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CROOKED PINE PROPERTY

WORK REPORT OF THE OCTOBER 2022 EXPLORATION PROGRAM ON THE CROOKED PINE PROJECT, ATIKOKAN AREA, ONTARIO FOR FRONTLINE GOLD CORPORATION

NTS Map sheets 52B/14 & 52B/15

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1.0 -SUMMARY-

From October 21st to 25th, 2022, a soil and rock sampling program was carried out on Frontline Gold Corporation's Crooked Pine claim group located approximately 38 kilometers east-northeast of Atikokan, Ontario, and 130 kilometers west-northwest of Thunder Bay, Ontario (see Figure 1).

The property straddles the boundary between the granite-greenstone Wabigoon Subprovince to the north and the metasedimentary Quetico Subprovince to the south, separated by the east-west Quetico fault (see Figure 5). Northeast-trending splays off the Quetico fault are known to be associated with significant gold mineralization in this area, i.e., Agnico Eagle's Hammond Reef deposit ~35 km to the west-northwest which is hosted in the granitic Marmion Lake Batholith and contains probable reserves of 3.3 Moz Au and an additional resource totalling 2.3 Moz Au in the measured and indicated categories. Gold mineralization has also been discovered within roughly east-west-trending shear zones in the metavolcanic belt, associated with arsenic and copper.

The goal of the 2022 program was to locate mineralization along strike from the historical South Zone (sampled in 2021, returning **3.06 gpt Au** and **>1% As**), and the historical Trench 1 (Andrews North) Zone (sampled in 2020, returning **7.03 gpt Au** and **>1% As**). As much of the area is covered in overburden, a soil geochemistry survey was undertaken. 108 humus (A horizon soil) samples were collected, as well as 21 B horizon soil samples in certain locations to compare with the humus results (see Map Sheets in Appendix X for sample locations).

1 humus and 1 B horizon sample were collected immediately east of the historical South Zone, returning **31.2 ppb Au** and **54 ppb Au** respectively, the highest gold values of the program for the respective soil types. These also returned **136 ppm As** and **482 ppm As** respectively, the highest and second-highest As values of the program for the respective soil types. 1 B horizon sample was collected in disturbed soil at Trench 1 and returned **50 ppb Au**, the second-highest value of the program, as well as **753 ppm As**, the highest value of the program.

Besides these samples, no significant Au values were obtained in the survey (the next highest value obtained in the survey was **13.9 ppb Au**). However, one humus sample approximately 900 meters west of Trench 1, within the same linear east-west magnetic low, returned the program's second-highest As-in-humus value of **16.6 ppm** and the highest Cu value of **87.8 ppm**. This sample may overlie the Pothole Shear Zone which is interpreted to extend from Pothole Lake to the west to Trench 1 to the east.

Rock samples collected of quartz veining south of the main mineralized zone at Trench 1 and of quartz veining on a line west of Trench 1 returned no significant Au values, although up to **591 ppm As** was obtained from the former group of samples.

2.0 -INTRODUCTION-

Frontline Gold Corp. acquired the Crooked Pine Property on July 9th, 2020, with additional claims added in February of 2021. The main target mineral is gold based on previous discoveries on the property. 3 sampling programs took place subsequently to the acquisition of the property, two in 2020 and one in 2021. The objective of the 2022 program was to carry out soil sampling east of the historical South Zone and west of the historical Trench 1 (Andrews North) Showing in an attempt to locate the strike extension of these zones. Further details about the Property and the 2022 work program are presented below.

2.1 PROPERTY DESCRIPTION, PERMIT, LOCATION AND ACCESS

Frontline Gold Corporation's Crooked Pine Project is located ~38km east-northeast of the town of Atikokan and 130 km west-northwest of Thunder Bay in northwestern Ontario.

Access to the property is best achieved by truck via the Crooked Pine Logging Road, which can be reached by travelling north along secondary highway 633 off of Highway ON-11 (Trans-Canada) and crossing the train tracks at Kawene.

The Crooked Pine Property is comprised of 120 claims, including 112 Single-Cell Mining Claims and 8 Multi-Cell Mining Claims, See Figure 3 and Table 4, Appendix VII.

The Ministry of Northern Development and Mines (MNDM) has issued Exploration Permit Number: PR-21-000181 for the Crooked Pine Property.

2.2 CLIMATE, RESOURCES, LOCAL INFRASTRUCTURE AND PHYSIOGRAPHY

The Crooked Pine 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 430 to 480 m where explored.

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

The Crooked Pine Property is situated approximately 38 km east-northeast of the town of Atikokan, Ontario (population ~2750). Access for the 2020 exploration program was achieved by truck. A campsite was selected on the property and a Jutland tent was set up north of Crooked Pine Lake, next to the main logging road, see Figure 3.

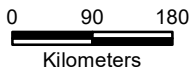
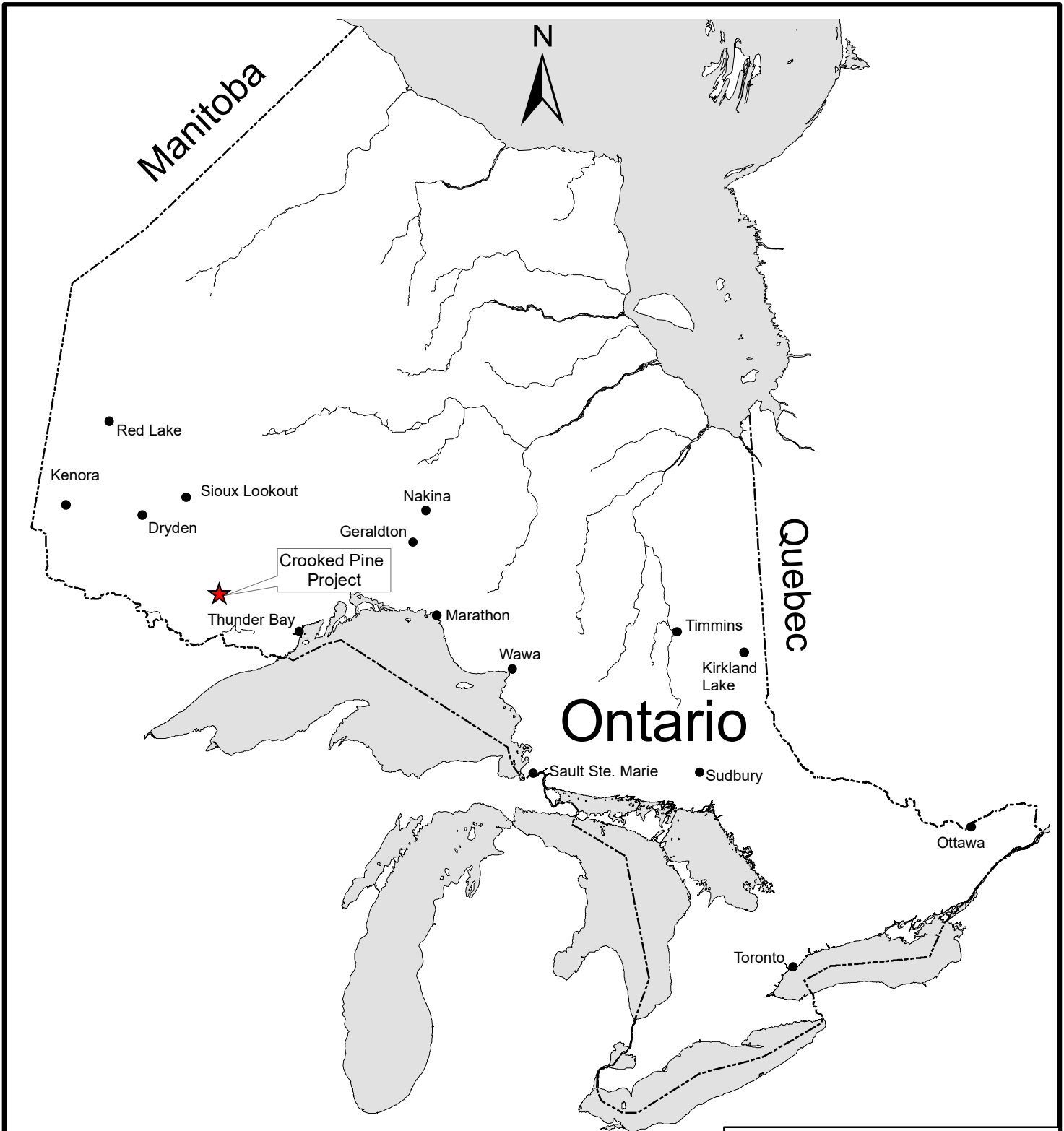
Climate in the area is typical of Northern Ontario, with cold winters and warm summers. Average January minimum temperatures range from -18°C to -32°C, and average July temperatures are between 24°C and 32°C. Exploration work can be carried out (subject to snow and freezing) for most of the year. Certain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


activities are best performed in snow-free conditions, whereas drilling can occur any time of the year.

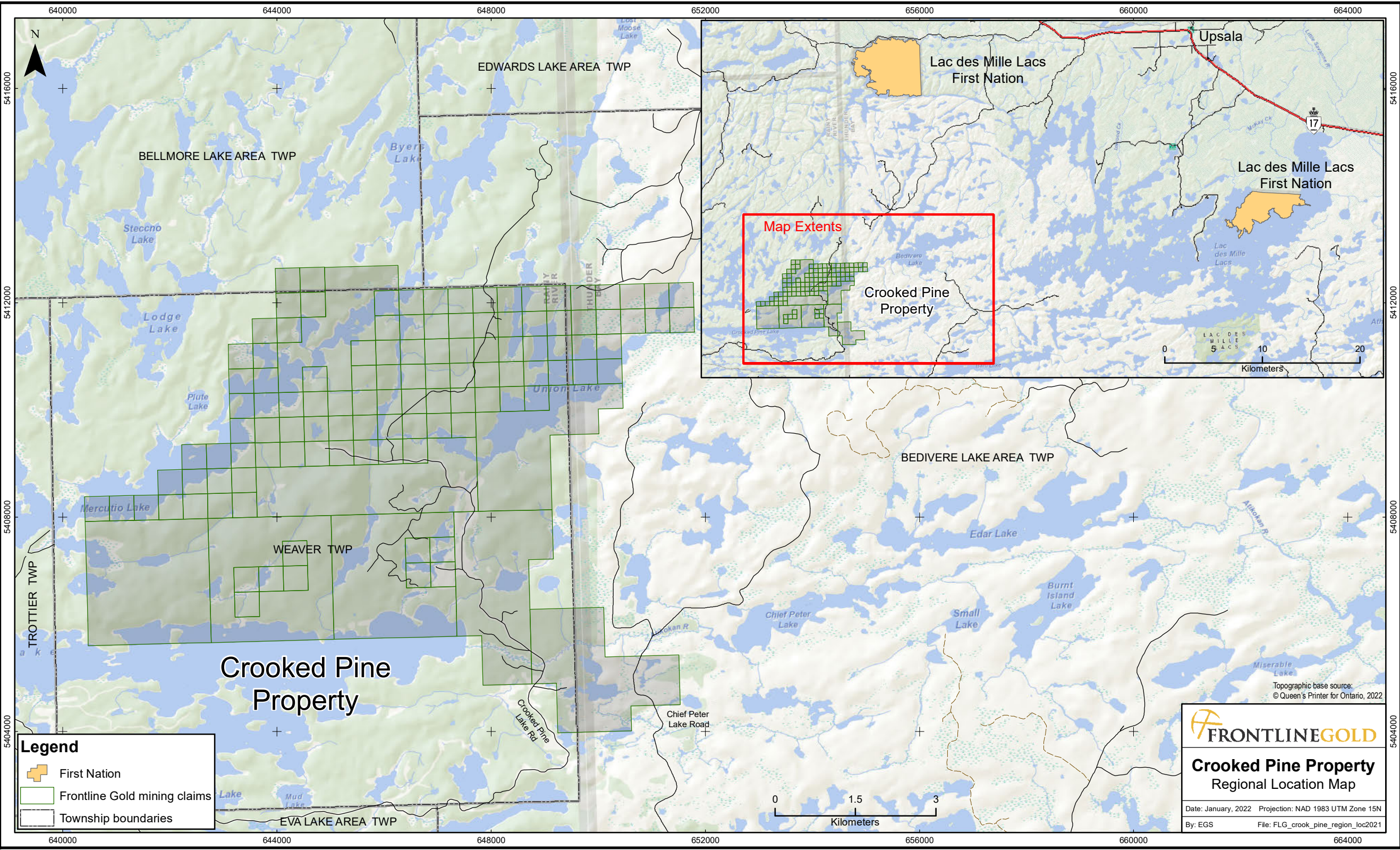
2.3 PERSONNEL

The 2022 field program was carried out by Bruce MacLachlan and Coleman Robertson of Emerald Geological Services (EGS).

Tom Savage and Aaron Francis provided drafting services.



 FRONTLINEGOLD	
Crooked Pine Project General Location Map	
Date: January, 2022	
Name: TS	File: ontloc_FLG_crook_pine_2021



640000 644000 648000 652000 656000 660000 664000

5416000 5412000 5408000 5404000

EDWARDS LAKE AREA TWP

BELLMORE LAKE AREA TWP

WEAVER TWP

Crooked Pine Property

BEDIVERE LAKE AREA TWP

EVA LAKE AREA TWP

Lac des Mille Lacs First Nation

Upsala

Map Extents

Crooked Pine Property

0 10 20 Kilometers

0 1.5 3 Kilometers

0 5 10 20 Kilometers

Legend

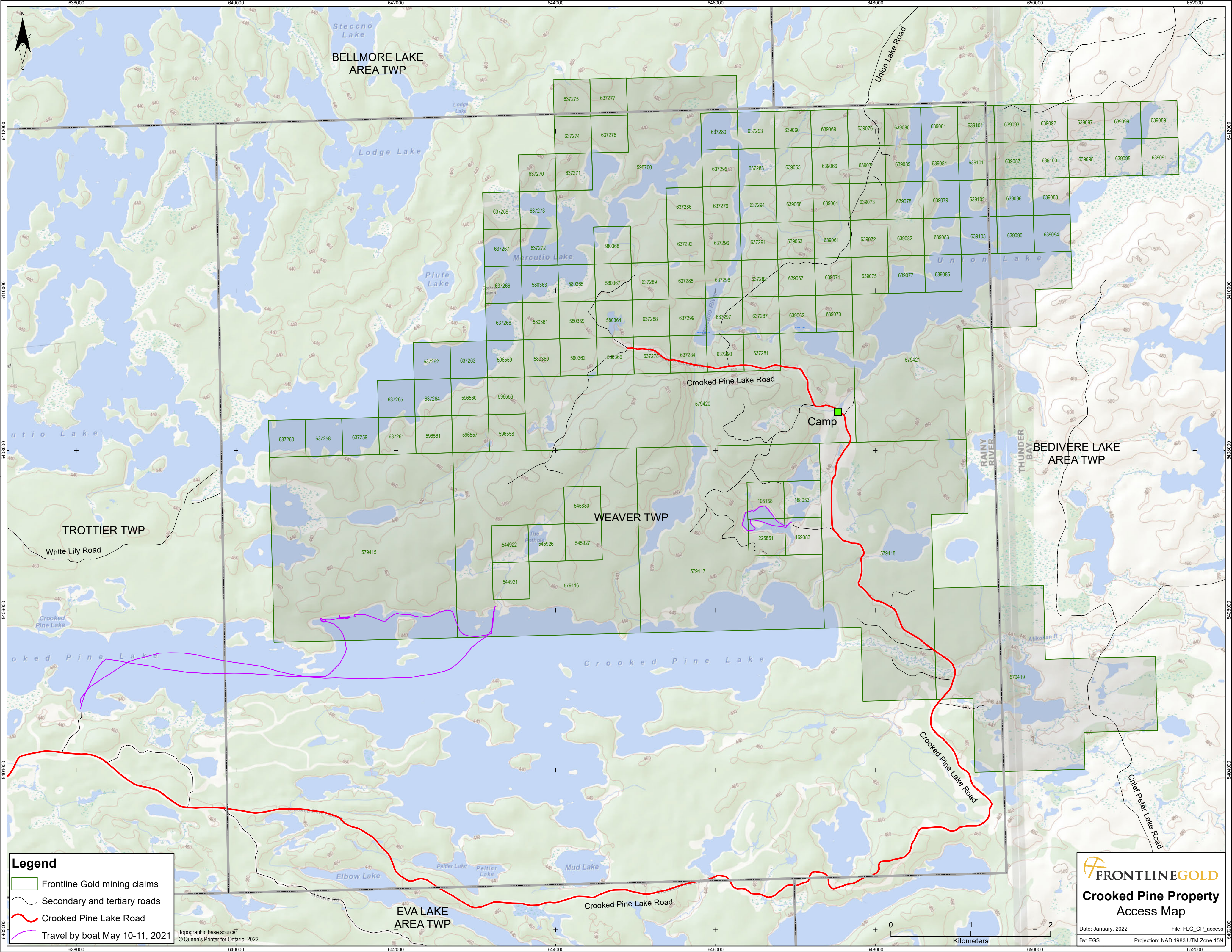
- First Nation
- Frontline Gold mining claims
- Township boundaries

FRONTLINEGOLD

Crooked Pine Property
Regional Location Map

Date: January, 2022 Projection: NAD 1983 UTM Zone 15N
By: EGS File: FLG_crook_pine_region_loc2021

Topographic base source:
© Queen's Printer for Ontario, 2022



Legend

- Frontline Gold mining claims
- Secondary and tertiary roads
- Crooked Pine Lake Road
- Travel by boat May 10-11, 2021

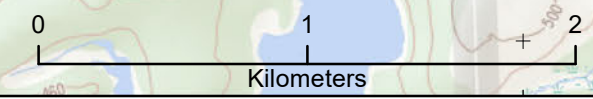
Topographic base source:
 © Queen's Printer for Ontario, 2022

FRONTLINEGOLD

**Crooked Pine Property
Access Map**

Date: January, 2022 File: FLG_CP_access

By: EGS Projection: NAD 1983 UTM Zone 15N



3.0 -GEOLOGY-

3.1 REGIONAL GEOLOGY

The following is an excerpt from Holmstead et al. 1989, file 52B15SW0002.

“The Crooked Pine Lake Area straddles part of the Wabigoon and Quetico Subprovinces separated by the Quetico Fault in this area.

North of the Quetico Fault are Early Precambrian rocks of the Wabigoon Subprovince which include narrow east trending interfingering mafic to intermediate metavolcanic to felsic metavolcanics intruded by melanogabbros, quartz diorites, trondhjemites, and quartz monzonites as sheets and small stocks. All of the rocks are deformed, folded and recrystallized to lower greenschist facies except near the contact with the Marmion Lake Batholith to the north the metamorphic grade increases to the amphibolite facies. The batholith is a layered trondhjemite, hornblende gneiss and amphibolite gneiss intruded by younger phases of quartz diorite and diorite.

The Quetico Fault forms a narrow, highly deformed and mylonitized zone along the northern shore of Crooked Pine Lake. South of the fault is a thick sequence of Early Precambrian turbidite, wacke and mudstone sequence. These are metamorphosed from biotite phyllites and schists to biotite gneisses and gneiss migmatites with garnets, staurolite, sillimanite and muscovite. There are several mafic to ultramafics cutting the sediments near Kawene and Elbow Lakes. Some of these bodies have minor associated copper-nickel mineralization.”

Schnieders and Dutka (1985, p23-28) discuss two types of gold occurrences within or proximal to the Marmion Batholith: Contact Zone Type and Batholith Type. Contact Zone Type occur within metamorphosed metavolcanics in the gradational and deformed contact zone between the greenstone belt and the batholith:

“Xenoliths of metavolcanics occur as lenticular blocks subparallel to the foliation of the granitic rocks and occur more frequently near the actual contact. The contact zone itself consists of a mixed complex of plutonic rocks, metavolcanics and assimilation zones with primary features rarely preserved. The metamorphic rocks are essentially chlorite-sericite schists, with schistosity paralleling the foliation of the granitic rocks. Calcite, ankerite, pyrite, chalcopyrite, green chromium mica and tourmaline are common accessory minerals in the schists (p26).”

Batholith Type occur within chlorite schists derived from mafic minerals in the gneissic batholith itself. The author lists Hammond Reef as a deposit of this type.

“This type occurs within the gneissic core of the batholith and is associated with northeast-trending lineaments which represent faults or shear zones. Mineralized veins are related to several periods of deformation and shearing, suggesting that metamorphic veins were produced during dynamic metamorphism (p23) [...] The mineralization consists of gold in quartz +/- carbonate veins occupying dilatant zones commonly in chlorite schists. These schists are the ultimate product of shearing and carbonatization of the massive tonalites, and vary up to several meters in thickness and extend along strike for several kilometers. Past geological workers

commonly referred to these foliated zones as altered metavolcanic xenoliths, amphibolite or altered lamprophyre dykes. Although all situations can occur, the majority of chlorite schists were generated by alteration” (p24-25).

