema Lake	627225	5410631	414	586095	A	10	Low	Damp	Flat		Dark Brown	Labrador Tea			Alder			9	Some		NNE		A20-13446	2.5
A685982	23-Oct-20	Line 2 North of Melema Lake	627242	5410614	419	586095	A	10	Low	Dry	Flat		Dark Brown	Leaf Litter	Firry shoots		Balsam Fir	Birch		4	Not much		SW		A20-13446	2.5
A685983	23-Oct-20	Line 2 North of Melema Lake	627261	5410591	418	586095	A	5	Low to moderate	Dry	Outcrop to NE		Dark Brown	Leaf Litter	Moss		Alder	Balsam Fir		6	Moderate amount		SE		A20-13446	2.5
A685985	23-Oct-20	Line 2 North of Melema Lake	627281	5410574	429	586095	A	10	Moderate	Dry	On moderate slope facing	NNW	Dark Brown	Leaf Litter	Firry shoots		Balsam Fir	Poplar		8	Some		SSE	On bedrock.	A20-13446	2.5
A685986	23-Oct-20	Line 2 North of Melema Lake	627303	5410559	431	586095	A	5	Moderate	Dry	Slight rise to	ESE	Dark Brown	Leaf Litter	Moss		Alder	Balsam Fir	Spruce	9	Not much		SSW		A20-13446	2.5
A685988	23-Oct-20	Line 2 North of Melema Lake	627325	5410547	423	586095	A	5	Moderate	Dry	Moderate rise to	SSE	Dark Brown	Leaf Litter	Moss		Balsam Fir	Birch		7	Some		SSE		A20-13446	2.5
A685994	23-Oct-20	Line 2 North of Melema Lake	627415	5410455	437	586095	A	2 to 3	Moderate	Dry	On shallow to moderate slope facing	SE	Dark Brown	Leaf Litter	Moss	Grass	Balsam Fir	Birch	Spruce	4	Quite a bit		N	Some outcrop nearby.	A20-13446	2.5
A685997	23-Oct-20	Line 2 North of Melema Lake	627459	5410423	427	586095	A	2 to 3	Low to moderate	Dry	Slight rise to	S	Dark Brown	Leaf Litter	Moss		Alder	Poplar	Balsam	3	Quite a bit		NW		A20-13446	2.5
A685999	23-Oct-20	Line 2 North of Melema Lake	627482	5410408	423	586095	A	3	Moderate	Dry	On shallow slope facing	NE	Dark Brown	Leaf Litter	Moss		Alder	Birch	Balsam	6	Moderate amount		SSW		A20-13446	5
A371202	23-Oct-20	Line 2 North of Melema Lake	627513	5410373	414	586095	A	15	Low to moderate	Dry	Gently Rolling		Dark Brown	Labrador Tea	Grass		Alder			5	Moderate amount		S	Used to be submerged, Melema Lake. Numerous boulders around.	A20-13446	2.5
A371203	24-Oct-20	Line 4 Northeast Claims	630678	5413855	433	586094	A	2	High	Dry	Gently Rolling		Dark Brown	Leaf Litter	Moss		Balsam Fir	Spruce		4	Quite a bit		NW	On bedrock.	A20-13446	14
A371205	24-Oct-20	Line 4 Northeast Claims	630633	5413871	429	586094	A	3	Moderate	Dry	Steep rise to	E	Dark Brown	Leaf Litter			Balsam Fir	Birch	Spruce	5	Moderate amount		N	Some foliated angular mafic rock in hole.	A20-13446	28
A371208	24-Oct-20	Line 4 Northeast Claims	630565	5413934	424	586094	A	15	Low	Damp	Hummocky		Dark Brown	Grass	Labrador Tea					8	Some		N		A20-13446	5
A371209	24-Oct-20	Line 4 Northeast Claims	630517	5413969	430	586094	A	15	Low	Wet	Hummocky		Dark Brown	Grass	Leaf Litter					3	Quite a bit		W	A bit of clay mixed in.	A20-13446	2.5
A371211	24-Oct-20	Line 5 Northeast Claims	630437	5413868	425	586094	A	10	Moderate to high	Dry	Gently Rolling		Dark Brown	Leaf Litter	Moss		Balsam Fir	Birch	Spruce	5	Moderate amount		W		A20-13446	5
A371213	24-Oct-20	Line 5 Northeast Claims	630453	5413853	425	586094	A	2	Moderate to high	Dry	Moderate rise to	N	Dark Brown	Labrador Tea	Moss	Grass	Spruce	Birch	Balsam Fir	2	A lot		NW	Outcrop on rise to N.	A20-13446	2.5
A371215	24-Oct-20	Line 5 Northeast Claims	630545	5413769	420	586094	A	10	Low	Wet	Flat		Dark Brown	Leaf Litter			Cedar	Balsam Fir	Birch	10	Not much		NW		A20-13446	2.5
A371216	24-Oct-20	Line 1 North of Melema Lake	627056	5410542	424	586095	A	15	Low	Damp	Hummocky		Dark Brown	Grass	Reeds					5	Moderate amount		ESE	Wood-rich.	A20-13446	2.5
A371217	24-Oct-20	Line 5 Northeast Claims	630570	5413740	426	586094	A	5	Moderate	Dry	Slight rise to	SE	Dark Brown	Leaf Litter	Firry shoots		Cedar	Spruce	Balsam Fir	4	Quite a bit		NE		A20-13446	5
A371219	24-Oct-20	Line 5 Northeast Claims	630591	5413723	428	586094	A	5	Low to moderate	Dry	Moderate rise to	W	Dark Brown	Leaf Litter	Firry shoots		Cedar	Balsam Fir		6	Moderate amount		W	Outcrop on rise to W.	A20-13446	2.5
A371222	24-Oct-20	Line 3 West of Alienation	628666	5412036	429	586094	A	10	Moderate	Dry	Gently Rolling		Dark Brown	Leaf Litter	Moss		Balsam Fir	Poplar	Birch	3	Quite a bit		E		A20-13446	2.5
A371224	25-Oct-20	Line 6 South of Melema Lake	627715	5410196	442	586095	A	2	Moderate	Dry	On shallow slope facing	ENE	Dark Brown	Leaf Litter	Moss		Poplar	Balsam Fir		3	Quite a bit		SW		A20-13446	2.5
A371226	25-Oct-20	Line 6 South of Melema Lake	627737	5410182	439	586095	A	5	Moderate	Dry	Slight rise to	W	Dark Brown	Leaf Litter	Moss		Balsam Fir	Poplar	Birch	4	Quite a bit		SW		A20-13446	5
A371228	25-Oct-20	Line 6 South of Melema Lake	627755	5410167	436	586095	A	5	Moderate	Dry	Slight rise to	SW	Dark Brown	Leaf Litter	Moss		Balsam Fir	Poplar		4	Quite a bit		N		A20-13446	2.5
A371230	25-Oct-20	Line 6 South of Melema Lake	627773	5410153	435	586095	A	2	Moderate	Dry	Slight rise to	SSW	Dark Brown	Leaf Litter	Moss		Balsam Fir	Birch		3	Quite a bit		N		A20-13446	6
A371234	25-Oct-20	Line 6 South of Melema Lake	627825	5410106	430	586095	A	10	Moderate	Dry	On moderate slope facing	NNE	Dark Brown	Leaf Litter	Moss		Balsam Fir	Birch	Spruce	6	Moderate amount		SSW		A20-13446	2.5
A371236	25-Oct-20	Line 6 South of Melema Lake	627842	5410089	433	586095	A	3	Moderate to high	Dry	On moderate slope facing	NE	Dark Brown	Moss	Leaf Litter		Balsam Fir	Poplar		6	Moderate amount		WSW	Bedrock not far down, no B.	A20-13446	8
A371237	25-Oct-20	Line 6 South of Melema Lake	627857	5410062	433	586095	A	10	Moderate	Dry	On moderate slope facing	ENE	Dark Brown	Leaf Litter	Moss		Balsam Fir	Poplar	Birch	6	Moderate amount		NW	Bedrock not far down, no B.	A20-13446	5
A371238	25-Oct-20	Line 7 South of Melema Lake	627790	5409996	439	586095	A	3	Moderate	Dry	On shallow slope facing	NE	Dark Brown	Leaf Litter	Firry shoots		Balsam Fir	Poplar	Birch	4	Quite a bit		NW		A20-13446	5
A371242	25-Oct-20	Line 7 South of Melema Lake	627747	5410042	437	586095	A	5	Moderate	Dry	Gently Rolling		Dark Brown	Leaf Litter	Firry shoots		Balsam Fir	Poplar		3	Quite a bit		SE		A20-13446	2.5
A371244	25-Oct-20	Line 7 South of Melema Lake	627726	5410056	435	586095	A	5	Moderate	Dry	Slight rise to	SE	Dark Brown	Leaf Litter	Firry shoots		Poplar	Balsam Fir		6	Moderate amount		SE	Clay/gravel beneath the A, no B.	A20-13446	2.5
A371245	25-Oct-20	Line 7 South of Melema Lake	627701	5410071	434	586095	A	5	Moderate	Dry	Slight rise to	SE	Dark Brown	Leaf Litter			Balsam Fir	Poplar		4	Quite a bit		E		A20-13446	2.5
A371247	25-Oct-20	Line 7 South of Melema Lake	627682	5410084	435	586095	A	2	Moderate	Dry	Slight rise to	NW	Dark Brown	Leaf Litter	Firry shoots		Balsam Fir	Poplar		5	Moderate amount		NW		A20-13446	2.5
A685901	20-Oct-20	Line 1 North of Melema Lake	626798	5410722	435	586095	B	10	Moderate	Dry	Gently Rolling		Rusty Brown	Leaf Litter			Spruce	Birch		10			W		A20-13451	2.5
A685903	20-Oct-20	Line 1 North of Melema Lake	626825	5410705	435	586095	B	15	Moderate	Dry	On shallow slope facing	ENE	Medium Brown	Leaf Litter	Grass		Spruce	Birch	Balsam Fir	9			WSW		A20-13451	2.5
A685905	20-Oct-20	Line 1 North of Melema Lake	626846	5410692	435	586095	B	10	Moderate	Dry	On shallow slope facing	E	Brown	Leaf Litter	Moss		Spruce	Birch		9			SW		A20-13451	2.5

A685907	20-Oct-20	Line 1 North of Melema Lake	626867	5410678	429	586095	B	10	Moderate	Dry	On shallow slope facing	S	Brown	Leaf Litter			Spruce	Birch		8			W	A bit sandy.	A20-13451	2.5
A685909	20-Oct-20	Line 1 North of Melema Lake	626888	5410664	428	586095	B	10	Moderate	Dry	Gently Rolling		Medium Brown	Leaf Litter	Ferns	Grass				9			N		A20-13451	2.5
A685912	20-Oct-20	Line 1 North of Melema Lake	626912	5410648	428	586095	B		Moderate	Dry	On shallow slope facing		Brown, a little rusty	Leaf Litter	Grass		Spruce	Birch	Balsam Fir	10			E		A20-13451	2.5
A685915	20-Oct-20	Line 1 North of Melema Lake	626956	5410617	419	586095	B	10	Low to moderate	Dry	Flat		Medium to Rusty Brown	Leaf Litter			Poplar	Balsam Fir	Birch	9			SW		A20-13451	2.5
A685917	20-Oct-20	Line 1 North of Melema Lake	626978	5410598	410	586095	B	15	Low to moderate	Dry	Flat		Rusty Brown	Leaf Litter			Birch	Balsam Fir	Poplar	9			N		A20-13451	2.5
A685919	20-Oct-20	Line 1 North of Melema Lake	626998	5410584	418	586095	B	20	Low	Dry	Flat		Medium Brown	Leaf Litter			Balsam Fir	Poplar	Birch	8			N		A20-13451	2.5
A685922	21-Oct-20	Line 1 North of Melema Lake	627104	5410499	427	586095	B	15	Moderate	Dry	Moderate rise to	NE	Medium Brown	Leaf Litter			Balsam Fir	Poplar	Spruce	9			N		A20-13451	2.5
A685923	21-Oct-20	Line 1 North of Melema Lake	627128	5410484	425	586095	B	5	Moderate	Dry	Slight rise to	SE	Light Brown	Leaf Litter			Balsam Fir	Poplar	Spruce	7			ESE	Sandy.	A20-13451	2.5
A685926	21-Oct-20	Line 1 North of Melema Lake	627146	5410468		586095	B	10	Moderate	Dry	Moderate slope facing	W	Brown	Leaf Litter	Moss		Alder	Poplar	Balsam Fir	9			SE		A20-13451	2.5
A685928	21-Oct-20	Line 1 North of Melema Lake	627161	5410454	432	586095	B	10	Moderate	Dry	Moderate rise to	SSE	Medium Brown	Leaf Litter			Birch	Balsam Fir	Poplar	9			E		A20-13451	2.5
A685930	21-Oct-20	Line 1 North of Melema Lake	627182	5410434	430	586095	B	15	Moderate	Dry	On shallow slope facing	NW	Dark Brown	Leaf Litter	Moss		Spruce	Balsam Fir	Birch	8			E		A20-13451	2.5
A685932	21-Oct-20	Line 1 North of Melema Lake	627202	5410414	440	586095	B	5	Moderate	Dry	Slight rise to	NE	Medium Brown	Leaf Litter			Balsam Fir	Birch	Spruce	9			NNW		A20-13451	2.5
A685934	21-Oct-20	Line 1 North of Melema Lake	627244	5410391	430	586095	B	10	ow to modera	Dry	Slight rise to	NE	Dark Brown	Leaf Litter			Birch	Poplar	Spruce	8			NE	Boulders below.	A20-13451	2.5
A685936	21-Oct-20	Line 1 North of Melema Lake	627267	5410373	427	586095	B	10	Moderate	Dry	On shallow slope facing	SW	Dark Brown	Leaf Litter			Poplar	Birch	Balsam Fir	9			NW		A20-13451	2.5
A685937	21-Oct-20	Line 1 North of Melema Lake	627286	5410357	432	586095	B	10	Moderate	Dry	Moderate rise to	NNE	Rusty Brown	Leaf Litter			Balsam Fir	Poplar		9			NNE		A20-13451	2.5
A685943	21-Oct-20	Line 2 North of Melema Lake	626906	5410871	415	586297	B	10	ow to modera	Dry	Flat		Tan-Brown	Leaf Litter	Grass		Poplar	Balsam Fir	Birch	5			SW	Clay-rich.	A20-13451	2.5
A685945	21-Oct-20	Line 2 North of Melema Lake	626921	5410855	421	586297	B	15	ow to modera	Dry	Flat		Rusty Brown				Birch	Poplar	Balsam Fir	8			SSE		A20-13451	2.5
A685947	21-Oct-20	Line 2 North of Melema Lake	626941	5410839	427	586297	B	15	ow to modera	Dry	Flat		Rusty Brown	Leaf Litter	Firry shoots		Birch	Poplar	Balsam Fir	8			S		A20-13451	2.5
A685949	22-Oct-20	Line 3 West of Alienation	628708	5411776	439	586095	B	5	Moderate	Dry	Slight rise to	W	Rusty Brown	Leaf Litter			Balsam Fir	Poplar		9			W	Some rock chips in hole.	A20-13451	2.5
A685951	22-Oct-20	Line 3 West of Alienation	628700	5411805	438	586094	B	5	Moderate	Dry	Moderate rise to	SSE	Very rusty brown	Leaf Litter	Moss		Balsam Fir	Birch		10			SSE		A20-13451	2.5
A685953	22-Oct-20	Line 3 West of Alienation	628696	5411828	429	586094	B	15	Moderate	Dry	On moderate slope facing	NE	Medium Brown	Leaf Litter			Balsam Fir	Birch		8			S		A20-13451	11
A685955	22-Oct-20	Line 3 West of Alienation	628684	5411849	428	586094	B	15	Moderate	Dry	Moderate rise to	S	Rusty Brown	Leaf Litter	Firry shoots	Moss	Balsam Fir	Birch		9			SE		A20-13451	2.5
A685957	22-Oct-20	Line 3 West of Alienation	628686	5411875	424	586094	B	15	Moderate	Dry	On moderate slope facing	NNE	Rusty Brown	Moss	Leaf Litter		Cedar	Balsam Fir		8			SW		A20-13451	7
A685959	22-Oct-20	Line 3 West of Alienation	628689	5411897	426	586094	B	20	Low	Dry	Flat		Rusty Brown	Leaf Litter			Cedar	Spruce		8			S		A20-13451	2.5
A685961	22-Oct-20	Line 3 West of Alienation	628678	5411915	419	586094	B	15	ow to modera	Dry	Slight rise to	E	Rusty Brown	Leaf Litter			Cedar	Spruce	Balsam Fir	9			NE	A bit sandy.	A20-13451	2.5
A685965	22-Oct-20	Line 3 West of Alienation	628667	5411981	436	586094	B	15	ow to modera	Dry	Gently Rolling		Medium Brown	Leaf Litter	Moss		Spruce	Cedar	Birch	6			SE		A20-13451	2.5
A685968	23-Oct-20	Line 2 North of Melema Lake	627011	5410795	430	586095	B	15	ow to modera	Dry	Slight rise to	S	Rusty Brown	Leaf Litter	Firry shoots		Poplar	Balsam Fir	Birch	8			E		A20-13451	2.5
A685970	23-Oct-20	Line 2 North of Melema Lake	627034	5410779	436	586095	B	10	Moderate	Dry	Slight rise to	NE	Medium Brown	Leaf Litter			Balsam Fir	Poplar	Birch	8			E		A20-13451	2.5
A685972	23-Oct-20	Line 2 North of Melema Lake	627054	5410760	435	586095	B	10	Moderate	Dry	On shallow slope facing	SSE	Rusty Brown	Leaf Litter			Balsam Fir	Poplar	Birch	9			N		A20-13451	2.5
A685974	23-Oct-20	Line 2 North of Melema Lake	627076	5410748	427	586095	B	15	ow to modera	Dry	Flat		Medium brown to grey	Leaf Litter	Grass		Balsam Fir	Birch	Spruce	6			NW	Clay-rich.	A20-13451	2.5
A685984	23-Oct-20	Line 2 North of Melema Lake	627261	5410591	418	586095	B	10	ow to modera	Dry	Outcrop to NE		Rusty Brown	Leaf Litter	Moss		Alder	Balsam Fir		9			SE		A20-13451	2.5
A685987	23-Oct-20	Line 2 North of Melema Lake	627303	5410559	431	586095	B	10	Moderate	Dry	Slight rise to	ESE	Light Brown	Leaf Litter	Moss		Alder	Balsam Fir	Spruce	7			SSW		A20-13451	2.5
A685989	23-Oct-20	Line 2 North of Melema Lake	627325	5410547	423	586095	B	10	Moderate	Dry	Moderate rise to	SSE	Rusty Brown	Leaf Litter	Moss		Balsam Fir	Birch		9			SSE		A20-13451	2.5
A685990	23-Oct-20	Line 2 North of Melema Lake	627335	5410516	437	586095	B	1 to 2	Moderate	Dry	Moderate rise to	SSE	Rusty Brown	Leaf Litter	Moss		Alder	Balsam Fir	Birch	9			SW	A bit sandy.	A20-13451	2.5
A685991	23-Oct-20	Line 2 North of Melema Lake	627351	5410496	435	586095	B	1 to 2	Moderate	Dry	Slight rise to	W	Rusty Brown	Leaf Litter	Moss		Balsam Fir	Poplar	Birch	10			SW	Outcrop to W.	A20-13451	2.5
A685992	23-Oct-20	Line 2 North of Melema Lake	627377	5410487	438	586095	B	1 to 2	Moderate	Dry	Rolling		Rusty Brown	Leaf Litter	Moss		Birch	Balsam Fir	Poplar	10			SE		A20-13451	2.5
A685993	23-Oct-20	Line 2 North of Melema Lake	627400	5410476	440	586095	B	15	Moderate	Dry	Slight rise to	W	Light Brown	Leaf Litter	Grass		Birch	Spruce	Poplar	6			SW	Below 'mixed' layer of roots and B Horizon.	A20-13451	2.5
A685995	23-Oct-20	Line 2 North of Melema Lake	627415	5410455	437	586095	B	15	Moderate	Dry	On shallow to moderate slope facing	SE	Rusty Brown	Leaf Litter	Moss	Grass	Balsam Fir	Birch	Spruce	9			N		A20-13451	11
A685996	23-Oct-20	Line 2 North of Melema Lake	627441	5410440	426	586095	B	10	ow to modera	Dry	Flat		Rusty Brown	Leaf Litter	Moss		Balsam Fir	Poplar	Birch	10			SW		A20-13451	2.5
A685998	23-Oct-20	Line 2 North of Melema Lake	627459	5410423	427	586095	B	15	ow to modera	Dry	Slight rise to	S	Rusty Brown	Leaf Litter	Moss		Alder	Poplar	Balsam Fir	9			NW		A20-13451	2.5

A686000	23-Oct-20	Line 2 North of Melema Lake	627482	5410408	423	586095	B	10	Moderate	Dry	On shallow slope facing	NE	Quite rusty brown	Leaf Litter	Moss		Alder	Birch	Balsam Fir	9			SSW		A20-13451	5
A371201	23-Oct-20	Line 2 North of Melema Lake	627493	5410388	421	586095	B	10	Moderate	Dry	On shallow slope facing	E	Dark Brown	Leaf Litter	Moss		Alder	Birch	Balsam Fir	8		Some	WNW	Some rock fragments in soil.	A20-13451	2.5
A371204	24-Oct-20	Line 4 Northeast Claims	630678	5413855	433	586094	B	5	High	Dry	Gently Rolling		Rusty Brown	Leaf Litter	Moss		Balsam Fir	Spruce		8			NW		A20-13451	33
A371206	24-Oct-20	Line 4 Northeast Claims	630633	5413871	429	586094	B	15	Moderate	Dry	Steep rise to	E	Dark Brown	Leaf Litter			Balsam Fir	Birch	Spruce	8			N	A little disturbed, next to pipeline.	A20-13451	6
A371207	24-Oct-20	Line 4 Northeast Claims	630581	5413920	435	586094	B	10	Moderate	Dry	On moderate slope facing	WSW	Dark Brown	Leaf Litter			Birch	Poplar	Balsam Fir	8			E	Near pile of disturbed rubble from old road.	A20-13451	62
A371210	24-Oct-20	Line 4 Northeast Claims	630497	5413987	424	586094	B	15	Low	Damp	Hummocky		Tan	Grass			Alder	Spruce	Birch	4			W	Sandy, a few meters south of low east-west ridge which appears to be an esker.	A20-13451	2.5
A371212	24-Oct-20	Line 5 Northeast Claims	630437	5413868	425	586094	B	15	Moderate to high	Dry	Gently Rolling		Rusty Brown	Leaf Litter	Moss		Balsam Fir	Birch	Spruce	8			W		A20-13451	2.5
A371214	24-Oct-20	Line 5 Northeast Claims	630453	5413853	425	586094	B	15	Moderate to high	Dry	Moderate rise to	N	Rusty Brown	Labrador Tea	Moss	Grass	Spruce	Birch	Balsam Fir	9			NW		A20-13451	2.5
A371218	24-Oct-20	Line 5 Northeast Claims	630570	5413740	426	586094	B	15	Moderate	Dry	Slight rise to	SE	Tan	Leaf Litter	Firry shoots		Cedar	Spruce	Balsam Fir	8			NE		A20-13451	2.5
A371220	24-Oct-20	Line 5 Northeast Claims	630591	5413723	428	586094	B	10	Low to moderate	Dry	Moderate rise to	W	Rusty Brown	Leaf Litter	Firry shoots		Cedar	Balsam Fir		9			W		A20-13451	14
A371221	24-Oct-20	Line 3 West of Alienation	628666	5412014	428	586094	B	10	Moderate	Dry	Rolling		Medium Brown	Leaf Litter			Balsam Fir	Spruce	Poplar	7			NE		A20-13451	2.5
A371223	24-Oct-20	Line 3 West of Alienation	628666	5412036	429	586094	B	15	Moderate	Dry	Gently Rolling		Medium Brown	Leaf Litter	Moss		Balsam Fir	Poplar	Birch	8			E		A20-13451	2.5
A371225	25-Oct-20	Line 6 South of Melema Lake	627715	5410196	442	586095	B	10	Moderate	Dry	On shallow slope facing	ENE	Medium Brown	Leaf Litter	Moss		Poplar	Balsam Fir		8			SW		A20-13451	2.5
A371227	25-Oct-20	Line 6 South of Melema Lake	627737	5410182	439	586095	B	15	Moderate	Dry	Slight rise to	W	Rusty Brown	Leaf Litter	Moss		Balsam Fir	Poplar	Birch	9			SW		A20-13451	2.5
A371229	25-Oct-20	Line 6 South of Melema Lake	627755	5410167	436	586095	B	10	Moderate	Dry	Slight rise to	SW	Medium Brown	Leaf Litter	Moss		Balsam Fir	Poplar		8			N		A20-13451	5
A371231	25-Oct-20	Line 6 South of Melema Lake	627773	5410153	435	586095	B	10	Moderate	Dry	Slight rise to	SSW	Rusty Brown	Leaf Litter	Moss		Balsam Fir	Birch		9			N		A20-13451	2.5
A371232	25-Oct-20	Line 6 South of Melema Lake	627790	5410137	433	586095	B	10	Moderate	Dry	Slight rise to	SSW	Rusty Brown	Moss	Leaf Litter		Balsam Fir	Poplar		10			WSW		A20-13451	2.5
A371233	25-Oct-20	Line 6 South of Melema Lake	627807	5410122	433	586095	B	10	Moderate	Dry	Moderate rise to	SW	Rusty Brown	Moss	Leaf Litter		Balsam Fir	Birch	Poplar	9			SW		A20-13451	2.5
A371235	25-Oct-20	Line 6 South of Melema Lake	627825	5410106	430	586095	B	15	Moderate	Dry	On moderate slope facing	NNE	Rusty Brown	Leaf Litter	Moss		Balsam Fir	Birch	Spruce	10			SSW		A20-13451	2.5
A371239	25-Oct-20	Line 7 South of Melema Lake	627790	5409996	439	586095	B	10	Moderate	Dry	On shallow slope facing	NE	Medium Brown	Leaf Litter	Firry shoots		Balsam Fir	Poplar	Birch	8			NW		A20-13451	7
A371240	25-Oct-20	Line 7 South of Melema Lake	627777	5410009	436	586095	B	5	Moderate	Dry	On moderate slope facing	E	Very rusty brown	Leaf Litter	Firry shoots		Balsam Fir	Birch	Poplar	10			W		A20-13451	2.5
A371241	25-Oct-20	Line 7 South of Melema Lake	627761	5410028	437	586095	B	10	Moderate	Dry	Gently Rolling		Rusty Brown	Leaf Litter	Moss		Balsam Fir	Poplar	Birch	9			N		A20-13451	2.5
A371243	25-Oct-20	Line 7 South of Melema Lake	627747	5410042	437	586095	B	10	Moderate	Dry	Gently Rolling		Dark Brown	Leaf Litter	Firry shoots		Balsam Fir	Poplar		10			SE		A20-13451	2.5
A371246	25-Oct-20	Line 7 South of Melema Lake	627701	5410071	434	586095	B	10	Moderate	Dry	Slight rise to	SE	Dark Brown	Leaf Litter			Balsam Fir	Poplar		8			E		A20-13451	2.5
A371248	25-Oct-20	Line 7 South of Melema Lake	627682	5410084	435	586095	B	10	Moderate	Dry	Slight rise to	NW	Dark Brown	Leaf Litter	Firry shoots		Balsam Fir	Poplar		10			NW		A20-13451	2.5
A371249	25-Oct-20	Line 7 South of Melema Lake	627665	5410100	435	586095	B	10	Moderate	Dry	Slight rise to	NNW	Quite rusty brown	Leaf Litter	Moss		Balsam Fir	Poplar		10			WNW		A20-13451	2.5
A371250	25-Oct-20	Line 7 South of Melema Lake	627650	5410119	433	586095	B	10	Moderate	Dry	Slight rise to	SE	Rusty Brown	Leaf Litter	Moss		Poplar			9			SE		A20-13451	2.5