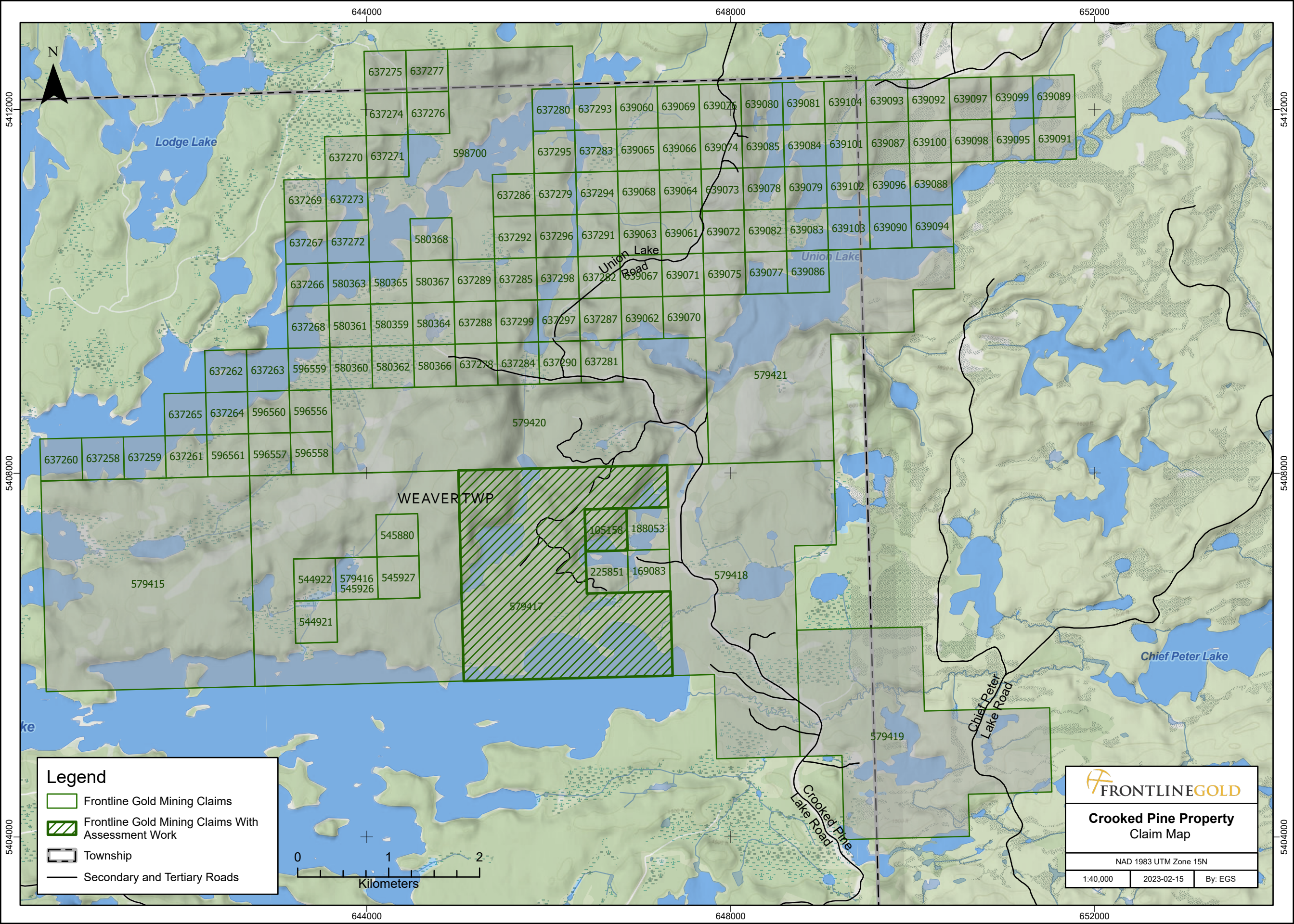
3.2 PROPERTY GEOLOGY

“The [southern part of the] property is underlain by a series of mafic to felsic volcanics and tuffs. These rocks have been intruded by concordant to subcordant gabbros, diabase, and leucocratic quartz monzonite sills and dykes. There are also small plugs of amphibole quartz diorite and chlorite trondhjemites.

Quartz veins, which are of economic interest, occur along shear zones trending east-west in mafic metavolcanics invading fissile chlorite-sericite-carbonate schists. There are two generations of quartz-veining. The earlier quartz vein is deformed into lenses (1m wide and 10m long) parallel to the foliation and later cut by narrow quartz veins of 2-10 cm and mineralized with arsenopyrite, chalcopyrite and pyrite.

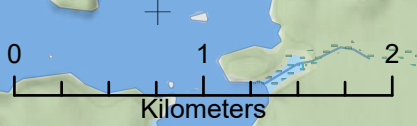
Structurally the area has been deformed by the Quetico Fault giving rise to strong foliations trending N70degE to N90degE and dipping 70deg to 90deg north. Shearing, parallel to the Quetico Fault, as well as shears splaying off from the Quetico Fault tend to be invaded by quartz veins. Metamorphism is of the greenschist facies and increases to the amphibolite facies as one approaches the Marmion Lake Batholith” (excerpt from Holmstead et al. 1989, file 52B15SW0002).

The X.656 zone within the Marmion batholith consists of a northeast-trending mafic shear intruded by quartz veins, with irregular veining in the surrounding granite. The mafic shear is exposed in an old shaft a few meters wide that has been fenced in, with limited exposure to the south. However, a northeast-southwest-trending granite ridge extends a few hundred meters to the south, suggestive of a structure, and is accompanied by good Au grades in quartz veins locally, up to **19.2 gpt Au**. The zone may represent a Batholith Type zone as discussed in section 3.1.



Legend

- Frontline Gold Mining Claims
- Frontline Gold Mining Claims With Assessment Work
- Township
- Secondary and Tertiary Roads



FRONTLINEGOLD

**Crooked Pine Property
Claim Map**

NAD 1983 UTM Zone 15N

1:40,000	2023-02-15	By: EGS
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637275 637277
637274 637276
637270 637271 598700
637269 637273
637267 637272 580368
637266 580363 580365 580367 637289 637285 637298 637282 639067 639071 639075 639077 639086
637268 580361 580359 580364 637288 637299 637297 637287 639062 639070
637262 637263 596559 580360 580362 580366 637278 637284 637290 637281
637265 637264 596560 596556
637260 637258 637259 637261 596561 596557 596558
579415
544922 579416 545927
544921 545926
545880
105158 188053
225851 169083
579417
579418
579419
579421

WEAVER TWP

Union Road

Crooked Pine Lake Road

Chief Peter Lake Road

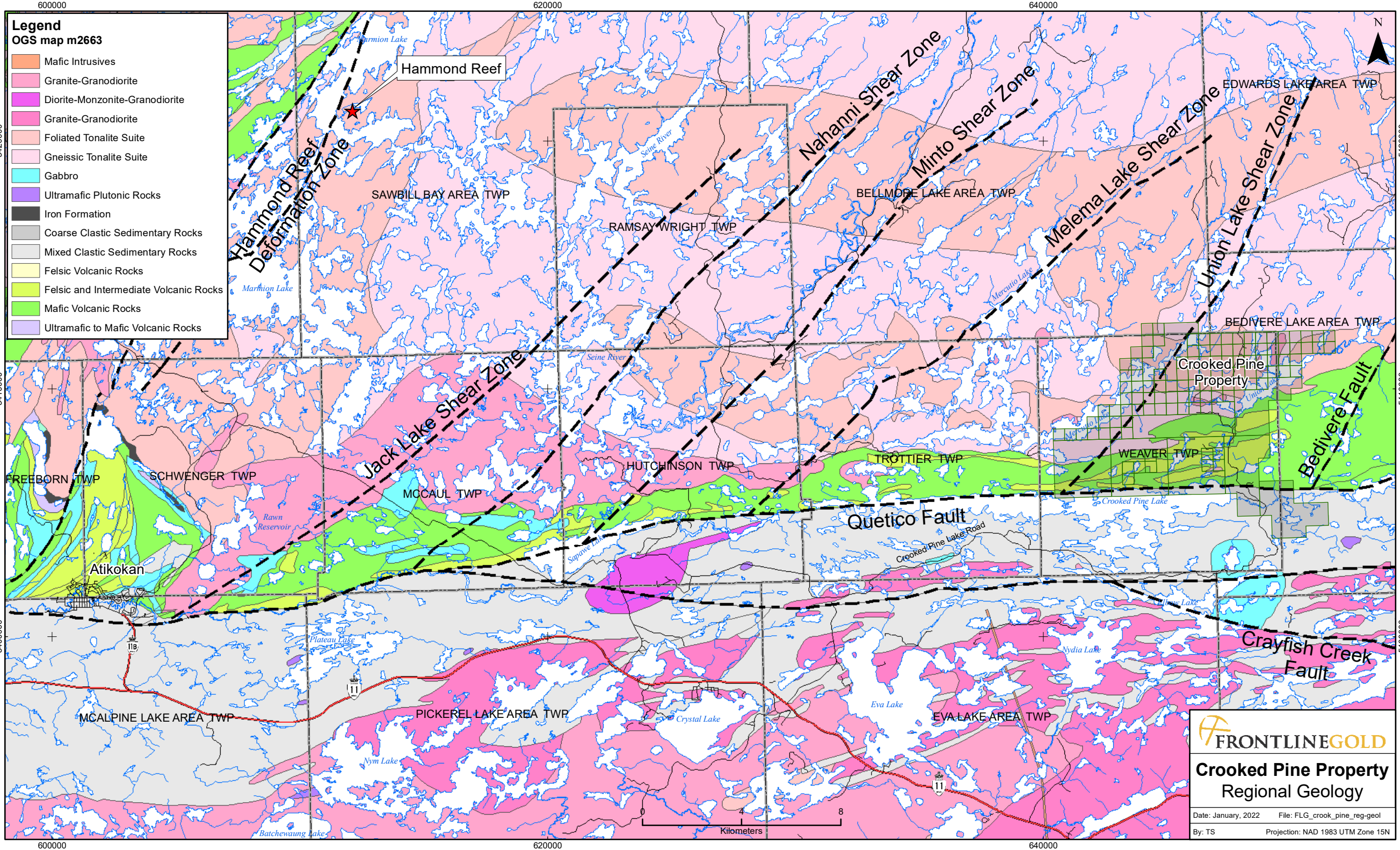
Lodge Lake

Union Lake

Union Lake

Chief Peter Lake





- Legend**
OGS map m2663
- Mafic Intrusives
 - Granite-Granodiorite
 - Diorite-Monzonite-Granodiorite
 - Granite-Granodiorite
 - Foliated Tonalite Suite
 - Gneiss 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

FRONTLINEGOLD
Crooked Pine Property
 Regional Geology

Date: January, 2022 File: FLG_crook_pine_reg-geol
 By: TS Projection: NAD 1983 UTM Zone 15N



4.0 -EXPLORATION HISTORY-

4.1 CROOKED PINE CELL-CLAIMS

The Crooked Pine claim group as a whole has seen sparse to moderate exploration, with work focused in several areas north of Crooked Pine Lake. These include the historical Trench 1, 2 and 3 areas north of the northeast corner of Crooked Pine Lake; the South Showing west of these trenches and on the southeast shore of a northeast-trending lake; the north shore of Crooked Pine Lake, and the Pothole shear zone / vein system which as of February 2021 is part of the property. Work by Traxxin Resources in 2020 was focused on a historical shaft in the northwestern part of the property: the X.656 shear zone. A detailed description of historical activities is provided below.

4.2 DETAILED DESCRIPTION OF HISTORICAL WORK

1963-1984 (Noranda, Lynx-Canada, Lazan Exploration):

In 1981, Lynx-Canada Explorations Ltd. conducted an exploration program at the Pothole shear zone in the central part of the current Crooked Pine property. According to the author of the assessment report, trenching by Noranda in 1963 (personal communication – no assessment files were located) had been carried out and one channel sample returned **0.3 oz/ton (10.3gpt) Au** / 9ft (2.7m). Sampling was also carried out by W. Morehouse in 1972, mapping and sampling by James Pirie with the Ministry of Natural Resources of Ontario in 1975, and work by Lazan Exploration in 1978, before being optioned back to Lynx-Canada in 1980 (Holmstead et al. 1989, file 52B15SW0002). Lynx-Canada conducted a ground magnetic and VLF-EM survey, and five trenches on the southeast side of Pothole Lake were examined along a vein system at least 250 feet (76m) long associated with an east-west shear in a tuffaceous, felsic metavolcanic horizon. 1900 feet (580m) west of the showing on the south side of the lake, visible gold was found in a quartz block, unknown to be float or frost heave. It did not appear to have come far, however. At the most easterly trench Lynx-Canada obtained an assay of **0.27 oz/ton (9.3gpt) Au** from a grab sample of a quartz vein with massive arsenopyrite bands. (Crowley 1981, file 52B14SE0013).

In 1984, Lazan Exploration and Developments Ltd. carried out a 6-hole (POT-01 to POT-06) diamond drill program at the Pothole Lake property. It appears that only POT-6 was located on the current property. Hole POT-01 on the previously described main shear zone returned up to **0.044 oz/ton (1.5gpt) Au** / 4.5ft within a quartz vein with pyrite and arsenopyrite; hole POT-02 returned up to **4.21% Cu** with **0.012 oz/ton (0.41gpt) Au** and **1.18 oz/ton (40.5gpt) Ag** / 1.4ft within a chalcopyrite-rich quartz vein; and hole POT-03 returned up to **0.23% Cu** / 1.5ft (Lazan Exploration and Developments Ltd. 1984, files 52B14SE0012, 52B14SE0010 (assays)).

1979: Rio Tinto carried out an airborne magnetic survey in the Quetico-Lac Des Mille Lacs areas over a narrow band of felsic to mafic volcanics. The survey area (181.24km²) covered an elongated generally east-west swath of ground including Crooked Pine Lake and ground to the north, covering a large portion of the current Crooked Pine Property (Beckmann 1979, file 52B15SE0014).

1983-1989 (Phil Sawdo, Grand Oakes Resources):

In 1989, Grand Oakes Resources Corporation carried out an exploration program on their Sawdo-Davidson Prospect on the current Crooked Pine property, centered on three small, unnamed lakes. The Sawdo-Davidson Prospect (later the Andrews Showing or Trench 1 Area) was discovered in 1983 by Phil Sawdo. Grab samples were collected containing arsenopyrite, chalcopyrite and pyrite, returning up to **0.15 oz/ton (5.1gpt) Au** (Andrews South Showing) on a small island in an unnamed lake south of the main shear zone (Andrews North Showing) (Holmstead et al., 1989, file 52B15SW0002, Patterson et al., 1988, p91). To keep the claims in good standing a HEM max-min II (Apex) survey was carried out on two claims, which outlined 3 conductors. From 1985 to 1988 the property was visited and sampled by several companies including BP resources (1985), Noranda (1987-1988), Inco (1988) and Newmont (1988). Sampling was mainly focused at 6 showings on four historical claims (975485, 1001195, 1010545 and 1011748). Grand Oakes carried out an I.P. survey in March of 1989 (Holmstead et al. 1989; Spence 1983, file 2000005163 (max-min survey)).

The I.P. survey was followed by detailed mapping, stripping, sampling and a 10-hole diamond drill program (GO-89-01 to GO-89-10). Three areas (Trench 1, 2 and 3) were stripped. Grab samples returned up to **11gpt Au** at Trench 1, **7.4gpt Au** at Trench 2, and **6ppb Au** at Trench 3, where a quartz-chlorite vein at a diorite/quartz monzonite contact was observed, although Inco had obtained up to **0.04 oz/ton (1.4gpt) Au** at Trench 3. Drill holes at Trench 1 also returned the best results, with up to **781ppb Au** / 5ft (1.5m) in an interval of schistose tuff containing folded quartz tourmaline veins, up to 7% pyrite and up to 8% arsenopyrite (within a broader 13.7m interval of schistose tuff which averaged **187ppb Au**). Two holes (GO-89-04 and GO-89-05) at Trench 2 returned up to **51ppb Au** / 3.5ft (1.1m) within a sheared, carbonatized mafic tuff with 2% disseminated pyrite and blebs of chalcopyrite. Hole GO-89-06 was drilled to test a VLF-EM anomaly coincident with a northeast lineament immediately southwest of the largest of the cluster of 3 unnamed lakes. It returned a lithology similar to Trench 1, with a sheared tuffaceous horizon with quartz veins, arsenopyrite and pyrite. This hole returned **161ppb Au** / 4ft (1.2m). Holes GO-89-01 to GO-89-03 were drilled further to the east-southeast to test a shear zone and a chargeability & VLF-EM anomaly, returning less significant results of up to **89ppb Au** / 3ft (0.9m) in an interval containing quartz-tourmaline veining with pyrite and chalcopyrite in hole GO-89-01 (Larouche 1990, file 52B15SW0001; Ovalbay Geological Services Inc. 1989, file 52B14SE0004 (drill logs)).

1989: MCS Capital Ltd. flew an airborne magnetometer and VLF-EM survey over an area which covered much of the current Crooked Pine property north of Crooked Pine Lake (Henriksen 1989, file 52B15SW0003).

1990-1992 (Clifford Hicks and Michael Andrews):

In 1990, Clifford Hicks and Michael Andrews carried out a prospecting and sampling program with an additional follow-up program north of Crooked Pine Lake, at Trench 1 and the South, North, Nose of Hill, Hill, West and MK86 Showings. The South Showing and Main Trench (Trench 1?) returned anomalous gold (up to **2.2gpt Au** at the South Showing, up to **3.3gpt Au** at Trench 1), and the Nose of Hill Showing returned anomalous silver and zinc values. The South

Showing and Nose of Hill Showings (as well as the North, Hill and West Showings) are located close to a northeast-trending lake west of Trenches 1-3 (with the South showing being located on the southeast side of the lake), and the MK86 showing is located further to the east. Government sampling in 1990 had previously returned up to **0.388 oz/ton (13.3gpt) Au** at Trench 1 and up to **0.196 oz/ton (6.71gpt) Au** at the South Showing. Additional sampling on the north shore of Crooked Pine Lake returned up to **3.7gpt Au** (Hicks 1990, files 52B15SE0005, 52B14SE0001).

In 1991, Hicks and Andrews completed a marked grid over the ice on a small lake in the vicinity of historical trenches #1, 2 and 3, intending to carry out a geophysical survey over an airborne conductor. However, unseasonably warm weather prevented this. Several grab samples were collected at two locations on the north shore of Crooked Pine Lake. Location 1 consisted of pyritic schist with quartz knots which returned up to **0.046 oz/ton (1.6gpt) Au**. Location 2 consisted of quartz and arsenopyrite veins 6 inches in width, returning up to **0.012 oz/ton (0.41gpt) Au**. Both locations are in the southwest portion of the current Crooked Pine property (Hicks 1991, file 52B14SE0005; Andrews 1991, file 52B11NE8103).

In 1992, magnetometer and VLF surveys were conducted over the ice of the same lake where the attempt was made the previous year. Drilling was attempted in the fall, but the water level was too high for the target to be reached from land by an X-ray drill (Hicks 1992, file 52B14SE0019; Andrews 1992, file 52B14SE0028).

2003: Band Ore Resources Ltd. conducted a prospecting and sampling program on the Pothole property and its access roads during the summer. Additional mapping, prospecting, rock sampling and soil sampling were carried out in the fall. Known trenches were sampled and returned up to **11.52gpt Au** (Leahey 2003, file 52B14SE2012).

2004-2006: Southampton Ventures Inc. completed an airborne magnetometer survey in 2004 over a large area including the current Crooked Pine Property, in search of diamond-bearing kimberlites or lamprophic intrusions. This was followed up by a field investigation and a winkle drill program in 2006 which occurred on claims off the current property (Boyd 2006, file 20000001766).

2006-2014 (Robert Asselin & William Morehouse):

From 2006-2007, a mapping and sampling program was carried out by Robert Asselin & William Morehouse in the vicinity of historical Trenches 2 and 3 and nearby logging roads (Morehouse 2007, file 20000002438).

In 2009, Robert Asselin commissioned a petrographic and electron microprobe study of selected samples from the Crooked Pine Lake area. The study identified hydrothermal alteration, and pyrite with local enrichment in arsenic, chalcopyrite, and electrum in certain samples (Renaud 2009, file 20000004206).

In 2009 and 2010, Robert Asselin conducted prospecting north of Crooked Pine Lake on two historical claims which were located on the current Crooked Pine property. On claim TB301625, assays are provided for 2 samples which returned up to **27ppb Au**, between the north shore of

Crooked Pine Lake and a northeast-trending lake (Asselin 2010, file 20000004569). On claim TB 4207324, assays are provided for 5 grab samples which returned up to **13ppb Au**, west of the largest lake in the trio of small lakes in the Trench 1, 2 and 3 area (Asselin 2010, file 20000006155).

In 2010, Robert Asselin and William Morehouse drilled 2 test holes with a backpack drill at a quartz vein on historical claim 3014697 in the Trench 2 and 3 area. Core samples returned up to **13ppb Au** (Asselin & Morehouse 2011, file 20000006804).

In 2012, William Morehouse drilled a 2.5m test hole with a backpack drill north of historical Trench 2, at the same location EGS recently sampled adjacent to a logging road which returned **1.49gpt Au**, where a partial core box was also observed (Morehouse et al. 2012, file 20000009187).

In 2014, Dan Whaley carried out prospecting and sampling at Pothole Lake for Robert Asselin. Sampling returned up to **3.41gpt Au** (Whaley 2014, file 20000009170).

2015: Michael Frymire, Adam Schneider and James Brown carried out a two-day sampling and prospecting program on a single claim covering the Andrews Showing-Trench 1 area (Frymire et al. 2015, file 20000014117).

2020: During two small programs in July, Frontline Gold Corporation personnel carried out sampling, prospecting and channel sampling in the vicinity of a historical shaft (1920s) sunk into the 'X.656' northeast-trending structure, as well as along strike to the northeast, following up on 2020 work carried out by Traxxin Resources. Access was achieved by float plane to a cabin on Mercurio Lake. A trail led from the lake to the shaft area.

Frontline obtained results ranging from **40ppb to 2.06gpt Au** in this area, identifying a gold-bearing zone extending from the shaft to approximately 200m to the southwest (where the **2.06gpt Au** assay was obtained). The company also acquired 13 additional mining claims (Frontline news release July 14th, 2020).

The follow-up program led to the discovery of high-grade gold samples and extension of the X.656 shear zone. Highlights include grab samples of **19.2gpt Au** and **6.26gpt Au** from a silicified and pyrite-bearing shear zone. The results extended the X.656 zone an additional 100m to the southwest from the previous program. Anomalous gold samples were also recorded in similar rocks 2.2 km to the northeast (Frontline news release August 17th 2020).

During November, Emerald Geological Services was contracted to conduct a short prospecting program on the property. Trenches 1, 2 and 3 were investigated and a shear north of Trench 2 was sampled where a backpack drill hole was attempted in 2012. Results of up to **7.03 gpt Au** were obtained from a quartz vein with massive arsenopyrite from Trench 1; up to **445 ppb Au** from sheared intermediate volcanic at Trench 2; and up to **1.49 gpt Au** from a shear north of Trench 2 in silicified intermediate schist beside a logging road, dubbed the 'Road Zone' (MacLachlan 2021).

2021: During February of 2021, Frontline acquired the 5 Pothole claims in the central part of the property (Frontline press release Feb 9, 2021) and staked an additional 87 single-cell claims on the northwest side of the property to cover more of the interpreted X.656 structure, and on the northeast side of the property to cover the strike extension of other interpreted northeast trending structures. Within the same month, a heliborne high-resolution magnetic survey was carried out over the claim group (MacLachlan and Robertson 2022). During May of 2021, a soil and rock sampling program was carried out on the claims. Only 1 sample was collected at the X.656 shaft area due to abundant previous sampling, returning **156 ppb Au**. Soil anomalies of **104 ppb** and **32.4 ppb Au** were obtained on two separate lines east of the main trend, possibly suggesting a parallel gold trend. In the volcanic belt to the south, up to **3.06 gpt Au** with **>1% As** was obtained from the historical South Zone, a strong shear zone with quartz veining on the east shore of a north-northeast-trending lake between Pothole Lake and the lake south of Trench 1 to the east. At the Pothole Zone further west, up to **536 ppb Au** and **>1% Cu** was obtained from quartz veins in historical trenches. Consecutive soil anomalies of **53.1** and **52.2 ppb Au** were obtained ~200 m along strike to the east along a north-south soil line, and a rock sample immediately to the south of these returned **57 ppb Au** from silicified mafic-intermediate volcanics. Soil sampling in the vicinity of the Road Zone returned up to **30.9 ppb Au** west of the zone and up to **187 ppm As** east of the zone (MacLachlan and Robertson 2022).

5.0 -2022 EXPLORATION PROGRAM -

5.1 INTRODUCTION

From October 21st to 25th, 2022, Bruce MacLachlan and Coleman Robertson of Emerald Geological Services (EGS) carried out a soil and rock sampling program on Frontline Gold Corporation's Crooked Pine Property, located approximately 135 kilometers west-northwest of the city of Thunder Bay in northwestern Ontario (see Figure 1). 129 soil samples (108 humus, 21 B horizon) and 7 rock samples were collected during the program (see Map Sheets for sample locations).

All the work and sample locations were defined using a handheld Garmin GPS. The measurements were plotted using UTM: NAD 83 Zone 15 metric coordinates. All GPS tracks were downloaded and saved by type (foot traverse, truck), date, and labelled as such, then saved to a "Master" file in MapInfo GIS software for plotting on map sheets. All samples were entered in an Excel database then imported into MapInfo to be plotted on map sheets as well. See Appendices I and III for rock and soil description sheets and Appendix X for Map Sheets. Locations of other geological or non-geological points of interest are recorded in Table 3, Appendix VI.

Field work for the program was carried out by foot from a campsite on the property, see Figure 3. Samples were individually bagged and labeled; bagged samples were then put into rice bags or plastic bins and driven to Activation Labs (Actlabs) in Thunder Bay. Plastic sample bags were used for rocks and plastic (Ziploc) bags were used for soil samples. Mostly A horizon soil samples were collected, although B horizon samples were collected in some areas for comparison with humus results.

Soil sample stations were spaced 25m apart on north-south lines ranging from 350 to 600 meters in length, targeting the western strike extension of Trench 1 and the eastern strike extension of the South Zone. 3 lines east of the South Zone were spaced 100 meters apart, while four lines west of Trench 1 were spaced 200 to 250 meters apart. A single station was sampled at both the South Zone and Trench 1 for reference.

Rocks and B horizon soil samples were analyzed using ActLabs method 1A2-50, a 50g fire assay with atomic absorption finish, for Au analysis, and UT-6M, a 4-acid near-total digestion with ICP-MS and ICP-OES finish, for multi-element analysis. Humus was also analyzed with UT-6M for multi-element analysis, but for Au analysis 1A2-ICPMS was used, a 30g fire assay with ICP-MS finish. Rock and Assay Certificates can be located in Appendices II and IV respectively, and descriptions of ActLabs analytical procedures can be located in Appendix V.

The program Statement of Expenditures and Expenditures per Claim (Table 5) are presented in Appendix VIII, and program daily logs are presented in Table 6, Appendix IX.

Program results are presented below.

5.1 OCT 2022 PROSPECTING RESULTS

7 grab samples were collected during the October program, see Map Sheets for sample locations.

6 grab samples were collected at Trench 1, a short distance south of the main mineralized trench which returned **7.03 gpt Au** in 2020. Samples consisted of quartz veins with minor pyrite, chalcopyrite and arsenopyrite. Samples all returned **<5 ppb Au** but up to **591 ppm As**.

1 grab sample was collected near the north end of a soil line 400 meters west-northwest of Trench 1, consisting of angular quartz float at the base of a north-facing slope. This sample returned **<5 ppb Au**.

5.2 OCT 2022 SOIL SAMPLING RESULTS

A total of 108 A horizon and 21 B horizon samples were collected during the October program, see Map Sheets for sample locations.

3 north-south soil lines 350-375 meters long, with approximately 100-meter line spacing and 25-meter sample spacing, were sampled beginning 100 meters east of the historical South Showing / Zone where results of up to **3.06 gpt Au** and **>1% As** were obtained in 2021. 1 sample of humus and 1 B horizon soil sample were collected at a single station immediately east of the zone. Samples on the 3 lines to the east were predominantly humus, but B horizon was also collected on the central line where possible.

4 north-south soil lines 150-600 meters long, with 200-250-meter line spacing and 25-meter sample spacing, were sampled beginning approximately 200 meters west of Trench 1. The first line is cut off by the lake to the south. The two central lines were continuations of lines from 2021. 1 B horizon sample was collected from disturbed soil at Trench 1, immediately south of the trench where up to **7.03**

gpt Au and **>1% As** was obtained in the fall of 2020. No humus was observed in this location. B horizon samples were also collected where possible on the first line west of Trench 1.

Humus at the South Zone returned **31.2 ppb Au** and **136 ppm As**, while B horizon returned **54 ppb Au and 482 ppm As**. These represent the highest Au and As values for humus from the 2022 program, as well as the highest Au and second-highest As values for B horizon from the 2022 program.

B horizon at Trench 1 returned **50 ppb Au** and **783 ppm As**, the second-highest Au value and the highest As value for B horizon from the 2022 program.

No significant Au anomalies were obtained in the survey apart from samples collected at the trenches, with the next highest Au value being **13.9 ppb Au**.

Figure 6 shows Au, As and Cu results thresholded by approximately the 95th percentile of values for each element (from both the 2021 and 2022 soil surveys). These correspond to approximately **25 ppb Au**, **10 ppm As** and **40 ppm Cu**. Using these thresholds, one can see a few interesting anomalies.

The most significant is a humus sample 900 meters west of Trench 1, within the same linear magnetic low as Trench 1, that returned **16.6 ppm As** and **87.8 ppm Cu**, respectively the second-highest and highest values for humus from the 2022 program.

A few Cu anomalies above **40 ppm Cu** and up to **46.5 ppm Cu** were obtained east of the South Zone, with two occurring in roughly the middle of the central and easternmost lines, perhaps representing a geological trend. The third occurs close to the south end of the easternmost line.

6.0 -DISCUSSION OF RESULTS AND RECOMMENDATIONS-

6.1 DISCUSSION OF RESULTS

While soil sampling along strike from known occurrences did not return any interesting Au anomalies, there is one particularly interesting As-Cu anomaly 900 meters west of Trench 1 within the same linear magnetic low as Trench 1 which warrants follow-up soil sampling, since As and Cu are pathfinders for Au mineralization on the property and the Pothole Shear Zone is thought to extend through this area. A few copper anomalies **>40 ppm** on the lines east of the South Zone may also warrant follow-up soil sampling.

6.2 RECOMMENDATIONS

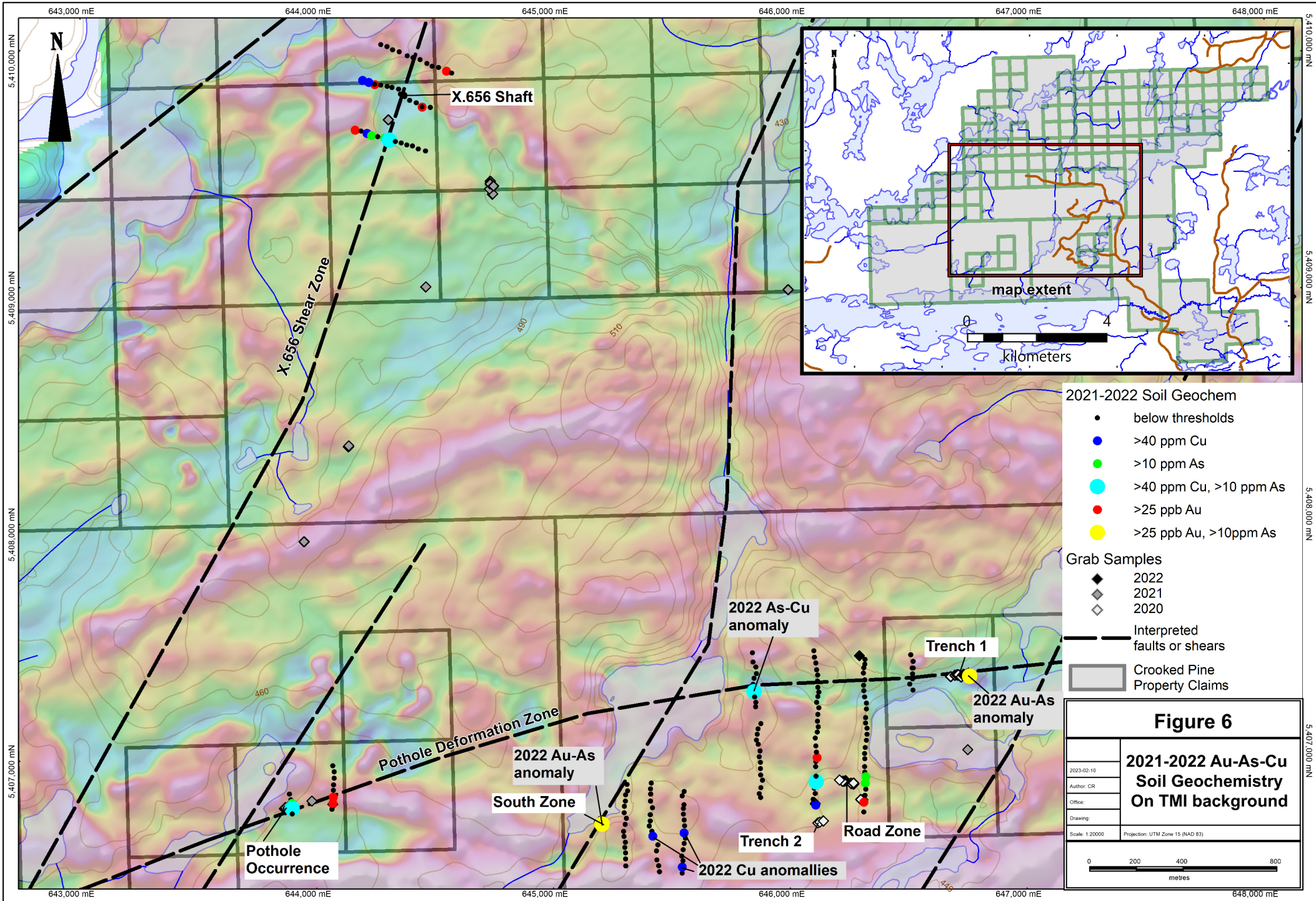
The X.656 Zone is a high priority target that warrants several hundred meters of drilling to start with, but the access road crosses a major stream and beaver dam which has largely flooded that part of the road. The permitting process may be lengthy and moving the drill by float plane or helicopter would be expensive, so other targets could be prioritized in the short term. The following activities are recommended:

Phase I

- Mechanical stripping a short distance along strike to the east from the South Shear Zone.
- Further soil sampling near the recent soil lines east of the South Zone where weak copper anomalies were obtained, as well as mechanical stripping if terrain allows.
- Further soil sampling west of Trench 1 at the new As-Cu anomaly, perhaps mechanical stripping if the terrain allows.
- Mechanical stripping at historical Trench 1 / Andrews North.
- Prospecting between the Pothole and South Shear Zones.

Phase II

- Two 100-150m drill holes at the South Zone if warranted.
- Two 100-150m drill holes at Trench 1.
- Five to six 100-150m drill holes at the Pothole Zone or eastern extension.
- One or two 100-150m drill holes at the new As-Cu soil anomaly and possibly the same at the Cu anomalies east of the South Zone if further soil sampling / stripping yields interesting geochemical anomalies.



- 2021-2022 Soil Geochem**
- below thresholds
 - >40 ppm Cu
 - >10 ppm As
 - >40 ppm Cu, >10 ppm As
 - >25 ppb Au
 - >25 ppb Au, >10 ppm As
- Grab Samples**
- ◆ 2022
 - ◆ 2021
 - ◆ 2020
- Interpreted faults or shears
- ▭ Crooked Pine Property Claims

Figure 6

2021-2022 Au-As-Cu Soil Geochemistry On TMI background

2023-02-10	Author: CR
Office:	Drawing:
Scale: 1:25000	Projection: UTM Zone 15 (NAD 83)

0 200 400 800 metres

7.0-STATEMENTS OF QUALIFICATIONS-

7.1 BRUCE MACLACHLAN

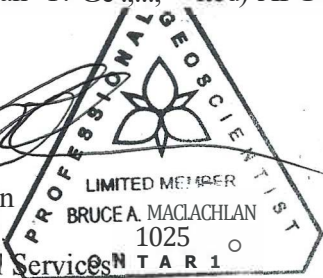
I, Bruce A. MacLachlan P. Geo (Limited), residing at 222 Emerald St., Timmins, Ontario, do hereby certify that

- 1) Frontline Gold Corporation 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 39 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 co-author of the report titled 'Work Report of the October 2022 Exploration Program on the Crooked Pine Claim Group, Atikokan Area, Ontario.'
- 5) I have worked extensively across the Property.

Dated at Timmins, Ontario, this 18th day of February 2023.

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

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



7.2 COLEMAN ROBERTSON

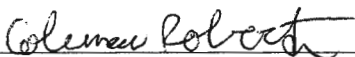
I, Coleman Robertson, Geoscientist in Training (G.I.T.) with the Association of Professional Geoscientists of Ontario (APGO), residing at 4-217 Laurier Avenue East, Ottawa, Ontario, do hereby certify that:

- 1) I am an employee of Emerald Geological Services which is currently contracted by Frontline Gold Corporation.
- 2) I am a Geoscientist in Training, registered in the province of Ontario (APGO No. 10821).
- 3) I graduated with a Bachelor of Science (Honours) degree in Earth Sciences at McGill University in 2014.
- 4) I have continuously practiced my profession as a Geological Technician since May 2017. Under the supervision of professional geoscientists (APGO), I have worked on numerous (frequently grassroots) mining exploration projects, performing such activities as prospecting, soil sampling, outcrop mapping, trench mapping, channel sampling, and drill core logging. I have been involved in all stages of these projects, from initial planning and claim staking to property reconnaissance, remote camp logistics, fieldwork, drafting of maps and assessment reports, and property presentations for company management and investors. Junior mining exploration companies whose projects I have worked on include Portofino Resources Inc., GoldOn Resources Ltd., Hemlo Explorers Inc., Frontline Gold Corporation, and Bold Ventures Inc.
- 5) I am co- author of the report titled 'Work Report of the October 2022 Exploration Program on the Crooked Pine Claim Group, Atikokan Area, Ontario.'
- 6) I have worked extensively across the Property.

Dated at Ottawa, Ontario, this 18th day of February 2023.

"Coleman Robertson," G.I.T., APGO No. 10821.

Signed,



Coleman Robertson

8.0 - REFERENCES-

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APPENDIX I

Rock Sample Descriptions

(Table 1)

Table 1														
Crooked Pine 2022 Rock Sample Descriptions														
Sample	Easting	Northing	Elevation	Date	Area	Claim	Sample Type	Rock Type	Rock Code	Description	Source	Photo	Assay Certificate No.	Au_ppb_final
A1104551	646742	5407359	457	24-Oct-22	Trench 1	105158	Grab	Quartz Vein	QV	Quartz vein in foliated mafics, angular trench rubble. Weak - moderate Fe-carb on vein walls, locally can be quartz-feldspar veins.	Trench Rubble	NE	A22-15795	2.5
A1104552	646743	5407355	458	25-Oct-22	Trench 1	105158	Grab	Quartz Vein	QV	4 metres south of A1104551. ~10cm wide quartz rubble, minor mafics, aspy cubes	Trench Rubble	NE	A22-15795	2.5
A1104553	646739	5407362	457	25-Oct-22	Trench 1	105158	Grab	Quartz Vein	QV	4 metres northwest of A1104552. Quartz vein in sheared mafics, 5-10cm wide, moderate Fe-carb alteration, minor pyrite, angular rubble.	Trench Rubble	SSE	A22-15795	2.5
A1104554	646737	5407360	457	25-Oct-22	Trench 1	105158	Grab	Quartz Vein	QV	2 metres southwest of A1104553. Quartz vein in weak-moderately contorted mafic wall rock. Minor Fe-carb alteration.	Trench Rubble	SE	A22-15795	2.5
A1104555	646739	5407360	457	25-Oct-22	Trench 1	105158	Grab	Quartz Vein	QV	2 metres southwest of A1104554. Glassy, white quartz vein in brecciated mafic host rock. Weak to moderate Fe-carb alteration.	Trench Rubble	S	A22-15795	2.5
A1104556	646740	5407360.5	457	25-Oct-22	Trench 1	105158	Grab	Quartz Vein	QV	1 metre east-northeast of A1104555. 20cm wide block of glassy, white quartz, minor to moderate contorted mafic material. Weak - moderate, patchy Fe-carb alteration.	Trench Rubble	SE	A22-15795	2.5
A1104562	646291	5407446		25-Oct-22	West of Trench 1	579417	Grab	Quartz Vein	QV	Glassy white quartz vein, angular float.	Float	E	A22-15795	2.5

APPENDIX II

Rock Assay Certificates



Report No.: A22-15795
Report Date: 01-Dec-22
Date Submitted: 27-Oct-22
Your Reference: Pine

Emerald Geological Services
222 Emerald St
Timmins ON P4R 1N3
Canada

ATTN: Bruce MacLachlan

CERTIFICATE OF ANALYSIS

9 Rock samples were submitted for analysis.

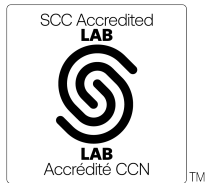
Table with 2 columns: Analytical package(s) requested and Testing Date. Row 1: UT-6M, QOP Total/QOP Ultratrace- 4acid Digest (Total Digestion ICPOES/ICPMS), 2022-11-24 10:17:01

REPORT A22-15795

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.



LabID: 266

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

CERTIFIED BY:

Handwritten signature of Mark Vandergeest

Mark Vandergeest
Quality Control Coordinator

Report No.: A22-15795
Report Date: 01-Dec-22
Date Submitted: 27-Oct-22
Your Reference: Pine

Emerald Geological Services
222 Emerald St
Timmins ON P4R 1N3
Canada

ATTN: Bruce MacLachlan

CERTIFICATE OF ANALYSIS

9 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)	2022-11-05 11:37:57

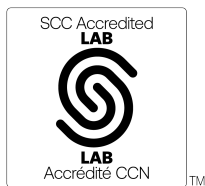
REPORT **A22-15795**

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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.



LabID: 673

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1201 Walsh Street West, Thunder Bay, Ontario, Canada, P7E 4X6
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E-MAIL Tbay@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

CERTIFIED BY:

Mark Vandergeest
Quality Control Coordinator

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
A1104551	< 5	0.02	0.99	196	10	0.12	< 0.01	1.76	0.05	2.61	1.1	23	< 0.05	3.3	1.26	2.25	< 0.05	0.2	0.015	0.02	1.5	0.5	1.10
A1104552	< 5	0.01	0.65	176	< 10	< 0.05	< 0.01	1.24	0.07	1.01	1.8	21	< 0.05	3.7	0.83	1.34	< 0.05	< 0.1	0.008	< 0.01	< 0.5	0.4	0.18
A1104553	< 5	0.02	0.84	34.8	60	0.06	< 0.01	2.83	0.08	2.14	4.0	18	0.06	10.7	3.12	2.09	< 0.05	0.2	0.031	0.18	1.6	3.4	1.30
A1104554	< 5	< 0.01	0.52	591	< 10	< 0.05	< 0.01	0.93	0.03	0.96	2.1	32	< 0.05	2.9	1.31	1.13	0.06	< 0.1	0.014	< 0.01	< 0.5	0.2	0.15
A1104555	< 5	< 0.01	0.54	7.3	< 10	0.08	< 0.01	0.41	0.05	0.29	0.6	24	< 0.05	3.2	0.92	1.10	< 0.05	< 0.1	0.005	< 0.01	< 0.5	0.2	0.15
A1104556	< 5	0.02	1.20	479	< 10	0.12	< 0.01	1.16	< 0.02	0.56	3.9	26	< 0.05	5.8	1.35	2.66	< 0.05	0.4	< 0.005	< 0.01	< 0.5	0.4	0.40
A1104562	< 5	0.03	1.41	1.8	< 10	< 0.05	< 0.01	0.05	0.07	0.17	4.1	20	0.22	17.3	3.13	3.69	< 0.05	< 0.1	< 0.005	0.01	< 0.5	10.1	1.19
A1104567	< 5	0.03	8.31	< 0.2	20	0.78	0.11	0.29	0.14	1.72	0.3	4	1.12	6.7	0.62	21.8	< 0.05	0.4	< 0.005	1.31	0.9	32.9	0.02
A1104568	505	0.17	7.34	17.1	110	0.39	0.03	7.54	0.38	10.5	43.5	123	0.46	161	9.25	15.6	0.14	1.2	0.060	0.27	4.7	11.3	4.39

Results

Activation Laboratories Ltd.