## **APPENDIX IV**

### **Soil Assay Certificates (Act Labs)**



Report No.: A20-13451

Report Date: 31-Dec-20

Date Submitted: 27-Oct-20

Your Reference: MEL

Portofino Resources
Suite 520-470 Granville St
Vancouver BC V6C1V5
Canada

ATTN: David Tafel

CERTIFICATE OF ANALYSIS

70 Soil samples were submitted for analysis.

Table with 2 columns: Analytical package requested and Testing Date. Row 1: UT-6M, QOP Total/QOP Ultratrace- 4acid Digest (Total Digestion ICPOES/ICPMS), 2020-11-24 13:04:41

REPORT A20-13451

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

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

Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:

Handwritten signature of Elitsa Hrischeva

Elitsa Hrischeva, Ph.D.
Quality Control Coordinator

ACTIVATION LABORATORIES LTD.
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Report No.: A20-13451  
Report Date: 31-Dec-20  
Date Submitted: 27-Oct-20  
Your Reference: MEL

Portofino Resources  
Suite 520-470 Granville St  
Vancouver BC V6C1V5  
Canada

ATTN: David Tafel

CERTIFICATE OF ANALYSIS

70 Soil samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
1A2-50-Tbay	QOP AA-Au (Au - Fire Assay AA)	

REPORT A20-13451

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

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

Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:



Elitsa Hrischeva, Ph.D.  
Quality Control Coordinator

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## Results

## Activation Laboratories Ltd.

## Report: A20-13451

Analyte Symbol	Cu	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Fe	Ga	Ge	Hf	In	K	La	Li	Mg	Mn
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	0.2	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01	5
Method Code	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP
A685901	7.8	0.07	7.09	1.5	460	1.34	0.08	2.37	0.07	40.9	10.8	52	0.80	3.03	16.1	< 0.05	5.1	0.034	1.44	12.7	10.8	0.90	459
A685903	8.5	0.06	6.80	3.1	450	1.08	0.12	2.19	0.06	27.6	10.3	63	1.14	3.16	16.0	< 0.05	4.5	0.036	1.31	11.3	13.7	0.86	438
A685905	7.3	0.08	6.53	0.7	460	1.00	0.11	1.91	0.04	22.8	8.8	55	1.03	2.78	16.1	< 0.05	4.3	0.032	1.35	11.2	14.0	0.72	439
A685907	3.1	0.07	6.22	1.4	510	0.91	0.08	1.98	0.08	17.8	6.9	42	0.83	1.92	15.4	0.05	2.9	0.025	1.55	8.0	8.3	0.56	778
A685909	2.7	0.07	6.04	0.4	470	0.81	0.09	1.73	0.05	18.3	5.2	47	0.92	2.00	16.0	0.05	3.6	0.018	1.46	8.7	8.9	0.52	287
A685912	6.5	0.15	6.36	0.8	460	0.89	0.13	1.81	0.04	28.4	10.0	50	1.20	2.86	18.2	0.08	1.7	0.030	1.35	13.7	15.1	0.76	372
A685915	8.4	0.05	6.32	0.9	490	0.84	0.09	1.80	0.06	18.7	7.4	42	1.32	2.47	16.5	0.10	2.9	0.025	1.45	9.0	13.0	0.64	404
A685917	9.5	0.05	6.27	< 0.2	440	0.96	0.08	1.97	0.03	19.8	7.0	40	1.00	2.02	16.6	0.06	2.8	0.026	1.43	9.2	9.0	0.63	320
A685919	41.4	0.04	6.22	< 0.2	440	0.80	0.07	2.03	0.06	19.5	7.4	40	0.88	1.84	16.5	0.08	2.3	0.021	1.36	9.2	8.2	0.69	312
A685922	12.4	0.04	6.92	0.4	440	1.05	0.06	2.39	< 0.02	31.0	10.0	47	0.70	2.71	15.3	0.07	3.6	0.028	1.46	11.4	8.9	0.91	414
A685923	7.3	0.03	6.65	0.4	400	1.12	0.05	2.80	0.07	40.1	12.0	62	0.43	3.34	15.7	< 0.05	5.0	0.033	1.42	18.7	6.5	1.03	546
A685926	19.9	0.25	7.10	5.0	430	0.98	0.12	1.85	0.10	30.7	12.5	64	1.59	3.68	18.0	< 0.05	3.8	0.036	1.33	14.9	23.7	0.99	491
A685928	8.9	0.05	6.96	1.7	470	0.85	0.13	1.91	0.03	28.8	9.4	53	1.14	3.17	17.3	0.07	3.8	0.039	1.37	13.9	16.2	0.82	376
A685930	9.9	0.07	6.27	0.5	450	0.88	0.15	1.77	0.08	26.5	7.2	45	0.99	2.69	18.8	0.08	0.4	0.034	1.37	12.8	12.4	0.69	348
A685932	9.9	0.06	7.15	1.4	450	1.11	0.12	1.97	0.05	30.3	12.8	58	1.46	3.83	17.0	0.11	1.3	0.037	1.29	14.3	17.6	0.94	431
A685934	9.2	0.08	6.24	0.9	490	0.91	0.12	1.89	0.09	29.4	8.8	45	1.24	2.39	15.7	0.08	0.9	0.035	1.35	15.6	11.6	0.70	461
A685936	17.2	0.17	6.06	0.5	480	0.94	0.21	1.57	0.09	34.5	6.2	53	1.74	2.63	19.9	0.10	2.9	0.037	1.31	16.9	16.7	0.63	369
A685937	10.9	0.07	7.20	1.4	510	1.31	0.12	1.92	0.07	35.3	14.1	53	1.33	3.49	16.4	0.11	3.4	0.038	1.35	14.4	17.5	0.88	521
A685943	11.6	0.12	7.23	2.5	500	0.96	0.13	2.40	0.07	26.2	10.3	52	0.83	2.69	16.3	0.30	3.6	0.024	1.40	13.5	11.6	1.00	470
A685945	4.6	0.11	6.76	< 0.2	480	1.00	0.07	2.16	0.03	20.1	7.9	46	0.88	2.06	14.9	< 0.05	2.4	0.027	1.48	9.7	9.3	0.76	323
A685947	5.7	0.09	6.68	< 0.2	490	0.98	0.10	1.90	0.03	20.7	7.5	44	1.16	2.12	16.6	0.08	1.3	0.022	1.43	10.2	11.5	0.72	299
A685949	9.7	0.07	6.90	2.8	440	0.97	0.13	2.13	0.06	35.2	11.5	57	1.08	3.84	16.9	0.13	1.2	0.033	1.30	14.7	15.1	0.95	498
A685951	54.2	0.08	6.32	1.8	450	0.95	0.12	1.84	0.09	26.6	8.9	58	1.19	3.99	17.8	0.07	0.2	0.034	1.35	13.1	16.6	0.83	424
A685953	9.5	0.07	5.90	0.9	460	0.78	0.17	1.65	0.06	25.0	6.4	45	0.79	2.76	20.0	0.09	2.8	0.035	1.37	12.2	10.3	0.60	324
A685955	8.9	0.17	6.85	1.5	470	0.96	0.14	1.91	0.05	27.6	11.3	58	1.31	3.44	18.3	0.14	3.2	0.037	1.39	12.1	16.8	0.89	442
A685957	6.4	0.10	5.88	0.6	460	0.77	0.15	1.58	0.05	24.1	6.5	48	0.99	3.13	21.6	0.06	0.3	0.033	1.46	11.9	11.6	0.64	329
A685959	3.2	0.05	6.08	< 0.2	450	0.90	0.06	1.76	< 0.02	13.7	5.2	34	0.79	1.53	14.8	0.09	1.0	0.015	1.44	6.8	9.4	0.51	258
A685961	4.1	0.05	6.97	< 0.2	430	0.89	0.06	2.12	< 0.02	23.3	9.6	56	0.87	2.65	15.7	0.08	3.0	0.030	1.45	10.1	9.5	0.74	367
A685965	9.6	0.05	6.65	0.6	460	0.65	0.10	1.92	0.05	23.6	8.7	49	0.92	2.58	16.9	0.06	3.2	0.025	1.46	11.1	11.3	0.74	349
A685968	12.0	0.13	6.20	2.9	460	0.77	0.11	1.79	0.09	22.2	6.9	43	1.38	2.29	18.4	0.15	3.1	0.025	1.51	11.2	12.2	0.67	337
A685970	6.3	0.14	6.19	1.2	450	0.78	0.15	1.68	0.08	27.0	7.3	54	1.37	2.65	17.1	0.14	2.8	0.027	1.36	13.4	14.1	0.70	382
A685972	9.4	0.09	6.73	2.0	470	1.05	0.13	1.93	0.10	25.2	12.1	53	1.25	3.36	17.0	0.17	3.5	0.039	1.39	11.6	16.6	0.83	429
A685974	11.8	0.06	6.75	10.4	450	0.83	0.08	2.33	0.04	31.7	8.7	57	0.96	2.57	14.9	0.05	4.0	0.031	1.48	16.2	12.3	0.81	399
A685984	9.2	0.09	6.98	1.6	470	0.75	0.09	1.97	0.05	24.1	10.0	50	1.23	2.70	17.9	0.06	3.2	0.026	1.49	12.1	13.6	0.86	433
A685987	19.6	0.06	6.69	0.8	450	0.98	0.11	1.87	< 0.02	23.2	8.7	48	1.03	2.58	18.3	0.08	3.5	0.028	1.36	12.6	13.3	0.76	359
A685989	7.4	0.08	6.70	< 0.2	480	1.05	0.12	1.91	0.03	30.5	9.3	52	1.22	2.80	17.7	0.09	1.6	0.031	1.43	15.4	15.5	0.81	397
A685990	9.6	0.12	7.13	1.8	460	1.11	0.11	2.05	0.05	31.8	12.8	64	1.35	3.36	16.9	0.25	4.2	0.039	1.36	15.1	14.4	0.98	596
A685991	11.5	0.11	6.86	2.7	440	0.94	0.10	2.11	0.07	30.0	12.2	66	1.21	3.62	17.6	0.40	4.6	0.042	1.27	12.0	15.4	0.91	615
A685992	11.4	0.07	7.45	0.7	490	1.05	0.08	2.20	0.06	36.7	13.6	56	1.19	3.56	17.8	0.16	3.6	0.044	1.43	14.5	13.4	1.08	457
A685993	11.1	0.05	6.72	0.6	520	1.05	0.11	2.09	0.09	34.8	12.8	49	1.01	3.13	16.7	0.09	3.6	0.035	1.42	13.8	13.4	0.98	525
A685995	18.5	0.07	6.49	2.5	410	1.00	0.11	1.86	0.14	30.0	10.0	59	1.23	3.24	18.0	0.09	4.7	0.032	1.24	13.0	16.2	0.81	397
A685996	8.8	0.16	6.70	1.1	500	0.87	0.14	1.69	0.05	31.7	10.7	50	1.78	3.22	18.5	0.07	0.6	0.037	1.42	16.4	21.6	0.88	479
A685998	7.8	0.16	6.52	1.4	520	0.97	0.13	1.76	0.08	28.0	10.4	52	1.51	3.08	19.3	0.08	0.3	0.035	1.53	13.8	19.3	0.83	463
A686000	13.6	0.28	6.87	2.3	480	1.01	0.09	2.00	0.07	28.8	12.6	49	1.21	3.17	17.6	0.18	1.9	0.029	1.29	11.5	16.4	0.95	413
A371201	10.8	0.08	6.27	1.6	490	0.85	0.11	1.93	0.12	28.5	9.3	49	1.28	2.77	17.0	0.16	3.3	0.029	1.44	11.9	13.3	0.78	586
A371204	22.9	0.04	6.84	1.7	420	0.84	0.07	2.23	0.03	47.9	10.7	66	0.71	2.93	16.5	0.32	3.6	0.030	1.33	14.7	13.0	1.00	432
A371206	11.6	0.09	6.38	1.2	470	1.02	0.14	1.91	0.11	28.4	11.4	56	1.62	3.11	17.0	0.10	2.6	0.032	1.40	13.7	15.4	0.88	572
A371207	8.7	0.09	6.15	1.8	470	0.98	0.15	1.58	0.05	28.9	8.2	58	1.54	3.24	19.2	0.07	0.7	0.030	1.46	14.2	17.7	0.77	367
A371210	5.0	0.05	6.46	< 0.2	400	0.96	0.04	2.44	0.07	18.7	8.1	39	0.56	1.86	14.2	0.05	0.2	0.022	1.38	8.7	7.9	0.82	389
A371212	14.4	0.06	5.91	0.6	410	0.69	0.16	1.54	0.08	31.9	8.6	65	1.25	3.84	19.6	0.09	0.2	0.041	1.22	16.0	14.2	0.76	393
A371214	19.4	0.10	6.54	2.3	410	1.00	0.31	1.55	0.06	28.1	11.4	71	1.72	4.03	18.1	0.09	2.9	0.038	1.24	13.9	24.2	0.91	429

Analyte Symbol	Cu	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Fe	Ga	Ge	Hf	In	K	La	Li	Mg	Mn
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	0.2	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01	5
Method Code	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP
A371218	8.3	0.06	6.49	< 0.2	390	1.02	0.07	2.44	0.10	31.3	11.9	78	0.79	3.00	15.9	0.09	3.6	0.031	1.26	15.5	12.8	1.00	683
A371220	14.4	0.08	5.94	1.5	400	0.79	0.16	1.46	0.10	28.2	7.3	55	1.40	3.54	18.7	0.11	2.3	0.037	1.20	14.4	17.3	0.76	355
A371221	20.5	0.05	6.68	0.6	440	1.04	0.08	2.26	0.05	32.6	12.0	50	0.83	2.79	16.0	0.17	2.6	0.029	1.43	15.2	11.3	0.89	456
A371223	15.7	0.04	6.59	0.7	400	0.87	0.07	2.36	0.04	26.9	9.9	52	0.78	2.67	15.6	0.12	2.1	0.031	1.41	11.6	10.3	0.93	431
A371225	6.8	0.07	6.33	2.5	520	0.95	0.14	1.85	0.09	29.5	11.1	54	1.24	3.07	15.9	0.13	0.1	0.029	1.41	13.8	16.3	0.89	698
A371227	6.1	0.08	6.83	1.8	480	1.16	0.11	2.02	0.06	25.7	11.1	53	1.08	3.18	15.7	0.10	0.3	0.031	1.39	12.1	15.3	0.90	474
A371229	5.6	0.11	5.95	1.6	500	0.95	0.12	1.84	0.06	29.8	8.4	52	1.12	2.70	15.3	0.13	0.3	0.023	1.37	14.2	15.5	0.80	458
A371231	8.8	0.11	6.75	2.0	500	1.09	0.11	1.85	0.05	27.8	11.1	51	1.32	3.15	15.8	0.17	2.9	0.039	1.42	13.4	17.5	0.96	435
A371232	7.2	0.12	6.75	1.7	500	1.11	0.29	1.98	0.06	27.7	11.2	51	1.22	3.14	16.0	0.20	3.1	0.029	1.43	12.6	15.4	0.93	527
A371233	7.7	0.10	6.41	2.2	560	1.06	0.14	1.82	0.12	28.8	11.6	60	1.42	3.47	16.8	0.18	0.8	0.032	1.46	13.6	19.5	0.95	899
A371235	10.6	0.10	6.97	3.2	460	1.14	0.11	2.04	0.07	27.9	13.0	59	1.30	3.59	16.0	0.13	2.0	0.031	1.32	13.1	16.5	1.04	508
A371239	7.4	0.08	6.26	2.7	470	0.99	0.12	1.89	0.07	26.0	10.3	60	1.23	2.95	16.0	0.09	4.3	0.031	1.35	12.5	15.2	0.83	756
A371240	10.7	0.13	6.34	4.8	440	1.03	0.12	1.86	0.13	31.6	12.9	60	1.52	3.30	15.5	0.14	0.2	0.035	1.22	13.4	16.4	0.91	620
A371241	7.6	0.05	6.55	2.8	460	1.02	0.12	1.90	0.09	24.1	11.6	55	1.16	3.22	16.6	0.11	2.3	0.029	1.32	11.4	15.2	0.84	389
A371243	6.7	0.06	6.59	2.2	440	0.87	0.10	1.85	0.05	25.0	11.5	52	1.10	3.30	15.8	0.19	2.9	0.026	1.25	11.2	15.6	0.85	371
A371246	6.4	0.06	6.43	2.1	450	0.94	0.11	1.85	0.04	24.1	10.3	57	1.01	3.18	16.9	0.19	3.3	0.036	1.32	11.8	15.2	0.80	381
A371248	6.9	0.09	6.32	2.6	490	0.86	0.12	1.83	0.04	26.5	9.1	52	1.13	2.96	17.1	0.30	3.8	0.032	1.45	13.0	14.8	0.83	388
A371249	6.7	0.08	7.02	2.6	440	1.09	0.10	1.99	0.09	25.6	13.1	55	1.14	3.46	16.3	0.16	3.0	0.036	1.29	12.1	15.1	0.92	413
A371250	10.5	0.06	7.05	2.1	480	0.99	0.10	1.94	0.07	26.5	13.2	55	1.17	3.28	16.4	0.13	2.5	0.032	1.25	12.3	14.9	0.88	422



## Results

## Activation Laboratories Ltd.

## Report: A20-13451

Analyte Symbol	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1	0.1
Method Code	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS	TD-MS
A685901	0.36	2.15	0.6	26.3	550	12.8	27.5	< 0.002	0.02	< 0.05	9.0	< 1	0.8	271	< 0.05	< 0.05	4.82	0.331	0.29	1.1	85	< 0.1	10.1
A685903	0.32	1.94	0.5	25.9	510	13.6	28.3	< 0.002	0.02	< 0.05	8.6	< 1	0.7	261	< 0.05	< 0.05	4.51	0.317	0.28	1.1	82	< 0.1	8.9
A685905	0.22	1.97	0.2	18.9	310	14.2	26.0	< 0.002	0.01	< 0.05	7.5	< 1	0.6	251	< 0.05	< 0.05	3.35	0.301	0.28	1.1	66	< 0.1	8.8
A685907	0.33	2.16	1.6	13.9	500	14.5	33.3	< 0.002	0.01	< 0.05	6.5	< 1	0.7	276	< 0.05	< 0.05	2.28	0.235	0.30	0.7	54	< 0.1	6.6
A685909	0.45	2.05	1.3	12.5	160	14.0	30.3	< 0.002	< 0.01	< 0.05	6.2	< 1	0.8	263	0.06	< 0.05	2.70	0.275	0.30	0.9	66	0.1	7.3
A685912	0.09	1.81	0.3	25.2	350	14.7	26.8	< 0.002	0.01	< 0.05	8.5	< 1	0.3	224	< 0.05	< 0.05	3.85	0.218	0.29	1.1	56	< 0.1	9.8
A685915	0.08	1.93	0.1	19.1	400	13.3	34.2	< 0.002	0.02	< 0.05	6.7	< 1	0.2	242	< 0.05	< 0.05	2.72	0.150	0.30	0.9	45	< 0.1	7.0
A685917	0.06	2.12	< 0.1	17.4	160	14.1	28.1	< 0.002	0.01	< 0.05	8.0	< 1	0.2	260	< 0.05	< 0.05	2.36	0.200	0.30	0.9	46	< 0.1	8.0
A685919	0.13	2.13	0.3	18.8	180	13.5	28.9	< 0.002	0.01	< 0.05	8.1	< 1	0.4	273	< 0.05	< 0.05	2.63	0.223	0.29	0.8	48	< 0.1	7.9
A685922	0.21	2.23	0.8	24.7	350	12.4	28.4	< 0.002	0.01	< 0.05	9.0	< 1	0.6	267	< 0.05	< 0.05	3.73	0.263	0.29	0.9	73	< 0.1	9.3
A685923	0.13	2.29	0.2	29.0	460	12.5	30.1	< 0.002	< 0.01	< 0.05	12.0	< 1	0.4	287	< 0.05	< 0.05	9.51	0.297	0.26	1.3	92	< 0.1	12.5
A685926	0.34	1.87	0.2	28.7	440	14.3	31.6	< 0.002	0.02	< 0.05	9.6	< 1	0.7	217	< 0.05	< 0.05	3.75	0.321	0.31	1.2	87	< 0.1	10.8
A685928	0.08	2.05	< 0.1	23.0	190	14.4	26.4	< 0.002	< 0.01	< 0.05	8.4	< 1	0.3	232	< 0.05	< 0.05	3.38	0.232	0.27	1.1	62	< 0.1	9.6
A685930	0.05	1.97	< 0.1	17.4	150	15.4	25.5	< 0.002	0.01	< 0.05	8.5	< 1	< 0.2	228	< 0.05	< 0.05	3.34	0.168	0.29	1.2	45	< 0.1	9.4
A685932	0.08	1.88	0.4	31.4	460	14.2	32.9	< 0.002	0.02	< 0.05	9.4	< 1	< 0.2	232	< 0.05	< 0.05	4.69	0.147	0.29	1.2	57	< 0.1	10.1
A685934	< 0.05	1.96	< 0.1	18.9	340	15.2	33.4	< 0.002	0.02	< 0.05	7.8	< 1	< 0.2	242	< 0.05	< 0.05	3.64	0.080	0.31	1.1	26	< 0.1	9.4
A685936	< 0.05	1.71	< 0.1	15.5	490	17.0	36.8	< 0.002	0.02	< 0.05	10.3	< 1	0.2	232	< 0.05	< 0.05	4.40	0.104	0.31	1.5	30	< 0.1	12.6
A685937	0.09	1.88	< 0.1	33.6	660	15.6	34.8	< 0.002	0.02	< 0.05	8.3	< 1	0.2	224	< 0.05	< 0.05	4.71	0.168	0.28	1.0	56	< 0.1	8.8
A685943	0.21	2.13	2.6	27.5	320	13.7	32.1	< 0.002	0.02	< 0.05	8.9	< 1	0.4	280	0.16	< 0.05	3.89	0.148	0.28	1.0	43	0.2	9.4
A685945	0.31	2.13	0.8	20.1	210	13.1	27.7	< 0.002	0.01	< 0.05	7.9	< 1	0.5	275	< 0.05	< 0.05	2.68	0.275	0.28	0.8	57	< 0.1	7.9
A685947	0.13	2.09	0.3	20.8	160	14.5	30.9	< 0.002	0.01	< 0.05	7.8	< 1	0.4	274	< 0.05	< 0.05	2.77	0.248	0.33	0.9	56	< 0.1	7.9
A685949	0.13	2.00	0.8	28.8	710	13.6	28.9	< 0.002	0.02	< 0.05	9.5	< 1	0.4	242	0.05	< 0.05	3.93	0.228	0.25	1.0	74	< 0.1	9.3
A685951	< 0.05	1.77	< 0.1	22.0	360	14.6	26.1	< 0.002	0.02	< 0.05	8.3	< 1	< 0.2	228	< 0.05	< 0.05	3.91	0.167	0.26	1.2	54	< 0.1	9.5
A685953	< 0.05	1.96	0.1	16.6	230	15.1	28.2	< 0.002	0.02	< 0.05	8.0	< 1	< 0.2	239	< 0.05	< 0.05	3.56	0.059	0.30	1.2	23	< 0.1	8.3
A685955	0.10	1.80	0.2	25.8	360	16.4	31.2	< 0.002	0.03	< 0.05	8.7	< 1	0.3	238	< 0.05	< 0.05	4.07	0.147	0.29	1.1	42	< 0.1	8.8
A685957	0.15	1.75	0.3	16.1	90	16.5	28.4	< 0.002	0.01	< 0.05	7.3	< 1	0.3	235	< 0.05	< 0.05	3.88	0.320	0.32	1.2	86	< 0.1	8.4
A685959	0.39	2.05	0.6	13.3	80	13.5	25.3	< 0.002	0.01	< 0.05	6.0	< 1	0.5	256	< 0.05	< 0.05	1.99	0.220	0.30	0.7	44	< 0.1	5.7
A685961	0.06	2.15	0.2	22.6	180	12.7	32.5	< 0.002	0.01	< 0.05	8.7	< 1	< 0.2	279	< 0.05	< 0.05	2.43	0.142	0.30	0.8	45	< 0.1	8.1
A685965	0.05	2.04	0.1	24.9	180	14.5	31.0	< 0.002	0.01	< 0.05	8.5	< 1	< 0.2	245	< 0.05	< 0.05	2.99	0.104	0.30	0.9	32	< 0.1	7.6
A685968	0.11	1.94	0.1	17.1	390	15.1	35.1	< 0.002	0.02	< 0.05	7.2	< 1	0.3	229	< 0.05	< 0.05	3.24	0.122	0.33	1.1	31	< 0.1	7.9
A685970	0.07	1.93	< 0.1	20.3	500	13.8	37.5	< 0.002	0.01	< 0.05	7.8	< 1	< 0.2	225	< 0.05	< 0.05	3.74	0.117	0.28	1.0	31	< 0.1	8.6
A685972	0.10	1.95	0.2	31.6	730	14.4	39.9	< 0.002	0.02	< 0.05	9.1	< 1	0.4	239	< 0.05	< 0.05	3.96	0.164	0.30	1.0	48	< 0.1	8.7
A685974	0.45	2.17	0.8	23.2	480	12.7	39.0	< 0.002	0.02	< 0.05	9.0	< 1	0.8	277	< 0.05	< 0.05	4.23	0.277	0.32	1.2	63	< 0.1	10.0
A685984	0.21	2.05	0.2	23.6	250	13.1	31.5	< 0.002	0.01	< 0.05	8.0	< 1	0.5	253	< 0.05	< 0.05	3.56	0.274	0.30	1.0	61	< 0.1	8.6
A685987	0.07	2.06	0.1	23.5	220	14.0	27.6	< 0.002	0.01	< 0.05	8.1	< 1	< 0.2	269	< 0.05	< 0.05	3.00	0.173	0.29	1.0	44	< 0.1	8.6
A685989	< 0.05	1.97	< 0.1	22.2	180	15.1	32.2	< 0.002	0.01	< 0.05	8.7	< 1	< 0.2	242	< 0.05	< 0.05	3.82	0.117	0.31	1.3	31	< 0.1	10.3
A685990	0.22	1.93	0.8	31.7	640	13.4	34.6	< 0.002	0.02	< 0.05	9.2	< 1	0.5	244	< 0.05	< 0.05	4.78	0.268	0.29	1.2	69	< 0.1	10.1
A685991	0.47	2.04	2.4	28.5	890	12.4	35.8	< 0.002	0.02	< 0.05	9.4	< 1	0.8	236	0.08	< 0.05	3.66	0.356	0.27	0.9	93	< 0.1	9.1
A685992	0.08	2.07	0.5	32.0	330	12.6	35.0	< 0.002	0.01	< 0.05	11.1	< 1	0.2	266	< 0.05	< 0.05	5.12	0.107	0.29	1.3	32	< 0.1	11.3
A685993	0.06	2.01	0.1	28.3	410	16.6	36.6	< 0.002	0.01	< 0.05	8.9	< 1	< 0.2	255	< 0.05	< 0.05	4.14	0.103	0.29	1.1	32	< 0.1	9.8
A685995	0.54	1.82	0.5	25.2	630	13.5	24.5	< 0.002	0.02	< 0.05	8.7	< 1	0.9	240	< 0.05	< 0.05	4.46	0.345	0.25	1.3	87	0.2	9.6
A685996	0.14	1.69	0.1	25.2	530	14.9	34.1	< 0.002	0.01	< 0.05	8.4	< 1	0.4	219	< 0.05	< 0.05	4.13	0.271	0.32	1.4	62	< 0.1	10.5
A685998	0.06	1.76	0.1	24.2	610	15.6	33.3	< 0.002	0.01	< 0.05	8.8	< 1	0.2	237	< 0.05	< 0.05	3.93	0.225	0.30	1.2	53	< 0.1	9.7
A686000	0.11	1.85	0.5	31.4	630	13.0	31.9	< 0.002	0.03	< 0.05	8.5	< 1	0.3	246	< 0.05	< 0.05	3.87	0.171	0.27	0.9	58	< 0.1	8.6
A371201	0.08	1.95	0.1	22.1	500	15.6	36.6	< 0.002	0.02	< 0.05	8.2	< 1	0.3	248	< 0.05	< 0.05	3.29	0.134	0.31	1.0	35	< 0.1	8.9
A371204	0.17	2.23	1.6	29.9	330	12.1	29.9	< 0.002	0.01	< 0.05	9.0	< 1	0.6	276	< 0.05	< 0.05	3.78	0.233	0.26	0.8	63	< 0.1	9.1
A371206	0.07	1.80	< 0.1	24.8	390	17.8	33.9	< 0.002	0.02	< 0.05	9.1	< 1	< 0.2	223	< 0.05	< 0.05	4.53	0.077	0.31	1.2	29	< 0.1	9.8
A371207	0.36	1.75	0.2	21.3	190	15.8	30.1	< 0.002	0.01	< 0.05	8.3	< 1	0.5	227	< 0.05	< 0.05	4.01	0.362	0.32	1.3	83	< 0.1	9.8
A371210	0.16	2.23	2.7	20.9	280	15.5	28.0	< 0.002	< 0.01	< 0.05	9.7	< 1	0.4	298	0.07	< 0.05	2.19	0.233	0.27	0.5	53	< 0.1	8.3
A371212	0.08	1.59	0.1	23.4	210	17.																	