Report: A22-15795

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
A1104551	630	1.55	0.11	0.5	4.7	40	0.9	0.6	< 0.002	0.02	0.46	4.5	< 1	0.9	13.0	< 0.05	0.05	0.11	0.021	< 0.02	< 0.1	41	0.1
A1104552	372	1.87	0.07	0.5	3.9	180	0.8	0.1	< 0.002	0.02	0.20	4.7	< 1	0.4	15.5	< 0.05	< 0.05	0.09	0.035	< 0.02	< 0.1	28	0.4
A1104553	1500	1.28	0.05	0.6	7.7	60	0.8	4.0	0.002	0.02	0.22	8.7	< 1	0.8	17.4	< 0.05	< 0.05	0.10	0.040	0.02	< 0.1	35	0.8
A1104554	713	2.10	0.05	0.3	4.8	60	0.6	0.2	0.003	0.03	0.22	5.5	< 1	0.4	9.4	< 0.05	< 0.05	0.03	0.006	< 0.02	< 0.1	23	< 0.1
A1104555	375	0.44	0.06	0.4	2.7	30	< 0.5	0.2	< 0.002	0.01	0.14	3.4	< 1	0.8	6.8	< 0.05	< 0.05	0.03	0.009	< 0.02	< 0.1	22	< 0.1
A1104556	514	2.78	0.12	0.9	8.6	50	0.8	0.2	< 0.002	0.05	0.31	6.5	< 1	0.5	15.3	< 0.05	< 0.05	0.13	0.056	< 0.02	< 0.1	51	1.5
A1104562	397	0.42	0.03	0.4	17.2	20	2.3	1.1	< 0.002	< 0.01	0.11	2.8	< 1	0.9	4.6	< 0.05	< 0.05	0.01	0.008	< 0.02	< 0.1	65	< 0.1
A1104567	131	0.65	6.34	0.6	0.7	< 10	6.6	37.0	< 0.002	< 0.01	0.33	0.2	< 1	0.9	31.7	< 0.05	< 0.05	0.12	0.005	0.66	< 0.1	2	< 0.1
A1104568	1420	0.05	1.84	< 0.1	90.0	350	12.9	7.2	0.003	0.22	< 0.05	43.7	< 1	< 0.2	190	< 0.05	< 0.05	0.63	0.282	0.11	0.2	204	< 0.1

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
A1104551	3.2	12	8.1
A1104552	1.7	10	4.8
A1104553	11.9	19	6.3
A1104554	2.0	10	2.1
A1104555	0.7	8	4.1
A1104556	1.3	16	15.9
A1104562	0.1	39	1.4
A1104567	1.5	25	20.0
A1104568	20.2	97	39.5

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Hf	In	K	La	Li	Mg	Mn
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	0.1	0.005	0.01	0.5	0.2	0.01	5
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-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP
OREAS 101b (4 Acid) Meas										> 500	42.7			413	10.3				2.23	865		1.24	919
OREAS 101b (4 Acid) Cert										1325	45			412	10.7				2.36	754		1.23	927
OREAS 101b (4 Acid) Meas															11.0				2.29			1.26	936
OREAS 101b (4 Acid) Cert															10.7				2.36			1.23	927
OREAS 101b (4 Acid) Meas															9.73				1.76			1.12	830
OREAS 101b (4 Acid) Cert															10.7				2.36			1.23	927
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 13b (4-Acid) Meas													8990										
OREAS 13b (4-Acid) Cert													8650.00										
OREAS 13b (4-Acid) Meas													7600										
OREAS 13b (4-Acid) Cert													8650.00										
OREAS 903 (4 Acid) Meas			6.12		210			0.68							4.35				3.37			0.78	739
OREAS 903 (4 Acid) Cert			5.89		197			0.625							4.16				3.31			0.714	690
OREAS 903 (4 Acid) Meas			5.61		220			0.65							4.28				3.92			0.72	698
OREAS 903 (4 Acid) Cert			5.89		197			0.625							4.16				3.31			0.714	690
OREAS 903 (4 Acid) Meas			5.41		220			0.62							4.03				2.46			0.69	643
OREAS 903 (4 Acid) Cert			5.89		197			0.625							4.16				3.31			0.714	690
OREAS 45d (4-Acid) Meas			7.91	7.4	190	0.73	0.31	0.19		35.4	28.3	577	3.79	376	14.1	22.2	1.9	0.093	0.39	17.9	22.3	0.25	493
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			8.55		190			0.21							16.6				0.43			0.27	545
OREAS 45d (4-Acid) Cert			8.150		183.0			0.185							14.5				0.412			0.245	490.000
OREAS 45d (4-Acid) Meas			7.91		190			0.19							15.2				0.40			0.26	512
OREAS 45d (4-Acid) Cert			8.150		183.0			0.185							14.5				0.412			0.245	490.000
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Hf	In	K	La	Li	Mg	Mn
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	0.1	0.005	0.01	0.5	0.2	0.01	5
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-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP
OREAS 96 (4 Acid) Cert																							
Oreas 77b (4 Acid) Meas			1.71		40			2.76				255			26.5				0.32			2.49	591
Oreas 77b (4 Acid) Cert			1.94		118			3.06				280			29.9				0.361			2.59	640
Oreas 77b (4 Acid) Meas			1.64		40			2.64				214			27.3				0.30			2.42	581
Oreas 77b (4 Acid) Cert			1.94		118			3.06				280			29.9				0.361			2.59	640
Oreas 72b (4 Acid) Meas			4.94		300			2.91				637			7.08				1.10			9.77	1010
Oreas 72b (4 Acid) Cert			4.79		330			2.79				771			6.84				1.14			9.59	1010
Oreas 72b (4 Acid) Meas			4.44		300			2.60				500			6.82				1.01			8.90	933
Oreas 72b (4 Acid) Cert			4.79		330			2.79				771			6.84				1.14			9.59	1010
OREAS 238 (Fire Assay) Meas	3070																						
OREAS 238 (Fire Assay) Cert	3030																						
Oreas E1336 (Fire Assay) Meas	499																						
Oreas E1336 (Fire Assay) Cert	510.000																						
OREAS 681 (4 Acid) Meas			8.04		430			6.09				1380			7.94				1.34			5.40	1300
OREAS 681 (4 Acid) Cert			7.91		442			5.98				1640			7.47				1.35			5.19	1310
OREAS 681 (4 Acid) Meas			7.64		410			5.79				1080			8.24				1.31			5.26	1290
OREAS 681 (4 Acid) Cert			7.91		442			5.98				1640			7.47				1.35			5.19	1310
OREAS 147 (4 Acid) Meas			5.11		1920			1.20				83			3.24				1.59			0.58	402
OREAS 147 (4 Acid) Cert			4.90		1940			1.09				57.0			3.23				1.60			0.535	390
OREAS 147 (4 Acid) Meas			4.77		1790			1.11				51			3.20				1.48			0.55	392
OREAS 147 (4 Acid) Cert			4.90		1940			1.09				57.0			3.23				1.60			0.535	390
Oreas 521 (4 Acid) Meas			4.82					3.89				60			20.0				3.00			1.18	3070
Oreas 521 (4 Acid) Cert			4.77					3.86				31			20.7				3.16			1.13	3210
Oreas 521 (4 Acid) Meas			4.47					3.59				44			20.0				2.84			1.11	2920
Oreas 521 (4 Acid) Cert			4.77					3.86				31			20.7				3.16			1.13	3210
OREAS 70b (4 Acid) Meas			3.95		200			3.17							5.80				0.60			13.7	1160
OREAS 70b (4 Acid) Cert			3.87		200			3.05							5.52				0.62			13.4	1150
OREAS 620 (4 Acid) Meas		35.4	7.40	46.5	1130	2.34	1.92	1.83	163	61.8	13.5	18	5.03	1810	3.14	23.1	5.6	1.15	3.01	29.1	19.6	0.38	439
OREAS 620 (4 Acid) Cert		38.5	6.72	50.0	2490	2.36	1.93	1.60	163	64.0	12.1	22	5.01	1730	2.94	23.7	5.6	1.15	2.63	29.7	20.0	0.34	440

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Hf	In	K	La	Li	Mg	Mn
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	0.1	0.005	0.01	0.5	0.2	0.01	5
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-ICP	TD-MS	TD-MS	TD-ICP	TD-ICP
OREAS 620 (4 Acid) Meas			6.45		90			1.67				31			3.10				2.12			0.35	415
OREAS 620 (4 Acid) Cert			6.72		2000			1.60				22			2.94				2.63			0.34	440
OREAS 620 (4 Acid) Meas			6.60		70			1.69				44			3.05				1.96			0.35	436
OREAS 620 (4 Acid) Cert			6.72		2000			1.60				22			2.94				2.63			0.34	440
OREAS 753 (4 Acid) Meas			7.83		20			0.13				16			0.85				1.89			< 0.01	766
OREAS 753 (4 Acid) Cert			8.22		18.2			0.113				20.8			0.839				1.93			0.011	740.000
OREAS 753 (4 Acid) Meas			7.57		20			0.12				21			0.81				1.78			0.01	722
OREAS 753 (4 Acid) Cert			8.22		18.2			0.113				20.8			0.839				1.93			0.011	740.000
A1104551 Orig	< 5																						
A1104551 Dup	< 5																						
Method Blank	< 5																						
Method Blank			< 0.01		< 10			< 0.01				3			< 0.01				< 0.01			< 0.01	
Method Blank			< 0.01		< 10			< 0.01							< 0.01				< 0.01			< 0.01	
Method Blank			< 0.01		< 10			< 0.01							< 0.01				< 0.01			< 0.01	
Method Blank			< 0.01		< 10			< 0.01				8			< 0.01				< 0.01			< 0.01	< 5
Method Blank			< 0.01		< 10			< 0.01				8			< 0.01				< 0.01			< 0.01	< 5
Method Blank			< 0.01		< 10			< 0.01				7			< 0.01				< 0.01			< 0.01	
Method Blank			< 0.01		< 10			< 0.01							< 0.01				< 0.01			< 0.01	
Method Blank			< 0.01		< 10			< 0.01							< 0.01				< 0.01			< 0.01	
Method Blank			< 0.01		< 10			< 0.01							< 0.01				< 0.01			< 0.01	
Method Blank			< 0.01		< 10			< 0.01							< 0.01				< 0.01			< 0.01	

Analyte Symbol	Mo	Na	Nb	Ni	P	Pb	Rb	S	Sb	Sc	Sn	Sr	Ta	Th	Ti	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	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	0.01	0.05	0.1	0.2	0.2	0.05	0.01	0.005	0.02	0.1	1	0.1	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS
OREAS 101b (4 Acid) Meas	18.1			7.9	1210	23.5								39.0	0.344		382	80			130	
OREAS 101b (4 Acid) Cert	20.1			8.2	1118	23								36.4	0.35		387	77			133	
OREAS 101b (4 Acid) Meas					990										0.344			79				
OREAS 101b (4 Acid) Cert					1118										0.35			77				
OREAS 101b (4 Acid) Meas					1000										0.274			62				
OREAS 101b (4 Acid) Cert					1118										0.35			77				
OREAS 98 (4 Acid) Meas								> 10.0														1300
OREAS 98 (4 Acid) Cert								15.5														1360
OREAS 98 (4 Acid) Meas								> 10.0														1220
OREAS 98 (4 Acid) Cert								15.5														1360
OREAS 13b (4-Acid) Meas								1.13														118
OREAS 13b (4-Acid) Cert								1.2														133
OREAS 13b (4-Acid) Meas								1.11														101
OREAS 13b (4-Acid) Cert								1.2														133
OREAS 903 (4 Acid) Meas		0.03			1200			0.51							0.281			85				27
OREAS 903 (4 Acid) Cert		0.0300			1070			0.500							0.192			74.0				24.3
OREAS 903 (4 Acid) Meas		0.03			1260			0.49							0.283			78				24
OREAS 903 (4 Acid) Cert		0.0300			1070			0.500							0.192			74.0				24.3
OREAS 903 (4 Acid) Meas		0.03			1100			0.45							0.272			76				24
OREAS 903 (4 Acid) Cert		0.0300			1070			0.500							0.192			74.0				24.3
OREAS 45d (4-Acid) Meas	0.24	0.09	1.0	228	380	22.1	42.4	0.05	< 0.05	50.7	0.6	35.7	< 0.05	15.3	0.372	0.25	2.6	154	< 0.1	10.8	45	72.5
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	45.7	141
OREAS 45d (4-Acid) Meas		0.10			330			0.05							0.300			135				46
OREAS 45d (4-Acid) Cert		0.101			420.000			0.049							0.773			235.0				45.7
OREAS 45d (4-Acid) Meas		0.10			310			0.05							0.281			126				43
OREAS 45d (4-Acid) Cert		0.101			420.000			0.049							0.773			235.0				45.7
OREAS 96 (4 Acid) Meas								4.39														448
OREAS 96 (4 Acid) Cert								4.19														457
OREAS 96 (4 Acid) Meas								3.72														395

Analyte Symbol	Mo	Na	Nb	Ni	P	Pb	Rb	S	Sb	Sc	Sn	Sr	Ta	Th	Ti	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	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	0.01	0.05	0.1	0.2	0.2	0.05	0.01	0.005	0.02	0.1	1	0.1	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS
OREAS 96 (4 Acid) Cert								4.19														457
Oreas 77b (4 Acid) Meas		0.40													0.056			39				188
Oreas 77b (4 Acid) Cert		0.434													0.0640			33.6				205
Oreas 77b (4 Acid) Meas		0.38													0.055			33				165
Oreas 77b (4 Acid) Cert		0.434													0.0640			33.6				205
Oreas 72b (4 Acid) Meas		1.00			270			1.52							0.205			77				99
Oreas 72b (4 Acid) Cert		1.01			260			1.49							0.216			73.6				99.0
Oreas 72b (4 Acid) Meas		0.92			220			1.31							0.188			68				83
Oreas 72b (4 Acid) Cert		1.01			260			1.49							0.216			73.6				99.0
OREAS 238 (Fire Assay) Meas																						
OREAS 238 (Fire Assay) Cert																						
Oreas E1336 (Fire Assay) Meas																						
Oreas E1336 (Fire Assay) Cert																						
OREAS 681 (4 Acid) Meas		1.63			1450			0.11							0.561			258				87
OREAS 681 (4 Acid) Cert		1.61			1410			0.109							0.588			253				88.0
OREAS 681 (4 Acid) Meas		1.62			1230			0.10							0.550			245				73
OREAS 681 (4 Acid) Cert		1.61			1410			0.109							0.588			253				88.0
OREAS 147 (4 Acid) Meas		0.96			1190			0.03							0.246			48				146
OREAS 147 (4 Acid) Cert		0.948			1550			0.0300							0.470			60.0				138
OREAS 147 (4 Acid) Meas		0.90			1330			0.02							0.311			51				131
OREAS 147 (4 Acid) Cert		0.948			1550			0.0300							0.470			60.0				138
Oreas 521 (4 Acid) Meas		0.95			840			1.78							0.408			219				25
Oreas 521 (4 Acid) Cert		0.98			810			1.80							0.393			209				24
Oreas 521 (4 Acid) Meas		0.92			690			1.62							0.386			198				22
Oreas 521 (4 Acid) Cert		0.98			810			1.80							0.393			209				24
OREAS 70b (4 Acid) Meas		0.78			230			0.31							0.175			70				110
OREAS 70b (4 Acid) Cert		0.77			220			0.31							0.181			67				112
OREAS 620 (4 Acid) Meas	8.24	2.01	13.3	15.0	390	8490	110	2.66	12.0	4.6	4.9	107	0.26	8.52	0.161	1.79	4.0	25	1.7	12.4	> 10000	206
OREAS 620 (4 Acid) Cert	9.47	1.94	13.1	15.2	350	7740	116	2.47	76.0	5.2	4.9	131	1.1	11.0	0.135	1.61	4.2	21	2.2	12.3	31500	202

Analyte Symbol	Mo	Na	Nb	Ni	P	Pb	Rb	S	Sb	Sc	Sn	Sr	Ta	Th	Ti	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	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	0.01	0.05	0.1	0.2	0.2	0.05	0.01	0.005	0.02	0.1	1	0.1	0.1	2	0.5
Method Code	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP	TD-MS
OREAS 620 (4 Acid) Meas		1.89			380			2.49							0.146			22				> 10000
OREAS 620 (4 Acid) Cert		1.94			350			2.47							0.135			21				31500
OREAS 620 (4 Acid) Meas		1.88			350			2.44							0.146			22				> 10000
OREAS 620 (4 Acid) Cert		1.94			350			2.47							0.135			21				31500
OREAS 753 (4 Acid) Meas		2.14			1040			0.01							< 0.005			2				97
OREAS 753 (4 Acid) Cert		2.16			1110.00			0.014							0.004			1.16				87
OREAS 753 (4 Acid) Meas		1.91			1280			0.02							< 0.005			1				85
OREAS 753 (4 Acid) Cert		2.16			1110.00			0.014							0.004			1.16				87
A1104551 Orig																						
A1104551 Dup																						
Method Blank																						
Method Blank		< 0.01			< 10			< 0.01							< 0.005			< 1				< 2
Method Blank		< 0.01			< 10			< 0.01							< 0.005			< 1				< 2
Method Blank		< 0.01			< 10			< 0.01							< 0.005			< 1				< 2
Method Blank		< 0.01			< 10			< 0.01							< 0.005			< 1				< 2
Method Blank		< 0.01			< 10			< 0.01							< 0.005			< 1				< 2
Method Blank		< 0.01			< 10			< 0.01							< 0.005			< 1				< 2
Method Blank		< 0.01			< 10			< 0.01							< 0.005			< 1				< 2
Method Blank		< 0.01			< 10			< 0.01							< 0.005			< 1				< 2
Method Blank		< 0.01			< 10			< 0.01							< 0.005			< 1				< 2
Method Blank		< 0.01			< 10			< 0.01							< 0.005			1				< 2

APPENDIX III

Soil Sample Description

(Table 2)

Crooked Pine Soil Sample Descriptions																											
Table II	Sample	Date	Area	Easting	Northing	Elevation	Claim	Type	Photo	Depth (cm)	Ground level	Ground wetness	Ground inclination	Direction	Colour	Veg1	Veg2	Veg3	Tree1	Tree2	Tree3	Vegetation in soil	Rocks in soil	Subjective quality	Comments	Certificate No.	Au_ppb
A371451	21-Oct-22	South Zone	645205	5406737	455	579417	A	E	2 to 3	Moderate	Dry	On top of slope facing	W	Dark Brown	Leaf Litter	Moss		Balsam Fir	Birch	Spruce			6		A22-15788	31.2	
A371453	21-Oct-22	South Zone Area West Line	645306	5406559	467	579417	A	W	5	High	Dry	On outcrop mound, slope facing	E	Dark Brown	Leaf Litter	Moss		Poplar	Birch	Balsam Fir			8		A22-15788	7	
A371454	21-Oct-22	South Zone Area West Line	645305	5406589	465	579417	A	E	2	Moderate	Dry	Slight rise to	E	Dark Brown	Leaf Litter	Moss		Birch	Balsam Fir	Spruce			7		A22-15788	7.2	
A371455	21-Oct-22	South Zone Area West Line	645305	5406614	462	579417	A	S	5	Moderate	Dry	On moderate slope facing	N	Dark Brown	Leaf Litter	Firry Shoots	Moss	Poplar	Balsam Fir					7		A22-15788	6.8
A371456	21-Oct-22	South Zone Area West Line	645301	5406637	457	579417	A	E	5	Moderate	Dry	Slight rise to	E	Dark Brown	Leaf Litter	Firry Shoots		Poplar						7		A22-15788	7.1
A371457	21-Oct-22	South Zone Area West Line	645304	5406659	456	579417	A	N	2	Moderate	Dry	Shallow to moderate rise to	N	Dark Brown	Leaf Litter	Firry Shoots		Poplar						7		A22-15788	7
A371458	21-Oct-22	South Zone Area West Line	645298	5406684	461	579417	A	WNW	5	Moderate	Dry	Slight rise to	NNW	Dark Brown	Firry Shoots	Leaf Litter	Moss							5		A22-15788	7
A371459	21-Oct-22	South Zone Area West Line	645296	5406705	462	579417	A	SSE	10	Low to moderate	Dry	Shallow to moderate rise to	SSE	Dark Brown	Leaf Litter	Firry Shoots	Moss	Balsam Fir	Birch	Cedar			6		A22-15788	7.8	
A371460	21-Oct-22	South Zone Area West Line	645303	5406735	457	579417	A	NE	2	High	Damp	Slight rise to	SW	Dark Brown	Moss	Leaf Litter		Balsam Fir	Cedar	Spruce			8		A22-15788	6.5	
A371461	21-Oct-22	South Zone Area West Line	645308	5406760	461	579417	A	NE	20	Moderate	Dry	Slight rise to	S	Dark Brown	Firry Shoots	Leaf Litter	Moss	Balsam Fir	Spruce	Cedar			5		A22-15788	6.7	
A371462	21-Oct-22	South Zone Area West Line	645299	5406784	457	579417	A	NE	15	Low to moderate	Dry	Slight rise to	E	Dark Brown	Firry Shoots	Leaf Litter		Cedar	Balsam Fir	Birch			7		A22-15788	7.2	
A371463	21-Oct-22	South Zone Area West Line	645300	5406811	459	579417	A	N	5	Moderate	Dry	Steep rise, outcrop to	N	Dark Brown	Moss	Leaf Litter		Cedar	Balsam Fir	Birch			8	MV outcrop to N.	A22-15788	9.3	
A371464	21-Oct-22	South Zone Area West Line	645304	5406833	461	579417	A		15	Moderate	Dry	Moderate to steep rise, outcrop to	N	Dark Brown	Moss	Leaf Litter		Spruce	Birch	Cedar			7	MV outcrop to N.	A22-15788	7.7	
A371465	21-Oct-22	South Zone Area West Line	645305	5406859	458	579417	A	NW		Moderate	Dry	Moderate rise to	S	Dark Brown	Moss	Leaf Litter		Balsam Fir	Spruce							A22-15788	6.3
A371466	21-Oct-22	South Zone Area West Line	645313	5406876	461	579417	A	N	15	Low to moderate	Dry	Gently rolling		Dark Brown	Firry Shoots	Moss	Leaf Litter	Balsam Fir	Spruce					7		A22-15788	7.8
A371467	21-Oct-22	South Zone Area West Line	645311	5406903	464	579417	A	N	10	Low to moderate	Dry	Slight rise to	E	Dark Brown	Moss	Leaf Litter		Balsam Fir	Spruce	Cedar			7		A22-15788	6.6	
A371468	21-Oct-22	South Zone Area Middle Line	645413	5406909	460	579417	A		2	Low to moderate	Dry	Gently rolling		Dark Brown	Leaf Litter	Moss		Cedar	Balsam Fir					6		A22-15788	7.3
A371469	21-Oct-22	South Zone Area Middle Line	645410	5406885	462	579417	A	S	10	Moderate	Dry	On moderate slope facing	W	Dark Brown	Leaf Litter	Moss	Firry Shoots	Balsam Fir	Cedar	Birch			6		A22-15788	7.2	
A371471	21-Oct-22	South Zone Area Middle Line	645411	5406863	464	579417	A	S	3	Moderate	Dry	Shallow to moderate rise to	ESE	Dark Brown	Leaf Litter	Firry Shoots	Moss	Balsam Fir	Birch					5		A22-15788	7.3
A371473	21-Oct-22	South Zone Area Middle Line	645410	5406833	465	579417	A	E	2	Moderate	Dry	On shallow to moderate slope facing	WNW	Dark Brown	Leaf Litter	Firry Shoots	Moss	Balsam Fir	Birch					6		A22-15788	7.8
A371475	21-Oct-22	South Zone Area Middle Line	645418	5406805	470	579417	A	S	5	Moderate	Dry	Shallow to moderate rise to	E	Dark Brown	Leaf Litter	Moss		Birch	Balsam Fir	Poplar			7		A22-15788	5.9	
A371477	21-Oct-22	South Zone Area Middle Line	645409	5406775	462	579417	A	W	5	Low to moderate	Dry	Gently rolling		Dark Brown	Leaf Litter	Firry Shoots	Moss	Balsam Fir	Cedar	Spruce			7		A22-15788	7.1	
A371479	21-Oct-22	South Zone Area Middle Line	645409	5406749	467	579417	A	SW	5	Moderate	Dry	Moderate rise to	S	Dark Brown	Moss	Firry Shoots	Leaf Litter	Balsam Fir	Alder	Birch			8		A22-15788	6.2	
A371481	21-Oct-22	South Zone Area Middle Line	645405	5406728		579417	A	N	3	Moderate	Dry	Slight rise to	W	Dark Brown	Leaf Litter	Moss		Poplar	Birch	Balsam Fir			7		A22-15788	6.4	
A371483	21-Oct-22	South Zone Area Middle Line	645416	5406706		579417	A	SW	1	Low to moderate	Dry	Gently rolling		Dark Brown	Leaf Litter	Moss		Birch	Poplar	Balsam Fir			5		A22-15788	6.7	
A371485	21-Oct-22	South Zone Area Middle Line	645419	5406686	462	579417	A	NW	5	Low to moderate	Dry	Gently rolling		Dark Brown	Leaf Litter	Moss		Poplar	Cedar	Birch			7		A22-15788	7.1	
A371452	21-Oct-22	South Zone	645205	5406737	455	579417	B	E	10	Moderate	Dry	On top of slope facing	W	Rusty brown	Leaf Litter	Moss		Balsam Fir	Birch	Spruce			9		A22-15793	54	
A371470	21-Oct-22	South Zone Area Middle Line	645410	5406885	462	579417	B	S	15	Moderate	Dry	On moderate slope facing	W	Reddish-brown	Leaf Litter	Moss	Firry Shoots	Balsam Fir	Cedar	Birch			8		A22-15793	2.5	
A371472	21-Oct-22	South Zone Area Middle Line	645411	5406863	464	579417	B	S	10	Moderate	Dry	Shallow to moderate rise to	ESE	Light brown	Leaf Litter	Firry Shoots	Moss	Balsam Fir	Birch					7		A22-15793	2.5
A371474	21-Oct-22	South Zone Area Middle Line	645410	5406833	465	579417	B	E	10	Moderate	Dry	On shallow to moderate slope facing	WNW	Light brown	Leaf Litter	Firry Shoots	Moss	Balsam Fir	Birch					8		A22-15793	2.5
A371476	21-Oct-22	South Zone Area Middle Line	645418	5406805	470	579417	B	S	10	Moderate	Dry	Shallow to moderate rise to	E	Light brown	Leaf Litter	Moss		Birch	Balsam Fir	Poplar			8		A22-15793	2.5	
A371478	21-Oct-22	South Zone Area Middle Line	645409	5406775	462	579417	B	W	15	Low to moderate	Dry	Gently rolling		Dark Brown	Leaf Litter	Firry Shoots	Moss	Balsam Fir	Cedar	Spruce			9		A22-15793	2.5	
A371480	21-Oct-22	South Zone Area Middle Line	645409	5406749	467	579417	B	SW	10	Moderate	Dry	Moderate rise to	S	Dark Brown	Moss	Firry Shoots	Leaf Litter	Balsam Fir	Alder	Birch			9		A22-15793	2.5	
A371482	21-Oct-22	South Zone Area Middle Line	645405	5406728		579417	B	SW	10	Moderate	Dry	Slight rise to	W	Dark Brown	Leaf Litter	Moss		Poplar	Birch	Balsam Fir			9		A22-15793	2.5	
A371484	21-Oct-22	South Zone Area Middle Line	645416	5406706		579417	B	SW	5	Low to moderate	Dry	Gently rolling		Light brown	Leaf Litter	Moss		Birch	Poplar	Balsam Fir			7	A bit sandy.	A22-15793	2.5	
A371486	21-Oct-22	South Zone Area Middle Line	645419	5406686	462	579417	B	NW	10	Low to moderate	Dry	Gently rolling		Rusty brown	Leaf Litter	Moss		Poplar	Cedar	Birch			8	Some rock chips in soil.	A22-15793	2.5	