Analyte Symbol	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1	0.1
Method Code	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS	TD-MS
A371218	< 0.05	2.13	< 0.1	25.9	100	13.7	28.4	< 0.002	< 0.01	< 0.05	11.6	< 1	< 0.2	269	< 0.05	< 0.05	4.85	0.078	0.26	1.6	18	< 0.1	11.8
A371220	0.06	1.59	< 0.1	19.8	350	15.9	31.1	< 0.002	0.03	< 0.05	7.8	< 1	< 0.2	202	< 0.05	< 0.05	4.53	0.079	0.26	1.3	36	< 0.1	8.8
A371221	0.05	2.15	0.2	27.2	300	15.9	34.2	< 0.002	0.01	< 0.05	8.6	< 1	0.4	266	< 0.05	< 0.05	3.74	0.091	0.30	0.8	28	< 0.1	9.1
A371223	< 0.05	2.17	< 0.1	26.1	330	15.8	32.5	< 0.002	0.01	< 0.05	9.7	< 1	0.2	271	< 0.05	< 0.05	3.36	0.088	0.29	0.7	33	< 0.1	8.7
A371225	0.21	1.78	0.1	22.1	840	14.4	23.5	< 0.002	0.01	< 0.05	8.4	< 1	0.4	223	< 0.05	< 0.05	4.31	0.363	0.28	1.2	72	< 0.1	9.8
A371227	< 0.05	1.87	< 0.1	26.0	460	13.1	25.9	< 0.002	0.01	< 0.05	9.3	< 1	< 0.2	233	< 0.05	< 0.05	4.16	0.190	0.26	1.1	53	< 0.1	9.2
A371229	0.08	1.75	< 0.1	19.1	900	13.6	24.8	< 0.002	0.02	< 0.05	8.1	< 1	0.3	220	< 0.05	< 0.05	4.12	0.276	0.27	1.2	57	< 0.1	9.2
A371231	< 0.05	1.75	< 0.1	26.8	570	12.8	31.5	< 0.002	0.02	< 0.05	7.9	< 1	< 0.2	218	< 0.05	< 0.05	4.28	0.105	0.28	1.1	32	0.2	9.1
A371232	< 0.05	1.90	< 0.1	26.2	600	12.9	35.8	< 0.002	0.02	< 0.05	8.6	< 1	0.2	236	< 0.05	< 0.05	3.89	0.127	0.29	1.0	37	0.3	8.9
A371233	0.23	1.73	0.2	23.7	1440	14.7	35.6	< 0.002	0.02	< 0.05	8.7	< 1	0.7	219	< 0.05	< 0.05	4.07	0.305	0.29	1.2	75	< 0.1	9.5
A371235	< 0.05	1.79	< 0.1	30.8	730	13.0	28.8	< 0.002	0.02	< 0.05	9.3	< 1	< 0.2	228	< 0.05	< 0.05	4.58	0.137	0.26	1.2	55	< 0.1	9.6
A371239	0.25	1.96	0.1	24.8	390	13.0	26.7	< 0.002	0.01	< 0.05	8.6	< 1	0.6	246	< 0.05	< 0.05	3.24	0.308	0.25	1.0	70	< 0.1	8.8
A371240	0.45	1.67	0.1	27.4	1040	13.7	22.6	< 0.002	0.03	< 0.05	9.6	< 1	0.5	220	< 0.05	< 0.05	4.67	0.348	0.28	1.3	83	< 0.1	9.9
A371241	< 0.05	1.83	< 0.1	26.0	300	14.5	28.0	< 0.002	0.02	< 0.05	8.6	< 1	< 0.2	241	< 0.05	< 0.05	3.66	0.092	0.25	1.0	35	< 0.1	8.9
A371243	0.05	1.73	< 0.1	27.1	480	12.6	31.8	< 0.002	0.02	< 0.05	8.3	< 1	0.2	221	< 0.05	< 0.05	3.58	0.109	0.26	1.0	38	< 0.1	8.5
A371246	0.06	1.79	< 0.1	24.2	310	13.7	30.9	< 0.002	0.02	< 0.05	8.7	< 1	0.3	233	< 0.05	< 0.05	3.50	0.110	0.26	1.1	32	< 0.1	8.8
A371248	0.15	1.81	0.4	21.4	340	14.3	43.6	< 0.002	0.02	0.06	8.3	< 1	0.5	237	< 0.05	< 0.05	3.75	0.200	0.28	1.1	44	< 0.1	9.5
A371249	0.05	1.83	< 0.1	29.4	480	12.6	31.4	< 0.002	0.02	< 0.05	9.2	< 1	< 0.2	238	< 0.05	< 0.05	4.01	0.112	0.24	1.0	44	< 0.1	9.1
A371250	0.06	1.82	< 0.1	30.5	420	12.8	27.4	< 0.002	0.02	< 0.05	8.8	< 1	< 0.2	244	< 0.05	< 0.05	3.89	0.155	0.27	1.1	52	< 0.1	9.2

Analyte Symbol	Zn	Zr	Au
Unit Symbol	ppm	ppm	ppb
Lower Limit	2	0.5	5
Method Code	TD-ICP	TD-MS	FA-AA
A685901	41	197	< 5
A685903	53	176	< 5
A685905	42	167	< 5
A685907	34	115	< 5
A685909	34	141	< 5
A685912	69	101	< 5
A685915	43	113	< 5
A685917	32	141	< 5
A685919	26	117	< 5
A685922	33	159	< 5
A685923	36	206	< 5
A685926	115	156	< 5
A685928	55	149	< 5
A685930	45	39.2	< 5
A685932	59	79.3	< 5
A685934	56	52.9	< 5
A685936	97	113	< 5
A685937	68	139	< 5
A685943	41	142	< 5
A685945	29	117	< 5
A685947	31	86.6	< 5
A685949	48	94.4	< 5
A685951	51	21.2	< 5
A685953	36	115	11
A685955	71	127	< 5
A685957	47	38.9	7
A685959	21	57.7	< 5
A685961	30	118	< 5
A685965	35	118	< 5
A685968	48	116	< 5
A685970	79	109	< 5
A685972	76	136	< 5
A685974	35	150	< 5
A685984	72	134	< 5
A685987	40	137	< 5
A685989	43	89.4	< 5
A685990	51	161	< 5
A685991	46	169	< 5
A685992	55	137	< 5
A685993	46	144	< 5
A685995	59	186	11
A685996	66	58.0	< 5
A685998	66	22.8	< 5
A686000	57	88.0	5
A371201	63	137	< 5
A371204	42	137	33
A371206	59	104	6
A371207	43	68.7	62
A371210	35	25.9	< 5
A371212	48	26.8	< 5
A371214	64	124	< 5

Analyte Symbol	Zn	Zr	Au
Unit Symbol	ppm	ppm	ppb
Lower Limit	2	0.5	5
Method Code	TD-ICP	TD-MS	FA-AA
A371218	36	149	< 5
A371220	52	98.4	14
A371221	42	96.1	< 5
A371223	40	83.0	< 5
A371225	70	6.4	< 5
A371227	51	22.3	< 5
A371229	65	13.7	5
A371231	54	95.3	< 5
A371232	58	106	< 5
A371233	72	58.5	< 5
A371235	68	75.3	< 5
A371239	45	151	7
A371240	77	13.2	< 5
A371241	46	93.1	< 5
A371243	53	102	< 5
A371246	42	111	< 5
A371248	50	135	< 5
A371249	58	105	< 5
A371250	54	107	< 5

Analyte Symbol	As	Ga	Hf	In	La	Li	W	Y	Zr	Ag	Al	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ge
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
Lower Limit	0.2	0.05	0.1	0.005	0.5	0.2	0.1	0.1	0.5	0.01	0.01	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS
SDC-1 Meas	< 0.2	22.3	1.1		40.9	35.8	< 0.1		39.7		7.98	630	2.79		1.06		86.3	17.9	46	4.40	30.8	4.76	
SDC-1 Cert	0.220	21.00	8.30		42.00	34.0	0.80		290.00		8.34	630	3.00		1.00		93.00	18.0	64.00	4.00	30.000	4.82	
Oreas 72a (4 Acid Digest) Meas	5.1																	143	165		281	9.79	
Oreas 72a (4 Acid Digest) Cert	14.7																	157	228		316	9.63	
OREAS 101b (4 Acid) Meas					704			115									> 500	45.9			404	10.7	
OREAS 101b (4 Acid) Cert					754			133									1325	45			412	10.7	
OREAS 101b (4 Acid) Meas					792			132									> 500	46.1			380		
OREAS 101b (4 Acid) Cert					754			133									1325	45			412		
OREAS 98 (4 Acid) Meas										46.3				86.3				119			> 10000		
OREAS 98 (4 Acid) Cert										45.1				97.2				121			14800 0.0		
OREAS 98 (4 Acid) Meas										41.1				83.9				112			> 10000		
OREAS 98 (4 Acid) Cert										45.1				97.2				121			14800 0.0		
DNC-1a Meas		15.0			4.1	4.8		16.5	40.1									55.8			110		
DNC-1a Cert		15			3.6	5.2		18.0	38.0									57			100		
OREAS 13b (4-Acid) Meas	49.0									0.87								75.8	8810		2230		
OREAS 13b (4-Acid) Cert	57									0.86								75	8650.0 00		2327.0 000		
OREAS 904 (4 ACID) Meas	93.4	15.9	4.8	0.215	42.4	16.4	2.4	32.5	178	0.67	6.64	210	9.00	4.39	0.05		87.4	84.4	59	3.75	6060	7.20	0.18
OREAS 904 (4 ACID) Cert	98.0	16.7	5.00	0.220	43.2	16.7	2.12	31.5	171	0.551	6.30	194	7.86	4.05	0.0460		86.0	83.0	54.0	3.79	6120	6.68	0.180
OREAS 904 (4 ACID) Meas	107	17.4	4.9	0.197	43.1	16.7	2.2	31.0	166	0.65			8.58	3.95			89.8	89.4		3.59	6440		0.19
OREAS 904 (4 ACID) Cert	98.0	16.7	5.00	0.220	43.2	16.7	2.12	31.5	171	0.551			7.86	4.05			86.0	83.0		3.79	6120		0.180
SBC-1 Meas												340							95				
SBC-1 Cert												788.0							109				
OREAS 45d (4-Acid) Meas	8.4	21.5	2.4	0.099	17.0	21.7	0.1	11.5	93.5		8.20	190	0.69	0.34	0.19		37.8	29.9	533	3.80	377	14.8	
OREAS 45d (4-Acid) Cert	13.8	21.20	3.830	0.096	16.9	21.5	1.62	9.53	141		8.150	183.0	0.79	0.31	0.185		37.20	29.50	549	3.910	371	14.5	
OREAS 45d (4-Acid) Meas	9.7	21.9	2.4	0.084	16.5	21.4	0.1	10.6	86.0				0.71	0.30			36.5	31.0		3.67	368		
OREAS 45d (4-Acid) Cert	13.8	21.20	3.830	0.096	16.9	21.5	1.62	9.53	141				0.79	0.31			37.20	29.50		3.910	371		
OREAS 96 (4 Acid) Meas										11.0				27.4				50.3			> 10000		
OREAS 96 (4 Acid) Cert										11.5				26.3				49.9			39300		
OREAS 923 (4 Acid) Meas											7.57	390			0.49				79			6.91	
OREAS 923 (4 Acid) Cert											7.29	434			0.473				71.0			6.43	
OREAS 621 (4 Acid) Meas											6.72				2.09				29			4.00	
OREAS 621 (4 Acid) Cert											6.40				1.97				37.1			3.70	

Analyte Symbol	As	Ga	Hf	In	La	Li	W	Y	Zr	Ag	Al	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ge
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
Lower Limit	0.2	0.05	0.1	0.005	0.5	0.2	0.1	0.1	0.5	0.01	0.01	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS
OREAS 522 (4 Acid) Meas	495	15.4	2.9	0.231	53.1	16.2	127	17.6	110	1.33	3.84		0.72	8.60	3.49		62.3	608	34	0.61	9090	24.6	
OREAS 522 (4 Acid) Cert	490	16.0	2.96	0.230	171	16.2	135	18.5	112	1.31	3.95		0.700	8.72	3.65		148	550	29.6	0.640	9160	24.6	
OREAS 238 (Fire Assay) Meas																							
OREAS 238 (Fire Assay) Cert																							
OREAS 238 (Fire Assay) Meas																							
OREAS 238 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
OREAS 247 (4 Acid) Meas	301	12.5	2.8	0.052	16.4	34.2	5.9	5.7	106	2.22			2.20	0.58		0.15	36.2	12.3		5.12	53.0		
OREAS 247 (4 Acid) Cert	3510	16.3	3.57	0.0580	33.1	31.8	7.88	13.1	125	2.16			2.23	0.580		0.0650	67.0	12.0		8.49	42.2		
A685919 Orig																							
A685919 Dup																							
A685922 Orig	0.5	14.8	3.6	0.030	11.1	8.8	< 0.1	9.4	174	0.04	6.90	450	0.96	0.06	2.40	0.04	30.0	9.9	49	0.67	12.8	2.72	0.08
A685922 Dup	0.4	15.7	3.5	0.026	11.7	9.0	< 0.1	9.2	144	0.05	6.93	440	1.14	0.06	2.38	< 0.02	32.0	10.1	45	0.73	12.0	2.70	0.06
A685922 Orig																						23.6	
A685922 Dup																						8.5	
A685943 Orig																							
A685943 Dup																							
A685945 Orig	< 0.2	14.5	4.0	0.028	9.6	9.4	< 0.1	7.8	160	0.06	6.70	480	0.99	0.08	2.12	0.04	19.9	7.8	47	0.90	4.3	2.05	< 0.05
A685945 Dup	0.9	15.3	0.8	0.025	9.7	9.2	< 0.1	8.0	73.6	0.15	6.82	490	1.00	0.07	2.19	0.02	20.3	8.0	45	0.86	4.9	2.07	0.06
A685951 Orig																							
A685951 Dup																							
A685970 Orig	1.7	17.2	3.1	0.027	14.4	13.7	< 0.1	8.7	121	0.14	6.17	450	0.87	0.14	1.70	0.09	29.0	7.2	54	1.33	5.8	2.66	0.17
A685970 Dup	0.7	17.0	2.5	0.028	12.4	14.4	< 0.1	8.4	97.8	0.14	6.22	450	0.69	0.15	1.67	0.07	25.1	7.5	54	1.40	6.7	2.64	0.11
A686000 Orig	2.3	17.4	1.2	0.028	12.0	16.7	< 0.1	8.8	74.6	0.28	6.92	480	0.89	0.10	2.02	0.07	29.6	12.7	48	1.23	12.0	3.20	0.16
A686000 Dup	2.3	17.7	2.5	0.029	11.0	16.1	< 0.1	8.4	101	0.28	6.83	470	1.12	0.09	1.99	0.06	28.0	12.5	50	1.19	15.2	3.15	0.19
A371221 Orig																							
A371221 Dup																							
A371229 Orig																							
A371229 Dup																							
A371235 Orig	3.2	16.1	3.0	0.030	13.2	16.6	< 0.1	9.5	102	0.10	6.91	460	1.11	0.11	2.03	0.09	28.6	12.8	60	1.31	10.7	3.56	0.16
A371235 Dup	3.1	15.9	1.0	0.032	12.9	16.4	< 0.1	9.7	48.6	0.10	7.03	470	1.18	0.12	2.05	0.06	27.2	13.1	58	1.29	10.6	3.61	0.10
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.2	0.28	< 0.1	< 0.005	< 0.5	< 0.2	< 0.1	< 0.1	< 0.5	< 0.01	< 0.01	< 10	0.10	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	4	< 0.05	0.2	< 0.01	< 0.05
Method Blank	< 0.2	0.24	< 0.1	< 0.005	< 0.5	< 0.2	< 0.1	< 0.1	< 0.5	< 0.01	< 0.01	< 10	< 0.05	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1		< 0.05	1.0	< 0.01	< 0.05
Method Blank	1.1	0.31	< 0.1	< 0.005	< 0.5	< 0.2	< 0.1	< 0.1	< 0.5	< 0.01	< 0.01	< 10	< 0.05	< 0.01	< 0.01	0.04	0.02	0.1	< 1	< 0.05	2.0	< 0.01	< 0.05
Method Blank	0.5	0.13	< 0.1	< 0.005	< 0.5	< 0.2	< 0.1	< 0.1	< 0.5	< 0.01			< 0.05	< 0.01		< 0.02	0.01	< 0.1		< 0.05	0.3		< 0.05

Analyte Symbol	As	Ga	Hf	In	La	Li	W	Y	Zr	Ag	Al	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ge
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
Lower Limit	0.2	0.05	0.1	0.005	0.5	0.2	0.1	0.1	0.5	0.01	0.01	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS
Method Blank											< 0.01	< 10			< 0.01				2			< 0.01	
Method Blank											< 0.01	< 10			< 0.01				3			< 0.01	

Analyte Symbol	K	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U
Unit Symbol	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Lower Limit	0.01	0.01	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS
SDC-1 Meas	1.94	0.99	857		1.45	0.7	34.2	550	26.2	66.6			< 0.05	14.7		0.3	174	< 0.05		11.4	0.123	0.63	2.7
SDC-1 Cert	2.72	1.02	880.00		1.52	21.00	38.0	690	25.00	127.00			0.54	17.00		3.00	180.00	1.20		12.00	0.606	0.70	3.10
Oreas 72a (4 Acid Digest) Meas							6310					1.67											
Oreas 72a (4 Acid Digest) Cert							6930.000					1.74											
OREAS 101b (4 Acid) Meas	2.52	1.24	952	18.3			9.5	1160	26.3											34.5	0.351		356
OREAS 101b (4 Acid) Cert	2.36	1.23	927	20.1			8.2	1118	23											36.4	0.35		387
OREAS 101b (4 Acid) Meas				19.2			8.9		23.9											33.2			368
OREAS 101b (4 Acid) Cert				20.1			8.2		23											36.4			387
OREAS 98 (4 Acid) Meas									301			> 10.0	5.39		166	194							
OREAS 98 (4 Acid) Cert									345			15.5	20.1		158	206							
OREAS 98 (4 Acid) Meas									319				4.74		147	172							
OREAS 98 (4 Acid) Cert									345				20.1		158	206							
DNC-1a Meas						1.4	252		7.1	3.7			1.05	28.4			150						
DNC-1a Cert						3	247		6.3	4.50			0.96	31			144						
OREAS 13b (4-Acid) Meas				8.55			2190					1.15											
OREAS 13b (4-Acid) Cert				9.0			2247.0000					1.2											
OREAS 904 (4 ACID) Meas	3.65	0.59	445	2.24	0.04		42.3	1040	11.5	150		0.06	1.37	11.0	3	2.9	25.2	0.89		15.0		0.56	9.2
OREAS 904 (4 ACID) Cert	3.31	0.556	410	2.12	0.0340		40.1	980	10.6	130		0.0630	1.48	11.2	3.30	2.83	27.2	0.540		14.3		0.520	8.43
OREAS 904 (4 ACID) Meas				2.01			41.9		11.0	95.3			1.41	11.1	3	2.9	26.9	0.91		14.0		0.52	8.5
OREAS 904 (4 ACID) Cert				2.12			40.1		10.6	130			1.48	11.2	3.30	2.83	27.2	0.540		14.3		0.520	8.43
SBC-1 Meas																						0.499	
SBC-1 Cert																						0.51	
OREAS 45d (4-Acid) Meas	0.43	0.24	507	0.39	0.09	0.8	233	370	22.3	45.5		0.05	0.08	47.5		0.6	30.6	< 0.05		14.6	0.308	0.26	2.9
OREAS 45d (4-Acid) Cert	0.412	0.245	490.000	2.500	0.101	14.50	231.0	420.000	21.8	42.1		0.049	0.82	49.30		2.78	31.30	1.02		14.5	0.773	0.27	2.63
OREAS 45d (4-Acid) Meas				0.44		0.8	227		20.7	41.4			0.06	48.2		0.6	32.5	< 0.05		13.0		0.23	2.5
OREAS 45d (4-Acid) Cert				2.500		14.50	231.0		21.8	42.1			0.82	49.30		2.78	31.30	1.02		14.5		0.27	2.63
OREAS 96 (4 Acid) Meas									100			4.27	5.01		42	63.4							
OREAS 96 (4 Acid) Cert									101			4.19	5.09		40.7	65.6							
OREAS 923 (4 Acid) Meas	2.68	1.77	959		0.32			630				0.72									0.409		
OREAS 923 (4 Acid) Cert	2.51	1.69	950		0.324			630				0.691									0.405		
OREAS 621 (4 Acid) Meas	2.35	0.52	550		1.34			380				4.69									0.189		
OREAS 621 (4 Acid) Cert	2.20	0.507	532		1.31			359				4.48									0.149		



Analyte Symbol	K	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U
Unit Symbol	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Lower Limit	0.01	0.01	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS
OREAS 522 (4 Acid) Meas	2.93	1.13	3670	208	0.61	6.1	67.6	860	10.1	80.2	0.100	2.39	7.88	10.9	2	9.4	68.6	0.48	1.11	2.68	0.351	0.29	39.6
OREAS 522 (4 Acid) Cert	2.83	1.12	3970	206	0.633	5.66	70.0	890	12.5	82.0	0.0980	2.50	7.93	10.9	2.74	9.32	199	0.440	1.14	7.53	0.344	0.290	42.2
OREAS 238 (Fire Assay) Meas																							
OREAS 238 (Fire Assay) Cert																							
OREAS 238 (Fire Assay) Meas																							
OREAS 238 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
OREAS 247 (4 Acid) Meas				2.16		8.6	49.3		34.0	70.9			3030	7.6		3.1	86.4	0.65		7.12		0.82	2.2
OREAS 247 (4 Acid) Cert				1.76		11.7	45.9		31.9	144			3300	11.4		3.31	96.0	0.920		12.6		0.800	2.53
A685919 Orig																							
A685919 Dup																							
A685922 Orig	1.45	0.91	417	0.19	2.25	0.7	24.3	350	12.2	28.7	< 0.002	0.01	< 0.05	8.9	< 1	0.5	261	< 0.05	< 0.05	3.68	0.255	0.28	0.8
A685922 Dup	1.46	0.91	411	0.23	2.22	0.8	25.0	350	12.6	28.2	< 0.002	0.01	< 0.05	9.2	< 1	0.6	273	< 0.05	< 0.05	3.78	0.271	0.29	1.0
A685922 Orig																							
A685922 Dup																							
A685943 Orig																							
A685943 Dup																							
A685945 Orig	1.46	0.75	318	0.41	2.10	0.9	20.0	240	13.2	27.8	< 0.002	0.01	< 0.05	8.1	< 1	0.7	276	< 0.05	< 0.05	2.76	0.270	0.29	0.8
A685945 Dup	1.49	0.77	328	0.21	2.16	0.6	20.3	190	13.0	27.5	< 0.002	0.01	< 0.05	7.7	< 1	0.4	275	< 0.05	< 0.05	2.61	0.279	0.28	0.8
A685951 Orig																							
A685951 Dup																							
A685970 Orig	1.36	0.70	389	0.09	1.93	0.1	19.3	520	13.8	37.4	< 0.002	0.01	< 0.05	7.7	< 1	0.4	220	< 0.05	< 0.05	4.07	0.149	0.29	1.0
A685970 Dup	1.35	0.71	376	0.05	1.93	< 0.1	21.3	490	13.7	37.5	< 0.002	0.01	< 0.05	7.9	< 1	< 0.2	230	< 0.05	< 0.05	3.41	0.084	0.28	1.0
A686000 Orig	1.26	0.96	422	0.15	1.88	0.8	31.7	610	13.3	31.2	< 0.002	0.02	< 0.05	9.0	< 1	0.3	254	0.05	< 0.05	4.18	0.213	0.27	1.0
A686000 Dup	1.32	0.94	404	0.08	1.82	0.1	31.2	640	12.8	32.6	< 0.002	0.03	< 0.05	8.0	< 1	0.2	238	< 0.05	< 0.05	3.57	0.129	0.26	0.9
A371221 Orig																							
A371221 Dup																							
A371229 Orig																							
A371229 Dup																							
A371235 Orig	1.32	1.03	507	0.07	1.79	< 0.1	30.4	730	13.0	28.5	< 0.002	0.02	< 0.05	9.6	< 1	< 0.2	230	< 0.05	< 0.05	4.51	0.142	0.26	1.2
A371235 Dup	1.32	1.04	510	< 0.05	1.79	< 0.1	31.2	720	12.9	29.2	< 0.002	0.02	< 0.05	9.0	< 1	< 0.2	226	< 0.05	< 0.05	4.65	0.133	0.26	1.2
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.01	< 0.01	< 5	< 0.05	< 0.01	< 0.1	0.5	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	< 0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1
Method Blank	< 0.01	< 0.01	6	< 0.05	< 0.01	< 0.1	0.3	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	< 0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1
Method Blank	< 0.01	< 0.01	< 5	0.06	< 0.01	< 0.1	0.4	< 10	0.6	< 0.1	< 0.002	< 0.01	0.06	0.1	< 1	< 0.2	0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1
Method Blank				< 0.05		< 0.1	0.4		< 0.5	< 0.1	< 0.002		< 0.05	< 0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01		< 0.02	< 0.1

Analyte Symbol	K	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U
Unit Symbol	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Lower Limit	0.01	0.01	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS
Method Blank	< 0.01	< 0.01			< 0.01			< 10				< 0.01									< 0.005		
Method Blank	< 0.01	< 0.01	9		< 0.01			< 10				< 0.01									< 0.005		

Analyte Symbol	V	Zn	Au
Unit Symbol	ppm	ppm	ppb
Lower Limit	1	2	5
Method Code	TD-ICP	TD-ICP	FA-AA
SDC-1 Meas	42	106	
SDC-1 Cert	102.00	103.00	
Oreas 72a (4 Acid Digest) Meas			
Oreas 72a (4 Acid Digest) Cert			
OREAS 101b (4 Acid) Meas	78		
OREAS 101b (4 Acid) Cert	77		
OREAS 101b (4 Acid) Meas			
OREAS 101b (4 Acid) Cert			
OREAS 98 (4 Acid) Meas		1330	
OREAS 98 (4 Acid) Cert		1360	
OREAS 98 (4 Acid) Meas			
OREAS 98 (4 Acid) Cert			
DNC-1a Meas			
DNC-1a Cert			
OREAS 13b (4-Acid) Meas		119	
OREAS 13b (4-Acid) Cert		133	
OREAS 904 (4 ACID) Meas	85	28	
OREAS 904 (4 ACID) Cert	76.0	26.3	
OREAS 904 (4 ACID) Meas			
OREAS 904 (4 ACID) Cert			
SBC-1 Meas	214	195	
SBC-1 Cert	220.0	186	
OREAS 45d (4-Acid) Meas	140	48	
OREAS 45d (4-Acid) Cert	235.0	45.7	
OREAS 45d (4-Acid) Meas			
OREAS 45d (4-Acid) Cert			
OREAS 96 (4 Acid) Meas		454	
OREAS 96 (4 Acid) Cert		457	
OREAS 923 (4 Acid) Meas	95	367	
OREAS 923 (4 Acid) Cert	91.0	345	
OREAS 621 (4 Acid) Meas	35	> 10000	
OREAS 621 (4 Acid) Cert	31.8	52200	

Analyte Symbol	V	Zn	Au
Unit Symbol	ppm	ppm	ppb
Lower Limit	1	2	5
Method Code	TD-ICP	TD-ICP	FA-AA
OREAS 522 (4 Acid) Meas	159	29	
OREAS 522 (4 Acid) Cert	164	30.2	
OREAS 238 (Fire Assay) Meas			3070
OREAS 238 (Fire Assay) Cert			3030
OREAS 238 (Fire Assay) Meas			3070
OREAS 238 (Fire Assay) Cert			3030
Oreas E1336 (Fire Assay) Meas			506
Oreas E1336 (Fire Assay) Cert			510
Oreas E1336 (Fire Assay) Meas			503
Oreas E1336 (Fire Assay) Cert			510
OREAS 247 (4 Acid) Meas			
OREAS 247 (4 Acid) Cert			
A685919 Orig			< 5
A685919 Dup			< 5
A685922 Orig	72	33	
A685922 Dup	74	33	
A685922 Orig			
A685922 Dup			
A685943 Orig			< 5
A685943 Dup			< 5
A685945 Orig	57	29	
A685945 Dup	56	29	
A685951 Orig			5
A685951 Dup			< 5
A685970 Orig	35	78	
A685970 Dup	26	79	
A686000 Orig	69	56	5
A686000 Dup	46	57	5
A371221 Orig			< 5
A371221 Dup			11
A371229 Orig			5
A371229 Dup			5
A371235 Orig	53	70	
A371235 Dup	57	66	
Method Blank			< 5
Method Blank			< 5
Method Blank			< 5
Method Blank			< 5
Method Blank	< 1	< 2	
Method Blank	< 1	< 2	
Method Blank	< 1	< 2	
Method Blank			

Analyte Symbol	V	Zn	Au
Unit Symbol	ppm	ppm	ppb
Lower Limit	1	2	5
Method Code	TD-ICP	TD-ICP	FA-AA
Method Blank	< 1	< 2	
Method Blank	< 1	< 2	



Report No.: A20-13446
Report Date: 04-Jan-21
Date Submitted: 27-Oct-20
Your Reference: MEL

Portofino Resources
Suite 520-470 Granville St
Vancouver BC V6C1V5
Canada

ATTN: David Tafel

CERTIFICATE OF ANALYSIS

80 Humus samples were submitted for analysis.

Table with 3 columns: Analytical package(s) requested, Testing Date, and details. Rows include 1A2-50 (QOP AA-Au) and UT-6M (QOP Total/QOP Ultratrace).