Sample	Date	Area	Easting	Northing	Elevation	Claim	Type	Photo	Depth (cm)	Ground level	Ground wetness	Ground inclination	Direction	Colour	Veg1	Veg2	Veg3	Tree1	Tree2	Tree3	Vegetation in soil	Rocks in soil	Subjective quality	Comments	Certificate No.	Au_ppb
A371487	22-Oct-22	South Zone Area Middle Line	645441	5406648	461	579417	A	NE	2	Moderate	Dry	On moderate to steep slope facing	SW	Dark Brown	Leaf Litter	Moss		Birch	Spruce	Cedar			6		A22-15788	6
A371489	22-Oct-22	South Zone Area Middle Line	645435	5406623	463	579417	A	ENE	5	Moderate	Dry	On shallow to moderate slope facing	WSW	Dark Brown	Leaf Litter	Moss		Birch	Spruce	Poplar			6		A22-15788	6.1
A371491	22-Oct-22	South Zone Area Middle Line	645437	5406585	465	579417	A	SSE	10	Low to moderate	Dry	Gently rolling		Dark Brown	Moss	Leaf Litter		Cedar	Balsam Fir				9	No B.	A22-15788	7
A371492	22-Oct-22	South Zone Area Middle Line	645445	5406560	462	579417	A	SE	10	Moderate	Dry	On mound facing	NW	Dark Brown	Leaf Litter	Moss		Balsam Fir	Cedar	Birch			4	Loamy.	A22-15788	7.4
A371494	22-Oct-22	South Zone Area Middle Line	645448	5406535	465	579417	A	SSW	3	Moderate	Dry	On shallow to moderate slope facing	NNE	Dark Brown	Leaf Litter	Firry Shoots	Moss	Poplar	Birch				6		A22-15788	7.5
A371496	22-Oct-22	South Zone Area East Line	645544	5406529	460	579417	A	N	10	Low to moderate	Dry	At base of low outcrop facing	E	Dark Brown	Moss	Leaf Litter		Pine	Spruce	Cedar			6		A22-15788	5.6
A371497	22-Oct-22	South Zone Area East Line	645544	5406556	460	579417	A	NNE	15	Low	Wet	Hummocky		Dark Brown	Grass	Moss		Large cedar	Balsam Fir	Large Pine			9	A bit woody.	A22-15788	9.7
A371498	22-Oct-22	South Zone Area East Line	645547	5406581	460	579417	A	N	15	Low to moderate	Dry	Slight rise to	NNW	Dark Brown	Moss	Leaf Litter		Cedar	Balsam Fir	Birch			3		A22-15788	8.2
A371499	22-Oct-22	South Zone Area East Line	645542	5406601	463	579417	A	N	5	Moderate	Dry	On moderate slope facing	S	Dark Brown	Moss	Leaf Litter		Balsam Fir	Poplar	Cedar			4	Thin layer over B.	A22-15788	6.9
A371500	22-Oct-22	South Zone Area East Line	645548	5406628	465	579417	A	N	1 to 2	Moderate	Dry	Slight rise to	N	Dark Brown	Leaf Litter	Firry Shoots		Birch	Balsam Fir	Pine			5	Thin layer over B.	A22-15788	6.5
B416427	22-Oct-22	South Zone Area East Line	645552	5406654	462	579417	A	N	5	Moderate	Dry	On very shallow slope facing	N	Dark Brown	Leaf Litter	Firry Shoots		Balsam Fir	Poplar	Birch			6	Slightly loamy.	A22-15788	6.5
B416428	22-Oct-22	South Zone Area East Line	645557	5406676	465	579417	A	N	15	Low to moderate	Dry	Slight rise to	S	Dark Brown	Leaf Litter	Moss	Firry Shoots	Balsam Fir	Poplar	Birch			3		A22-15788	7.4
B416429	22-Oct-22	South Zone Area East Line	645551	5406700	466	579417	A	N	5	Moderate	Dry	On shallow to moderate slope facing	S	Dark Brown	Leaf Litter	Moss		Balsam Fir	Birch	Poplar			6		A22-15788	8.1
B416430	22-Oct-22	South Zone Area East Line	645554	5406729	466	579417	A		3	Moderate	Dry	On shallow to moderate slope facing	SW	Dark Brown	Leaf Litter	Moss		Poplar	Birch				6		A22-15788	6.3
B416431	22-Oct-22	South Zone Area East Line	645552	5406753	470	579417	A	N	2	Moderate	Dry	On shallow slope facing	SSE	Dark Brown	Leaf Litter	Firry Shoots	Moss	Birch	Poplar	Balsam Fir			5	Thin layer over B.	A22-15788	4.5
B416432	22-Oct-22	South Zone Area East Line	645549	5406778	467	579417	A	N	2	Moderate	Dry	On shallow slope facing	SSE	Dark Brown	Leaf Litter	Moss	Firry Shoots	Poplar	Birch				3	Thin layer over B.	A22-15788	7
B416433	22-Oct-22	South Zone Area East Line	645549	5406802	471	579417	A	N	5	Moderate	Dry	Gently rolling		Dark Brown	Leaf Litter	Moss		Poplar					5		A22-15788	6.9
B416434	22-Oct-22	South Zone Area East Line	645551	5406818	469	579417	A	E	5	Moderate	Dry	Rolling		Dark Brown	Leaf Litter			Poplar	Birch				6	Might be a bit disturbed close to road.	A22-15788	5.3
B416435	22-Oct-22	South Zone Area East Line	645544	5406855	470	579417	A	NW	5	Moderate	Dry	Rolling		Dark Brown	Leaf Litter	Moss		Balsam Fir	Poplar				5		A22-15788	6.9
B416436	22-Oct-22	South Zone Area East Line	645552	5406874	465	579417	A	N	5	Low to moderate	Dry	Shallow to moderate rise to	S	Dark Brown	Leaf Litter	Moss		Poplar	Birch				6		A22-15788	7.4
A371488	22-Oct-22	South Zone Area Middle Line	645441	5406648	461	579417	B	NE	5	Moderate	Dry	On moderate to steep slope facing	SW	Rusty brown	Leaf Litter	Moss		Birch	Spruce	Cedar			8	Sandy.	A22-15793	2.5
A371490	22-Oct-22	South Zone Area Middle Line	645435	5406623	463	579417	B	ENE	10	Moderate	Dry	On shallow to moderate slope facing	WSW	Medium brown	Leaf Litter	Moss		Birch	Spruce	Poplar			6	A bit gravelly.	A22-15793	2.5
A371493	22-Oct-22	South Zone Area Middle Line	645445	5406560	462	579417	B	SE	15	Moderate	Dry	On mound facing	NW	Reddish-brown	Leaf Litter	Moss		Balsam Fir	Cedar	Birch			8		A22-15793	2.5
A371495	22-Oct-22	South Zone Area Middle Line	645448	5406535	465	579417	B	SSW	10	Moderate	Dry	On shallow to moderate slope facing	NNE	Medium brown	Leaf Litter	Firry Shoots	Moss	Poplar	Birch				10	Sandy.	A22-15793	2.5
B416437	23-Oct-22	625m line E of South Zone Lake	645840	5407459	464	579417	A	E	1	Moderate	Dry	On shallow to moderate slope facing	SSW	Dark Brown	Ferns	Leaf Litter	Firry Shoots	Poplar					6	Thin layer over B, disturbed.	A22-15788	5.2
B416438	23-Oct-22	625m line E of South Zone Lake	645843	5407420	454	579417	A	S	5	Moderate	Dry	Slight rise to	SE	Dark Brown	Leaf Litter	Ferns	Moss	Poplar	Birch				7		A22-15788	7.9
B416439	23-Oct-22	625m line E of South Zone Lake	645855	5407399	452	579417	A	S	10	Low to moderate	Dry	Gently rolling		Dark Brown	Grass	Leaf Litter	Ferns	Alder	Birch	Cedar			8	Disturbed soil.	A22-15788	5
B416440	23-Oct-22	625m line E of South Zone Lake	645857	5407371	459	579417	A	S	5	Low to moderate	Dry	Disturbed dirt mound to	S	Dark Brown	Leaf Litter	Ferns	Grass	Alder	Birch				8	Mixed A/B, a bit sandy.	A22-15788	5.3
B416441	23-Oct-22	625m line E of South Zone Lake	645847	5407352	452	579417	A	SW	3	Moderate	Dry	On moderate slope facing	NNE	Dark Brown	Leaf Litter	Moss		Spruce	Birch	Poplar			5	Thin layer over B.	A22-15788	5.5
B416442	23-Oct-22	625m line E of South Zone Lake	645843	5407326		579417	A	N	2	Moderate	Dry	On moderate slope facing	SSE	Dark Brown	Leaf Litter	Ferns	Firry Shoots	Poplar	Birch				5		A22-15788	5.4
B416443	23-Oct-22	625m line E of South Zone Lake	645847	5407297	455	579417	A	S	10	Low	Wet	Flat		Dark Brown	Grass	Firry Shoots	Leaf Litter						9		A22-15788	9.1
B416444	23-Oct-22	625m line E of South Zone Lake	645850	5407273	457	579417	A	S	15	Low	Wet	Hummocky		Dark Brown	Moss	Leaf Litter		Cedar	Balsam Fir				4		A22-15788	2.1
B416445	23-Oct-22	625m line E of South Zone Lake	645855	5407250	459	579417	A	E	3	Low to moderate	Dry	Shallow to moderate rise to	E	Dark Brown				Cedar	Balsam Fir				5		A22-15788	1.7
B416446	23-Oct-22	625m line E of South Zone Lake	645854	5407231	452	579417	A	S	10	Moderate	Dry	On moderate slope facing	N	Dark Brown	Leaf Litter	Moss	Firry Shoots	Cedar	Balsam Fir	Birch			4	Loamy.	A22-15788	12.7

Sample	Date	Area	Easting	Northing	Elevation	Claim	Type	Photo	Depth (cm)	Ground level	Ground wetness	Ground inclination	Direction	Colour	Veg1	Veg2	Veg3	Tree1	Tree2	Tree3	Vegetation in soil	Rocks in soil	Subjective quality	Comments	Certificate No.	Au_ppb
B416447	23-Oct-22	625m line E of South Zone Lake	645875	5406848	457	579417	A	SE	2	Moderate	Dry	Shallow to moderate rise to	S	Dark Brown	Leaf Litter	Moss		Poplar	Balsam Fir				4	Thin layer over B.	A22-15788	5.3
B416448	23-Oct-22	625m line E of South Zone Lake	645869	5406864	465	579417	A	NE	6	Moderate	Dry	On shallow to moderate slope facing	SSE	Dark Brown	Leaf Litter	Firry Shoots	Moss	Balsam Fir	Poplar				6		A22-15788	7.6
B416449	23-Oct-22	625m line E of South Zone Lake	645876	5406890	461	579417	A	W	10	Low to moderate	Dry	Gently rolling		Dark Brown	Leaf Litter	Firry Shoots	Moss	Alder	Poplar	Balsam Fir			5		A22-15788	7.8
B416450	23-Oct-22	625m line E of South Zone Lake	645883	5406921	462	579417	A	S	10	Moderate	Dry	Shallow to moderate rise to	W	Dark Brown	Leaf Litter	Moss		Alder	Birch	Balsam Fir			6		A22-15788	5.9
C271051	23-Oct-22	625m line E of South Zone Lake	645875	5406943	470	579417	A	NW	3	Moderate	Dry	On shallow slope facing	SE	Dark Brown	Leaf Litter	Moss		Poplar	Balsam Fir				4		A22-15788	6.5
C271052	23-Oct-22	625m line E of South Zone Lake	645874	5406970		579417	A	NE	5	Moderate	Dry	Shallow to moderate rise to	N	Dark Brown	Leaf Litter	Leafy plants	Firry Shoots	Balsam Fir	Birch	Pine			3		A22-15788	8.2
C271053	23-Oct-22	625m line E of South Zone Lake	645874	5406997	475	579417	A	E	5	Moderate	Dry	On moderate slope facing	SSE	Dark Brown	Leaf Litter	Moss		Balsam Fir					5		A22-15788	5.8
C271054	23-Oct-22	625m line E of South Zone Lake	645869	5407020	481	579417	A	E	3	Moderate	Dry	Slight rise to	NNE	Dark Brown	Leaf Litter	Moss		Poplar	Birch	Pine			6	Adjacent to MV outcrop.	A22-15788	9.9
C271055	23-Oct-22	625m line E of South Zone Lake	645873	5407045	482	579417	A	E	5	Moderate	Dry	Shallow to moderate rise to	ESE	Dark Brown	Leaf Litter	Moss		Poplar	Balsam Fir	Birch			4	May be an old trail in same orientation as soil line.	A22-15788	2.3
C271056	23-Oct-22	625m line E of South Zone Lake	645865	5407073	475	579417	A	S	10	Moderate to high	Dry	On moderate to steep slope facing	N	Dark Brown	Moss	Leaf Litter	Firry Shoots						6		A22-15788	13.9
C271057	23-Oct-22	625m line E of South Zone Lake	645857	5407091	479	579417	A	SW	5	Moderate	Dry	On shallow to moderate slope facing	NE	Dark Brown	Moss	Leaf Litter	Firry Shoots	Balsam Fir	Poplar				5		A22-15788	10.2
C271058	23-Oct-22	625m line E of South Zone Lake	645861	5407115	471	579417	A	SW	5	Moderate	Dry	Shallow to moderate rise to	W	Dark Brown	Moss	Leaf Litter	Grass	Balsam Fir	Poplar	Pine			6		A22-15788	1.1
C271059	23-Oct-22	625m line E of South Zone Lake	645864	5407138	474	579417	A	W		Moderate	Dry	Moderate rise to	NW	Dark Brown	Moss	Firry Shoots	Leaf Litter	Balsam Fir	Spruce					Moderate rise towards road.	A22-15788	1.2
C271060	23-Oct-22	625m line E of South Zone Lake	645876	5407160	482	579417	A	NW		Moderate	Dry	Moderate rise to	NW	Dark Brown	Leaf Litter	Moss	Firry Shoots	Balsam Fir	Alder	Cedar				Moderate rise towards road.	A22-15788	5.7
C271062	24-Oct-22	150m line W of Trench 1	646518	5407302	468	105158	A	N	5	Moderate	Dry	Moderate rise to	N	Dark Brown	Leaf Litter	Moss	Firry Shoots	Balsam Fir	Cedar				3	Loamy, no B.	A22-15788	11.5
C271063	24-Oct-22	150m line W of Trench 1	646505	5407327	468	105158	A	N	5	Moderate	Dry	On shallow to moderate slope facing	S	Dark Brown	Leaf Litter	Moss		Balsam Fir	Cedar				5		A22-15788	6.9
C271065	24-Oct-22	150m line W of Trench 1	646517	5407349	459	105158	A	N	5	Moderate	Dry	On moderate slope facing	S	Dark Brown	Moss	Leaf Litter		Balsam Fir	Cedar	Birch			3	Loamy.	A22-15788	6.9
C271067	24-Oct-22	150m line W of Trench 1	646517	5407370	470	105158	A	N	3	Moderate	Dry	On shallow to moderate slope facing	S	Dark Brown	Leaf Litter	Moss							5		A22-15788	6.9
C271069	24-Oct-22	150m line W of Trench 1	646515	5407395	474	105158	A	N	10	Moderate to high	Dry	On shallow to moderate slope facing	S	Dark Brown	Leaf Litter	Moss	Firry Shoots	Poplar	Balsam Fir	Cedar			4	Mafic volcanic outcrop on slope.	A22-15788	1.9
C271071	24-Oct-22	150m line W of Trench 1	646519	5407423	482	105158	A	SE	3	Moderate	Dry	On shallow slope facing	W	Dark Brown	Leaf Litter	Moss		Poplar					6		A22-15788	4.8
C271073	24-Oct-22	150m line W of Trench 1	646509	5407451	477	105158	A	SE	2	Moderate	Dry	On shallow slope facing	W	Dark Brown	Leaf Litter	Moss		Poplar	Balsam Fir	Birch			5		A22-15788	8.7
C271061	24-Oct-22	Trench 1	646757	5407362	456	105158	B	S	10	Moderate	Dry	Slight rise to	S	Rusty brown	Leaf Litter	Moss		Balsam Fir	Birch	Spruce			8	Disturbed soil on S side of trench.	A22-15793	50
C271064	24-Oct-22	150m line W of Trench 1	646505	5407327	468	105158	B	N	10	Moderate	Dry	On shallow to moderate slope facing	S	Medium brown	Leaf Litter	Moss		Balsam Fir	Cedar				8	A bit sandy.	A22-15793	2.5
C271066	24-Oct-22	150m line W of Trench 1	646517	5407349	459	105158	B	N	10	Moderate	Dry	On moderate slope facing	S	Tan	Moss	Leaf Litter		Balsam Fir	Cedar				6	A bit sandy.	A22-15793	2.5
C271068	24-Oct-22	150m line W of Trench 1	646517	5407370	470	105158	B	N	10	Moderate	Dry	On shallow to moderate slope facing	S	Medium brown	Leaf Litter	Moss							7	A bit sandy.	A22-15793	2.5
C271070	24-Oct-22	150m line W of Trench 1	646519	5407395	474	105158	B	N	10	Moderate to high	Dry	On shallow to moderate slope facing	S	Tan	Leaf Litter	Moss	Firry Shoots	Poplar	Balsam Fir	Cedar			7		A22-15793	2.5
C271072	24-Oct-22	150m line W of Trench 1	646519	5407423	482	105158	B	SE	10	Moderate	Dry	On shallow slope facing	W	Rusty brown	Leaf Litter	Moss		Poplar					8		A22-15793	5
C271074	24-Oct-22	150m line W of Trench 1	646509	5407451	477	105158	B	SE	10	Moderate	Dry	On shallow slope facing	W	Rusty brown	Leaf Litter	Moss		Poplar	Balsam Fir	Birch			9		A22-15793	2.5
A1104557	25-Oct-22	N continuation of 2021 soil line (E)	646315	5407345	456	579417	A	NW	10	Moderate	Dry	Shallow to moderate rise to	NNE	Dark Brown	Moss	Firry Shoots		Balsam Fir	Birch	Cedar			6		A22-15788	5.4
A1104558	25-Oct-22	N continuation of 2021 soil line (E)	646309	5407374	469	579417	A	N	1 to 2	High	Dry	On shallow to moderate slope facing	S	Dark Brown	Leaf Litter	Moss		Balsam Fir	Poplar	Cedar				On outcrop.	A22-15788	5.5
A1104559	25-Oct-22	N continuation of 2021 soil line (E)	646311	5407396	465	579417	A	NW	5	Moderate	Dry	Slight rise to	NW	Dark Brown	Moss	Leaf Litter		Balsam Fir	Cedar				3	Loamy.	A22-15788	7.7
A1104560	25-Oct-22	N continuation of 2021 soil line (E)	646315	5407411	458	579417	A	N	5	Moderate	Dry	On moderate to steep slope facing	NNE	Dark Brown	Leaf Litter	Moss	Firry Shoots	Birch	Cedar	Balsam Fir			6		A22-15788	9.8
A1104561	25-Oct-22	N continuation of 2021 soil line (E)	646316	5407431	452	579417	A	S	5	Moderate	Dry	On moderate to steep slope facing	NNE	Dark Brown	Moss	Leaf Litter		Balsam Fir	Cedar	Birch			5	Beaver pond to N, end of line.	A22-15788	7.7