REPORT A20-13446

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:

Handwritten signature of Elitsa Hrischeva

Elitsa Hrischeva, Ph.D.
Quality Control Coordinator

ACTIVATION LABORATORIES LTD.
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## Results

## Activation Laboratories Ltd.

## Report: A20-13446

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%
Lower Limit	5	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01
Method Code	FA-AA	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
A685902	10	0.13	4.22	2.2	370	0.68	0.07	2.06	0.66	23.8	7.6	38	0.59	8.8	1.70	7.22	< 0.05	< 0.1	0.027	0.92	7.3	6.6	0.60
A685904	15	0.34	1.06	2.5	430	0.16	0.10	1.92	1.15	6.50	3.9	9	0.66	13.6	0.49	0.18	< 0.05	< 0.1	0.012	0.28	4.5	2.3	0.18
A685906	8	0.08	5.32	3.6	470	0.80	0.22	1.69	0.23	19.5	8.6	38	1.01	6.4	1.73	10.2	< 0.05	2.0	0.027	1.24	9.5	8.0	0.55
A685908	< 5	0.12	3.46	2.3	430	0.43	0.13	1.55	0.75	13.8	6.0	40	0.94	9.3	1.23	5.61	< 0.05	0.6	0.025	0.76	5.9	5.7	0.40
A685910	< 5	0.11	5.02	2.9	540	0.80	0.16	1.75	0.53	16.4	6.3	40	1.05	5.7	1.57	9.97	< 0.05	2.7	0.023	1.15	7.9	7.6	0.47
A685911	< 5	0.11	5.03	3.0	490	0.78	0.12	1.96	0.35	19.6	8.6	58	1.08	6.4	2.21	11.3	< 0.05	3.9	0.031	1.22	8.3	9.9	0.70
A685913	13	0.48	2.49	2.7	330	0.37	0.13	1.57	0.95	16.2	9.7	23	0.90	12.2	0.87	4.24	< 0.05	0.6	0.020	0.61	8.4	4.1	0.32
A685914	12	0.13	3.95	8.8	780	0.63	0.23	1.68	0.65	15.8	8.4	37	1.15	8.3	1.34	7.71	0.13	2.7	0.025	1.21	7.6	7.1	0.41
A685916	40	0.09	5.30	2.6	440	0.70	0.12	1.73	0.24	16.8	5.6	39	0.72	4.4	1.38	10.2	< 0.05	3.2	0.019	1.29	8.4	5.4	0.50
A685918	5	0.08	5.55	3.4	410	0.72	0.10	1.89	0.14	17.3	5.9	38	0.78	7.4	1.66	11.6	< 0.05	0.4	0.023	1.18	8.5	6.8	0.58
A685920	< 5	0.07	6.22	2.4	430	0.88	0.10	1.93	0.10	14.3	5.1	36	0.71	9.2	1.44	13.3	0.07	0.8	0.029	1.33	7.0	5.2	0.53
A685921	35	0.05	5.70	2.0	370	0.84	0.06	2.15	0.07	25.4	8.3	44	0.54	8.2	2.06	11.7	< 0.05	0.3	0.024	1.19	9.8	6.6	0.72
A685924	12	0.03	5.76	1.0	350	0.81	0.06	2.59	0.07	36.5	11.8	64	0.41	5.5	3.05	12.6	< 0.05	0.2	0.037	1.17	17.2	5.4	0.94
A685925	21	0.16	5.51	4.6	400	0.83	0.15	1.84	0.22	28.3	11.6	46	1.33	13.1	2.39	13.2	< 0.05	0.4	0.033	1.13	13.8	14.3	0.75
A685927	8	0.33	3.57	5.7	390	0.48	0.17	1.25	0.23	22.6	6.2	31	1.06	8.9	1.45	7.27	< 0.05	0.1	0.022	0.79	11.3	6.7	0.40
A685929	16	0.25	1.97	5.8	280	0.35	0.13	1.68	0.90	11.1	7.5	18	1.00	9.2	0.83	3.63	< 0.05	< 0.1	0.021	0.49	5.8	3.5	0.29
A685931	11	0.08	3.20	4.7	330	0.47	0.14	1.64	0.56	14.3	6.9	29	1.17	9.5	1.35	6.30	< 0.05	0.2	0.023	0.72	7.1	6.0	0.44
A685933	6	0.08	1.68	5.5	240	0.25	0.14	1.20	0.95	9.77	3.9	17	0.72	11.1	0.74	3.27	< 0.05	< 0.1	0.021	0.39	5.0	2.8	0.20
A685935	< 5	0.19	4.75	3.2	450	0.74	0.25	1.49	0.28	27.8	5.0	43	1.43	16.4	1.64	14.1	0.09	0.2	0.036	0.98	14.6	10.8	0.45
A685938	< 5	0.26	6.02	2.5	490	1.01	0.19	1.48	0.16	42.4	19.4	51	2.87	20.5	2.61	14.5	0.13	0.4	0.045	1.28	20.7	20.1	0.63
A685939	< 5	0.09	4.69	3.4	420	0.65	0.12	1.65	0.29	20.1	7.7	36	0.81	16.7	1.74	9.55	0.12	0.2	0.027	1.04	10.1	7.8	0.55
A685940	7	0.10	6.62	2.8	420	0.93	0.11	2.22	0.18	37.0	11.1	45	1.03	24.3	2.33	13.1	0.16	2.7	0.027	1.25	20.2	12.5	0.72
A685941	< 5	0.10	4.79	3.1	350	0.53	0.09	1.96	0.29	14.8	9.1	34	1.02	12.3	2.04	10.8	< 0.05	0.2	0.024	0.89	7.2	10.6	0.56
A685942	6	0.13	4.04	3.1	430	0.52	0.12	2.20	1.22	16.7	9.3	32	0.79	11.4	1.40	7.14	< 0.05	< 0.1	0.021	0.84	8.2	6.4	0.54
A685944	< 5	0.13	4.03	3.6	360	0.57	0.11	1.47	0.44	13.3	5.1	31	1.00	8.0	1.28	7.94	< 0.05	0.1	0.017	0.97	6.6	5.1	0.43
A685946	< 5	0.13	5.15	3.4	390	0.70	0.11	1.61	0.22	16.7	5.4	34	0.74	8.1	1.51	10.8	0.05	0.2	0.026	1.13	8.1	6.1	0.49
A685948	45	0.08	4.68	3.0	450	0.63	0.13	2.17	0.53	27.8	9.0	45	1.49	8.1	2.26	9.27	0.09	0.1	0.025	1.00	10.2	8.8	0.72
A685950	43	0.10	4.34	5.7	480	0.71	0.27	1.57	0.42	22.7	8.7	45	1.23	17.4	2.06	10.7	0.20	0.1	0.034	1.08	10.6	8.6	0.55
A685952	31	0.11	2.27	6.2	290	0.35	0.18	1.04	0.32	13.0	2.7	22	1.30	10.3	1.11	4.80	< 0.05	0.1	0.021	0.60	6.7	5.0	0.26
A685954	20	0.16	2.96	6.4	430	0.45	0.20	1.50	0.26	15.1	4.1	33	0.90	6.7	1.26	5.14	< 0.05	0.2	0.029	0.69	7.5	5.6	0.35
A685956	10	0.18	2.60	4.5	280	0.36	0.20	1.27	0.30	14.1	2.4	22	0.83	13.0	0.96	5.26	< 0.05	0.1	0.020	0.69	7.3	4.2	0.25
A685958	18	0.09	2.83	5.3	250	0.44	0.20	1.05	0.17	11.9	2.8	21	0.68	5.0	0.87	5.12	< 0.05	0.2	0.020	0.68	6.2	3.6	0.26
A685960	13	0.02	5.80	1.7	390	0.89	0.08	1.89	0.08	18.5	7.1	47	0.56	3.2	2.40	12.4	0.07	1.3	0.028	1.28	8.6	6.9	0.63
A685962	11	0.09	3.48	4.3	360	0.55	0.21	1.26	0.43	15.7	3.1	32	0.71	8.0	1.01	6.41	0.09	0.3	0.035	0.80	8.0	4.0	0.31
A685963	18	0.18	2.14	4.1	150	0.31	0.13	0.92	0.52	11.2	2.6	19	0.42	8.4	0.83	4.28	< 0.05	< 0.1	0.011	0.48	5.5	2.5	0.27
A685964	41	0.07	4.43	3.3	320	0.56	0.05	1.75	0.16	19.8	6.7	34	0.61	13.6	1.56	7.88	0.05	1.0	0.012	0.96	8.9	5.8	0.58
A685966	9	0.06	5.69	2.3	430	0.77	0.07	2.14	0.50	19.0	7.6	39	0.90	10.8	1.80	10.9	< 0.05	3.1	0.029	1.22	8.5	8.9	0.67
A685967	17	0.13	5.30	5.6	480	0.75	0.19	1.69	0.23	20.7	6.1	39	1.24	7.8	1.73	11.4	0.05	< 0.1	0.018	1.36	10.8	7.9	0.54
A685969	8	0.13	4.40	4.9	480	0.55	0.18	1.74	0.68	18.1	6.8	40	1.50	8.9	1.68	9.16	0.09	0.1	0.025	0.99	8.4	7.6	0.50
A685971	7	0.13	3.03	7.1	370	0.47	0.29	1.04	0.34	17.7	3.7	25	0.95	6.8	1.19	5.57	0.08	0.2	0.033	0.72	9.0	5.1	0.30
A685973	7	0.09	3.01	8.1	270	0.43	0.24	1.09	0.24	17.4	2.9	20	0.95	8.8	1.24	6.03	0.11	0.3	0.026	0.67	9.1	5.5	0.29
A685975	< 5	0.05	4.12	2.8	280	0.53	0.06	1.76	0.09	15.8	4.8	34	0.54	7.3	1.31	7.84	0.11	2.4	0.020	0.91	7.5	4.6	0.51
A685976	< 5	0.06	1.09	34.6	130	0.20	0.17	2.96	0.27	13.7	8.2	13	0.34	10.8	3.33	2.27	< 0.05	0.3	0.016	0.24	6.6	2.9	0.30
A685977	< 5	0.06	0.66	8.2	130	0.16	0.17	3.90	0.74	8.98	2.3	6	0.23	12.3	1.19	1.15	< 0.05	0.3	0.023	0.13	5.5	1.6	0.25
A685978	< 5	0.07	0.75	6.6	120	0.19	0.21	3.27	0.85	9.88	1.6	9	0.31	9.6	0.74	1.66	< 0.05	0.3	0.025	0.16	5.4	2.0	0.26
A685979	< 5	0.07	0.74	3.3	110	0.15	0.10	1.80	0.66	10.5	2.6	7	0.31	11.7	1.06	1.34	< 0.05	0.2	0.016	0.16	5.9	1.6	0.22
A685980	5	0.06	0.70	4.3	100	0.14	0.11	2.79	0.54	11.9	1.4	11	0.28	9.1	0.61	1.48	< 0.05	0.2	0.011	0.14	7.0	1.7	0.28
A685981	< 5	0.10	2.07	3.3	170	0.34	0.12	1.81	0.84	37.3	3.8	17	0.45	19.2	2.04	3.98	< 0.05	< 0.1	0.019	0.39	21.5	4.1	0.35
A685982	< 5	0.12	4.00	3.3	360	0.67	0.17	1.38	0.53	30.3	4.3	36	0.81	16.9	1.30	9.05	0.22	1.9	0.021	0.92	18.8	6.7	0.42
A685983	< 5	0.10	5.05	2.9	480	0.65	0.16	1.60	0.26	17.3	6.2	41	1.01	7.1	1.58	10.5	0.28	3.1	0.023	1.25	8.6	7.7	0.54
A685985	< 5	0.13	5.57	1.5	460	0.75	0.22	1.47	0.14	26.2	4.3	31	1.01	11.1	1.37	14.1	0.12	0.3	0.031	1.27	14.2	6.1	0.42

## Results

## Activation Laboratories Ltd.

## Report: A20-13446

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%
Lower Limit	5	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01
Method Code	FA-AA	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
A685986	< 5	0.13	3.11	3.0	360	0.50	0.16	1.49	0.73	18.9	6.8	23	1.01	9.1	0.96	5.96	< 0.05	0.1	0.014	0.72	12.3	4.7	0.32
A685988	< 5	0.11	3.25	2.6	350	0.45	0.18	1.33	0.22	17.4	4.5	26	0.81	7.5	1.05	6.80	0.11	0.3	0.017	0.77	10.3	5.0	0.33
A685994	< 5	0.12	3.86	4.0	390	0.58	0.13	2.06	0.33	15.4	5.7	38	1.05	8.7	1.89	7.92	0.07	< 0.1	0.019	0.86	7.0	9.0	0.52
A685997	< 5	0.10	5.25	1.5	510	0.75	0.12	1.77	0.20	22.2	6.2	42	0.99	5.1	1.84	11.0	0.10	0.2	0.044	1.40	10.5	9.1	0.60
A685999	5	0.17	5.45	3.4	490	0.73	0.13	1.84	0.20	24.0	6.8	42	0.88	9.3	2.08	12.0	0.20	0.4	0.030	1.30	10.9	8.2	0.66
A371202	< 5	0.10	4.72	3.0	430	0.65	0.12	1.59	0.49	22.9	3.9	30	0.74	11.2	1.16	10.2	0.22	1.5	0.023	1.05	12.1	6.0	0.39
A371203	14	0.03	2.62	1.7	190	0.36	0.07	1.32	0.22	12.5	4.8	29	0.81	9.9	1.01	5.35	< 0.05	< 0.1	0.016	0.64	5.8	3.8	0.41
A371205	28	0.08	5.93	4.0	510	0.85	0.15	2.18	0.38	28.6	10.3	70	1.46	10.5	2.66	12.2	0.14	0.4	0.044	1.32	13.3	12.4	0.86
A371208	5	0.08	3.03	4.3	220	0.45	0.14	1.81	0.68	15.8	4.0	27	0.96	24.4	0.88	6.06	0.05	0.3	0.025	0.61	7.7	3.8	0.38
A371209	< 5	0.03	6.46	0.8	410	0.97	0.06	2.64	0.05	24.3	8.2	45	0.44	6.4	1.91	12.1	0.11	0.5	0.026	1.36	11.5	6.2	0.87
A371211	5	0.04	2.79	2.6	240	0.43	0.10	1.06	0.30	11.4	3.4	31	0.83	9.0	1.17	5.40	< 0.05	0.2	0.011	0.64	5.7	3.5	0.35
A371213	< 5	0.05	4.27	3.8	370	0.58	0.15	1.61	0.29	17.2	6.4	57	1.60	13.3	2.04	9.15	0.14	0.2	0.023	0.99	8.4	8.5	0.61
A371215	< 5	0.06	5.69	1.6	380	0.90	0.07	2.12	0.17	54.3	7.1	53	0.75	13.9	2.18	11.2	0.08	0.7	0.033	1.10	31.7	10.6	0.69
A371216	< 5	0.08	6.26	3.7	400	0.74	0.09	2.02	0.18	41.2	9.6	47	0.81	23.8	2.08	12.1	0.11	1.1	0.026	1.21	19.9	13.0	0.75
A371217	5	0.11	2.72	4.5	240	0.39	0.15	1.43	0.26	20.6	3.5	33	0.75	11.3	1.13	5.33	< 0.05	0.4	0.016	0.62	12.6	4.2	0.34
A371219	< 5	0.08	3.78	2.6	380	0.50	0.22	1.20	0.47	21.5	3.9	33	0.84	12.0	1.17	9.36	0.06	0.1	0.026	0.94	10.7	5.4	0.32
A371222	< 5	0.04	4.76	2.5	340	0.69	0.07	1.79	0.10	16.7	6.4	44	0.45	7.2	1.69	10.1	0.07	0.4	0.024	1.03	7.8	5.6	0.57
A371224	< 5	0.09	1.75	4.2	510	0.33	0.17	1.81	1.27	12.5	7.1	17	1.30	12.7	0.88	1.61	< 0.05	< 0.1	0.021	0.44	6.7	4.0	0.29
A371226	5	0.10	3.54	3.8	540	0.57	0.26	1.97	0.82	21.1	8.2	34	1.09	11.5	1.34	6.53	0.16	0.2	0.022	0.92	10.4	7.3	0.49
A371228	< 5	0.12	2.08	3.9	640	0.37	0.19	2.26	2.39	14.1	6.3	25	1.13	14.6	0.90	2.19	< 0.05	0.2	0.019	0.55	7.4	4.8	0.33
A371230	6	0.16	3.81	5.9	530	0.59	0.31	1.46	0.57	23.2	10.6	34	1.33	10.9	1.53	7.45	0.27	0.3	0.027	1.03	12.1	7.7	0.49
A371234	< 5	0.15	3.27	5.4	410	0.51	0.29	1.67	0.66	16.8	7.6	32	1.27	11.8	1.51	6.51	0.12	0.2	0.025	0.79	8.2	7.0	0.49
A371236	8	0.10	1.75	6.9	400	0.35	0.34	0.88	1.15	16.2	7.4	19	1.16	14.4	0.92	2.51	< 0.05	< 0.1	0.027	0.50	9.0	4.4	0.19
A371237	5	0.24	2.78	5.7	750	0.51	0.40	1.60	1.75	20.1	11.4	27	1.45	11.7	1.16	2.64	< 0.05	< 0.1	0.033	0.76	11.0	5.5	0.32
A371238	5	0.13	3.62	3.3	500	0.55	0.24	1.81	0.70	18.9	9.0	34	1.42	15.0	1.44	6.81	0.19	0.3	0.025	0.93	10.4	7.0	0.49
A371242	< 5	0.09	3.92	8.9	520	0.63	0.24	1.67	0.91	22.3	11.5	47	1.50	9.6	1.81	7.88	0.20	0.3	0.030	0.95	10.9	8.0	0.49
A371244	< 5	0.11	1.53	6.2	360	0.27	0.24	1.80	0.66	11.9	6.3	14	0.86	11.2	0.74	2.12	< 0.05	< 0.1	0.020	0.41	7.4	3.4	0.24
A371245	< 5	0.08	1.69	4.4	310	0.33	0.12	1.57	0.79	8.84	5.2	23	0.84	9.8	0.82	2.73	< 0.05	< 0.1	0.013	0.46	5.4	3.3	0.31
A371247	< 5	0.10	3.17	2.2	530	0.54	0.13	2.11	0.48	15.3	6.5	35	1.04	9.6	1.35	5.33	0.09	0.1	0.025	0.79	9.4	5.8	0.47



## Results

## Activation Laboratories Ltd.

## Report: A20-13446

Analyte Symbol	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1
Method Code	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS
A685902	1320	0.44	1.31	0.9	16.8	980	9.6	33.3	< 0.002	0.08	0.16	5.9	< 1	0.3	185	< 0.05	< 0.05	3.11	0.215	0.18	0.7	53	0.4
A685904	2150	0.43	0.24	0.3	6.0	1230	20.2	14.3	< 0.002	0.19	0.23	1.3	< 1	0.2	101	< 0.05	< 0.05	1.02	0.052	0.15	0.2	12	0.2
A685906	1090	0.57	1.69	2.1	12.3	420	33.3	47.8	< 0.002	0.04	0.18	6.9	< 1	1.0	219	0.15	< 0.05	2.88	0.290	0.31	1.0	55	0.2
A685908	2490	0.63	1.02	2.2	10.8	890	25.1	34.0	< 0.002	0.11	0.37	4.0	< 1	0.6	165	0.14	< 0.05	1.76	0.155	0.23	0.5	37	0.3
A685910	1410	0.63	1.73	2.7	11.5	450	34.0	47.4	< 0.002	0.05	0.19	5.5	< 1	1.0	243	0.08	< 0.05	2.58	0.212	0.31	0.8	48	0.2
A685911	1100	0.48	1.74	4.2	20.6	610	15.3	43.3	< 0.002	0.04	0.10	6.4	< 1	1.0	228	0.20	< 0.05	3.02	0.318	0.25	0.9	71	0.2
A685913	2070	0.63	0.69	0.6	7.7	1630	17.9	31.7	< 0.002	0.17	0.14	3.2	< 1	< 0.2	126	< 0.05	< 0.05	2.10	0.091	0.14	0.5	25	0.1
A685914	4800	0.87	1.57	5.8	12.6	580	40.7	40.8	< 0.002	0.07	0.55	4.9	< 1	1.1	199	0.45	0.06	3.33	0.229	0.41	0.7	42	0.4
A685916	747	0.53	1.87	5.4	7.5	360	19.0	47.5	< 0.002	0.04	0.19	6.0	< 1	0.9	245	0.29	< 0.05	2.57	0.241	0.28	0.7	47	0.2
A685918	483	0.42	2.02	1.4	13.3	280	17.5	42.9	< 0.002	0.05	0.16	6.9	< 1	0.7	254	0.07	< 0.05	2.30	0.205	0.29	0.6	47	0.1
A685920	260	0.35	2.11	1.2	11.5	200	16.6	48.7	< 0.002	0.03	< 0.05	7.0	< 1	0.5	288	0.10	< 0.05	2.25	0.215	0.28	0.7	40	< 0.1
A685921	385	0.31	2.01	1.2	18.9	330	11.7	45.7	< 0.002	0.04	< 0.05	8.3	< 1	0.4	265	< 0.05	< 0.05	3.57	0.247	0.23	0.7	64	< 0.1
A685924	573	0.08	2.06	0.2	20.5	310	11.3	43.3	< 0.002	0.02	< 0.05	11.8	< 1	0.2	295	< 0.05	< 0.05	7.27	0.326	0.22	1.1	91	< 0.1
A685925	815	0.43	1.63	0.9	16.8	420	20.1	50.2	< 0.002	0.03	< 0.05	9.3	< 1	0.6	224	0.05	< 0.05	4.33	0.303	0.31	1.3	69	< 0.1
A685927	711	0.74	1.06	1.5	11.5	770	30.9	35.0	< 0.002	0.09	0.41	5.1	< 1	0.4	150	0.08	< 0.05	2.62	0.190	0.39	0.8	44	0.3
A685929	1460	0.51	0.56	0.9	7.1	960	21.0	23.0	< 0.002	0.17	0.45	2.6	< 1	0.4	116	< 0.05	< 0.05	1.55	0.099	0.20	0.5	23	0.2
A685931	630	0.69	0.89	1.7	10.8	910	19.1	32.7	< 0.002	0.11	0.33	4.4	< 1	0.4	163	0.06	< 0.05	2.21	0.187	0.17	0.6	41	0.3
A685933	380	0.49	0.46	1.0	4.8	960	30.3	18.9	< 0.002	0.15	0.47	2.7	< 1	0.4	91.9	< 0.05	< 0.05	1.46	0.094	0.13	0.5	20	0.3
A685935	390	0.09	1.39	0.4	8.3	530	23.5	38.6	< 0.002	0.04	< 0.05	8.5	< 1	0.6	236	< 0.05	< 0.05	4.21	0.253	0.28	1.4	51	< 0.1
A685938	1260	0.11	1.42	0.3	19.3	560	18.0	68.8	< 0.002	0.03	< 0.05	7.8	< 1	0.5	213	< 0.05	< 0.05	5.44	0.171	0.37	1.7	52	< 0.1
A685939	610	0.26	1.46	1.9	13.3	640	19.3	39.9	< 0.002	0.07	0.16	6.6	< 1	0.8	208	0.06	< 0.05	2.76	0.233	0.24	0.8	50	< 0.1
A685940	735	0.09	2.07	1.0	22.9	340	14.1	52.6	< 0.002	0.03	< 0.05	9.4	< 1	0.3	274	0.08	< 0.05	5.18	0.134	0.32	1.4	40	< 0.1
A685941	1090	0.57	1.48	1.7	14.0	730	10.6	42.6	< 0.002	0.07	0.59	6.9	< 1	0.6	204	< 0.05	< 0.05	2.16	0.242	0.22	0.7	62	0.2
A685942	3360	0.45	1.30	1.7	12.9	810	20.1	31.9	< 0.002	0.13	0.27	5.1	< 1	0.5	202	0.06	< 0.05	2.16	0.175	0.26	0.6	41	0.3
A685944	865	0.68	1.41	1.6	8.9	760	15.9	38.9	< 0.002	0.09	0.29	4.9	< 1	0.4	177	< 0.05	< 0.05	2.21	0.180	0.25	0.6	36	0.4
A685946	402	0.59	1.87	2.2	9.8	500	17.7	40.4	< 0.002	0.07	0.18	5.8	< 1	0.6	230	< 0.05	< 0.05	2.43	0.228	0.26	0.7	44	0.2
A685948	1430	0.55	1.39	1.6	15.9	920	18.8	42.1	< 0.002	0.09	0.24	6.9	< 1	0.7	228	0.06	< 0.05	3.30	0.285	0.22	0.8	68	0.2
A685950	2180	1.00	1.22	1.1	10.5	640	44.3	41.2	0.010	0.10	0.35	6.0	< 1	1.4	189	0.06	< 0.05	3.91	0.286	0.24	1.1	64	< 0.1
A685952	260	0.73	0.50	2.1	8.1	840	27.6	24.5	< 0.002	0.16	0.73	3.0	< 1	1.2	110	< 0.05	< 0.05	2.22	0.151	0.20	0.7	33	0.4
A685954	982	0.72	0.77	2.0	8.8	720	35.6	28.0	< 0.002	0.13	0.54	3.9	< 1	0.7	152	< 0.05	< 0.05	2.57	0.190	0.30	0.7	39	0.3
A685956	291	0.70	0.71	1.4	4.4	550	34.2	28.6	< 0.002	0.12	0.47	3.2	< 1	0.6	126	< 0.05	< 0.05	2.50	0.191	0.19	0.7	30	0.3
A685958	154	0.71	0.82	1.6	5.7	410	23.8	26.0	< 0.002	0.09	0.57	3.1	< 1	0.6	128	< 0.05	< 0.05	1.99	0.126	0.16	0.5	28	0.3
A685960	369	< 0.05	1.96	0.1	15.7	150	13.1	45.1	< 0.002	0.03	< 0.05	8.1	< 1	< 0.2	265	< 0.05	< 0.05	3.05	0.171	0.24	0.7	49	< 0.1
A685962	178	0.64	1.03	1.6	7.2	480	30.4	29.4	< 0.002	0.06	0.36	4.0	< 1	0.5	151	0.06	< 0.05	2.76	0.197	0.18	0.7	35	0.2
A685963	124	0.48	0.64	1.3	6.8	790	25.5	16.8	< 0.002	0.15	0.45	2.8	< 1	0.5	91.8	< 0.05	< 0.05	1.64	0.097	0.10	0.4	23	0.2
A685964	475	0.34	1.56	2.9	14.5	650	8.2	35.2	< 0.002	0.09	0.27	5.7	1	0.5	189	0.13	< 0.05	1.98	0.177	0.18	0.5	44	0.4
A685966	628	0.42	1.95	2.6	15.4	530	11.5	50.5	< 0.002	0.05	0.10	6.6	< 1	0.7	263	0.06	< 0.05	2.74	0.223	0.24	0.7	50	0.2
A685967	720	0.58	1.72	0.8	10.7	400	29.8	57.4	< 0.002	0.04	0.14	6.5	< 1	0.6	227	< 0.05	< 0.05	3.44	0.272	0.31	1.0	52	0.1
A685969	2280	0.71	1.45	2.0	10.3	850	29.2	45.4	< 0.002	0.08	0.57	5.6	< 1	0.8	203	0.06	< 0.05	2.69	0.231	0.28	0.8	48	0.4
A685971	798	0.79	0.80	1.7	6.4	810	43.2	30.5	< 0.002	0.10	0.65	3.6	< 1	0.7	124	0.07	< 0.05	2.55	0.182	0.24	0.7	35	0.3
A685973	213	1.63	0.76	2.2	7.3	750	29.5	27.3	< 0.002	0.12	0.74	3.8	< 1	1.1	108	0.09	< 0.05	3.13	0.157	0.19	0.9	33	0.4
A685975	278	0.50	1.43	4.3	10.4	470	9.9	35.5	< 0.002	0.11	0.16	5.4	< 1	0.6	193	0.22	< 0.05	2.64	0.177	0.17	1.0	38	0.2
A685976	537	0.95	0.24	1.5	7.0	860	24.3	10.6	< 0.002	0.30	0.47	1.6	< 1	0.6	85.6	0.05	< 0.05	1.59	0.054	0.07	0.6	22	0.2
A685977	209	0.73	0.11	1.2	5.8	740	19.2	5.3	0.002	0.33	0.43	1.1	1	0.5	99.3	0.09	< 0.05	1.34	0.034	0.06	0.7	14	0.1
A685978	133	1.13	0.11	1.5	3.9	750	27.0	6.7	0.002	0.36	0.60	1.2	1	0.8	85.8	0.07	0.06	1.31	0.040	0.09	0.4	14	0.2
A685979	188	0.80	0.15	1.1	5.0	1080	17.5	7.0	< 0.002	0.41	0.32	1.2	< 1	0.4	61.0	< 0.05	< 0.05	1.00	0.030	0.05	0.4	16	0.2
A685980	65	0.86	0.11	1.0	5.0	970	16.8	5.9	< 0.002	0.42	0.42	1.4	1	0.6	78.6	< 0.05	< 0.05	1.20	0.032	0.07	0.5	13	0.2
A685981	164	0.75	0.45	2.0	9.5	1260	25.0	16.4	< 0.002	0.34	0.25	3.2	< 1	0.5	101	< 0.05	< 0.05	2.22	0.084	0.11	1.1	29	0.2
A685982	345	0.35	1.19	0.6	9.7	540	22.9	40.7	< 0.002	0.08	0.27	5.5	< 1	1.1	172	< 0.05	< 0.05	3.47	0.175	0.22	1.3	27	< 0.1
A685983	1170	0.32	1.61	0.9	10.5	530	27.1	48.4	< 0.002	0.05	0.07	6.1	< 1	0.8	216	0.06	< 0.05	3.16	0.237	0.30	0.8	47	< 0.1
A685985	253	< 0.05	1.78	< 0.1	8.1	340	28.9	51.2	< 0.002	0.03	< 0.05	6.5	< 1	0.3	225	< 0.05	< 0.05	3.83	0.145	0.30	1.6	26	< 0.1

Analyte Symbol	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1
Method Code	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS
A685986	1790	0.67	0.89	1.5	4.1	820	25.1	34.7	< 0.002	0.11	0.34	3.8	< 1	< 0.2	152	< 0.05	< 0.05	2.10	0.171	0.29	0.7	31	0.3
A685988	793	0.66	0.91	1.5	4.3	800	27.9	30.1	< 0.002	0.10	0.34	4.4	< 1	0.6	156	0.07	< 0.05	2.64	0.235	0.21	0.9	35	0.3
A685994	963	0.52	1.18	1.3	12.0	950	15.8	36.1	< 0.002	0.08	0.21	5.4	< 1	0.5	182	< 0.05	< 0.05	2.52	0.240	0.19	0.7	57	0.3
A685997	866	< 0.05	1.66	0.1	10.4	430	18.9	55.5	< 0.002	0.03	< 0.05	6.9	< 1	0.3	231	< 0.05	< 0.05	3.51	0.203	0.28	1.1	39	< 0.1
A685999	578	0.12	1.77	0.5	19.2	490	19.2	47.5	< 0.002	0.04	< 0.05	6.9	< 1	0.5	242	0.05	< 0.05	4.90	0.184	0.27	0.9	51	< 0.1
A371202	236	0.16	1.58	0.4	9.5	390	21.7	37.0	< 0.002	0.07	< 0.05	6.1	< 1	0.9	209	< 0.05	< 0.05	3.38	0.185	0.27	1.0	28	< 0.1
A371203	453	0.76	0.84	1.0	9.6	940	6.7	30.9	< 0.002	0.11	0.19	3.6	< 1	0.4	135	< 0.05	< 0.05	1.39	0.118	0.12	0.3	31	0.2
A371205	1090	0.20	1.90	0.8	19.4	630	25.4	56.7	< 0.002	0.04	0.05	8.3	< 1	0.6	244	0.07	< 0.05	6.06	0.250	0.30	1.0	69	< 0.1
A371208	200	1.80	0.87	2.4	10.9	690	23.8	24.2	< 0.002	0.36	0.41	4.3	1	0.7	142	< 0.05	< 0.05	2.33	0.137	0.14	0.7	31	0.8
A371209	423	0.14	2.21	0.5	18.2	340	12.7	48.2	< 0.002	< 0.01	< 0.05	10.0	< 1	0.3	319	< 0.05	< 0.05	3.64	0.256	0.26	0.8	52	0.1
A371211	247	0.44	0.87	1.8	7.9	630	15.4	25.6	< 0.002	0.11	0.27	3.6	< 1	0.5	123	< 0.05	< 0.05	1.82	0.154	0.14	0.4	36	0.3
A371213	585	0.60	1.37	1.6	14.4	500	19.0	53.3	< 0.002	0.09	0.20	6.1	< 1	0.9	187	< 0.05	< 0.05	2.63	0.259	0.26	0.7	62	0.2
A371215	339	0.27	1.73	0.9	17.2	410	10.8	40.1	< 0.002	0.08	< 0.05	9.4	< 1	0.7	239	0.06	< 0.05	5.58	0.235	0.24	2.0	69	< 0.1
A371216	417	0.40	2.06	1.2	18.6	520	14.6	43.9	< 0.002	0.08	0.05	9.2	< 1	0.7	250	0.11	< 0.05	5.29	0.231	0.25	1.1	61	0.1
A371217	302	0.58	0.82	2.0	8.0	580	24.5	25.7	< 0.002	0.14	0.40	3.7	< 1	0.7	125	0.06	< 0.05	1.94	0.139	0.16	0.5	35	0.4
A371219	347	0.82	1.16	0.9	5.1	540	31.1	34.7	< 0.002	0.06	0.19	4.9	< 1	0.5	169	< 0.05	< 0.05	4.87	0.301	0.23	1.3	46	0.3
A371222	315	0.30	1.71	0.9	14.4	310	11.8	39.5	< 0.002	0.07	0.09	6.5	< 1	0.5	236	< 0.05	< 0.05	2.46	0.211	0.20	0.6	51	< 0.1
A371224	3890	0.67	0.43	1.4	9.5	1460	39.8	23.3	< 0.002	0.18	0.35	2.1	< 1	0.4	148	< 0.05	0.06	1.63	0.091	0.17	0.4	22	0.3
A371226	2750	0.69	1.02	1.4	5.8	890	44.4	42.1	< 0.002	0.10	0.42	5.3	< 1	0.6	192	0.09	< 0.05	3.04	0.242	0.29	1.0	42	0.4
A371228	3120	0.62	0.51	2.0	6.7	1050	41.7	32.8	< 0.002	0.15	0.42	2.7	< 1	0.6	177	0.05	< 0.05	2.01	0.137	0.24	0.6	25	0.3
A371230	2670	0.69	1.04	3.5	9.6	880	59.9	44.4	< 0.002	0.09	0.63	5.5	< 1	1.6	175	0.21	< 0.05	3.52	0.269	0.39	1.0	44	0.3
A371234	1560	0.75	0.82	2.3	10.3	1030	41.0	40.9	< 0.002	0.12	0.50	4.7	< 1	1.0	154	0.10	< 0.05	2.91	0.215	0.22	0.8	44	0.4
A371236	1640	0.98	0.31	1.5	5.2	1380	64.1	23.9	< 0.002	0.15	0.82	2.5	1	1.0	85.4	< 0.05	0.06	2.41	0.111	0.17	0.7	24	0.4
A371237	5320	0.92	0.68	0.9	7.4	1130	75.5	39.1	< 0.002	0.12	0.81	3.4	1	0.4	150	< 0.05	< 0.05	3.09	0.148	0.41	0.8	31	0.7
A371238	2560	0.76	1.09	2.1	9.0	960	39.5	41.6	< 0.002	0.09	0.45	5.1	< 1	0.7	197	0.15	< 0.05	2.85	0.244	0.26	0.9	46	0.4
A371242	2970	0.91	1.11	2.3	11.4	910	44.6	39.8	< 0.002	0.09	0.60	5.4	< 1	1.0	194	0.13	0.06	3.40	0.281	0.30	1.0	52	0.5
A371244	897	0.90	0.32	1.2	5.3	1100	41.1	19.0	< 0.002	0.17	0.56	2.0	1	0.6	146	0.06	< 0.05	1.97	0.095	0.13	0.6	19	0.3
A371245	1480	0.55	0.44	1.2	8.9	1200	19.6	21.4	< 0.002	0.18	0.33	2.1	< 1	0.5	125	0.11	< 0.05	1.44	0.104	0.12	0.4	23	0.3
A371247	1280	0.60	0.93	2.5	6.4	990	19.0	36.0	< 0.002	0.12	0.25	4.2	< 1	0.5	197	0.05	< 0.05	2.20	0.216	0.18	0.6	43	0.3

Analyte Symbol	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm
Lower Limit	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS
A685902	6.2	118	7.2
A685904	2.0	152	2.3
A685906	7.1	42	109
A685908	4.5	78	17.4
A685910	6.2	59	103
A685911	7.0	92	147
A685913	4.5	144	32.7
A685914	5.9	38	102
A685916	5.8	28	120
A685918	6.5	32	34.0
A685920	6.3	21	60.1
A685921	7.9	35	26.4
A685924	12.7	37	21.9
A685925	10.5	86	29.6
A685927	6.6	47	4.4
A685929	3.4	100	4.1
A685931	5.2	72	12.6
A685933	3.7	98	2.2
A685935	10.8	92	13.2
A685938	11.1	105	32.7
A685939	6.9	57	20.3
A685940	11.0	46	101
A685941	7.2	84	9.0
A685942	5.5	77	8.1
A685944	5.2	67	7.3
A685946	6.0	32	25.6
A685948	7.1	66	8.5
A685950	7.2	46	15.1
A685952	4.1	30	7.2
A685954	5.1	42	26.7
A685956	4.6	52	4.6
A685958	4.4	17	11.1
A685960	7.6	26	78.7
A685962	5.7	25	10.4
A685963	3.3	49	5.7
A685964	5.9	49	50.1
A685966	6.8	67	118
A685967	7.5	44	11.7
A685969	6.6	106	6.7
A685971	5.6	50	8.9
A685973	4.9	44	10.9
A685975	6.2	22	89.0
A685976	3.7	18	7.4
A685977	3.5	20	11.4
A685978	3.2	13	11.8
A685979	3.0	20	6.0
A685980	3.7	11	5.9
A685981	7.6	17	3.3
A685982	7.8	56	82.7
A685983	6.8	49	117
A685985	9.6	32	25.7

Analyte Symbol	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm
Lower Limit	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS
A685986	5.8	58	5.2
A685988	6.3	36	9.8
A685994	6.0	115	8.2
A685997	8.4	55	11.5
A685999	7.4	52	32.2
A371202	7.8	42	76.7
A371203	4.0	41	3.9
A371205	9.0	83	34.8
A371208	5.1	43	8.1
A371209	10.2	32	35.9
A371211	4.1	43	11.4
A371213	6.1	65	8.6
A371215	15.0	28	36.8
A371216	9.8	51	61.9
A371217	4.2	28	24.5
A371219	8.0	33	7.9
A371222	6.5	24	34.1
A371224	3.9	80	2.4
A371226	7.1	123	9.4
A371228	4.4	207	5.6
A371230	7.5	74	13.1
A371234	5.6	85	4.6
A371236	4.6	121	4.9
A371237	5.9	253	2.6
A371238	7.1	60	13.8
A371242	7.1	88	18.6
A371244	4.0	70	3.1
A371245	3.0	59	4.5
A371247	5.3	82	13.7

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg	
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	
Lower Limit	5	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01	
Method Code	FA-AA	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	
OREAS 72a (4 Acid Digest) Meas				6.1							162	185		348	9.68									
OREAS 72a (4 Acid Digest) Cert				14.7							157	228		316	9.63									
OREAS 101b (4 Acid) Meas										> 500	48.3			443	10.4					2.00	698		1.24	
OREAS 101b (4 Acid) Cert										1325	45			412	10.7					2.36	754		1.23	
OREAS 101b (4 Acid) Meas										> 500	46.4			441	10.5					2.50	693		1.24	
OREAS 101b (4 Acid) Cert										1325	45			412	10.7					2.36	754		1.23	
OREAS 101b (4 Acid) Meas										> 500	46.6			418								670		
OREAS 101b (4 Acid) Cert										1325	45			412								754		
OREAS 98 (4 Acid) Meas		42.7					88.1				125			> 10000										
OREAS 98 (4 Acid) Cert		45.1					97.2				121			14800 0.0										
DNC-1a Meas					100			7.34			60.0	180		106	7.07	13.4						3.6	4.8	
DNC-1a Cert					118			8.21			57	270		100	6.97	15						3.6	5.2	
DNC-1a Meas					100			7.37			54.9	177		101	6.71	14.3						3.5	4.7	
DNC-1a Cert					118			8.21			57	270		100	6.97	15						3.6	5.2	
DNC-1a Meas											57.3			107		14.9						3.7	4.4	
DNC-1a Cert											57			100		15						3.6	5.2	
OREAS 13b (4-Acid) Meas		0.84		50.4							77.0			2100										
OREAS 13b (4-Acid) Cert		0.86		57							75			2327.0 000										
OREAS 904 (4 ACID) Meas		0.68	6.54	100	200	8.53	4.20	0.05		85.7	87.4	59	3.83	6180	6.72	15.6	0.18	0.9	0.238	3.24	42.1	15.6	0.56	
OREAS 904 (4 ACID) Cert		0.551	6.30	98.0	194	7.86	4.05	0.0460		86.0	83.0	54.0	3.79	6120	6.68	16.7	0.180	5.00	0.220	3.31	43.2	16.7	0.556	
OREAS 904 (4 ACID) Meas		0.57	6.40	110	200	8.77	4.30	0.05		84.6	87.2	62	3.76	5930	6.45	18.3	0.22	1.9	0.193	3.29	44.4	16.4	0.56	
OREAS 904 (4 ACID) Cert		0.551	6.30	98.0	194	7.86	4.05	0.0460		86.0	83.0	54.0	3.79	6120	6.68	16.7	0.180	5.00	0.220	3.31	43.2	16.7	0.556	
OREAS 904 (4 ACID) Meas		0.57		110		8.45	4.43			84.7	84.8		3.81	5810		17.3	0.32	3.0	0.224		43.0	15.8		
OREAS 904 (4 ACID) Cert		0.551		98.0		7.86	4.05			86.0	83.0		3.79	6120		16.7	0.180	5.00	0.220		43.2	16.7		
SBC-1 Meas				29.0	620	3.33	0.68		0.35	102	24.8	99	8.26	36.9		26.3						48.0	172	
SBC-1 Cert				25.7	788.0	3.20	0.70		0.40	108.0	22.7	109	8.2	31.0		27.0						52.5	163	
SBC-1 Meas				29.1	450	3.04	0.70		0.50	98.8	21.8	105	8.12	32.9		22.3						48.2	168	
SBC-1 Cert				25.7	788.0	3.20	0.70		0.40	108.0	22.7	109	8.2	31.0		27.0						52.5	163	
SBC-1 Meas				32.4		3.30	0.74		0.45	102	22.8		8.91	34.8		26.4						51.4	168	
SBC-1 Cert				25.7		3.20	0.70		0.40	108.0	22.7		8.2	31.0		27.0						52.5	163	
OREAS 45d (4-Acid) Meas			7.93	10.2	180	0.66	0.33	0.19		37.2	29.2	496	3.92	386	13.8	22.3			2.3	0.087	0.42	16.9	20.7	0.24
OREAS 45d (4-Acid) Cert			8.150	13.8	183.0	0.79	0.31	0.185		37.20	29.50	549	3.910	371	14.5	21.20			3.830	0.096	0.412	16.9	21.5	0.245
OREAS 45d (4-Acid) Meas			8.21		190			0.19				564			14.3						0.43		0.24	
OREAS 45d (4-Acid) Cert			8.150		183.0			0.185				549			14.5						0.412		0.245	
OREAS	532																							

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%
Lower Limit	5	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01
Method Code	FA-AA	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
251 (FA-Ancaster) Meas																							
OREAS 251 (FA-Ancaster) Cert	504																						
OREAS 251 (FA-Ancaster) Meas	508																						
OREAS 251 (FA-Ancaster) Cert	504																						
OREAS 251 (FA-Ancaster) Meas	518																						
OREAS 251 (FA-Ancaster) Cert	504																						
OREAS 96 (4 Acid) Meas		12.0					27.5				48.7			> 10000									
OREAS 96 (4 Acid) Cert		11.5					26.3				49.9			39300									
OREAS 96 (4 Acid) Meas		11.8					28.1				50.8			> 10000									
OREAS 96 (4 Acid) Cert		11.5					26.3				49.9			39300									
OREAS 96 (4 Acid) Meas		11.1					28.1				49.9			> 10000									
OREAS 96 (4 Acid) Cert		11.5					26.3				49.9			39300									
OREAS 96 (4 Acid) Meas		11.2					28.9				50.7			> 10000									
OREAS 96 (4 Acid) Cert		11.5					26.3				49.9			39300									
OREAS 96 (4 Acid) Meas		10.4					27.4				47.4			> 10000									
OREAS 96 (4 Acid) Cert		11.5					26.3				49.9			39300									
OREAS 923 (4 Acid) Meas		1.59	7.42	8.2	370	2.30	19.0	0.49	0.38	79.5	23.2	77	6.70	4140	6.43	19.6		3.5	0.503	1.48	41.1	29.9	1.75
OREAS 923 (4 Acid) Cert		1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	83.0	23.1	71.0	6.70	4230	6.43	20.3		3.42	0.520	2.51	42.2	31.4	1.69
OREAS 621 (4 Acid) Meas		62.9	6.59	78.7		1.85	4.32	2.05	334	50.5	29.1	33	3.35	3450	3.61	17.1		4.6	1.88	1.86	23.6	15.1	0.52
OREAS 621 (4 Acid) Cert		69.0	6.40	77.0		1.69	3.93	1.97	284	46.6	29.3	37.1	3.28	3630	3.70	24.6		4.41	1.83	2.20	21.6	14.2	0.507
OREAS 217 (Fire Assay) Meas	324																						
OREAS 217 (Fire Assay) Cert	338																						
OREAS 217 (Fire Assay) Meas	331																						
OREAS 217 (Fire Assay) Cert	338																						
Oreas 237 (fire Assay) Meas	2230																						
Oreas 237 (fire Assay) Cert	2210																						
OREAS 247 (4 Acid) Meas		2.22		301		2.20	0.58		0.15	36.2	12.3		5.12	53.0		12.5		2.8	0.052		16.4	34.2	

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%
Lower Limit	5	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01
Method Code	FA-AA	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
OREAS 247 (4 Acid) Cert		2.16		3510		2.23	0.580		0.0650	67.0	12.0		8.49	42.2		16.3		3.57	0.0580		33.1	31.8	
A685925 Orig		0.16	5.45	4.7	390	0.85	0.15	1.82	0.19	28.4	11.8	44	1.32	14.0	2.39	13.0	< 0.05	0.1	0.034	1.11	13.7	14.6	0.74
A685925 Dup		0.16	5.58	4.5	400	0.80	0.14	1.86	0.24	28.3	11.4	48	1.35	12.3	2.40	13.4	0.05	0.6	0.031	1.14	13.9	14.0	0.75
A685942 Orig		0.13	4.04	2.9	430	0.53	0.12	2.21	1.24	16.5	9.3	33	0.79	11.1	1.38	7.35	< 0.05	0.2	0.025	0.83	8.2	6.3	0.55
A685942 Dup		0.13	4.03	3.3	430	0.51	0.12	2.19	1.19	16.9	9.3	32	0.80	11.7	1.42	6.93	< 0.05	< 0.1	0.017	0.84	8.3	6.5	0.53
A685963 Orig		0.19	2.25	3.9	160	0.29	0.12	0.96	0.49	11.1	2.6	21	0.41	8.2	0.86	4.41	< 0.05	< 0.1	0.013	0.50	5.4	2.5	0.28
A685963 Dup		0.17	2.04	4.2	150	0.33	0.13	0.89	0.56	11.3	2.6	17	0.43	8.6	0.81	4.15	< 0.05	< 0.1	0.010	0.46	5.6	2.5	0.26
A685981 Orig		0.10	2.11	3.4	170	0.34	0.11	1.82	0.89	36.5	3.9	19	0.44	14.7	2.07	4.00	< 0.05	0.1	0.020	0.40	21.2	4.0	0.35
A685981 Dup		0.10	2.02	3.3	170	0.33	0.12	1.80	0.78	38.1	3.8	15	0.45	55.4	2.01	3.96	< 0.05	< 0.1	0.018	0.38	21.8	4.2	0.34
A371217 Orig		0.11	2.72	4.5	240	0.39	0.15	1.43	0.26	20.6	3.5	33	0.75	11.3	1.13	5.33	< 0.05	0.4	0.016	0.62	12.6	4.2	0.34
A371244 Orig		0.11	1.54	5.9	360	0.24	0.24	1.80	0.64	11.9	6.3	14	0.87	11.0	0.75	2.06	< 0.05	< 0.1	0.021	0.41	7.5	3.5	0.24
A371244 Dup		0.11	1.52	6.5	360	0.31	0.24	1.80	0.68	12.0	6.3	15	0.86	11.4	0.74	2.19	< 0.05	< 0.1	0.019	0.41	7.4	3.4	0.24
Method Blank		< 0.01	< 0.01	0.8	< 10	< 0.05	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	7	< 0.05	0.5	< 0.01	0.27	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank		< 0.01	< 0.01	0.4	< 10	< 0.05	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	5	< 0.05	0.6	< 0.01	0.25	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank		< 0.01			< 10			< 0.01				9			< 0.01					< 0.01			< 0.01
Method Blank			< 0.01		< 10			< 0.01				3			< 0.01					< 0.01			< 0.01
Method Blank		< 0.01	< 0.01	< 0.2	< 10	0.11	< 0.01	< 0.01	< 0.02	0.02	< 0.1	2	< 0.05	1.1	< 0.01	0.21	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank			< 0.01		< 10			< 0.01				4			< 0.01					< 0.01			< 0.01
Method Blank	< 5																						
Method Blank	< 5																						

Analyte Symbol	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1
Method Code	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS
OREAS 72a (4 Acid Digest) Meas					7460					1.75													
OREAS 72a (4 Acid Digest) Cert					6930.000					1.74													
OREAS 101b (4 Acid) Meas	957	20.1			9.9	1020	24.1											35.4	0.335		348	73	
OREAS 101b (4 Acid) Cert	927	20.1			8.2	1118	23											36.4	0.35		387	77	
OREAS 101b (4 Acid) Meas	968	17.9			4.9	1050	23.2											38.0	0.344		338	75	
OREAS 101b (4 Acid) Cert	927	20.1			8.2	1118	23											36.4	0.35		387	77	
OREAS 101b (4 Acid) Meas		18.3			4.5		23.0											38.4			345		
OREAS 101b (4 Acid) Cert		20.1			8.2		23											36.4			387		
OREAS 98 (4 Acid) Meas							284			> 10.0	8.12		184	195									
OREAS 98 (4 Acid) Cert							345			15.5	20.1		158	206									
DNC-1a Meas			1.37	1.5	269		6.8	3.3			0.97	29.2			154				0.272				133
DNC-1a Cert			1.40	3	247		6.3	4.50			0.96	31			144				0.29				148
DNC-1a Meas			1.34	1.5	263		6.1	3.2			0.90	30.7			153				0.265				134
DNC-1a Cert			1.40	3	247		6.3	4.50			0.96	31			144				0.29				148
DNC-1a Meas				1.6	295		6.1	3.7			0.96	31.3			160								
DNC-1a Cert				3	247		6.3	4.50			0.96	31			144								
OREAS 13b (4-Acid) Meas		7.55			2080																		
OREAS 13b (4-Acid) Cert		9.0			2247.000																		
OREAS 904 (4 ACID) Meas	420	2.46	0.04		43.5	910	11.7	137		0.06	1.29	10.6	3	3.0	27.5	0.47		14.8		0.54	8.9	83	2.2
OREAS 904 (4 ACID) Cert	410	2.12	0.0340		40.1	980	10.6	130		0.0630	1.48	11.2	3.30	2.83	27.2	0.540		14.3		0.520	8.43	76.0	2.12
OREAS 904 (4 ACID) Meas	422	2.18	0.03		41.8	940	11.2	140		0.06	1.37	11.5	3	2.8	28.1	0.47		15.6		0.56	9.0	81	2.1
OREAS 904 (4 ACID) Cert	410	2.12	0.0340		40.1	980	10.6	130		0.0630	1.48	11.2	3.30	2.83	27.2	0.540		14.3		0.520	8.43	76.0	2.12
OREAS 904 (4 ACID) Meas		2.15			40.2		11.9	142			1.43	11.5	3	2.9	27.3	0.73		16.2		0.57	9.3		2.1
OREAS 904 (4 ACID) Cert		2.12			40.1		10.6	130			1.48	11.2	3.30	2.83	27.2	0.540		14.3		0.520	8.43		2.12
SBC-1 Meas		4.21		14.9	92.5		37.3	155			1.22	20.1		3.4	185	1.09		16.2	0.496	0.93	5.8	210	1.7
SBC-1 Cert		2.40		15.3	82.8		35.0	147			1.01	20.0		3.3	178.0	1.10		15.8	0.51	0.89	5.76	220.0	1.60
SBC-1 Meas		3.54		16.3	75.0		35.8	144			1.23	19.5		3.3	185	1.42		16.4	0.501	0.92	5.8	215	1.6
SBC-1 Cert		2.40		15.3	82.8		35.0	147			1.01	20.0		3.3	178.0	1.10		15.8	0.51	0.89	5.76	220.0	1.60
SBC-1 Meas		2.32		17.9	86.2		36.6	157			1.31	21.7		3.6	202	1.42		17.2		0.97	6.1		1.7
SBC-1 Cert		2.40		15.3	82.8		35.0	147			1.01	20.0		3.3	178.0	1.10		15.8		0.89	5.76		1.60
OREAS 45d (4-Acid) Meas	496	0.28	0.09	0.9	240	310	21.9	44.3		0.04	< 0.05	49.8		0.5	33.9	< 0.05		15.1	0.137	0.24	2.8	107	0.1
OREAS 45d (4-Acid) Cert	490.000	2.500	0.101	14.50	231.0	420.000	21.8	42.1		0.049	0.82	49.30		2.78	31.30	1.02		14.5	0.773	0.27	2.63	235.0	1.62
OREAS 45d (4-Acid) Meas	508		0.09			360				0.04									0.275				131
OREAS 45d (4-Acid) Cert	490.000		0.101			420.000				0.049									0.773				235.0
OREAS																							