Sample	Date	Area	Easting	Northing	Elevation	Claim	Type	Photo	Depth (cm)	Ground level	Ground wetness	Ground inclination	Direction	Colour	Veg1	Veg2	Veg3	Tree1	Tree2	Tree3	Vegetation in soil	Rocks in soil	Subjective quality	Comments	Certificate No.	Au_ppb
C271075	25-Oct-22	N continuation of 2021 soil line (W)	646100	5407468	475	579417	A	S	5	Moderate	Dry	On moderate slope facing	N	Dark Brown	Leaf Litter	Moss		Poplar	Birch	Balsam Fir			6		A22-15788	0.9
C271076	25-Oct-22	N continuation of 2021 soil line (W)	646102	5407441	487	579417	A	S	5	Moderate	Dry	On shallow to moderate slope facing	NNW	Dark Brown	Leaf Litter	Moss		Poplar	Balsam Fir	Birch			6		A22-15788	12.4
C271077	25-Oct-22	N continuation of 2021 soil line (W)	646108	5407416	490	579417	A	SE	5	Moderate	Dry	On moderate slope facing	NNW	Dark Brown	Leaf Litter	Firry Shoots	Moss	Cedar	Poplar	Balsam Fir			4	Greenstone outcrop on slope.	A22-15788	1.3
C271078	25-Oct-22	N continuation of 2021 soil line (W)	646112	5407387	496	579417	A	NW	5	Moderate	Dry	Gently rolling on hilltop		Dark Brown	Leaf Litter	Moss		Balsam Fir	Birch	Poplar			6		A22-15788	7.4
C271079	25-Oct-22	N continuation of 2021 soil line (W)	646116	5407365	495	579417	A	NW	10	Moderate	Dry	Gently rolling		Dark Brown	Leaf Litter	Moss		Balsam Fir	Poplar				4		A22-15788	8.3
C271080	25-Oct-22	N continuation of 2021 soil line (W)	646115	5407340	496	579417	A	S	5	Moderate	Dry	On shallow slope facing	WNW	Dark Brown	Leaf Litter	Moss		Balsam Fir	Poplar				3		A22-15788	7.7
C271081	25-Oct-22	N continuation of 2021 soil line (W)	646117	5407314	495	579417	A	SE	10	Moderate	Dry	On shallow to moderate slope facing	SSW	Dark Brown	Leaf Litter	Moss		Balsam Fir	Poplar				3		A22-15788	6.5
C271082	25-Oct-22	N continuation of 2021 soil line (W)	646121	5407293	491	579417	A	NE	2	Moderate	Dry	Shallow to moderate rise to	NE	Dark Brown	Leaf Litter	Moss		Balsam Fir	Birch				4	Outcrop to NE, some kind of unaltered Int-mafic intrusive.	A22-15788	5.6
C271083	25-Oct-22	N continuation of 2021 soil line (W)	646117	5407275	487	579417	A	N	3	Moderate	Dry	On moderate slope facing	S	Dark Brown	Leaf Litter	Moss		Poplar	Balsam Fir	Birch			6		A22-15788	6
C271084	25-Oct-22	N continuation of 2021 soil line (W)	646112	5407250	481	579417	A	NE	5	Moderate	Dry	On shallow to moderate slope facing	S	Dark Brown	Leaf Litter	Moss		Balsam Fir	Cedar	Poplar			5		A22-15788	5.8
C271085	25-Oct-22	N continuation of 2021 soil line (W)	646121	5407227	476	579417	A	NE	10	Moderate	Dry	On shallow to moderate slope facing	SSW	Dark Brown	Leaf Litter	Firry Shoots	Moss						6		A22-15788	5.9
C271086	25-Oct-22	N continuation of 2021 soil line (W)	646117	5407199	471	579417	A	W	10	Low	Dry	Mound of outcrop to	SSW	Dark Brown	Firry Shoots	Moss	Leaf Litter	Cedar	Balsam Fir	Poplar			6	Less disturbed area close to trail (to S). Outcrop to SSW is unaltered mafic-intermediate volcanic.	A22-15788	7.8
C271087	25-Oct-22	N continuation of 2021 soil line (W)	646115	5407170	470	579417	A	S	2 to 3	High	Damp	On moderate slope facing	N	Dark Brown	Moss			Young cedar	Pine	Birch			7	On bedrock, unaltered mafic to intermediate volcanic.	A22-15788	7.1
C271088	25-Oct-22	N continuation of 2021 soil line (W)	646118	5407147	471	579417	A	SW	5	Low to moderate		Slight rise to	SSW	Dark Brown	Firry Shoots	Leaf Litter	Moss	Young pine	Poplar	Cedar			2	Disturbed ground.	A22-15788	7
C271089	25-Oct-22	N continuation of 2021 soil line (W)	646114	5407125	474	579417	A	S	2	High	Dry	Slight rise to	S	Dark Brown	Moss			Balsam Fir	Birch				4	More outcrop to S.	A22-15788	8.6
C271090	25-Oct-22	N continuation of 2021 soil line (W)	646106	5407099	479	579417	A	W		Moderate	Dry	Slight rise to	SW	Dark Brown	Leaf Litter	Moss		Poplar	Balsam Fir	Pine					A22-15788	6.6
C271091	25-Oct-22	N continuation of 2021 soil line (E)	646322	5407090	460	579417	A	E	5	Moderate	Dry	On shallow to moderate slope facing	SE	Dark Brown	Needles	Moss		Balsam Fir	Pine	Cedar			5	Loamy.	A22-15788	6.7
C271092	25-Oct-22	N continuation of 2021 soil line (E)	646324	5407115	460	579417	A	W		Moderate	Dry	On moderate slope facing	ESE	Dark Brown	Leaf Litter	Moss		Balsam Fir							A22-15788	7.8
C271093	25-Oct-22	N continuation of 2021 soil line (E)	646324	5407141	459	579417	A	W	5	Moderate	Dry	On moderate slope facing	E	Dark Brown	Leaf Litter	Moss		Balsam Fir	Cedar	Birch			5		A22-15788	7.2
C271094	25-Oct-22	N continuation of 2021 soil line (E)	646318	5407163	451	579417	A	W	10	Moderate	Dry	On moderate to steep slope facing	E	Dark Brown	Leaf Litter	Moss		Balsam Fir	Cedar	Birch			6		A22-15788	8
C271095	25-Oct-22	N continuation of 2021 soil line (E)	646318	5407186	450	579417	A	W	3	Moderate	Dry	On moderate slope facing	NE	Dark Brown	Leaf Litter	Moss		Balsam Fir	Cedar	Birch			5		A22-15788	7
C271096	25-Oct-22	N continuation of 2021 soil line (E)	646322	5407222	458	579417	A	W	10	Low to moderate	Dry	Moderate rise to	W	Dark Brown	Leaf Litter	Moss		Balsam Fir	Cedar	Birch			6		A22-15788	5.9
C271097	25-Oct-22	N continuation of 2021 soil line (E)	646322	5407247	451	579417	A	NW	5	Moderate	Dry	On shallow slope facing	SE	Dark Brown	Leaf Litter			Alder	Cedar	Birch			6		A22-15788	5.6
C271098	25-Oct-22	N continuation of 2021 soil line (E)	646314	5407273	458	579417	A	NE	5	Moderate	Dry	On shallow slope facing	SSE	Dark Brown	Leaf Litter	Moss	Grass	Cedar	Balsam Fir				8		A22-15788	6.8
C271099	25-Oct-22	N continuation of 2021 soil line (E)	646311	5407299	456	579417	A	N	5	Moderate	Dry	On shallow to moderate slope facing	SSE	Dark Brown	Leaf Litter	Moss		Balsam Fir	Cedar				4		A22-15788	6.6
C271100	25-Oct-22	N continuation of 2021 soil line (E)	646310	5407322	458	579417	A	N	5	Moderate	Dry	On shallow to moderate slope facing	SE	Dark Brown	Leaf Litter	Firry Shoots	Moss	Balsam Fir	Birch	Cedar			6		A22-15788	6.1
A1104563																								Blank.	A22-15788	2.5
A1104564																								Standad OREAS 237.	A22-15788	2080
A1104565																								Blank.	A22-15793	2.5
A1104566																								Standad OREAS 237.	A22-15793	2240

APPENDIX IV

Soil Assay Certificates



Report No.: A22-15788
Report Date: 10-Feb-23
Date Submitted: 27-Oct-22
Your Reference: Pine

Emerald Geological Services
222 Emerald St
Timmins ON P4R 1N3
Canada

ATTN: Bruce MacLachlan

CERTIFICATE OF ANALYSIS

110 Humus samples were submitted for analysis.

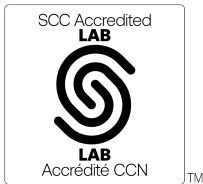
Table with 3 columns: Analytical package, Description, and Testing Date. Rows include 1A2-ICPMS, 2G, and UT-6M.

REPORT A22-15788

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Notes:

Values which exceed the upper limit should be assayed for accurate numbers.
We recommend reanalysis by fire assay Code 8 if values exceed upper limit.



LabID: 266

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CERTIFIED BY:

Handwritten signature of Mark Vandergeest

Mark Vandergeest
Quality Control Coordinator

Results

Activation Laboratories Ltd.

Report: A22-15788

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	0.5	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-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-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
A371451	31.2	0.11	2.73	136	290	0.37	0.24	1.38	0.39	14.3	4.3	32	0.82	9.5	1.42	5.27	0.10	0.2	0.029	0.65	6.8	7.5	0.42
A371453	7.0	0.05	1.67	8.7	900	0.36	0.37	2.37	2.91	17.0	9.4	20	2.51	12.9	0.99	< 0.05	0.05	< 0.1	0.035	0.49	8.1	6.1	0.34
A371454	7.2	0.06	1.38	5.4	520	0.30	0.19	1.39	1.03	10.2	6.2	16	1.50	9.4	0.77	0.37	< 0.05	< 0.1	0.008	0.41	4.6	4.2	0.31
A371455	6.8	0.12	2.93	4.6	640	0.47	0.31	1.55	1.37	17.7	12.1	26	1.56	11.2	1.23	2.93	0.06	0.3	0.030	0.77	8.4	6.4	0.36
A371456	7.1	0.09	0.98	2.1	750	0.13	0.11	1.83	1.53	6.78	7.5	13	0.95	12.7	0.55	< 0.05	< 0.05	0.1	< 0.005	0.29	3.7	2.9	0.27
A371457	7.0	0.11	2.78	4.0	600	0.49	0.28	1.94	0.77	16.2	8.7	32	1.47	8.8	1.41	2.54	0.06	0.1	0.023	0.67	8.0	6.5	0.48
A371458	7.0	0.07	0.88	2.4	420	0.13	0.13	1.73	1.48	6.69	4.1	14	1.04	10.3	0.52	< 0.05	< 0.05	< 0.1	0.008	0.32	3.5	2.6	0.23
A371459	7.8	0.28	2.40	7.2	530	0.34	0.44	1.97	0.98	19.5	12.8	25	1.53	13.3	1.19	2.51	0.07	0.3	0.033	0.62	10.2	6.9	0.29
A371460	6.5	0.14	2.32	2.6	250	0.28	0.22	0.42	0.35	21.4	2.0	16	0.91	14.2	0.89	5.02	0.22	0.2	0.020	0.45	10.1	4.9	0.15
A371461	6.7	0.07	1.04	5.3	190	0.17	0.21	0.84	0.36	8.42	1.1	14	0.92	7.9	0.55	1.65	< 0.05	< 0.1	0.014	0.33	4.4	3.2	0.13
A371462	7.2	0.08	3.37	4.1	290	0.49	0.19	2.38	0.42	27.0	5.7	53	0.67	30.8	1.51	5.11	0.06	0.1	0.022	0.60	15.4	7.2	0.54
A371463	9.3	0.09	1.87	7.2	270	0.27	0.32	0.87	0.44	15.0	3.1	21	0.98	6.7	0.98	3.26	< 0.05	< 0.1	0.029	0.45	7.6	5.0	0.18
A371464	7.7	0.12	1.54	6.3	250	0.21	0.34	0.77	0.25	12.5	2.0	19	0.83	12.7	0.80	2.75	< 0.05	< 0.1	0.022	0.37	6.4	3.7	0.18
A371465	6.3	0.05	1.18	3.5	270	0.19	0.19	0.61	0.30	9.61	1.6	13	0.68	7.4	0.55	1.62	< 0.05	< 0.1	0.013	0.31	4.9	3.1	0.15
A371466	7.8	0.10	4.00	2.7	330	0.52	0.15	1.53	0.23	17.6	7.5	40	0.90	15.3	1.83	7.44	0.12	0.3	0.024	0.68	9.0	7.6	0.62
A371467	6.6	0.07	3.78	3.8	320	0.51	0.13	1.45	0.25	15.3	6.7	40	0.70	11.8	2.22	8.52	0.07	0.9	0.021	0.74	7.0	7.6	0.57
A371468	7.3	0.07	0.81	3.0	200	0.08	0.10	0.95	0.58	5.74	1.6	12	0.69	11.2	0.44	0.92	< 0.05	< 0.1	< 0.005	0.28	2.9	2.1	0.14
A371469	7.2	0.07	2.91	2.6	370	0.46	0.22	1.36	0.32	12.8	3.7	31	0.88	8.6	1.28	5.12	0.13	0.1	0.018	0.70	6.0	4.8	0.40
A371471	7.3	0.07	2.81	2.5	490	0.38	0.16	1.60	0.62	15.7	5.1	32	1.00	10.7	1.13	3.91	0.22	< 0.1	0.015	0.78	7.9	5.4	0.42
A371473	7.8	0.04	4.34	1.9	490	0.61	0.11	2.20	0.26	19.9	9.4	48	1.25	8.0	2.27	7.70	0.17	0.7	0.025	0.92	8.0	9.0	0.80
A371475	5.9	0.10	4.32	3.2	480	0.67	0.21	1.83	0.41	17.4	9.0	43	1.10	8.1	1.76	8.72	0.21	2.7	0.029	1.00	8.4	8.3	0.54
A371477	7.1	0.07	3.60	2.7	330	0.52	0.17	1.15	0.32	14.6	4.5	37	0.75	5.0	1.32	7.66	0.16	0.7	0.027	0.76	7.3	5.1	0.40
A371479	6.2	0.07	4.92	2.1	450	0.79	0.16	1.74	0.09	19.6	6.5	39	0.79	16.7	1.79	11.9	0.10	2.9	0.028	1.13	9.2	7.2	0.57
A371481	6.4	0.09	2.26	3.1	330	0.41	0.17	1.27	0.51	13.1	4.6	21	1.11	11.4	1.01	4.37	0.08	< 0.1	0.015	0.56	6.8	4.5	0.32
A371483	6.7	0.07	4.01	1.6	520	0.58	0.07	2.53	1.41	20.2	9.6	43	0.84	9.9	2.06	6.16	0.20	0.1	0.024	0.77	6.9	7.4	0.80
A371485	7.1	0.14	4.42	5.9	590	0.66	0.21	2.05	0.56	23.3	11.5	54	1.46	10.9	2.45	8.40	0.17	3.1	0.029	0.99	10.4	11.5	0.75
A371487	6.0	0.09	3.38	5.1	420	0.61	0.26	1.43	0.40	18.1	6.0	52	1.37	9.9	1.61	6.40	0.25	0.7	0.029	0.80	8.9	6.7	0.47
A371489	6.1	0.07	4.37	3.0	350	0.67	0.08	2.06	0.34	17.8	8.1	54	0.63	21.8	2.00	8.94	0.22	2.6	0.026	0.91	6.7	6.9	0.70
A371491	7.0	0.13	2.28	8.4	290	0.53	0.31	2.28	0.81	23.6	3.9	26	1.26	24.7	1.06	5.07	0.09	0.1	0.037	0.53	14.0	7.1	0.31
A371492	7.4	0.09	3.57	4.5	370	0.54	0.18	1.77	0.51	17.5	6.0	39	1.05	9.0	1.84	8.12	0.11	0.2	0.031	0.83	8.3	8.1	0.53
A371494	7.5	0.16	3.66	5.3	730	0.62	0.30	2.13	1.34	24.5	13.4	38	2.05	8.6	1.79	4.92	0.18	0.1	0.033	0.87	10.8	8.7	0.59
A371496	5.6	0.03	0.64	3.1	130	0.25	0.11	0.35	0.88	5.47	1.1	12	0.70	7.7	0.37	1.04	< 0.05	< 0.1	0.005	0.24	2.8	1.8	0.12
A371497	9.7	0.09	0.86	8.3	140	0.32	0.14	3.26	0.57	16.6	2.7	12	0.64	41.7	0.98	1.04	< 0.05	0.1	0.017	0.16	13.5	2.7	0.15
A371498	8.2	0.06	2.86	3.3	320	0.49	0.28	1.05	0.35	25.2	3.6	34	1.16	25.4	1.08	6.06	0.20	0.3	0.028	0.72	14.0	7.0	0.29
A371499	6.9	0.11	3.32	2.6	420	0.68	0.15	1.66	0.48	17.1	8.4	47	1.37	9.4	1.69	9.28	0.11	< 0.1	0.025	0.75	8.5	7.7	0.53
A371500	6.5	0.06	3.99	3.2	430	0.74	0.18	1.75	0.28	19.2	6.4	37	1.23	6.6	2.00	6.68	0.19	0.2	0.026	0.89	8.5	7.6	0.64
B416427	6.5	0.08	2.91	3.8	390	0.56	0.19	1.37	0.52	15.6	5.9	35	1.05	7.3	1.55	4.97	0.17	0.2	0.026	0.65	7.0	6.7	0.50
B416428	7.4	0.19	1.25	4.1	300	0.45	0.22	2.14	0.90	27.3	7.9	14	0.97	20.8	0.84	1.27	< 0.05	0.1	0.017	0.31	16.5	3.6	0.24
B416429	8.1	0.21	3.87	9.7	340	0.56	0.23	1.49	0.59	28.4	18.9	46	1.94	46.5	2.76	7.17	0.08	0.1	0.029	0.59	10.2	11.2	0.44
B416430	6.3	0.08	4.72	2.1	510	0.72	0.13	2.11	0.41	16.9	8.2	39	1.07	9.3	1.93	8.38	0.25	1.1	0.023	1.04	7.8	7.2	0.66
B416431	4.5	0.11	4.39	3.0	540	0.75	0.14	2.09	0.59	21.3	9.4	50	1.52	9.7	2.24	6.50	0.06	2.9	0.033	0.90	8.6	10.1	0.77
B416432	7.0	0.11	3.54	2.2	490	0.60	0.10	2.32	0.84	17.5	8.8	53	1.34	8.7	1.70	4.52	0.07	2.3	0.019	0.74	8.4	7.9	0.64
B416433	6.9	0.10	0.55	1.4	530	0.23	0.06	2.11	1.58	5.51	5.0	7	0.77	16.4	0.31	< 0.05	< 0.05	< 0.1	< 0.005	0.24	3.4	1.9	0.21
B416434	5.3	0.08	4.57	2.5	420	0.69	0.13	1.79	0.18	15.3	6.0	35	0.80	4.6	1.62	9.08	0.11	0.5	0.020	1.01	7.3	5.9	0.57
B416435	6.9	0.05	2.09	3.7	1050	0.47	0.25	2.14	1.77	15.5	9.5	21	2.75	9.3	1.15	< 0.05	< 0.05	< 0.1	0.029	0.60	6.9	6.4	0.38
B416436	7.4	0.16	4.22	3.1	430	0.79	0.28	1.86	0.35	23.1	9.7	45	1.13	13.4	2.00	7.76	0.33	0.1	0.036	0.89	14.8	8.6	0.70
B416437	5.2	0.09	5.38	2.6	540	1.01	0.19	2.22	0.38	23.6	11.1	49	1.29	8.9	3.02	11.2	0.10	0.7	0.028	1.15	10.2	11.0	0.88
B416438	7.9	0.11	3.95	2.2	410	0.68	0.11	1.88	0.50	13.8	5.4	48	0.89	8.9	1.55	7.78	0.15	1.7	0.024	0.97	7.5	5.2	0.51
B416439	5.0	0.10	5.62	2.5	480	0.81	0.14	2.37	0.47	24.1	9.8	50	0.93	23.5	2.32	10.7	0.20	3.1	0.027	1.14	11.9	10.2	0.86
B416440	5.3	0.05	5.36	2.4	410	0.85	0.12	2.20	0.40	20.0	9.4	44	0.89	18.4	2.26	11.0	0.30	2.8	0.028	1.04	9.1	10.2	0.76
B416441	5.5	0.03	5.38	1.6	420	0.98	0.10	2.59	1.17	26.4	11.6	46	0.70	15.8	2.70	10.1	0.12	0.1	0.028	1.09	8.5	10.1	0.92

Results

Activation Laboratories Ltd.