Analyte Symbol	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1
Method Code	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS
251(FA-Ancaster) Meas																							
OREAS 251(FA-Ancaster) Cert																							
OREAS 251(FA-Ancaster) Meas																							
OREAS 251(FA-Ancaster) Cert																							
OREAS 251(FA-Ancaster) Meas																							
OREAS 251(FA-Ancaster) Cert																							
OREAS 96 (4 Acid) Meas							107			4.14	5.53		40	63.3									
OREAS 96 (4 Acid) Cert							101			4.19	5.09		40.7	65.6									
OREAS 96 (4 Acid) Meas							108			4.22	3.57		41	63.6									
OREAS 96 (4 Acid) Cert							101			4.19	5.09		40.7	65.6									
OREAS 96 (4 Acid) Meas							101				5.61		47	63.8									
OREAS 96 (4 Acid) Cert							101				5.09		40.7	65.6									
OREAS 96 (4 Acid) Meas							103				4.39		47	63.8									
OREAS 96 (4 Acid) Cert							101				5.09		40.7	65.6									
OREAS 96 (4 Acid) Meas							96.5				4.94		43	59.8									
OREAS 96 (4 Acid) Cert							101				5.09		40.7	65.6									
OREAS 923 (4 Acid) Meas	986	0.99	0.31	12.6	37.1	610	88.4	129		0.71	1.50	13.1	7	13.7	44.7	0.63		17.6	0.412	0.89	3.3	94	4.9
OREAS 923 (4 Acid) Cert	950	0.930	0.324	14.1	35.8	630	83.0	166		0.691	1.29	13.1	6.54	13.3	43.0	1.11		16.5	0.405	0.860	3.06	91.0	4.85
OREAS 621 (4 Acid) Meas	529	14.0	1.27	10.5	25.0	390	>10000	87.8		4.50	116	6.8	5	5.7	90.3			7.91	0.181	2.21	3.0	33	2.6
OREAS 621 (4 Acid) Cert	532	13.6	1.31	8.61	26.2	359	13600	84.0		4.48	139	6.24	5.64	5.25	91.0			7.48	0.149	1.96	2.83	31.8	2.35
OREAS 217 (Fire Assay) Meas																							
OREAS 217 (Fire Assay) Cert																							
OREAS 217 (Fire Assay) Meas																							
OREAS 217 (Fire Assay) Cert																							
Oreas 237 (fire Assay) Meas																							
Oreas 237 (fire Assay) Cert																							
OREAS 247 (4 Acid) Meas		2.16		8.6	49.3		34.0	70.9			3030	7.6		3.1	86.4	0.65		7.12		0.82	2.2		5.9

Analyte Symbol	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W
Unit Symbol	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1
Method Code	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS
OREAS 247 (4 Acid) Cert		1.76		11.7	45.9		31.9	144			3300	11.4		3.31	96.0	0.920		12.6		0.800	2.53		7.88
A685925 Orig	828	0.47	1.60	1.0	16.6	430	20.4	49.5	< 0.002	0.03	< 0.05	9.1	< 1	0.6	219	0.05	< 0.05	4.70	0.311	0.31	1.2	70	< 0.1
A685925 Dup	803	0.39	1.66	0.7	17.1	420	19.8	51.0	< 0.002	0.03	< 0.05	9.4	< 1	0.6	229	0.05	< 0.05	3.95	0.294	0.31	1.3	68	< 0.1
A685942 Orig	3400	0.42	1.31	1.6	11.8	810	20.0	32.1	< 0.002	0.13	0.26	5.0	< 1	0.5	200	0.06	< 0.05	2.08	0.173	0.26	0.5	41	0.3
A685942 Dup	3330	0.47	1.30	1.8	14.0	810	20.1	31.7	< 0.002	0.13	0.29	5.1	< 1	0.5	203	0.06	< 0.05	2.24	0.176	0.26	0.6	41	0.3
A685963 Orig	127	0.41	0.68	1.2	7.5	780	25.1	17.3	< 0.002	0.15	0.45	2.8	< 1	0.6	96.7	< 0.05	< 0.05	1.56	0.100	0.11	0.4	24	0.2
A685963 Dup	120	0.56	0.60	1.3	6.2	800	26.0	16.3	< 0.002	0.15	0.45	2.7	< 1	0.5	86.9	< 0.05	< 0.05	1.72	0.093	0.10	0.4	22	0.2
A685981 Orig	164	0.74	0.47	2.2	10.5	1260	15.7	16.7	< 0.002	0.33	0.25	3.1	< 1	0.5	102	0.06	< 0.05	2.15	0.086	0.11	1.1	29	0.2
A685981 Dup	163	0.77	0.44	1.8	8.6	1250	34.4	16.2	< 0.002	0.34	0.25	3.3	1	0.5	99.0	< 0.05	< 0.05	2.28	0.081	0.11	1.1	28	0.2
A371217 Orig	302	0.58	0.82	2.0	8.0	580	24.5	25.7	< 0.002	0.14	0.40	3.7	< 1	0.7	125	0.06	< 0.05	1.94	0.139	0.16	0.5	35	0.4
A371244 Orig	894	0.91	0.32	1.6	5.0	1100	41.2	19.3	< 0.002	0.17	0.58	2.0	1	0.7	146	0.06	< 0.05	1.98	0.095	0.13	0.6	19	0.3
A371244 Dup	899	0.89	0.32	0.9	5.5	1100	40.9	18.8	< 0.002	0.17	0.55	2.0	1	0.5	146	0.05	< 0.05	1.96	0.095	0.13	0.6	19	0.3
Method Blank	< 5	< 0.05	< 0.01	< 0.1	0.3	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	< 0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1	< 1	< 0.1
Method Blank	< 5	< 0.05	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	< 0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1	< 1	< 0.1
Method Blank	7		< 0.01			< 10				< 0.01										< 0.005			< 1
Method Blank			< 0.01			< 10				< 0.01										< 0.005			< 1
Method Blank	< 5	0.13	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	< 0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1	< 1	< 0.1
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 5		< 0.01			< 10				< 0.01										< 0.005			< 1
Method Blank																							
Method Blank																							

Analyte Symbol	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm
Lower Limit	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS
Oreas 72a (4 Acid Digest) Meas			
Oreas 72a (4 Acid Digest) Cert			
OREAS 101b (4 Acid) Meas	127		
OREAS 101b (4 Acid) Cert	133		
OREAS 101b (4 Acid) Meas	128		
OREAS 101b (4 Acid) Cert	133		
OREAS 101b (4 Acid) Meas	125		
OREAS 101b (4 Acid) Cert	133		
OREAS 98 (4 Acid) Meas		1320	
OREAS 98 (4 Acid) Cert		1360	
DNC-1a Meas	16.7	60	37.2
DNC-1a Cert	18.0	70	38.0
DNC-1a Meas	15.7	60	35.1
DNC-1a Cert	18.0	70	38.0
DNC-1a Meas	16.4		37.7
DNC-1a Cert	18.0		38.0
OREAS 13b (4-Acid) Meas			
OREAS 13b (4-Acid) Cert			
OREAS 904 (4 ACID) Meas	32.2	28	48.7
OREAS 904 (4 ACID) Cert	31.5	26.3	171
OREAS 904 (4 ACID) Meas	32.5	27	77.7
OREAS 904 (4 ACID) Cert	31.5	26.3	171
OREAS 904 (4 ACID) Meas	33.2		126
OREAS 904 (4 ACID) Cert	31.5		171
SBC-1 Meas	31.9	187	117
SBC-1 Cert	36.5	186	134.0
SBC-1 Meas	30.1	196	114
SBC-1 Cert	36.5	186	134.0
SBC-1 Meas	33.7		124
SBC-1 Cert	36.5		134.0
OREAS 45d (4-Acid) Meas	11.2	49	87.5
OREAS 45d (4-Acid) Cert	9.53	45.7	141
OREAS 45d (4-Acid) Meas		46	
OREAS 45d (4-Acid) Cert		45.7	
OREAS			

Analyte Symbol	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm
Lower Limit	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS
251(FA-Ancaster) Meas			
OREAS 251(FA-Ancaster) Cert			
OREAS 251(FA-Ancaster) Meas			
OREAS 251(FA-Ancaster) Cert			
OREAS 251(FA-Ancaster) Meas			
OREAS 251(FA-Ancaster) Cert			
OREAS 96 (4 Acid) Meas		459	
OREAS 96 (4 Acid) Cert		457	
OREAS 96 (4 Acid) Meas		450	
OREAS 96 (4 Acid) Cert		457	
OREAS 96 (4 Acid) Meas			
OREAS 96 (4 Acid) Cert			
OREAS 96 (4 Acid) Meas			
OREAS 96 (4 Acid) Cert			
OREAS 96 (4 Acid) Meas			
OREAS 96 (4 Acid) Cert			
OREAS 923 (4 Acid) Meas	26.3	363	129
OREAS 923 (4 Acid) Cert	26.4	345	116
OREAS 621 (4 Acid) Meas	13.0	> 10000	167
OREAS 621 (4 Acid) Cert	11.1	52200	168
OREAS 217 (Fire Assay) Meas			
OREAS 217 (Fire Assay) Cert			
OREAS 217 (Fire Assay) Meas			
OREAS 217 (Fire Assay) Cert			
Oreas 237 (fire Assay) Meas			
Oreas 237 (fire Assay) Cert			
OREAS 247 (4 Acid) Meas	5.7		106

Analyte Symbol	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm
Lower Limit	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS
OREAS 247 (4 Acid) Cert	13.1		125
A685925 Orig	10.6	87	9.7
A685925 Dup	10.3	85	49.4
A685942 Orig	5.5	76	11.4
A685942 Dup	5.6	77	4.8
A685963 Orig	3.4	50	4.1
A685963 Dup	3.2	49	7.2
A685981 Orig	7.6	17	2.8
A685981 Dup	7.7	17	3.8
A371217 Orig	4.2	28	24.5
A371244 Orig	4.1	69	3.5
A371244 Dup	3.9	70	2.7
Method Blank	< 0.1	< 2	< 0.5
Method Blank	< 0.1	< 2	< 0.5
Method Blank		< 2	
Method Blank		< 2	
Method Blank	< 0.1	< 2	< 0.5
Method Blank			
Method Blank			
Method Blank			
Method Blank			
Method Blank			
Method Blank		< 2	
Method Blank			
Method Blank			

## **APPENDIX V**

### **Lake Sediment Descriptions (Table 3)**

<b>Table 3</b>									
<b>Melema West Lake Sediment Sample Descriptions</b>									
Sample	Date	Lake	Easting	Northing	Elevation	Claim	Depth (metres)	Certificate No.	Au_ppb
A685879	Oct-16-2020	Melema	627503	5410631	418	586095	6	A20-13448	<5
A685880	Oct-16-2020	Melema	627619	5410420	417	586095	6	A20-13448	<5
A685881	Oct-16-2020	Melema	627436	5410291	415	586095	4	A20-13448	<5
A685882	Oct-16-2020	Melema	627876	5410311	415	586095	9	A20-13448	<5
A685883	Oct-16-2020	Melema	628158	5410143	415	586095	6	A20-13448	<5
A685884	Oct-16-2020	Melema	628446	5410002	413	586095	6	A20-13448	<5
A685885	Oct-16-2020	Melema	628770	5410072	414	586095	7	A20-13448	<5
A685886	Oct-16-2020	Melema	628751	5410350	413	586095	2	A20-13448	<5
A685887	Oct-16-2020	Melema	628442	5410292	411	586095	5	A20-13448	<5

## **APPENDIX VI**

### **Lake Sediment Assay Certificates (Act Labs)**





Report No.: A20-13448
Report Date: 14-Dec-20
Date Submitted: 27-Oct-20
Your Reference: MEL

Portofino Resources
Suite 520-470 Granville St
Vancouver BC V6C1V5
Canada

ATTN: David Tafel

CERTIFICATE OF ANALYSIS

9 Lake Sediments samples were submitted for analysis.

Table with 3 columns: Analytical package, Method, and Testing Date. Rows include 1A2-50 (QOP AA-Au) and UT-6M (QOP Total/QOP Ultratrace).

REPORT A20-13448

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:

[Handwritten signature]

Emmanuel Esemé, Ph.D.
Quality Control Coordinator

ACTIVATION LABORATORIES LTD.
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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

## Results

## Activation Laboratories Ltd.

## Report: A20-13448

Analyte Symbol	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg	Mn
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01	5
Method Code	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP
A685879	0.04	6.45	2.1	460	0.92	0.09	2.31	0.33	42.4	10.7	48	0.77	11.1	2.68	11.6	0.22	3.5	0.031	1.35	22.5	9.9	0.80	775
A685880	0.13	5.90	4.7	430	0.85	0.12	1.81	0.52	75.2	16.1	61	1.24	25.2	4.43	10.7	< 0.05	2.5	0.034	1.12	42.4	15.7	0.90	942
A685881	0.07	6.05	4.4	400	0.99	0.09	2.06	0.33	44.5	12.2	43	0.64	13.3	2.63	11.6	< 0.05	3.2	0.027	1.18	24.2	9.5	0.61	946
A685882	0.13	4.81	5.4	360	0.88	0.16	1.45	0.67	77.1	10.5	52	1.12	31.9	3.04	8.69	< 0.05	0.1	0.033	0.85	45.6	14.8	0.77	654
A685883	0.05	3.41	2.3	240	0.53	0.06	1.12	0.24	38.6	7.9	36	0.59	12.1	2.49	6.15	< 0.05	< 0.1	0.014	0.65	21.5	7.2	0.49	520
A685884	0.10	5.98	4.7	430	1.03	0.12	1.84	0.42	74.7	18.4	61	1.14	23.9	5.22	11.0	0.11	0.5	0.038	1.13	42.8	14.7	0.90	1060
A685885	0.11	5.72	4.5	410	0.96	0.11	1.75	0.48	74.6	15.4	61	1.15	25.1	4.32	10.3	0.16	0.5	0.035	1.07	42.9	14.5	0.87	855
A685886	0.05	7.50	2.9	570	1.17	0.07	2.65	0.24	23.4	9.6	38	0.60	5.9	1.79	14.6	0.25	3.7	0.022	1.88	11.2	6.7	0.58	541
A685887	0.04	6.23	2.7	440	0.94	0.07	2.19	0.30	54.4	14.5	45	0.72	14.3	3.68	10.9	0.29	2.5	0.027	1.26	29.7	9.5	0.78	1060

## Results

## Activation Laboratories Ltd.

## Report: A20-13448

Analyte Symbol	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1	0.1
Method Code	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS	TD-MS
A685879	0.24	2.03	0.6	17.8	520	13.5	46.8	< 0.002	0.05	< 0.05	10.2	< 1	0.5	271	< 0.05	< 0.05	5.64	0.221	0.32	1.5	56	< 0.1	13.9
A685880	0.81	1.50	4.9	27.3	780	13.5	44.8	< 0.002	0.11	0.22	13.2	1	0.9	198	0.26	< 0.05	9.37	0.262	0.31	2.3	93	0.4	20.0
A685881	0.55	1.99	3.4	17.1	510	13.0	42.1	< 0.002	0.09	0.11	9.7	< 1	0.9	261	0.19	< 0.05	4.33	0.227	0.29	1.5	62	0.2	14.0
A685882	1.11	1.06	2.1	26.6	1120	15.3	36.9	< 0.002	0.16	0.28	11.1	1	0.6	152	< 0.05	0.06	9.14	0.207	0.25	2.1	92	0.4	20.0
A685883	0.45	0.92	1.5	12.6	410	6.7	24.5	< 0.002	0.05	0.08	6.3	< 1	0.3	118	< 0.05	< 0.05	4.60	0.146	0.16	1.1	50	0.1	10.3
A685884	0.71	1.56	2.6	29.3	750	13.5	45.6	< 0.002	0.09	0.15	12.3	< 1	0.9	201	0.20	< 0.05	9.25	0.258	0.33	2.6	94	0.2	20.4
A685885	0.73	1.45	2.6	27.7	830	10.9	43.3	< 0.002	0.10	0.17	12.4	< 1	0.8	196	0.20	< 0.05	8.94	0.246	0.30	2.1	91	0.2	19.9
A685886	0.32	2.79	2.7	13.6	490	15.5	59.9	< 0.002	0.07	0.06	7.7	< 1	0.6	363	0.17	< 0.05	2.92	0.197	0.43	0.8	44	< 0.1	9.7
A685887	0.27	1.92	1.0	21.2	540	10.8	45.3	< 0.002	0.04	< 0.05	10.9	< 1	0.6	261	0.10	< 0.05	6.46	0.205	0.32	1.7	61	< 0.1	16.6

Analyte Symbol	Zn	Zr	Au
Unit Symbol	ppm	ppm	ppb
Lower Limit	2	0.5	5
Method Code	TD-ICP	TD-MS	FA-AA
A685879	53	132	< 5
A685880	91	100	< 5
A685881	58	127	< 5
A685882	88	4.2	< 5
A685883	46	10.8	< 5
A685884	91	32.1	< 5
A685885	87	33.6	< 5
A685886	37	145	< 5
A685887	60	107	< 5

Analyte Symbol	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	
Lower Limit	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	1	0.005	0.01	0.5	0.2	0.01	5
Method Code	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP	
OREAS 72a (4 Acid Digest) Meas			6.1							162	185		348	9.68										
OREAS 72a (4 Acid Digest) Cert			14.7							157	228		316	9.63										
OREAS 101b (4 Acid) Meas									> 500	46.4			441	10.4					2.00	693		1.24	957	
OREAS 101b (4 Acid) Cert									1325	45			412	10.7					2.36	754		1.23	927	
OREAS 101b (4 Acid) Meas									> 500	46.6			418	10.5					2.50	670		1.24	968	
OREAS 101b (4 Acid) Cert									1325	45			412	10.7					2.36	754		1.23	927	
OREAS 98 (4 Acid) Meas	42.7					88.1				125			> 10000											
OREAS 98 (4 Acid) Cert	45.1					97.2				121			14800 0.0											
DNC-1a Meas				100			7.34			54.9	180		101	7.07	14.3						3.5	4.7		
DNC-1a Cert				118			8.21			57	270		100	6.97	15						3.6	5.2		
DNC-1a Meas				100			7.37			57.3	177		107	6.71	14.9						3.7	4.4		
DNC-1a Cert				118			8.21			57	270		100	6.97	15						3.6	5.2		
OREAS 13b (4-Acid) Meas	0.84		50.4							77.0			2100											
OREAS 13b (4-Acid) Cert	0.86		57							75			2327.0 000											
OREAS 904 (4 ACID) Meas	0.57	6.54	110	200	8.77	4.30	0.05		84.6	87.2	59	3.76	5930	6.72	18.3	0.22	1.9	0.193	3.24	44.4	16.4	0.56	420	
OREAS 904 (4 ACID) Cert	0.551	6.30	98.0	194	7.86	4.05	0.0460		86.0	83.0	54.0	3.79	6120	6.68	16.7	0.180	5.00	0.220	3.31	43.2	16.7	0.556	410	
OREAS 904 (4 ACID) Meas	0.57	6.40	110	200	8.45	4.43	0.05		84.7	84.8	62	3.81	5810	6.45	17.3	0.32	3.0	0.224	3.29	43.0	15.8	0.56	422	
OREAS 904 (4 ACID) Cert	0.551	6.30	98.0	194	7.86	4.05	0.0460		86.0	83.0	54.0	3.79	6120	6.68	16.7	0.180	5.00	0.220	3.31	43.2	16.7	0.556	410	
SBC-1 Meas			29.1	620	3.04	0.70		0.50	98.8	21.8	99	8.12	32.9		22.3		3.4				48.2	168		
SBC-1 Cert			25.7	788.0	3.20	0.70		0.40	108.0	22.7	109	8.2	31.0		27.0		3.7				52.5	163		
SBC-1 Meas			32.4	450	3.30	0.74		0.45	102	22.8	105	8.91	34.8		26.4		3.5				51.4	168		
SBC-1 Cert			25.7	788.0	3.20	0.70		0.40	108.0	22.7	109	8.2	31.0		27.0		3.7				52.5	163		
OREAS 45d (4-Acid) Meas		7.93	10.2	180	0.66	0.33	0.19		37.2	29.2	496	3.92	386	13.8	22.3		2.3	0.087	0.42	16.9	20.7	0.24	496	
OREAS 45d (4-Acid) Cert		8.150	13.8	183.0	0.79	0.31	0.185		37.20	29.50	549	3.910	371	14.5	21.20		3.830	0.096	0.412	16.9	21.5	0.245	490.000	
OREAS 45d (4-Acid) Meas		8.21		190			0.19						564	14.3					0.43			0.24	508	
OREAS 45d (4-Acid) Cert		8.150		183.0			0.185						549	14.5					0.412			0.245	490.000	
OREAS 96 (4 Acid) Meas	11.1					28.1				49.9			> 10000											
OREAS 96 (4 Acid) Cert	11.5					26.3				49.9			39300											
OREAS 96 (4 Acid) Meas	11.2					28.9				50.7			> 10000											
OREAS 96 (4 Acid) Cert	11.5					26.3				49.9			39300											
OREAS 96 (4 Acid) Meas	10.4					27.4				47.4			> 10000											
OREAS 96 (4 Acid) Cert	11.5					26.3				49.9			39300											
OREAS 923 (4	1.59	7.42	8.2	370	2.30	19.0	0.49	0.38	79.5	23.2	77	6.70	4140	6.43	19.6		3.5	0.503	1.48	41.1	29.9	1.75	986	

Analyte Symbol	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg	Mn
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm
Lower Limit	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01	5
Method Code	TD-MS	TD-ICP	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP
Acid) Meas																							
OREAS 923 (4 Acid) Cert	1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	83.0	23.1	71.0	6.70	4230	6.43	20.3		3.42	0.520	2.51	42.2	31.4	1.69	950
OREAS 621 (4 Acid) Meas	62.9	6.59	78.7		1.85	4.32	2.05	334	50.5	29.1	33	3.35	3450	3.61	17.1		4.6	1.88	1.86	23.6	15.1	0.52	529
OREAS 621 (4 Acid) Cert	69.0	6.40	77.0		1.69	3.93	1.97	284	46.6	29.3	37.1	3.28	3630	3.70	24.6		4.41	1.83	2.20	21.6	14.2	0.507	532
OREAS 217 (Fire Assay) Meas																							
OREAS 217 (Fire Assay) Cert																							
Oreas 237 (fire Assay) Meas																							
Oreas 237 (fire Assay) Cert																							
A685887 Orig																							
A685887 Dup																							
Method Blank	< 0.01	< 0.01	0.8	< 10	< 0.05	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	7	< 0.05	0.5	< 0.01	0.27	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01	< 5
Method Blank	< 0.01	< 0.01	0.4	< 10	< 0.05	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	5	< 0.05	0.6	< 0.01	0.25	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01	< 5
Method Blank		< 0.01		< 10			< 0.01				9			< 0.01					< 0.01			< 0.01	7
Method Blank		< 0.01		< 10			< 0.01				3			< 0.01					< 0.01			< 0.01	
Method Blank		< 0.01		< 10			< 0.01				2			< 0.01					< 0.01			< 0.01	< 5
Method Blank																							
Method Blank																							
Method Blank		< 0.01		< 10			< 0.01				4			< 0.01					< 0.01			< 0.01	< 5

Analyte Symbol	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1	0.1
Method Code	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS	TD-MS
OREAS 72a (4 Acid Digest) Meas				7460					1.75														
OREAS 72a (4 Acid Digest) Cert				6930.000					1.74														
OREAS 101b (4 Acid) Meas	17.9			4.9	1020	23.2											38.0	0.335		338	73		128
OREAS 101b (4 Acid) Cert	20.1			8.2	1118	23											36.4	0.35		387	77		133
OREAS 101b (4 Acid) Meas	18.3			4.5	1050	23.0											38.4	0.344		345	75		125
OREAS 101b (4 Acid) Cert	20.1			8.2	1118	23											36.4	0.35		387	77		133
OREAS 98 (4 Acid) Meas						284			> 10.0	8.12		184	195										
OREAS 98 (4 Acid) Cert						345			15.5	20.1		158	206										
DNC-1a Meas		1.37	1.5	263		6.1	3.2			0.90	30.7			153					0.272			133	15.7
DNC-1a Cert		1.40	3	247		6.3	4.50			0.96	31			144					0.29			148	18.0
DNC-1a Meas		1.34	1.6	295		6.1	3.7			0.96	31.3			160					0.265			134	16.4
DNC-1a Cert		1.40	3	247		6.3	4.50			0.96	31			144					0.29			148	18.0
OREAS 13b (4-Acid) Meas	7.55			2080																			
OREAS 13b (4-Acid) Cert	9.0			2247.000																			
OREAS 904 (4 ACID) Meas	2.18	0.04		41.8	910	11.2	140		0.06	1.37	11.5	3	2.8	28.1	0.47		15.6		0.56	9.0	83	2.1	32.5
OREAS 904 (4 ACID) Cert	2.12	0.0340		40.1	980	10.6	130		0.0630	1.48	11.2	3.30	2.83	27.2	0.540		14.3		0.520	8.43	76.0	2.12	31.5
OREAS 904 (4 ACID) Meas	2.15	0.03		40.2	940	11.9	142		0.06	1.43	11.5	3	2.9	27.3	0.73		16.2		0.57	9.3	81	2.1	33.2
OREAS 904 (4 ACID) Cert	2.12	0.0340		40.1	980	10.6	130		0.0630	1.48	11.2	3.30	2.83	27.2	0.540		14.3		0.520	8.43	76.0	2.12	31.5
SBC-1 Meas	3.54		16.3	75.0		35.8	144			1.23	19.5		3.3	185	1.42		16.4	0.496	0.92	5.8	210	1.6	30.1
SBC-1 Cert	2.40		15.3	82.8		35.0	147			1.01	20.0		3.3	178.0	1.10		15.8	0.51	0.89	5.76	220.0	1.60	36.5
SBC-1 Meas	2.32		17.9	86.2		36.6	157			1.31	21.7		3.6	202	1.42		17.2	0.501	0.97	6.1	215	1.7	33.7
SBC-1 Cert	2.40		15.3	82.8		35.0	147			1.01	20.0		3.3	178.0	1.10		15.8	0.51	0.89	5.76	220.0	1.60	36.5
OREAS 45d (4-Acid) Meas	0.28	0.09	0.9	240	310	21.9	44.3		0.04	< 0.05	49.8		0.5	33.9	< 0.05		15.1	0.137	0.24	2.8	107	0.1	11.2
OREAS 45d (4-Acid) Cert	2.500	0.101	14.50	231.0	420.000	21.8	42.1		0.049	0.82	49.30		2.78	31.30	1.02		14.5	0.773	0.27	2.63	235.0	1.62	9.53
OREAS 45d (4-Acid) Meas		0.09				360			0.04										0.275			131	
OREAS 45d (4-Acid) Cert		0.101				420.000			0.049										0.773			235.0	
OREAS 96 (4 Acid) Meas						101			4.14	5.61		47	63.8										
OREAS 96 (4 Acid) Cert						101			4.19	5.09		40.7	65.6										
OREAS 96 (4 Acid) Meas						103			4.22	4.39		47	63.8										
OREAS 96 (4 Acid) Cert						101			4.19	5.09		40.7	65.6										
OREAS 96 (4 Acid) Meas						96.5				4.94		43	59.8										
OREAS 96 (4 Acid) Cert						101				5.09		40.7	65.6										
OREAS 923 (4	0.99	0.31	12.6	37.1	610	88.4	129		0.71	1.50	13.1	7	13.7	44.7	0.63		17.6	0.412	0.89	3.3	94	4.9	26.3