Report: A22-15788

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	0.5	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-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-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
B416442	5.4	0.06	5.24	1.6	490	0.90	0.10	2.33	0.43	24.4	11.2	48	1.25	9.6	2.58	10.5	0.09	1.9	0.026	1.05	9.7	11.4	0.86
B416443	9.1	0.24	2.88	16.6	250	0.45	0.19	2.07	1.21	58.0	19.8	35	0.74	87.8	3.40	4.67	< 0.05	< 0.1	0.019	0.40	36.4	7.8	0.44
B416444		0.07	0.76	4.2	130	0.30	0.16	1.65	0.35	12.6	1.9	11	0.38	17.1	0.59	1.00	< 0.05	< 0.1	0.013	0.30	8.9	2.1	0.17
B416445		0.12	0.85	2.3	200	0.23	0.06	0.92	0.50	5.72	1.2	12	0.59	7.3	0.39	0.78	< 0.05	< 0.1	< 0.005	0.29	3.1	1.9	0.17
B416446	12.7	0.16	2.87	2.4	440	0.46	0.17	1.45	0.58	18.2	5.0	27	0.95	6.7	1.10	4.72	0.26	0.1	0.015	0.83	9.2	5.1	0.33
B416447	5.3	0.07	4.78	1.9	490	0.78	0.09	2.35	0.26	21.4	9.7	53	1.24	10.5	2.63	8.60	0.19	2.6	0.026	1.00	8.7	10.7	0.90
B416448	7.6	0.16	3.66	4.9	550	0.74	0.32	1.81	0.58	21.0	15.8	38	1.53	11.5	1.68	5.95	0.24	< 0.1	0.039	0.88	10.9	8.2	0.49
B416449	7.8	0.15	2.37	3.3	560	0.45	0.18	2.30	1.31	15.1	9.9	24	1.20	14.7	1.07	2.09	< 0.05	< 0.1	0.022	0.62	8.6	5.5	0.33
B416450	5.9	0.16	3.20	3.7	530	0.64	0.21	2.23	0.84	29.1	10.8	30	1.40	15.6	1.59	4.78	0.09	< 0.1	0.024	0.73	13.1	9.6	0.49
C271051	6.5	0.07	3.57	3.5	560	0.64	0.27	2.25	0.95	20.4	14.2	35	1.64	10.0	1.83	5.49	0.18	0.1	0.027	0.85	9.9	10.3	0.59
C271052	8.2	0.07	4.26	2.9	590	0.73	0.15	2.00	0.53	18.8	8.6	70	1.42	10.8	2.11	6.01	0.13	0.5	0.019	0.86	7.9	8.7	0.70
C271053	5.8	0.07	3.06	3.0	460	0.53	0.17	1.21	0.53	14.2	3.6	57	1.29	8.9	1.34	5.12	0.18	< 0.1	0.022	0.76	7.2	5.2	0.33
C271054	9.9	0.04	4.88	3.3	430	0.81	0.12	2.01	0.23	21.1	8.7	47	1.15	8.9	2.27	9.35	0.20	3.0	0.027	1.07	8.4	8.2	0.67
C271055		0.10	0.82	2.0	270	0.27	0.08	1.10	0.63	5.38	2.7	16	0.67	8.5	0.39	0.45	< 0.05	< 0.1	< 0.005	0.29	2.8	2.1	0.18
C271056	13.9	0.11	2.19	3.7	510	0.39	0.24	2.24	0.87	12.0	4.1	32	1.59	9.6	1.00	1.93	0.07	< 0.1	0.024	0.58	6.2	5.4	0.31
C271057	10.2	0.09	3.45	8.8	650	0.57	0.20	1.62	0.66	21.7	10.0	30	1.05	13.0	1.50	5.10	0.17	1.9	0.019	0.87	9.2	8.4	0.53
C271058		0.07	1.18	1.9	440	0.21	0.10	1.71	0.61	5.47	2.5	14	0.55	8.5	0.44	0.16	< 0.05	< 0.1	0.006	0.37	2.7	2.3	0.19
C271059		0.06	0.56	2.1	130	0.22	0.12	2.12	0.58	20.5	9.3	7	0.38	15.1	0.43	0.16	< 0.05	< 0.1	0.010	0.15	12.6	1.0	0.15
C271060	5.7	0.09	4.57	2.5	450	0.78	0.18	1.60	0.21	21.6	7.3	54	1.03	9.6	1.96	8.88	0.17	2.4	0.024	1.07	11.3	9.1	0.54
C271062	11.5	0.09	1.17	3.6	330	0.32	0.17	1.70	1.04	8.61	2.3	14	1.57	9.7	0.67	0.22	< 0.05	< 0.1	0.015	0.42	4.6	3.8	0.21
C271063	6.9	0.16	3.52	4.7	650	0.61	0.23	1.83	1.08	18.8	7.5	38	1.75	8.4	1.70	3.77	0.12	1.9	0.026	0.86	8.9	9.5	0.56
C271065	6.9	0.08	4.26	3.2	460	0.64	0.14	2.09	0.36	16.1	8.2	52	1.19	5.6	1.91	7.43	0.17	0.7	0.023	0.88	7.2	7.2	0.59
C271067	6.9	0.12	3.74	3.3	440	0.75	0.15	2.33	0.93	17.2	8.6	38	1.54	8.7	1.82	5.43	0.14	< 0.1	0.023	0.81	8.0	8.6	0.61
C271069		0.10	1.07	4.7	170	0.30	0.18	1.06	0.65	8.56	3.1	17	0.99	15.3	0.63	1.77	< 0.05	< 0.1	0.008	0.38	5.0	3.5	0.19
C271071	4.8	0.08	5.32	2.1	490	0.94	0.13	2.49	0.42	31.3	12.8	51	1.37	9.7	2.76	9.80	0.22	0.2	0.034	1.03	10.7	12.2	0.97
C271073	8.7	0.04	4.04	3.4	440	0.70	0.16	1.97	0.61	15.6	8.0	46	1.45	8.1	1.75	7.27	0.17	0.3	0.024	0.94	7.3	8.3	0.59
C271075		0.14	1.39	3.9	500	0.40	0.22	1.43	1.31	9.99	4.1	18	0.95	13.3	0.71	0.46	< 0.05	< 0.1	0.017	0.42	4.9	4.0	0.21
C271076	12.4	0.11	2.82	3.0	430	0.54	0.21	1.56	0.79	16.0	6.7	38	1.04	11.4	1.15	4.60	0.13	< 0.1	0.019	0.76	8.1	7.3	0.42
C271077		0.11	1.00	3.9	470	0.34	0.20	2.01	1.33	8.51	4.3	16	1.15	10.2	0.60	< 0.05	< 0.05	< 0.1	0.014	0.36	4.5	3.7	0.22
C271078	7.4	0.08	4.45	3.4	500	0.84	0.21	1.97	0.68	22.7	12.8	91	1.73	15.8	2.30	7.67	0.17	0.1	0.032	0.91	10.0	12.1	0.73
C271079	8.3	0.09	3.07	5.9	590	0.56	0.45	1.23	0.87	23.6	5.7	29	1.86	11.3	1.49	4.33	0.22	0.2	0.046	0.78	12.4	9.6	0.35
C271080	7.7	0.08	1.81	4.1	320	0.37	0.22	1.43	0.81	14.1	7.1	24	1.58	9.6	1.01	2.83	0.06	< 0.1	0.023	0.55	7.0	5.5	0.30
C271081	6.5	0.11	2.67	5.4	440	0.56	0.23	1.36	0.84	14.9	6.6	31	2.02	9.0	1.40	4.28	0.09	< 0.1	0.024	0.64	7.1	8.0	0.40
C271082	5.6	0.06	3.10	4.0	500	0.62	0.18	1.69	0.99	17.7	7.7	38	1.77	8.5	1.60	3.99	0.09	< 0.1	0.024	0.73	8.1	7.9	0.56
C271083	6.0	0.08	3.15	2.5	450	0.60	0.11	2.09	0.70	16.2	6.3	34	1.33	9.8	1.50	4.24	0.08	< 0.1	0.022	0.71	9.1	7.0	0.56
C271084	5.8	0.14	4.01	3.9	410	0.66	0.21	1.84	0.60	20.1	7.7	39	1.49	11.7	1.81	7.64	0.24	0.3	0.032	0.87	9.7	9.4	0.58
C271085	5.9	0.12	0.96	2.6	140	0.22	0.10	0.91	0.43	5.95	1.7	16	0.66	8.2	0.49	1.52	< 0.05	< 0.1	0.009	0.28	3.0	2.5	0.16
C271086	7.8	0.02	0.27	1.9	50	0.10	0.04	1.09	0.50	2.18	0.7	6	0.33	8.0	0.16	0.51	< 0.05	< 0.1	< 0.005	0.16	1.2	0.9	0.10
C271087	7.1	0.05	1.52	5.4	180	0.44	0.32	0.75	0.84	11.6	2.2	16	0.85	13.0	0.76	2.66	0.08	< 0.1	0.036	0.35	6.2	3.9	0.13
C271088	7.0	0.11	1.20	2.5	190	0.48	0.10	0.93	0.63	24.5	15.4	13	0.71	13.7	1.19	1.29	< 0.05	< 0.1	0.011	0.28	14.8	2.8	0.18
C271089	8.6	0.06	1.17	5.3	280	0.35	0.26	0.77	0.87	11.4	2.5	28	1.31	22.4	0.60	1.04	0.06	< 0.1	0.022	0.36	6.0	3.6	0.13
C271090	6.6	0.20	3.49	4.1	480	0.75	0.22	1.88	0.57	27.2	16.2	38	1.31	16.4	1.77	6.23	0.24	0.2	0.030	0.73	14.1	10.4	0.49
C271091	6.7	0.05	3.37	4.4	520	0.60	0.24	1.84	0.55	20.3	6.4	35	1.75	7.8	1.66	4.44	0.23	< 0.1	0.027	0.74	9.4	8.6	0.49
C271092	7.8	0.09	1.91	5.1	260	0.40	0.22	0.83	0.28	12.6	2.5	28	0.77	7.2	0.95	3.64	0.11	< 0.1	0.019	0.47	6.2	4.6	0.24
C271093	7.2	0.13	2.49	4.2	410	0.45	0.24	1.22	0.29	14.8	4.0	27	1.24	7.4	1.20	3.65	0.15	0.3	0.021	0.64	7.5	6.9	0.36
C271094	8.0	0.15	2.05	3.1	380	0.56	0.18	1.34	0.50	12.9	3.3	35	1.08	7.9	0.98	2.56	0.11	0.2	0.014	0.56	6.3	5.6	0.34
C271095	7.0	0.20	2.76	2.9	480	0.63	0.17	2.02	0.85	14.1	6.6	40	1.59	10.3	1.43	3.98	0.11	< 0.1	0.017	0.72	6.9	7.8	0.53
C271096	5.9	0.12	3.50	4.3	350	0.69	0.25	2.28	0.33	22.9	6.0	46	1.02	10.9	1.58	5.31	0.16	0.1	0.030	0.72	14.2	8.1	0.56
C271097	5.6	0.08	1.86	2.4	280	0.40	0.13	2.82	0.74	10.4	4.3	20	1.60	13.9	0.89	2.10	< 0.05	< 0.1	0.014	0.47	5.3	4.9	0.35
C271098	6.8	0.11	2.40	2.7	320	0.51	0.15	2.39	0.37	21.8	4.7	27	0.86	12.2	1.08	2.77	0.05	0.2	0.013	0.54	13.2	6.2	0.44
C271099	6.6	0.08	3.95	3.8	550	0.67	0.23	2.15	0.50	21.1	9.8	42	1.35	7.3	1.96	5.39	0.19	2.3	0.030	0.97	10.0	9.3	0.62

Results

Activation Laboratories Ltd.

Report: A22-15788

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	0.5	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-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-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
C271100	6.1	0.09	3.00	4.2	590	0.64	0.24	2.35	1.32	18.9	9.1	30	1.90	11.6	1.50	2.96	0.12	0.1	0.028	0.75	9.7	8.8	0.48
A1104557	5.4	0.17	3.43	4.7	430	0.69	0.23	1.46	0.40	20.0	13.7	39	1.28	10.9	1.76	6.05	0.22	< 0.1	0.029	0.79	9.7	9.1	0.55
A1104558	5.5	0.08	1.76	4.0	450	0.39	0.27	1.43	1.07	13.8	14.1	18	1.25	13.0	0.87	1.69	< 0.05	< 0.1	0.017	0.49	6.8	5.2	0.26
A1104559	7.7	0.09	1.96	2.9	280	0.36	0.19	1.05	0.28	11.6	3.5	28	1.03	11.2	0.88	3.15	0.11	< 0.1	0.012	0.51	6.2	4.8	0.28
A1104560	9.8	0.11	3.46	1.9	480	0.60	0.25	1.47	0.33	22.4	6.1	55	1.09	15.1	2.01	7.82	0.13	0.6	0.032	0.81	11.3	13.3	0.64
A1104561	7.7	0.12	2.83	2.6	400	0.58	0.19	1.45	0.47	15.5	5.0	27	1.05	13.2	1.09	4.20	0.13	< 0.1	0.021	0.65	8.0	6.1	0.45
A1104563	2.5	0.03	8.57	2.4	10	0.88	0.21	0.28	0.06	1.39	0.3	4	1.23	1.7	0.58	23.7	0.07	0.3	< 0.005	3.50	0.6	31.9	0.01
A1104564	2080	0.16	7.33	433	760	2.41	0.37	0.83	0.05	81.4	14.4	104	9.33	28.2	3.88	13.4	0.26	4.1	0.067	2.87	41.2	43.1	1.58

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
A371451	463	0.76	0.77	1.5	15.4	700	33.8	22.1	< 0.002	0.16	0.51	4.1	< 1	1.1	116	< 0.05	< 0.05	2.15	0.234	0.17	0.7	54	0.4
A371453	8880	0.77	0.24	0.5	10.9	1620	92.9	33.5	< 0.002	0.20	0.50	2.5	< 1	0.5	116	< 0.05	0.08	2.35	0.087	0.40	0.7	26	0.3
A371454	6140	0.75	0.32	0.3	9.3	1480	49.0	24.6	< 0.002	0.15	0.15	2.0	< 1	0.2	82.2	< 0.05	< 0.05	1.34	0.079	0.26	0.5	25	0.1
A371455	5440	0.90	0.83	0.5	12.1	810	73.7	29.9	< 0.002	0.12	0.41	4.0	< 1	0.3	146	< 0.05	< 0.05	2.75	0.168	0.41	0.9	44	0.2
A371456	7480	0.44	0.22	0.3	9.6	1250	24.8	13.7	< 0.002	0.22	0.15	1.4	< 1	< 0.2	108	< 0.05	< 0.05	0.90	0.051	0.27	0.3	18	< 0.1
A371457	4410	0.72	0.76	0.4	12.9	1100	60.9	30.2	< 0.002	0.15	0.46	3.8	< 1	< 0.2	146	< 0.05	< 0.05	2.18	0.181	0.32	0.7	48	0.2
A371458	4740	0.83	0.19	0.3	6.3	1460	29.5	16.9	< 0.002	0.20	0.15	1.4	< 1	< 0.2	83.3	< 0.05	< 0.05	0.91	0.044	0.22	0.3	15	< 0.1
A371459	3550	1.09	0.47	1.1	10.0	1000	92.8	26.0	< 0.002	0.16	0.80	3.7	< 1	0.6	117	< 0.05	< 0.05	3.00	0.168	0.44	0.9	41	0.5
A371460	154	0.62	0.75	< 0.1	6.7	590	39.1	16.9	< 0.002	0.06	0.20	3.7	< 1	< 0.2	64.1	< 0.05	< 0.05	2.59	0.211	0.18	0.9	36	< 0.1
A371461	95	0.85	0.18	1.1	5.1	810	28.2	14.3	< 0.002	0.16	0.68	1.7	< 1	0.6	46.3	< 0.05	< 0.05	1.40	0.083	0.19	0.5	19	0.3
A371462	326	0.68	0.93	1.4	16.1	580	26.3	19.7	< 0.002	0.14	0.36	5.4	< 1	0.7	148	< 0.05	< 0.05	2.60	0.212	0.14	0.9	47	0.2
A371463	134	0.89	0.35	1.9	8.2	700	56.8	18.1	< 0.002	0.12	0.81	2.7	< 1	1.8	70.9	< 0.05	< 0.05	2.09	0.133	0.30	0.7	32	0.4
A371464	186	0.83	0.32	1.1	9.0	880	60.7	14.7	< 0.002	0.14	0.60	2.7	< 1	0.6	61.6	< 0.05	< 0.05	1.80	0.118	0.18	0.7	28	0.3
A371465	157	0.52	0.27	0.9	7.5	570	35.4	13.1	< 0.002	0.12	0.39	1.8	< 1	0.4	57.4	< 0.05	< 0.05	1.49	0.105	0.14	0.8	20	0.2
A371466	306	0.74	1.04	1.6	21.0	660	21.8	23.4	< 0.002	0.10	0.26	5.5	< 1	0.7	149	< 0.05	< 0.05	2.31	0.256	0.19	0.8	68	0.2
A371467	287	0.28	1.15	0.1	19.2	480	18.7	22.9	< 0.002	0.08	< 0.05	5.9	< 1	0.6	164	< 0.05	< 0.05	2.31	0.256	0.18	0.7	77	< 0.1
A371468	477	0.72	0.19	0.7	4.7	950	16.0	13.4	< 0.002	0.19	0.37	1.3	< 1	0.4	50.1	< 0.05	< 0.05	0.88	0.063	0.10	0.3	14	0.2
A371469	569	0.41	0.96	0.5	12.1	510	30.2	24.5	< 0.002	0.09	0.19	4.2	< 1	0.6	145	< 0.05	< 0.05	1.99	0.234	0.19	0.6	54	< 0.1
A371471	2910	0.53	0.84	0.5	10.7	830	27.8	29.5	< 0.002	0.11	0.26	3.9	< 1	0.4	154	< 0.05	< 0.05	2.27	0.245	0.22	0.8	43	0.2
A371473	1760	0.07	1.40	0.3	22.6	620	15.6	37.0	< 0.002	0.07	0.05	7.5	< 1	0.4	217	< 0.05	< 0.05	2.64	0.171	0.21	0.7	62	< 0.1
A371475	1770	0.28	1.38	0.8	15.9	580	38.1	45.0	< 0.002	0.08	0.09	6.1	< 1	0.8	218	0.06	< 0.05	2.76	0.247	0.29	1.5	62	< 0.1
A371477	318	0.08	1.16	< 0.1	10.7	500	26.4	25.9	< 0.002	0.08	0.07	5.3	< 1	1.0	165	< 0.05	< 0.05	2.43	0.164	0.19	0.8	32	< 0.1
A371479	465	< 0.05	1.82	< 0.1	16.3	310	22.2	38.7	< 0.002	0.03	< 0.05	7.6	< 1	< 0.2	257	< 0.05	< 0.05	3.10	0.069	0.26	1.0	25	< 0.1
A371481	849	0.81	0.62	0.7	9.9	950	30.6	22.8	< 0.002	0.14	0.32	3.5	< 1	0.3	121	< 0.05	< 0.05	1.87	0.164	0.22	0.7	38	0.2
A371483	2430	0.41	1.23	0.7	22.2	1010	9.7	28.6	< 0.002	0.09	0.15	7.3	< 1	0.5	222	< 0.05	< 0.05	2.33	0.251	0.16	0.6	75	< 0.1
A371485	2750	0.37	1.31	0.8	22.5	960	36.0	45.0	< 0.002	0.08	0.30	7.2	< 1	0.9	217	< 0.05	< 0.05	3.23	0.291	0.33	1.0	78	< 0.1
A371487	811	0.36	0.97	0.5	14.1	620	46.1	34.0	0.004	0.07	0.26	5.4	< 1	1.3	164	< 0.05	< 0.05	2.71	0.219	0.32	0.8	52	0.5
A371489	826	0.28	1.63	2.2	20.4	700	9.9	36.1	< 0.002	0.06	0.09	7.6	< 1	0.7	227	0.12	0.28	1.95	0.247	0.22	0.6	73	0.1
A371491	1070	1.25	0.51	1.9	12.4	980	42.1	26.3	< 0.002	0.15	0.63	4.4	1	0.9	120	< 0.05	< 0.05	3.33	0.160	0.23	1.2	36	0.4
A371492	873	0.49	1.09	0.5	16.4	450	29.3	31.8	< 0.002	0.10	0.11	5.8	1	1.1	191	< 0.05	< 0.05	2.52	0.275	0.24	0.8	68	< 0.1
A371494	6780	0.81	1.06	1.1	16.8	940	55.4	48.8	< 0.002	0.11	0.49	5.6	1	0.9	204	< 0.05	0.07	3.32	0.263	0.46	1.0	65	0.2
A371496	130	0.53	0.11	0.7	4.0	800	21.2	11.8	< 0.002	0.15	0.35	1.1	1	0.4	35.0	< 0.05	0.05	0.80	0.048	0.12	0.3	11	0.2
A371497	466	0.95	0.08	1.2	7.0	1180	17.5	8.6	0.005	0.42	0.35	2.3	2	0.6	65.4	< 0.05	0.06	2.02	0.041	0.13	1.1	25	0.2
A371498	328	0.27	0.72	0.1	9.6	500	43.3	27.5	< 0.002	0.07	0.20	4.4	1	1.1	110	< 0.05	< 0.05	3.84	0.152	0.23	1.3	26	< 0.1
A371499	1940	0.52	0.95	1.3	16.0	830	26.8	32.3	0.003	0.11	0.35	4.9	< 1	0.9	159	< 0.05	< 0.05	2.26	0.248	0.23	0.6	57	< 0.1
A371500	998	0.16	1.22	0.5	16.7	780	29.0	35.9	< 0.002	0.08	0.14	6.1	< 1	1.2	177	< 0.05	< 0.05	3.13	0.228	0.21	1.1	58	< 0.1
B416427	1980	0.56	0.84	0.5	13.6	830	35.9	26.8	< 0.002	0.09	0.39	5.0	1	0.3	133	< 0.05	< 0.05	2.17	0.198	0.19	0.7	56	0.1
B416428	2730	1.49	0.21	1.5	8.4	1330	43.3	16.3	< 0.002	0.25	0.64	2.8	2	0.8	84.5	< 0.05	0.07	2.02	0.081	0.20	0.8	26	0.3
B416429	2070	1.42	0.62	2.1	22.5	1060	31.6	36.5	< 0.002	0.13	0.52	5.1	1	1.3	103	< 0.05	0.08	3.85	0.214	0.30	1.0	105	0.5
B416430	1620	0.20	1.67	1.3	17.4	560	20.6	40.5	0.002	0.07	0.08	6.8	1	0.6	237	0.08	< 0.05	2.09	0.231	0.24	0.7	61	< 0.1
B416431	2190	0.59	1.29	5.8	20.7	1250	22.9	41.0	< 0.002	0.08	0.26	6.8	< 1	1.0	197	0.33	0.06	2.68	0.311	0.23	0.8	76	0.4
B416432	2620	0.45	1.02	4.3	17.5	1250	16.0	29.8	< 0.002	0.12	0.23	5.3	1	0.7	194	0.18	< 0.05	2.35	0.248	0.19	0.7	57	0.4
B416433	7230	0.32	0.13	0.4	5.0	1610	11.2	13.6	< 0.002	0.21	0.19	0.9	< 1	0.2	99.7	< 0.05	< 0.05	0.64	0.034	0.16	0.2	10	0.1
B416434	739	0.09	1.71	< 0.1	13.8	460	20.2	34.8	< 0.002	0.05	< 0.05	7.0	< 1	0.5	233	< 0.05	< 0.05	1.91	0.216	0.23	0.8	50	< 0.1
B416435	8430	0.65	0.51	0.3	11.4	1680	57.3	41.2	0.002	0.15	0.20	3.0	< 1	0.3	133	< 0.05	< 0.05	1.96	0.084	0.59	0.6	35	< 0.1
B416436	879	0.59	1.28	0.7	18.3	710	39.8	33.7	< 0.002	0.09	0.23	6.8	1	1.2	196	< 0.05	< 0.05	3.06	0.272	0.31	1.0	68	0.1
B416437	1150	< 0.05	1.88	< 0.1	25.2	510	19.8	50.9	< 0.002	0.04	< 0.05	9.2	< 1	< 0.2	254	< 0.05	< 0.05	2.85	0.090	0.24	0.8	45	< 0.1
B416438	464	< 0.05	1.43	< 0.1	14.0	400	18.2	39.2	< 0.002	0.08	< 0.05	6.0	< 1	0.6	200	< 0.05	< 0.05	1.78	0.153	0.22	0.6	43	< 0.1
B416439	788	0.10	1.84	0.3	23.8	380	20.5	39.0	0.002	0.04	< 0.05	8.5	< 1	0.3	248	< 0.05	< 0.05	3.14	0.214	0.27	1.0	50	< 0.1
B416440	927	0.21	1.88	0.4	21.5	500	17.1	43.2	< 0.002	0.05	< 0.05	8.6	1	0.5	248	< 0.05	< 0.05	2.49	0.250	0.26	0.7	71	< 0.1
B416441	965	0.10	1.92	< 0.1	27.2	840	9.1	39.8	< 0.002	0.04	< 0.05	9.7	< 1	0.3									

Results

Activation Laboratories Ltd.