Analyte Symbol	Mo	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1	0.1
Method Code	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-ICP	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-MS	TD-MS
Acid) Meas																							
OREAS 923 (4 Acid) Cert	0.930	0.324	14.1	35.8	630	83.0	166		0.691	1.29	13.1	6.54	13.3	43.0	1.11		16.5	0.405	0.860	3.06	91.0	4.85	26.4
OREAS 621 (4 Acid) Meas	14.0	1.27	10.5	25.0	390	> 10000	87.8		4.50	116	6.8	5	5.7	90.3			7.91	0.181	2.21	3.0	33	2.6	13.0
OREAS 621 (4 Acid) Cert	13.6	1.31	8.61	26.2	359	13600	84.0		4.48	139	6.24	5.64	5.25	91.0			7.48	0.149	1.96	2.83	31.8	2.35	11.1
OREAS 217 (Fire Assay) Meas																							
OREAS 217 (Fire Assay) Cert																							
Oreas 237 (fire Assay) Meas																							
Oreas 237 (fire Assay) Cert																							
A685887 Orig																							
A685887 Dup																							
Method Blank	< 0.05	< 0.01	< 0.1	0.3	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	< 0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1	< 1	< 0.1	< 0.1
Method Blank	< 0.05	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	< 0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1	< 1	< 0.1	< 0.1
Method Blank		< 0.01			< 10				< 0.01									< 0.005			< 1		
Method Blank		< 0.01			< 10				< 0.01									< 0.005			< 1		
Method Blank																							
Method Blank																							
Method Blank		< 0.01			< 10				< 0.01									< 0.005			< 1		



Analyte Symbol	Zn	Zr	Au
Unit Symbol	ppm	ppm	ppb
Lower Limit	2	0.5	5
Method Code	TD-ICP	TD-MS	FA-AA
Oreas 72a (4 Acid Digest) Meas			
Oreas 72a (4 Acid Digest) Cert			
OREAS 101b (4 Acid) Meas			
OREAS 101b (4 Acid) Cert			
OREAS 101b (4 Acid) Meas			
OREAS 101b (4 Acid) Cert			
OREAS 98 (4 Acid) Meas	1320		
OREAS 98 (4 Acid) Cert	1360		
DNC-1a Meas	60	35.1	
DNC-1a Cert	70	38.0	
DNC-1a Meas	60	37.7	
DNC-1a Cert	70	38.0	
OREAS 13b (4-Acid) Meas			
OREAS 13b (4-Acid) Cert			
OREAS 904 (4 ACID) Meas	28	77.7	
OREAS 904 (4 ACID) Cert	26.3	171	
OREAS 904 (4 ACID) Meas	27	126	
OREAS 904 (4 ACID) Cert	26.3	171	
SBC-1 Meas	187	114	
SBC-1 Cert	186	134.0	
SBC-1 Meas	196	124	
SBC-1 Cert	186	134.0	
OREAS 45d (4-Acid) Meas	49	87.5	
OREAS 45d (4-Acid) Cert	45.7	141	
OREAS 45d (4-Acid) Meas	46		
OREAS 45d (4-Acid) Cert	45.7		
OREAS 96 (4 Acid) Meas	459		
OREAS 96 (4 Acid) Cert	457		
OREAS 96 (4 Acid) Meas	450		
OREAS 96 (4 Acid) Cert	457		
OREAS 96 (4 Acid) Meas			
OREAS 96 (4 Acid) Cert			
OREAS 923 (4	363	129	

Analyte Symbol	Zn	Zr	Au
Unit Symbol	ppm	ppm	ppb
Lower Limit	2	0.5	5
Method Code	TD-ICP	TD-MS	FA-AA
Acid) Meas			
OREAS 923 (4 Acid) Cert	345	116	
OREAS 621 (4 Acid) Meas	> 10000	167	
OREAS 621 (4 Acid) Cert	52200	168	
OREAS 217 (Fire Assay) Meas			322
OREAS 217 (Fire Assay) Cert			338
Oreas 237 (fire Assay) Meas			2110
Oreas 237 (fire Assay) Cert			2210
A685887 Orig			< 5
A685887 Dup			< 5
Method Blank	< 2	< 0.5	
Method Blank	< 2	< 0.5	
Method Blank	< 2		
Method Blank	< 2		
Method Blank	< 2		
Method Blank			< 5
Method Blank			< 5
Method Blank	< 2		

## **APPENDIX VII**

### **Actlabs Analytical Descriptions**

## Sample Preparation Packages

To obtain meaningful analytical results, it is imperative that sample collection and preparation be done properly. Actlabs can advise on sampling protocol for your field program if requested. Once the samples arrive in the laboratory, Actlabs will ensure that they are prepared properly. As a routine practice with rock and core, the entire sample is crushed to a nominal -2 mm, mechanically split to obtain a representative sample and then pulverized to at least 95% -105 microns ( $\mu\text{m}$ ). All of our steel mills are now mild steel and do not introduce Cr or Ni contamination. Quality of crushing and pulverization is routinely checked as part of our quality assurance program. Samples submitted in an unorganized fashion will be subject to a sorting surcharge and may substantially slow turnaround time. Providing an accurate detailed sample list by e-mail will also aid in improving turnaround time and for Quality Control purposes.

### Rock, Core and Drill Cuttings

Code RX1	Crush (< 7 kg) up to 80% passing 2 mm, riffle split (250 g) and pulverize (mild steel) to 95% passing 105 $\mu\text{m}$ included cleaner sand	\$11.75
Code RX1-ORE	Crush up to 90% passing 2 mm	add \$2.10
Code RX1+500	500 grams pulverized	add \$1.25
Code RX1+800	800 grams pulverized	add \$2.25
Code RX1+1000	1000 grams pulverized	add \$2.75
Code RX1-SD	Crush (< 7 kg) up to 80% passing 2 mm, rotary split (250 g) and pulverized (mild steel) to 95% passing 105 $\mu\text{m}$	\$10.75
Code RX1-SD-ORE	Crush up to 90% passing 2 mm	add \$2.10
Code RX3	Oversize charge per kilogram for crushing	\$1.25
Code RX4	Pulverization only (mild steel) (coarse pulp or crushed rock) (< 800 g)	\$7.50
Code RX5	Pulverize ceramic (100 g)	\$18.75
Code RX6	Hand pulverize small samples (agate mortar & pestle) (<5g)	\$18.75
Code RX7	Crush and split (< 5 kg )	\$5.50
Code RX8	Sample prep only surcharge, no analyses	\$4.75
Code RX9	Compositing (per composite) dry weight	\$2.75
Code RX10	Weight (kg) as received	\$2.25
Code RX11	Checking quality of pulps or rejects prepared by other labs and issuing report	\$10.00
Code RX12	Ball Mill preparation	on request
Code RX13	Rod Mill preparation	on request
Code RX14	Core cutting	on request
Code RX15	Special Preparation/Hour	\$68.25
Code RX16	Specific Gravity on Core	\$14.00
Code RX16-W	Specific Gravity (WAX) on friable samples	\$18.00
Code RX17	Specific Gravity on the pulp	\$17.00
Code RX17-GP	Specific Gravity on the pulp by gas pycnometer	\$18.00

**Note:** Larger sample sizes than listed above can be pulverized at additional cost.

### Soils, Stream and Lake Bottom Sediments, and Heavy Minerals

Code S1	Drying (60°C) and sieving (-177 $\mu\text{m}$ ) save all portions	\$4.25
Code S1 DIS	Drying (60°C) and sieving (-177 $\mu\text{m}$ ), discard oversize	\$3.75
Code S1-230	Drying (60°C) and sieving (-63 $\mu\text{m}$ ), save oversize	\$5.75
Code S1-230 DIS	Drying (60°C) and sieving (-63 $\mu\text{m}$ ), discard oversize	\$5.25
Code S2	Lake bottom sediment preparation crush & sieve (-177 $\mu\text{m}$ )	\$9.00
Code S3	Alternate size fractions and bracket sieving, add	\$2.75
Code S4	Selective Extractions or SGH drying (40°C) & sieving (-177 $\mu\text{m}$ )	\$4.25
Code S5	Wet or damp samples submitted in plastic bags, add	\$2.10
Code S6	Separating -2 micron material	\$28.25
Code S7mi	Methylene iodide heavy mineral separation specific gravity can be customized (100 grams)	\$73.75
Code S7w	Sodium polytungstate heavy mineral separation specific gravity can be customized (100 grams)	\$73.75
Code S8	Sieve analysis (4 sieve sizes) coarser than 53 $\mu\text{m}$	\$40.00
Code S9	Particle size analysis (laser)	\$102.00

Our Sample Preparation pricing is all-inclusive including: sorting, drying, labeling, new reject bags, using cleaner sand between each sample and crushing samples up to 7 kg (for RX1 and RX1-SD).



Riffle Splitting



Sample Pulverizers

## Gold and Silver Analyses

### Gold and Silver Analyses - Geochem

Code	Method	Sample Weight (g)	Metric Range	Price
1A1	Au Fire Assay - INAA	30	1 - 20,000 ppb	\$20.50
1A2	Au Fire Assay - AA	30	5 - 5,000 ppb	\$17.00
1A2B-30	Au Fire Assay - AA	30	5 - 10,000 ppb	\$17.50
1A2-50	Au Fire Assay - AA	50	5 - 5,000 ppb	\$19.50
1A2B-50	Au Fire Assay - AA	50	5 - 10,000 ppb	\$20.00
1A2-ICP	Au Fire Assay - ICP-OES	30	2 - 30,000 ppb	\$18.00
1A2-ICP-50	Au Fire Assay - ICP-OES	50	2 - 30,000 ppb	\$20.25
1A2-ICPMS	Au Fire Assay - ICP-MS	30	0.5 - 30,000 ppb	\$26.25
1A6	Au BLEG - ICP-MS	1,000	0.1 - 10,000 ppb	\$40.00
1A6-50	Au Cyanide Extraction - ICP-MS	50	0.02 - 1,000 ppb	\$15.00
	Ag or Cu add-on, for each additional, add			\$5.00
1A8	Au Aqua Regia - ICP-MS	30	0.2 - 2,000 ppb	\$18.00
1E-Ag	Ag Aqua Regia - ICP-OES	0.5	0.2 - 100 ppm	\$6.75



### Gold and Silver Analyses - Assay

Code	Method	Sample Weight (g)	Metric Range	Price
1A3-30	Au Fire Assay - Gravimetric	30	0.03 - 10,000 g/T	\$22.75
1A3-50	Au Fire Assay - Gravimetric	50	0.02 - 10,000 g/T	\$24.00
1A3-Ag (Au,Ag)	Au, Ag Fire Assay - Gravimetric	30	0.03 - 10,000 g/T (Au) 3 - 10,000 g/T (Ag)	\$26.25
1A4 *	Au Fire Assay - Metallic Screen	500	0.03 g/T	\$79.50
1A4-1000 *	Au Fire Assay - Metallic Screen	1,000	0.03 g/T	\$90.75
8-Ag	Ag Fire Assay - Gravimetric	30	3 - 10,000 g/T	\$25.50

When submitting samples for Au and Ag analysis, or Au, Pt Pd and Rh analysis, please try to ensure you send two-times the listed weight.

## Gold, Platinum, Palladium and Rhodium

Code	Method	Sample Weight (g)	Range (ppb)				Price
			Au	Pt	Pd	Rh	
1C-Exploration	Fire Assay - ICP-MS	30	2 - 30,000	1 - 30,000	1 - 30,000		\$22.75
1C-EXP 2	Fire Assay - ICP-MS	30	1 - 30,000	0.5 - 30,000	0.5 - 30,000		\$25.00
1C-research	Fire Assay - ICP-MS	30	1 - 30,000	0.1 - 30,000	0.1 - 30,000		\$36.25
1C-Rhodium	Fire Assay - ICP-MS	30	-	-	-	5 - 10,000	\$34.25
1C-OES	Fire Assay - ICP-OES	30	2 - 30,000	5 - 30,000	5 - 30,000		\$20.75
8 Au Pt Pd	Fire Assay - ICP-OES	30	0.001 - 1000 g/T	0.001 - 1000 g/T	0.001 - 1000 g/T		\$51.25

## Platinum Group Elements

Code	Method	Sample Weight (g)	Range (ppb)							Price
			Os	Ir	Ru	Rh	Pt	Pd	Au	
1B1	NiS Fire Assay - INAA	25	2	0.1	5	0.2	5 †	2	0.5	1-2 samples \$363.25 3+ samples \$181.75
1B2	NiS Fire Assay - ICP-MS	50	-	1	1	1	1	1	1	1-2 samples \$363.25 3+ samples \$181.75

### Organic Sample Surcharge - \$1.25/sample for Fire Assay packages

#### Notes:

Use of 50 gram sample for fire assay may not provide optimum recovery.

For proper fire assay fusion, Actlabs may reduce the sample weights to 15 g or smaller at its discretion.

\* A representative 500 gram or 1000 gram (or customized) sample split is sieved at 149µm, with assays performed on the entire +149 µm fraction and two splits of the -149 µm fraction. It is important not to overpulverize the sample too finely; as tests have shown gold will plate out on the mill and be lost. When assays have been completed on the coarse and fine portions of the bulk sample, a final assay is calculated based on the weight of each fraction.

† Detection limits for Pt are increased with high Au/Pt ratios and limits for other elements will be affected by abnormally high Au, Sb and Cu content.

Samples with high Au can be reanalyzed by Code 1C exploration or research. Zn concentrates are not amenable to the nickel sulphide fire assay. Au results by Code 1B1 or 1B2 can be low by nickel sulphide fire assay. For accurate Au values, please request Code 1C-exploration.

# Trace Element Geochemistry & Digestion Specific Assays

## 4-Acid "Near Total" Digestion

This acid attack is the most vigorous digestion used in geochemistry. It will employ hydrochloric, nitric, perchloric and hydrofluoric acids. Even with this digestion, certain minerals (barite, gahnite, chromite, cassiterite, etc.) may only be partially dissolved or stable in solution. Other minerals including zircon, sphene and magnetite may not be totally dissolved. Most other silicates will be dissolved, however some elements will be erratically volatilized, including As, Sb, Cr, U and Au.

Near-Total digestion **cannot** be used to obtain accurate determinations of REE, Ta, Nb, As, Sb, Sn, Hg, Cr, Au and U.

**NOTE:** Results from acid digestions may be lab dependent or lab operator dependent. Actlabs has automated this aspect of digestion using a microprocessor designed hotbox to accurately reproduce digestion conditions every time.

### Hg add-on by cold vapour FIMS

Code 1G (5 ppb)      add \$10.25

### Assays

Package	Code 8 - 4 Acid ICP-OES	Code 8 - 4 Acid ICP-MS
Ag	3 ppm	1 - 10,000 ppm
Bi	-	0.0001 - 1 %
Cd	0.003 %	0.0001 - 1 %
Co	0.003 %	0.0001 - 1 %
Cu	0.001 %	0.0001 - 1 %
Li	0.001 %	-
Mo	0.003 %	0.0001 - 1 %
Ni	0.003 %	0.0001 - 1 %
Pb	0.003 %	0.0001 - 1 %
Se	-	0.0001 - 1 %
Sn	-	0.0001 - 1 %
Tl	-	0.0001 - 1 %
U	-	0.0001 - 1 %
Zn	0.001 %	0.0001 - 1 %
<b>One Element</b>	<b>\$14.75</b>	<b>\$17.00</b>
<b>Each Additional Element</b>	<b>\$2.25</b>	<b>\$2.25</b>
<b>All Elements</b>	<b>\$20.50</b>	<b>\$22.75</b>

Package	ICP-OES	ICP-MS		ICP-OES + ICP-MS	
	1F2	UT-4M	Ultratrace 4	Ultratrace 6	UT-6M
Ag	0.3 - 100 ppm	0.1 - 100 ppm	0.05 - 100 ppm	0.05 - 100 ppm	0.01 - 100 ppm
Al	0.01 - 50 %	0.01 - 20 %	0.01 - 10 %	0.01 - 10 %	0.01 - 50 %
As	3 - 5,000 ppm	1 - 10,000 ppm	0.1 - 10,000 ppm	0.1 - 10,000 ppm	0.2 - 10,000 ppm
B	-	-	20 - 6,000 ppm	-	-
Ba	7 - 1,000 ppm	1 - 10,000 ppm	1 - 5,000 ppm	1 - 5,000 ppm	10 - 10,000 ppm
Be	1 - 10,000 ppm	1 - 1,000 ppm	0.1 - 1,000 ppm	0.1 - 1,000 ppm	0.05 - 1,000 ppm
Bi	2 - 10,000 ppm	0.1 - 4,000 ppm	0.02 - 2,000 ppm	0.02 - 2,000 ppm	0.01 - 10,000 ppm
Ca	0.01 - 70 %	0.01 - 40 %	0.01 - 50 %	0.01 - 50 %	0.01 - 50 %
Cd	0.3 - 2,000 ppm	0.1 - 4,000 ppm	0.1 - 1,000 ppm	0.1 - 1,000 ppm	0.02 - 1,000 ppm
Ce	-	1 - 2,000 ppm	0.1 - 10,000 ppm	0.1 - 10,000 ppm	0.01 - 500 ppm
Co	1 - 10,000 ppm	0.2 - 4,000 ppm	0.1 - 500 ppm	0.1 - 500 ppm	0.1 - 10,000 ppm
Cr	1 - 10,000 ppm	1 - 10,000 ppm	1 - 5,000 ppm	1 - 5,000 ppm	1 - 10,000 ppm
Cs	-	0.1 - 10,000 ppm	0.05 - 100 ppm	0.05 - 100 ppm	0.05 - 500 ppm
Cu	1 - 10,000 ppm	0.1 - 10,000 ppm	0.2 - 10,000 ppm	0.2 - 10,000 ppm	0.2 - 10,000 ppm
Dy	-	-	0.1 - 5,000 ppm	0.1 - 5,000 ppm	-
Er	-	-	0.1 - 1,000 ppm	0.1 - 1,000 ppm	-
Eu	-	-	0.05 - 100 ppm	0.05 - 100 ppm	-
Fe	0.01 - 50 %	0.01 - 60 %	0.01 - 50 %	0.01 - 50 %	0.01 - 50 %
Ga	1 - 10,000 ppm	-	0.1 - 500 ppm	0.1 - 500 ppm	0.05 - 10,000 ppm
Gd	-	-	0.1 - 5,000 ppm	0.1 - 5,000 ppm	-
Ge	-	-	0.1 - 500 ppm	0.1 - 500 ppm	0.05 - 500 ppm
Hf	-	0.1 - 1,000 ppm	0.1 - 500 ppm	0.1 - 500 ppm	0.1 - 500 ppm
Hg	1	-	10 - 10,000 ppb	10 - 10,000 ppb	-
Ho	-	-	0.1 - 1,000 ppm	0.1 - 1,000 ppm	-
In	-	-	0.1 - 100 ppm	0.1 - 100 ppm	0.005 - 500 ppm
K	0.01 - 10 %	0.01 - 10 %	0.01 - 5 %	0.01 - 5 %	0.01 - 10 %
La	-	0.1 - 2,000 ppm	0.1 - 10,000 ppm	0.1 - 10,000 ppm	0.5 - 10,000 ppm
Li	1 - 10,000 ppm	0.1 - 2,000 ppm	0.5 - 400 ppm	0.5 - 400 ppm	0.2 - 10,000 ppm
Lu	-	-	0.1 - 100 ppm	0.1 - 100 ppm	-
Mg	0.01 - 50 %	0.01 - 30 %	0.01 - 50 %	0.01 - 50 %	0.01 - 50 %
Mn	1 - 100,000 ppm	1 - 10,000 ppm	1 - 10,000 ppm	1 - 10,000 ppm	5 - 100,000 ppm
Mo	1 - 10,000 ppm	0.1 - 4,000 ppm	0.05 - 10,000 ppm	0.1 - 10,000 ppm	0.05 - 10,000 ppm
Na	0.01 - 10 %	0.001 - 10 %	0.01 - 3 %	0.01 - 3 %	0.01 - 10 %
Nb	-	0.1 - 2,000 ppm	0.1 - 500 ppm	0.1 - 500 ppm	0.1 - 500 ppm
Nd	-	-	0.1 - 10,000 ppm	0.1 - 10,000 ppm	-
Ni	1 - 10,000 ppm	0.1 - 10,000 ppm	0.5 - 5,000 ppm	0.5 - 5,000 ppm	0.2 - 10,000 ppm
P	0.001 - 10 %	0.001 - 5 %	-	0.001 - 10 %	10 - 10,000 ppm
Pb	3 - 5,000 ppm	0.1 - 5,000 ppm	0.5 - 5,000 ppm	0.5 - 5,000 ppm	0.5 - 10,000 ppm
Pr	-	-	0.1 - 5,000 ppm	0.1 - 1,000 ppm	-
Rb	-	0.1 - 2,000 ppm	0.2 - 500 ppm	0.2 - 5,000 ppm	0.1 - 10,000 ppm
Re	-	-	0.001 - 100 ppm	0.001 - 100 ppm	0.002 - 50 ppm
S +	0.01 - 20 %	1 - 10 %	-	0.01 - 20 %	0.01 - 10 %
Sb	5 - 10,000 ppm	0.1 - 4,000 ppm	0.1 - 500 ppm	0.1 - 500 ppm	0.05 - 10,000 ppm
Sc	4 - 10,000 ppm	1 - 200 ppm	-	1 - 5,000 ppm	0.1 - 10,000 ppm
Se	-	-	0.1 - 1,000 ppm	0.1 - 1,000 ppm	1 - 1,000 ppm
Sm	-	-	0.1 - 100 ppm	0.1 - 100 ppm	-
Sn	-	0.1 - 2,000 ppm	1 - 200 ppm	1 - 200 ppm	0.2 - 500 ppm
Sr	1 - 10,000 ppm	1 - 10,000 ppm	0.2 - 10,000 ppm	0.2 - 1,000 ppm	0.2 - 10,000 ppm
Ta	-	0.1 - 2,000 ppm	0.1 - 1,000 ppm	0.1 - 1,000 ppm	0.05 - 100 ppm
Tb	-	-	0.1 - 100 ppm	0.1 - 100 ppm	-
Te	2 - 10,000 ppm	-	0.1 - 500 ppm	0.1 - 500 ppm	0.05 - 500 ppm
Th	-	0.1 - 4,000 ppm	0.1 - 500 ppm	0.1 - 500 ppm	0.2 - 10,000 ppm
Ti	0.01 - 10 %	0.001 - 10 %	-	0.0005 - 10 %	0.005 - 10 %
Tl	5 - 10,000 ppm	0.05 - 10,000 ppm	0.05 - 500 ppm	0.05 - 500 ppm	0.02 - 10,000 ppm
Tm	-	-	0.1 - 1,000 ppm	0.1 - 1,000 ppm	-
U	10 - 10,000 ppm	0.1 - 4,000 ppm	0.1 - 10,000 ppm	0.1 - 10,000 ppm	0.1 - 10,000 ppm
V	2 - 10,000 ppm	4 - 10,000 ppm	1 - 10,000 ppm	1 - 1,000 ppm	1 - 10,000 ppm
W	5 - 10,000 ppm	0.1 - 200 ppm	0.1 - 200 ppm	0.1 - 200 ppm	0.1 - 10,000 ppm
Y	1 - 1,000 ppm	0.1 - 2,000 ppm	0.1 - 10,000 ppm	0.1 - 10,000 ppm	0.1 - 500 ppm
Yb	-	-	0.1 - 5,000 ppm	0.1 - 5,000 ppm	-
Zn	1 - 10,000 ppm	1 - 10,000 ppm	0.2 - 10,000 ppm	0.2 - 10,000 ppm	2 - 10,000 ppm
Zr	5 - 10,000 ppm	0.1 - 2,000 ppm	1 - 5,000 ppm	1 - 5,000 ppm	0.5 - 500 ppm
<b>Price:</b>	<b>\$17.00</b>	<b>\$21.25</b>	<b>\$24.00</b>	<b>\$35.00</b>	<b>\$28.50</b>

Extraction of each element by 4-Acid Digestion is dependent on mineralogy  
+ Sulphide sulphur and soluble sulphates are extracted

**APPENDIX VIII**

**Point of Interest (Table 4)**

**Melema West Point of Interest Table 4**

POI_#	Date	UTM Zone	Easting	Northing	Elevation	Description	Photo(s)
1	13-Oct-20	15	630794	5413682	436	Banding in granite gneiss at generally 135 degrees, some mafic fragments in outcrop. Photo NW.	yes
2	13-Oct-20	15	630791	5413677	430	1cm and 1mm white quartz stringers at 006 degrees.	
3	13-Oct-20	15	630742	5413543	426	Contorted banding in gneiss, generally 135 degrees. Photo SE.	yes
4	13-Oct-20	15	630728	5413522	427	110 degree foliation in gneiss, also a fold axis at that orientation. Photo SE.	yes
5	13-Oct-20	15	628337	5412011	419	Gneissic outcrop, locally more porphyritic, looks granodioritic in composition.	
6	13-Oct-20	15	628809	5411947	416	Large ~1m by 2m by 1m angular boulder on side of logging road near pipeline. Rusty, somewhat gneissic, may be monzonite/granodiorite in composition, local weak shearing, minor quartz stringers, minor-moderate Fe-carb alteration, minor pyrite overall. Photo SE.	yes
7	15-Oct-20	15	626795	5410512	432	May be some weak foliation/fracturing in two orientations: 064 degrees/subvertical dip, 030 degrees.	
8	15-Oct-20	15	627429	5410230	410	Glacier striations at 040 degrees.	
9	15-Oct-20	15	629019	5411137	425	Granite outcrop next to old trail.	
10	15-Oct-20	15	628837	5411093	437	Granite outcrop next to old trail.	
11	15-Oct-20	15	628719	5411062	445	Granite outcrop on trail.	
12	15-Oct-20	15	628438	5410952	433	Several granite outcrops on either side of trail.	
13	15-Oct-20	15	627905	5411105	436	Gneissic granite outcrop.	
14	15-Oct-20	15	627968	5411228	427	Granite outcrop on southeast side of swamp.	
15	17-Oct-20	15	626737	5410120	435	Schistose intermediate intrusive, some foliation and quartz veins at 040 degrees, appears to be some folding with axis possibly plunging 175/40 degrees. Photos NE, NW.	yes
16	17-Oct-20	15	626608	5409940	444	Schistose intermediate intrusive, 050 degree foliation. Foliation can be wavy.	
17	17-Oct-20	15	626609	5409914	437	Quartz veining in intermediate intrusive schist. Shear/foliation trends 050-060 degrees, veins appear to x-cut foliation at 036 degrees. Photo NE.	yes
18	17-Oct-20	15	626594	5409897	440	Schistose intermediate intrusive with quartz veins. Foliation can be wavy. Photos NW.	yes
19	17-Oct-20	15	626587	5409892	430	Schistose intermediate intrusive with quartz veins along foliation at 036 degrees. Some Fe-carb, pyrite in flagged samples nearby. Veins can be somewhat curved due to folding. Photo NE.	yes
20	17-Oct-20	15	626617	5409881	426	Quartz-rich felsic intrusive outcrop.	
21	17-Oct-20	15	626682	5409857	425	Medium-coarse-grained, quartz-rich felsic intrusive outcrop. Somewhat porphyritic, minor pyrite, rusty patches throughout.	
22	17-Oct-20	15	626802	5409973	423	Quartz-rich felsic intrusive outcrop.	
23	17-Oct-20	15	626993	5410153	423	Claim post '715m East 3', claim no. 4254362; '415m East 4', claim no. 5254365. Photos of tags.	yes
24	19-Oct-20	15	627310	5410353	427	Massive outcrop of rock with dark grey matrix, light-coloured phenocrysts.	



25	19-Oct-20	15	627217	5410387	429	<1cm quartz stringer in somewhat altered granite, trending 217 degrees with subvertical or very slight NW dip.	
26	21-Oct-20	15	627160	5410471	433	Fine-grained intermediate to mafic dyke in possible feldspar porphyry, very shallow dip to SE. Photo ESE.	yes
27	21-Oct-20	15	627224	5410409	439	Possible fine-grained mafic dyke in outcrop.	
28	23-Oct-20	15	627347	5410496	435	Contact between somewhat coarser, more quartz-rich felsic intrusive (west) and a bit more intermediate, finer-grained more porphyritic rock (east). Contact strikes 225/46 degrees NW.	
29	23-Oct-20	15	628719	5411993	443	Felsic intrusive outcrop with some irregular quartz veining, fractures at 230 degrees, steep dip W.	
30	23-Oct-20	15	628693	5411995	440	Foliation in felsic intrusive outcrop at 315/55 degrees NW, although hard to tell if it calved off the hill.	
31	24-Oct-20	15	630637	5413873	433	Granitic gneiss with 305 degree/moderate dip foliation/banding. Some 030 to 055 degree fractures/joints as well.	
32	24-Oct-20	15	630637	5413878	433	015/70-80 degree foliation in outcrop.	

**APPENDIX IX**

**List of Mining Cells-Claims**

**Melema West List of Mining Cells-Claims Table 5**

TENURE_NUM	TITLE_TY_1	ISSUE_DATE	ANNIVERSARY	HOLDER
586094	Multi-cell Mining Claim	2020-04-28	2022-04-28	(100) PERRY VERN ENGLISH
586095	Multi-cell Mining Claim	2020-04-28	2022-04-28	(100) PERRY VERN ENGLISH
586298	Single Cell Mining Claim	2020-05-01	2022-05-01	(100) PERRY VERN ENGLISH
586299	Single Cell Mining Claim	2020-05-01	2022-05-01	(100) PERRY VERN ENGLISH
586296	Single Cell Mining Claim	2020-05-01	2022-05-01	(100) PERRY VERN ENGLISH
586297	Single Cell Mining Claim	2020-05-01	2022-05-01	(100) PERRY VERN ENGLISH

# **APPENDIX X**

## **Daily Log**

Daily Log Melema Project October 2020 Table 6											
Date	B. Maclachlan days	Prospecting	Soil Sampling	Other	Activities		C. Robertson days	Prospecting	Soil Sampling	Other	Activities
October-12-2020	1			Travel	Packed up gear, drove to Quetico camp		1			Travel	Packed up gear, drove to Quetico camp
October-13-2020	1	Prospecting			Prospecting in the northern portion of the property		1	Prospecting			Prospecting in the northern portion of the property
October-14-2020	1			Rain day	Rain - snow all day, working on data and maps		1			Rain day	Rain - snow all day, working on data and maps
October-15-2020	1	Prospecting			Prospecting in the southwest and central portions of the property		1	Prospecting			Prospecting in the southwest and central portions of the property
October-16-2020	1			Lake Sediment Sampling	Lake sediment sampling and some prospecting along the lake shore		1			Lake Sediment Sampling	Lake sediment sampling and some prospecting along the lake shore
October-17-2020	1	Prospecting			Wet snow, some prospecting in the southwest portion of the property		1	Prospecting			Wet snow, some prospecting in the southwest portion of the property
October-18-2020	1			Enter data	Wet snow, enter data		1			Enter data	Wet snow, enter data
October-19-2020	1	Prospecting			Moved to Brown's Clearwater Lodge, prospecting the strike ext. of the Young Corrigan Zone		1	Prospecting			Moved to Brown's Clearwater Lodge, prospecting the strike ext. of the Young Corrigan Zone
October-20-2020	1		Soil Sampling		Soil sampling in the southern portion of the property		1		Soil Sampling		Soil sampling in the southern portion of the property
October-21-2020	1		Soil Sampling		Soil sampling in the southern portion of the property		1		Soil Sampling		Soil sampling in the southern portion of the property
October-22-2020	1		Soil Sampling		Soil sampling in the central portion of the property		1		Soil Sampling		Soil sampling in the central portion of the property
October-23-2020	1		Soil Sampling		Continued soil sampling		1		Soil Sampling		Continued soil sampling
October-24-2020	1		Soil Sampling		Soil sampling in the northern and central portions of the property		1		Soil Sampling		Soil sampling in the northern and central portions of the property
October-25-2020	1		Soil Sampling		Completed the soil sampling		1		Soil Sampling		Completed the soil sampling
October-26-2020	1			Travel	Packed up gear, organized gear, drove to Thunder Bay		1			Travel	Packed up gear, organized gear, drove to Thunder Bay
October-27-2020					n/a		1				Worked on data, picked up supplies
<b>Total Days</b>	<b>15</b>	<b>4</b>	<b>6</b>	<b>5</b>			<b>16</b>	<b>4</b>	<b>6</b>	<b>6</b>	

**APPENDIX XI**

**Statement of Expenditures**

## STATEMENT of EXPENDITURES

The following is a breakdown of expenditures related to the 2020 field program on the Melema West Property.

### Labour:

#### Preparation, field work, travel

Labour \$ 16,625.00

#### Prepare maps etc.

Drafting & digitizing \$ 1,800.00

#### Report Writing

Report Writing \$ 1,900.00

### Associated Costs:

Meals & Groceries \$ 678.94

Field Supplies \$ 113.47

Ground Transportation (2498km x \$0.50/km) \$ 1,249.00

Cabin Rental \$ 2,450.00

Boat Rental \$ 85.00

### Analytical Costs:

Act Labs 22 rock - grab samples) \$ 1,153.95

Act Labs (80 A Horizon soil samples) \$ 3,796.00

Act Labs (70 B Horizon soil samples) \$ 3,321.50

Act Labs (9 lake sediment samples) \$ 427.05

**TOTAL EXPENDITURES**

**\$ 33,600.41**

Cell No.	Rock Samples Collected per Cell	A Horizon Samples Collected per Cell	B Horizon Samples Collected per Cell	Lake Sediment Samples Collected per Cell	Expenditure per Cell
586094	10	19	17		\$ 8,621.34
586095	10	58	50	9	\$ 23,671.04
586297	1	3	3		\$ 1,308.03
<b>Total</b>	<b>21</b>	<b>80</b>	<b>70</b>	<b>9</b>	<b>\$ 33,600.41</b>

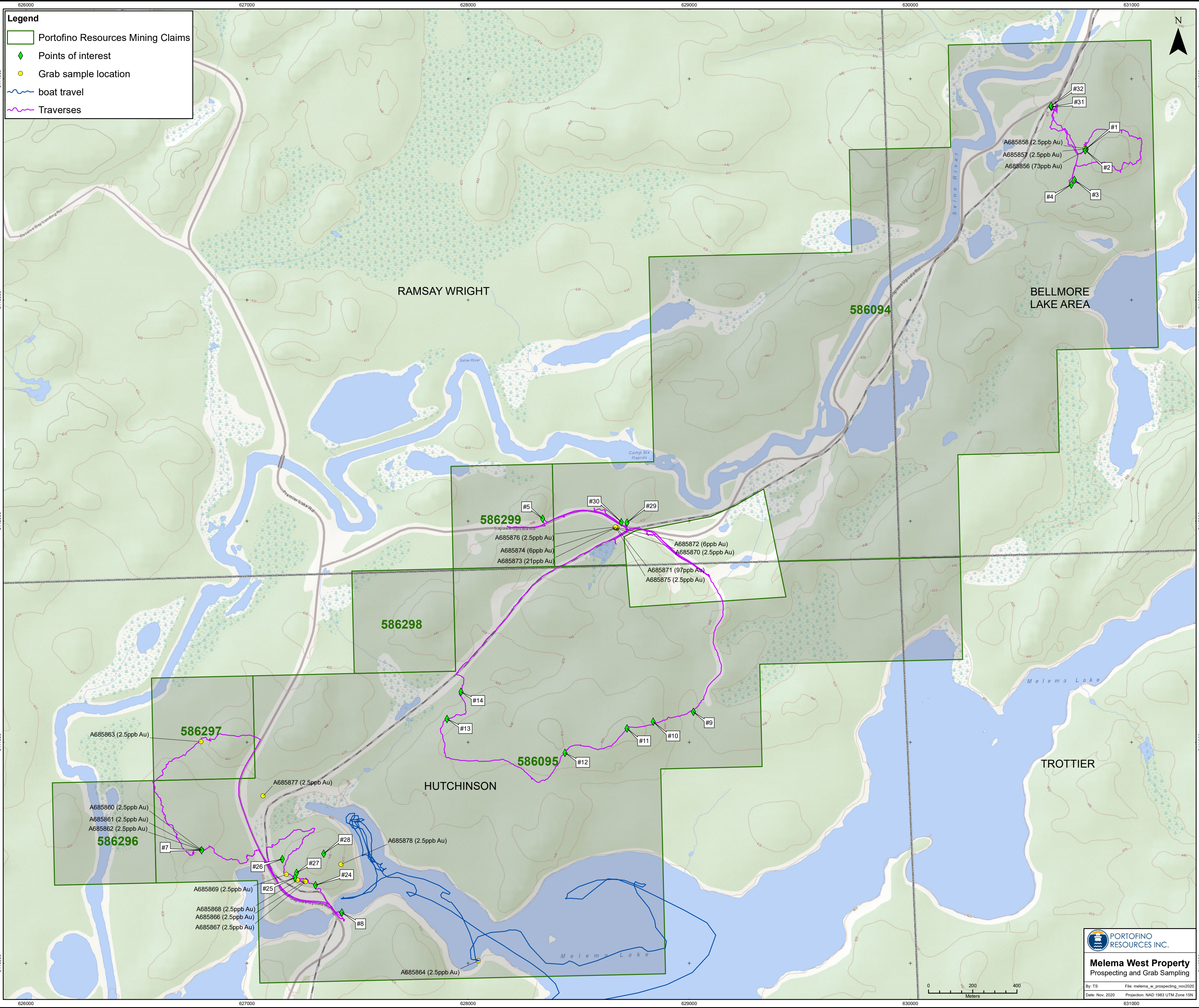
## **APPENDIX XII**

### **Map Sheets**



**Legend**

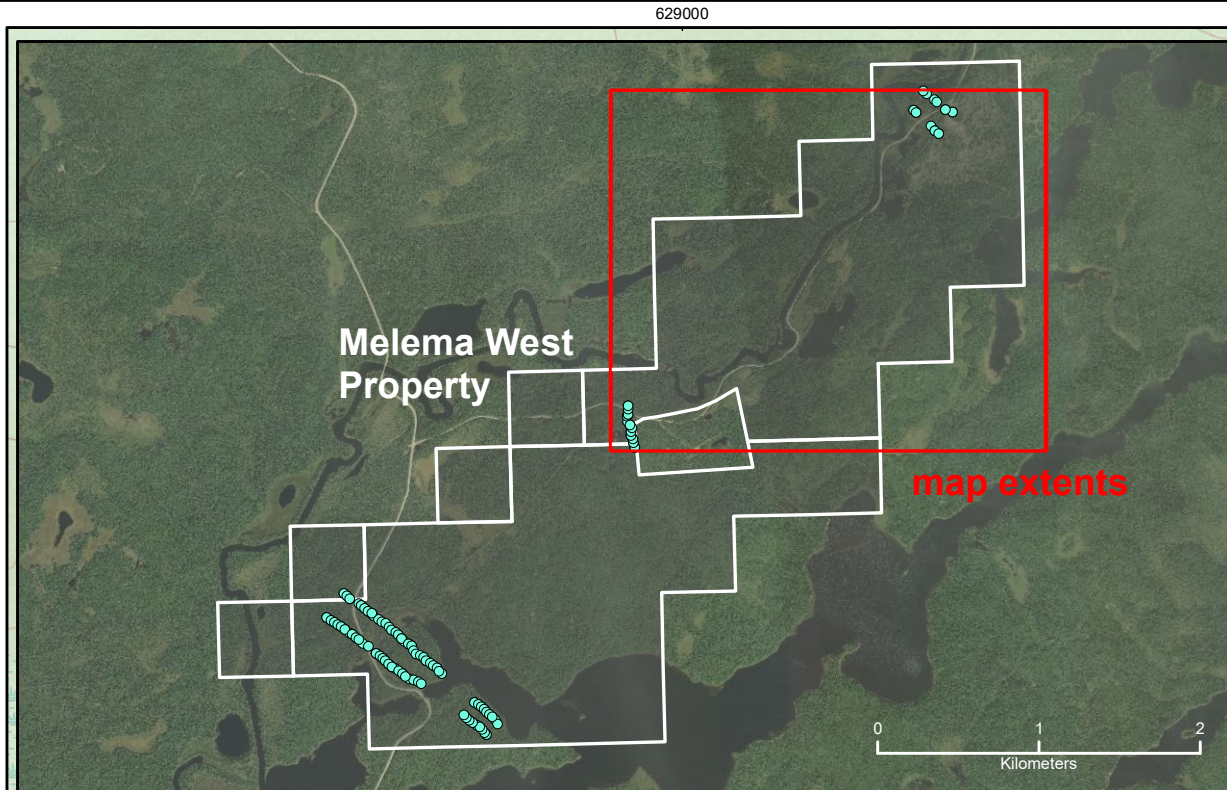
- Portofino Resources Mining Claims
- ◆ Points of interest
- Grab sample location
- ~ boat travel
- ~ Traverses



**PORTOFINO RESOURCES INC.**

**Melema West Property**  
Prospecting and Grab Sampling

By: TS File: melema\_w\_prospecting\_nov2020  
Date: Nov. 2020 Projection: NAD 1983 UTM Zone 15N



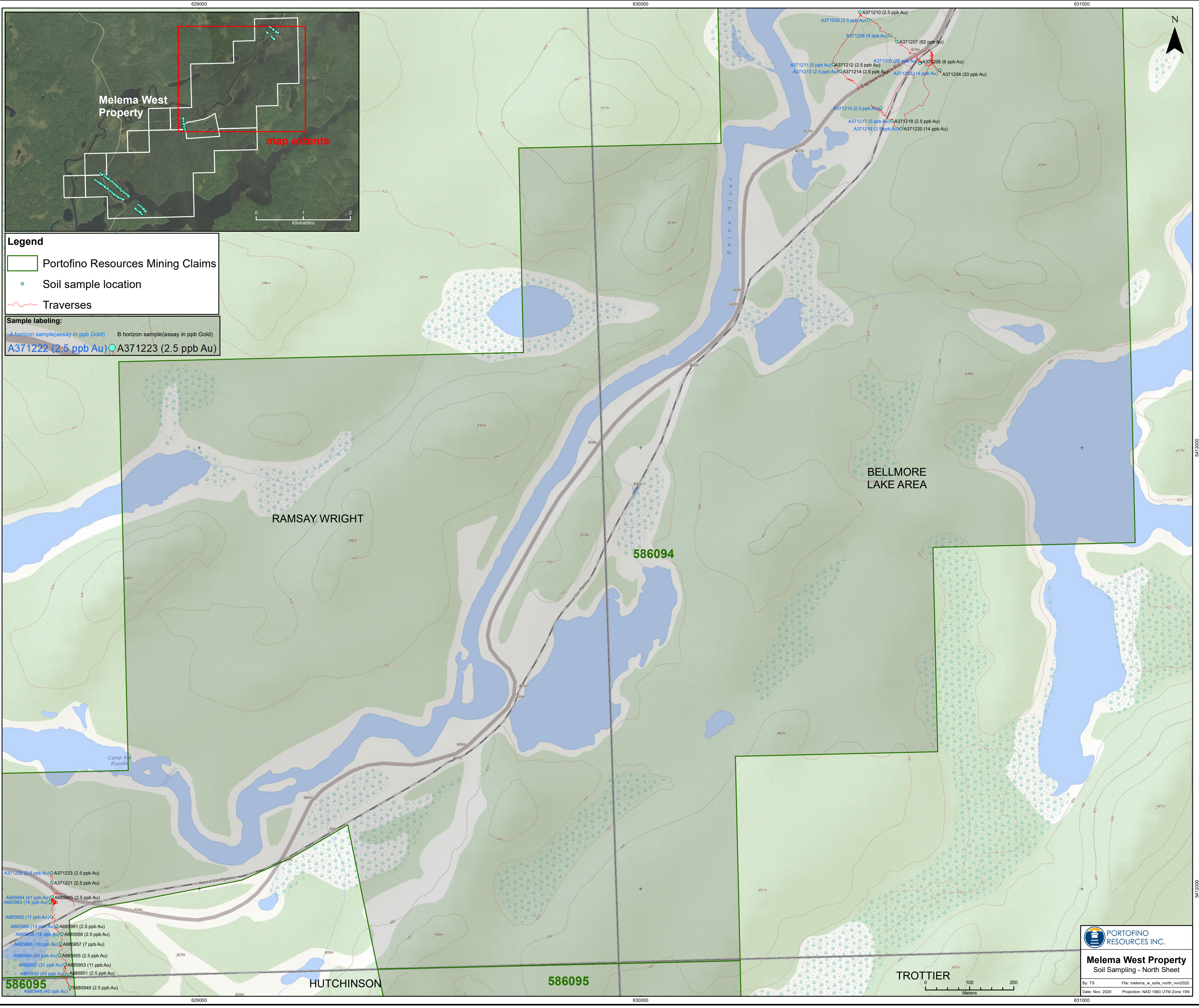
**Legend**

- Portofino Resources Mining Claims
- Soil sample location
- Traverses

**Sample labeling:**

A horizon sample(assay in ppb Gold)    B horizon sample(assay in ppb Gold)

A371222 (2.5 ppb Au)    A371223 (2.5 ppb Au)



A371222 (2.5 ppb Au)    A371223 (2.5 ppb Au)

A371221 (2.5 ppb Au)

A685964 (41 ppb Au)    A685965 (2.5 ppb Au)

A685963 (18 ppb Au)

A685962 (11 ppb Au)

A685960 (13 ppb Au)    A685961 (2.5 ppb Au)

A685958 (18 ppb Au)    A685959 (2.5 ppb Au)

A685956 (10 ppb Au)    A685957 (7 ppb Au)

A685954 (20 ppb Au)    A685955 (2.5 ppb Au)

A685962 (31 ppb Au)    A685953 (11 ppb Au)

A685950 (43 ppb Au)    A685951 (2.5 ppb Au)

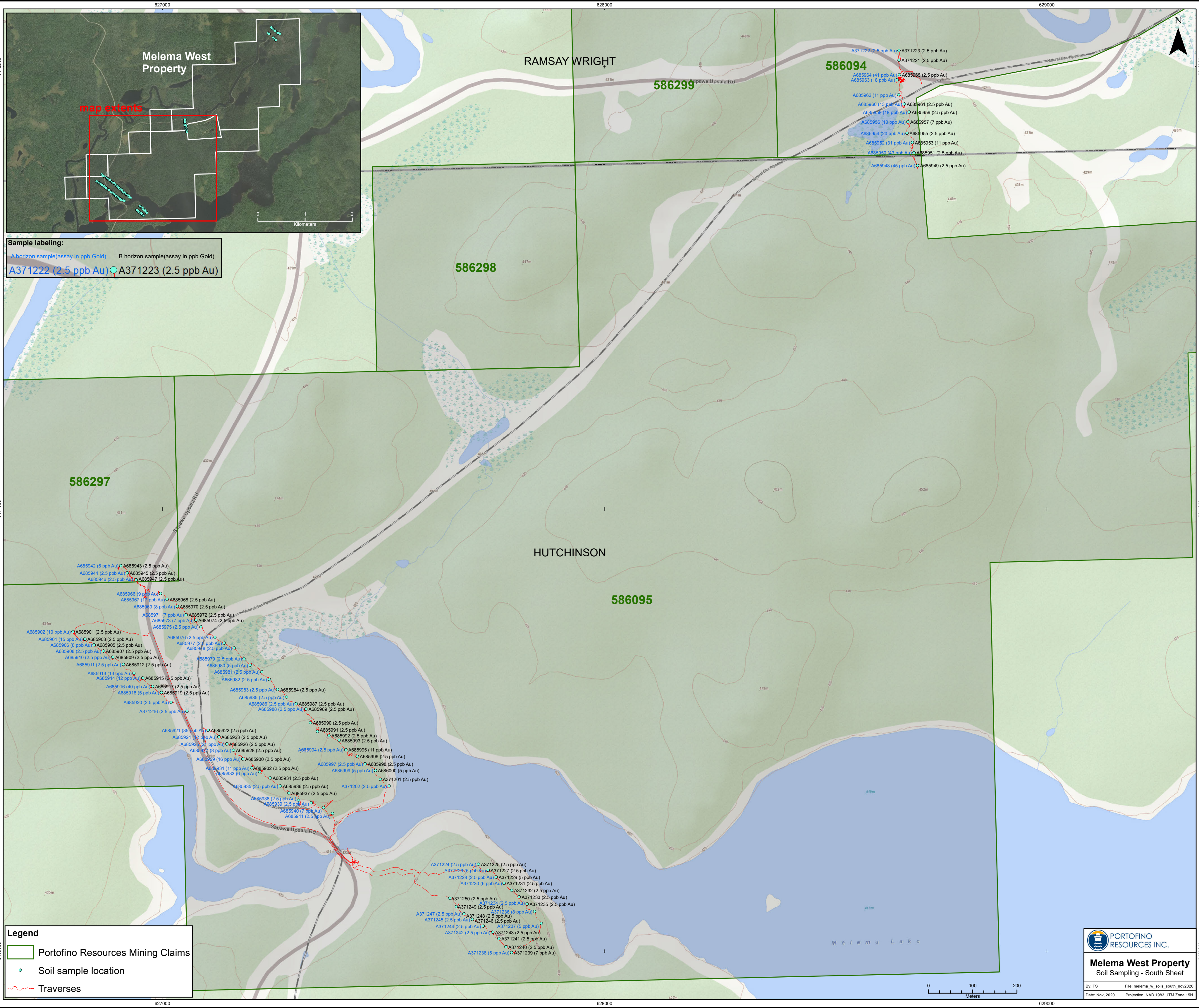
A685948 (45 ppb Au)

A685949 (2.5 ppb Au)

**PORTOFINO RESOURCES INC.**

**Melema West Property**  
Soil Sampling - North Sheet


By: TS    File: melema\_w\_soils\_north\_nov2020  
Date: Nov, 2020    Projection: NAD 1983 UTM Zone 15N

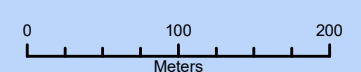


**Sample labeling:**  
 A horizon sample(assay in ppb Gold)    B horizon sample(assay in ppb Gold)  
 A371222 (2.5 ppb Au)    A371223 (2.5 ppb Au)

**Legend**

- Portofino Resources Mining Claims
- Soil sample location
- Traverses


**PORTOFINO RESOURCES INC.**  
**Melema West Property**  
 Soil Sampling - South Sheet  
 By: TS      File: melema\_w\_soils\_south\_nov2020  
 Date: Nov. 2020      Projection: NAD 1983 UTM Zone 15N



627000      628000      629000

5412000      5411000      5410000

Melema West Property

map extents

RAMSAY WRIGHT

586299

586094

586298

586297

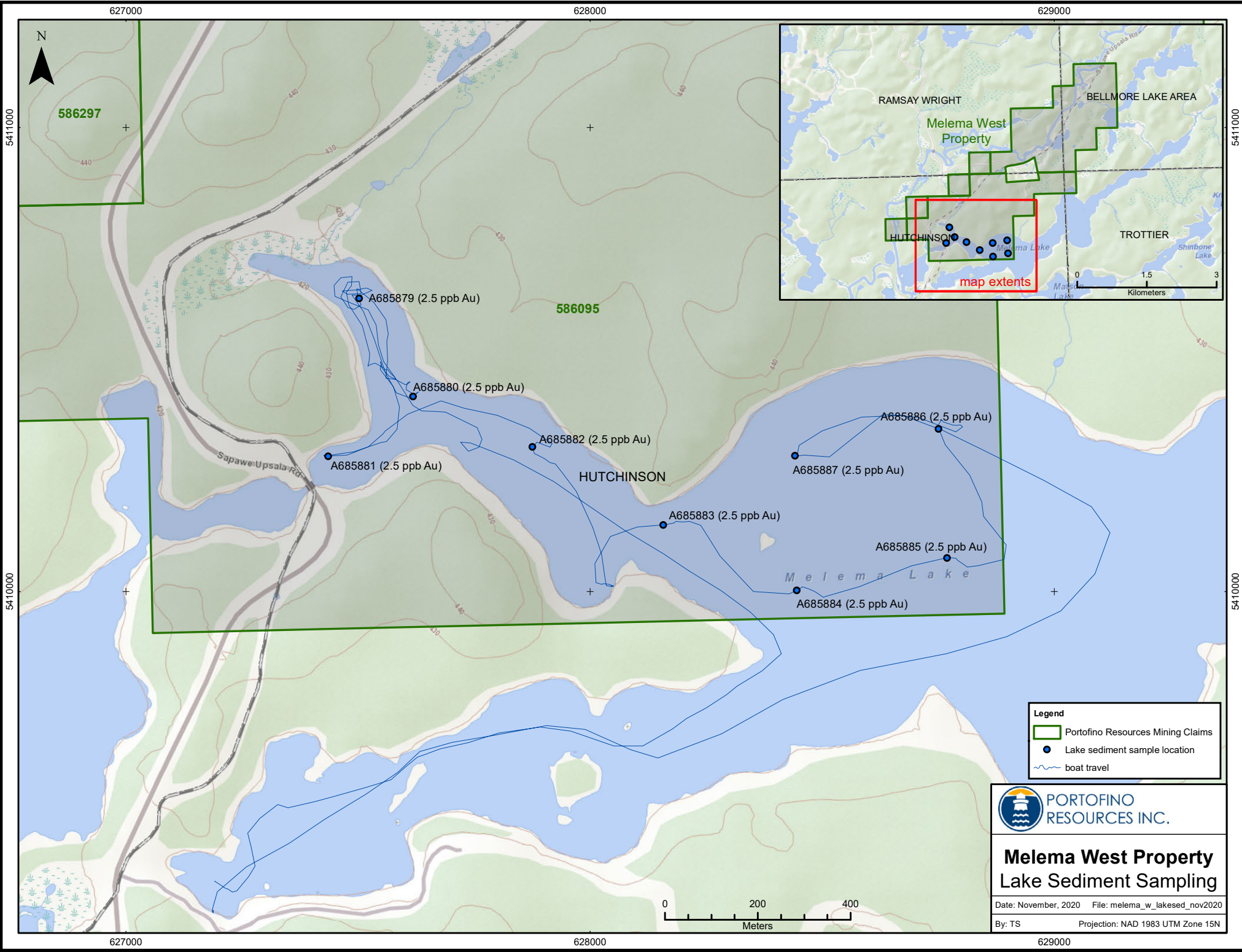
HUTCHINSON

586095

Melema Lake

0    1    2  
Kilometers

0    100    200  
Meters



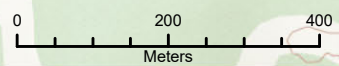
**Legend**

- Portofino Resources Mining Claims
- Lake sediment sample location
- ~ boat travel



## Melema West Property Lake Sediment Sampling

Date: November, 2020 File: melema\_w\_lakesed\_nov2020  
 By: TS Projection: NAD 1983 UTM Zone 15N




## **APPENDIX XIII**

### **Photos**



AS 6082673

A photograph of a geological field site. In the center, a hammer with a wooden handle and a metal head is placed on a rock surface. A white plastic bag with the handwritten number 'A685861' is positioned behind the hammer. Several rock samples of varying sizes and colors (grey, brown, white) are scattered around the hammer and bag. The background shows a rocky outcrop with some green moss or lichen. The ground is covered with dark soil and some dry leaves.

A685861