Report: A22-15788

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
B416442	1050	0.06	1.69	< 0.1	26.5	550	10.8	42.7	0.004	0.05	< 0.05	8.1	1	< 0.2	242	< 0.05	< 0.05	3.00	0.212	0.22	0.8	69	< 0.1
B416443	1350	2.34	0.58	2.4	18.6	1700	17.1	15.6	0.005	0.38	0.32	6.0	2	0.7	92.3	< 0.05	0.08	4.33	0.153	0.26	1.4	111	0.4
B416444	375	0.60	0.14	0.7	4.5	840	24.3	10.0	< 0.002	0.18	0.52	1.5	1	0.5	49.2	< 0.05	< 0.05	1.13	0.048	0.09	0.4	14	0.2
B416445	460	0.51	0.23	0.5	4.0	960	12.0	11.8	< 0.002	0.14	0.20	1.2	< 1	0.2	53.6	< 0.05	< 0.05	0.85	0.050	0.12	0.2	13	0.1
B416446	1620	0.38	0.92	0.2	8.9	770	30.7	28.1	< 0.002	0.10	0.29	3.4	< 1	0.5	146	< 0.05	< 0.05	3.46	0.221	0.25	0.8	41	< 0.1
B416447	920	0.19	1.49	0.8	22.8	890	11.8	38.0	< 0.002	0.08	< 0.05	7.1	< 1	0.5	203	0.05	< 0.05	2.81	0.260	0.19	0.8	79	< 0.1
B416448	2850	0.72	1.06	0.9	13.1	860	57.6	37.4	< 0.002	0.11	0.49	5.3	1	1.5	166	< 0.05	0.06	3.19	0.291	0.25	1.0	58	< 0.1
B416449	2850	0.81	0.70	1.3	9.7	1030	37.1	32.7	< 0.002	0.16	0.38	3.4	1	0.7	150	< 0.05	0.08	2.14	0.167	0.24	0.6	39	0.3
B416450	3180	0.76	0.85	1.2	16.5	900	44.9	37.0	< 0.002	0.13	0.38	4.6	1	0.5	150	< 0.05	0.05	2.65	0.223	0.31	0.8	54	0.4
C271051	4400	0.78	1.00	0.9	15.8	1060	55.3	37.7	< 0.002	0.10	0.41	5.3	< 1	1.2	172	< 0.05	0.06	3.05	0.253	0.26	0.8	60	0.3
C271052	3540	0.45	1.30	1.1	19.9	940	28.9	34.5	< 0.002	0.09	0.24	6.5	< 1	1.0	181	0.05	< 0.05	2.33	0.285	0.24	0.7	74	< 0.1
C271053	506	0.34	0.95	0.8	10.2	880	23.0	33.7	< 0.002	0.10	0.33	4.6	< 1	0.9	128	< 0.05	< 0.05	2.07	0.241	0.22	0.7	49	< 0.1
C271054	1110	0.11	1.79	0.2	19.4	580	20.8	48.3	< 0.002	0.05	< 0.05	7.4	< 1	0.4	231	< 0.05	< 0.05	2.61	0.206	0.27	0.7	70	< 0.1
C271055	1360	0.38	0.24	0.4	4.6	1330	16.7	13.4	< 0.002	0.15	0.19	1.3	< 1	0.2	66.7	< 0.05	< 0.05	0.69	0.053	0.16	0.2	15	0.1
C271056	1650	0.59	0.59	0.9	8.4	1140	40.8	30.2	< 0.002	0.15	0.49	3.0	< 1	0.5	147	< 0.05	< 0.05	1.98	0.150	0.24	0.6	36	0.2
C271057	4090	0.41	1.00	< 0.1	12.6	830	37.3	34.5	< 0.002	0.09	0.19	5.1	< 1	< 0.2	166	< 0.05	< 0.05	2.86	0.216	0.29	0.9	50	< 0.1
C271058	1540	0.59	0.37	0.5	5.1	1260	18.7	14.8	< 0.002	0.19	0.22	1.7	1	0.2	96.2	< 0.05	0.07	0.83	0.072	0.16	0.3	17	0.2
C271059	966	0.70	0.05	0.4	5.1	1280	34.5	6.8	0.002	0.27	0.49	1.5	< 1	0.2	52.7	< 0.05	< 0.05	0.85	0.017	0.16	0.3	12	0.1
C271060	896	0.11	1.54	< 0.1	16.2	560	27.3	37.4	< 0.002	0.05	< 0.05	6.2	< 1	0.4	196	< 0.05	< 0.05	3.87	0.164	0.23	0.9	58	< 0.1
C271062	2310	0.57	0.22	0.9	6.2	1350	40.6	21.2	< 0.002	0.21	0.49	1.7	1	0.6	70.8	< 0.05	< 0.05	1.29	0.077	0.24	0.4	20	0.2
C271063	3510	1.34	0.92	4.1	16.0	1240	55.9	46.4	< 0.002	0.11	0.57	4.8	1	1.7	161	0.13	0.07	2.66	0.234	0.29	0.8	54	0.4
C271065	1640	0.29	1.46	1.3	18.0	890	29.9	39.3	< 0.002	0.08	0.18	6.5	1	1.0	224	0.06	< 0.05	2.22	0.278	0.25	0.6	79	< 0.1
C271067	1770	0.51	1.07	1.5	17.1	970	31.6	39.0	< 0.002	0.11	0.34	5.7	< 1	0.9	190	< 0.05	0.07	2.19	0.249	0.22	0.7	61	0.2
C271069	661	0.69	0.17	0.4	5.3	1750	36.9	20.0	< 0.002	0.19	0.27	1.9	1	0.3	62.5	< 0.05	< 0.05	1.32	0.056	0.14	0.5	20	0.1
C271071	1440	0.10	1.56	0.5	25.7	990	19.9	41.2	< 0.002	0.06	< 0.05	8.9	< 1	0.6	236	< 0.05	< 0.05	3.59	0.210	0.23	0.9	75	< 0.1
C271073	1860	0.14	1.38	0.2	15.5	790	31.8	38.4	< 0.002	0.08	0.16	5.9	< 1	1.0	210	< 0.05	< 0.05	2.84	0.181	0.27	0.7	47	< 0.1
C271075	3680	0.61	0.33	1.0	7.0	1330	46.7	20.6	< 0.002	0.19	0.55	2.3	1	0.6	98.7	< 0.05	< 0.05	1.52	0.102	0.24	0.5	26	1.2
C271076	1570	0.69	0.85	1.0	11.7	1080	36.6	32.0	< 0.002	0.12	0.34	4.4	1	0.4	154	< 0.05	< 0.05	3.39	0.222	0.23	0.8	42	0.3
C271077	3660	0.55	0.19	1.0	7.3	1440	39.3	21.8	< 0.002	0.20	0.53	1.6	2	0.6	111	< 0.05	0.08	1.43	0.073	0.16	0.4	18	0.3
C271078	2430	0.71	1.24	1.0	21.8	1140	38.8	40.2	< 0.002	0.07	0.34	7.2	1	1.1	207	< 0.05	< 0.05	3.46	0.270	0.26	0.9	75	0.2
C271079	1590	1.25	0.60	< 0.1	11.8	1070	74.1	37.8	< 0.002	0.08	0.48	4.7	1	< 0.2	129	< 0.05	0.05	3.65	0.150	0.34	1.2	50	0.2
C271080	3160	0.89	0.42	0.2	8.4	1540	43.1	29.5	< 0.002	0.15	0.26	3.0	1	0.2	92.7	< 0.05	0.06	2.21	0.117	0.24	0.6	35	0.2
C271081	1500	0.64	0.69	1.0	12.4	1180	42.5	38.0	0.002	0.13	0.44	4.4	2	0.6	128	< 0.05	0.06	2.05	0.186	0.37	0.7	51	0.3
C271082	5250	0.63	0.85	0.6	15.6	1440	38.5	37.3	< 0.002	0.13	0.31	4.9	1	0.4	151	< 0.05	< 0.05	2.44	0.204	0.24	0.7	56	0.3
C271083	1670	0.60	0.96	1.4	15.1	940	16.2	31.1	< 0.002	0.11	0.29	4.7	< 1	0.7	173	< 0.05	< 0.05	1.81	0.207	0.17	0.6	54	0.3
C271084	1270	0.28	1.20	0.4	16.4	780	36.6	35.5	< 0.002	0.09	0.17	5.9	1	1.2	189	< 0.05	< 0.05	2.92	0.229	0.24	0.8	52	< 0.1
C271085	183	0.51	0.24	0.7	4.9	800	21.8	13.4	0.002	0.15	0.31	1.5	1	0.4	54.0	< 0.05	< 0.05	0.96	0.080	0.12	0.3	18	0.2
C271086	90	0.29	0.05	0.3	3.3	920	4.8	7.8	< 0.002	0.18	0.18	0.4	< 1	< 0.2	29.4	< 0.05	0.05	0.40	0.017	0.04	0.1	6	< 0.1
C271087	197	1.18	0.26	0.9	8.6	1000	68.2	14.2	0.002	0.14	0.54	2.6	1	0.6	50.5	< 0.05	< 0.05	1.93	0.116	0.14	0.7	25	0.3
C271088	926	0.66	0.20	1.2	7.9	1510	21.6	14.8	< 0.002	0.20	0.36	2.7	< 1	0.5	66.4	< 0.05	< 0.05	1.48	0.065	0.13	0.6	23	0.2
C271089	1700	0.69	0.20	0.7	9.5	1430	49.1	18.5	< 0.002	0.17	0.40	1.9	1	0.4	49.6	< 0.05	0.09	1.79	0.090	0.22	0.6	20	0.2
C271090	3190	1.00	0.84	1.5	15.9	1050	39.1	38.0	< 0.002	0.10	0.45	5.4	1	1.3	157	< 0.05	< 0.05	3.30	0.270	0.28	1.0	63	0.3
C271091	846	0.48	0.89	1.1	17.7	770	50.4	34.4	< 0.002	0.10	0.50	5.2	< 1	1.4	158	< 0.05	< 0.05	2.72	0.230	0.34	0.8	59	< 0.1
C271092	167	0.72	0.50	1.1	8.5	830	41.7	17.2	< 0.002	0.13	0.50	3.2	< 1	0.7	86.2	< 0.05	0.07	1.83	0.169	0.14	0.7	36	0.3
C271093	545	0.67	0.66	0.4	10.7	870	39.4	28.8	< 0.002	0.09	0.22	3.6	< 1	0.3	118	< 0.05	< 0.05	2.41	0.164	0.25	0.7	44	0.2
C271094	1200	0.73	0.51	0.5	9.9	1130	22.3	26.0	< 0.002	0.11	0.31	3.5	1	0.3	108	< 0.05	< 0.05	2.00	0.132	0.19	0.6	38	0.1
C271095	2340	0.58	0.76	0.9	13.1	1140	29.9	33.5	< 0.002	0.13	0.29	4.2	< 1	0.5	137	< 0.05	< 0.05	2.15	0.221	0.22	0.7	53	0.3
C271096	829	0.41	1.00	0.6	14.9	580	35.7	31.9	< 0.002	0.10	0.37	5.5	< 1	1.1	152	< 0.05	< 0.05	2.63	0.228	0.22	0.8	55	< 0.1
C271097	1440	0.42	0.50	1.4	9.3	1010	27.4	28.3	< 0.002	0.18	0.28	2.7	< 1	0.6	119	< 0.05	0.05	1.41	0.129	0.16	0.4	29	0.2
C271098	873	0.45	0.72	2.2	11.0	940	25.2	19.8	< 0.002	0.16	0.39	3.5	< 1	0.8	121	< 0.05	< 0.05	1.78	0.162	0.20	0.6	39	0.3
C271099	1810	0.45	1.16	1.0	16.6	1260	44.1	45.5	< 0.002	0.09	0.28	6.1	< 1	1.2	186	0.05	< 0.05	2.73	0.296	0.27	0.8	73	< 0.1

Results

Activation Laboratories Ltd.

Report: A22-15788

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
C271100	3310	0.76	0.82	1.2	15.6	1240	55.1	37.8	< 0.002	0.14	0.39	4.4	< 1	0.7	161	< 0.05	< 0.05	2.57	0.220	0.33	0.8	52	0.4
A1104557	2740	0.62	0.99	1.1	17.4	830	46.5	38.1	< 0.002	0.09	0.39	5.8	< 1	1.0	164	< 0.05	< 0.05	2.52	0.278	0.29	0.8	64	0.2
A1104558	7070	0.87	0.43	0.4	9.7	1380	67.3	25.6	< 0.002	0.15	0.26	3.2	< 1	0.3	95.0	< 0.05	0.14	2.05	0.108	0.45	0.7	33	0.2
A1104559	1660	0.78	0.54	0.5	9.0	980	24.1	21.5	0.003	0.11	0.37	3.2	< 1	0.4	93.1	< 0.05	0.06	1.92	0.164	0.21	0.6	35	0.3
A1104560	706	< 0.05	0.91	< 0.1	20.0	460	37.2	29.3	< 0.002	0.06	< 0.05	7.6	< 1	0.4	147	< 0.05	< 0.05	3.75	0.104	0.24	1.2	50	< 0.1
A1104561	1120	0.83	0.80	0.9	15.9	870	36.9	30.4	< 0.002	0.12	0.36	4.8	< 1	0.9	132	< 0.05	< 0.05	2.20	0.231	0.23	0.7	41	0.1
A1104563	128	0.30	6.17	0.6	1.0	< 10	6.8	59.5	< 0.002	< 0.01	0.17	0.3	< 1	0.7	31.7	< 0.05	< 0.05	0.12	< 0.005	0.68	< 0.1	2	< 0.1
A1104564	383	0.34	0.69	1.2	66.3	570	21.3	163	< 0.002	0.10	32.6	14.4	< 1	1.9	107	< 0.05	< 0.05	15.6	0.446	0.86	2.9	113	0.1

Analyte Symbol	Y	Zn	Zr	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Lower Limit	0.1	2	0.5	3	4	10	0.2	1	100	30	2	25	6	15	4	100	0.2	50	0.5	0.4	0.2	3	4
Method Code	TD-MS	TD-ICP	TD-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
A371451	5.0	51	9.7																				
A371453	4.5	442	3.2																				
A371454	3.0	184	3.4																				
A371455	5.2	107	12.9																				
A371456	2.1	93	4.3																				
A371457	4.9	91	6.7																				
A371458	2.0	115	2.9																				
A371459	5.5	64	15.2																				
A371460	5.8	62	13.0																				
A371461	2.7	43	3.7																				
A371462	8.0	47	7.0																				
A371463	4.6	27	4.2																				
A371464	4.0	33	4.1																				
A371465	3.2	25	4.8																				
A371466	6.2	50	15.7																				
A371467	5.9	30	60.0																				
A371468	1.8	111	2.4																				
A371469	4.6	59	12.9																				
A371471	4.9	111	4.7																				
A371473	6.8	90	33.1																				
A371475	7.2	52	104																				
A371477	5.5	28	44.0																				
A371479	7.5	40	110																				
A371481	4.4	63	12.3																				
A371483	6.1	251	5.6																				
A371485	7.6	112	119																				
A371487	6.0	66	39.9																				
A371489	6.2	68	102																				
A371491	6.1	111	5.3																				
A371492	6.3	97	10.2																				
A371494	6.4	131	8.7																				
A371496	1.8	71	0.8																				
A371497	7.3	32	3.5																				
A371498	6.4	57	10.1																				
A371499	5.6	97	2.3																				
A371500	6.8	81	10.4																				
B416427	4.9	86	8.6																				
B416428	6.3	77	4.1																				
B416429	4.7	130	9.8																				
B416430	6.2	105	54.2																				
B416431	6.6	150	117																				
B416432	5.2	146	87.2																				
B416433	1.5	257	1.6																				
B416434	6.5	44	38.5																				
B416435	4.2	272	3.8																				
B416436	7.5	49	3.9																				
B416437	8.3	150	39.8																				
B416438	5.7	83	63.6																				
B416439	8.5	84	118																				
B416440	7.4	87	111																				
B416441	8.4	131	14.4																				

Analyte Symbol	Y	Zn	Zr	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Lower Limit	0.1	2	0.5	3	4	10	0.2	1	100	30	2	25	6	15	4	100	0.2	50	0.5	0.4	0.2	3	4
Method Code	TD-MS	TD-ICP	TD-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
B416442	7.7	165	90.5																				
B416443	15.0	128	2.0																				
B416444	4.4	53	1.3	73	3550	3010	2.1	5	62400	70	153	13800	398	9840	1980	3800	193	16800	478	242	188	4680	978
B416445	1.6	85	1.0	125	2450	1440	1.7	4	119000	< 30	68	6120	545	2660	968	2700	470	7080	93.7	45.5	53.4	2330	555
B416446	4.9	101	7.5																				
B416447	6.6	81	99.6																				
B416448	6.6	64	3.7																				
B416449	4.2	151	4.6																				
B416450	6.6	120	4.0																				
C271051	5.9	145	5.9																				
C271052	6.3	121	31.3																				
C271053	5.2	71	4.7																				
C271054	6.7	65	116																				
C271055	1.7	104	1.0	99	1730	760	2.3	7	180000	< 30	68	7960	650	2790	2200	2500	447	8440	75.7	34.0	58.2	1970	541
C271056	4.0	172	4.9																				
C271057	5.7	117	86.3																				
C271058	2.0	193	3.4	56	1920	950	1.1	8	317000	30	83	13900	694	2630	1940	2800	399	8780	89.0	40.3	78.2	1970	655
C271059	5.8	37	1.6	59	6760	1220	1.2	7	85500	100	90	19200	651	21800	11200	3100	311	14900	799	440	358	4200	1240
C271060	6.0	71	85.3																				
C271062	2.6	116	3.7																				
C271063	5.5	153	74.9																				
C271065	6.0	63	52.6																				
C271067	5.8	141	3.8																				
C271069	2.7	58	3.5	92	4000	3500	1.9	6	71600	80	165	8310	620	4510	3080	4600	615	14000	160	64.8	69.7	4320	938
C271071	8.2	99	13.9																				
C271073	5.8	69	19.0																				
C271075	3.1	250	4.0	122	4040	2660	0.9	5	341000	70	209	10900	1270	5470	4000	4500	679	12600	172	83.1	119	4770	1240
C271076	5.3	146	6.4																				
C271077	2.5	342	2.6	95	3510	2500	1.3	9	360000	80	185	17500	1470	4970	4630	4300	823	9750	167	80.2	113	4390	1050
C271078	7.0	183	10.2																				
C271079	6.4	113	8.8																				
C271080	4.1	125	2.3																				
C271081	4.9	101	3.9																				
C271082	5.2	175	2.8																				
C271083	4.9	130	4.5																				
C271084	6.6	104	14.5																				
C271085	2.0	33	2.7																				
C271086	0.8	59	< 0.5																				
C271087	4.2	77	3.1																				
C271088	6.2	51	4.4																				
C271089	3.5	94	1.9																				
C271090	7.5	102	6.5																				
C271091	6.2	73	3.5																				
C271092	4.4	38	7.6																				
C271093	4.8	61	13.7																				
C271094	4.2	87	6.3																				
C271095	5.0	128	4.4																				
C271096	7.0	38	5.4																				
C271097	3.3	134	3.8																				
C271098	7.1	61	10.6																				
C271099	6.7	85	98.6																				

Analyte Symbol	Y	Zn	Zr	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Lower Limit	0.1	2	0.5	3	4	10	0.2	1	100	30	2	25	6	15	4	100	0.2	50	0.5	0.4	0.2	3	4
Method Code	TD-MS	TD-ICP	TD-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
C271100	5.7	102	6.5																				
A1104557	6.3	67	3.3																				
A1104558	4.3	155	3.7																				
A1104559	4.2	85	5.3																				
A1104560	7.8	70	17.8																				
A1104561	5.5	111	10.4																				
A1104563	1.4	26	18.0																				
A1104564	20.9	101	146																				

Analyte Symbol	Gd	Ge	Hf	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.4	3	0.4	2	0.2	0.2	10	10	10	0.5	2	100	10	5	2	5	50	4	50	0.2	1	0.2	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
A371451																							
A371453																							
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A371471																							
A371473																							
A371475																							
A371477																							
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A371498																							
A371499																							
A371500																							
B416427																							
B416428																							
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B416431																							
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B416435																							
B416436																							
B416437																							
B416438																							
B416439																							
B416440																							
B416441																							

Analyte Symbol	Gd	Ge	Hf	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.4	3	0.4	2	0.2	0.2	10	10	10	0.5	2	100	10	5	2	5	50	4	50	0.2	1	0.2	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
B416442																							
B416443																							
B416444	910	123	36.7	175	96.9	13.3	1430	7790	650	29.0	1290	338000	610	59	225	5760	4100	746	29200	15.4	1260	0.4	4970
B416445	179	38	18.0	140	18.1	3.8	1030	1460	710	4.9	1040	385000	260	28	178	1060	3030	881	14300	7.5	238	0.3	6430
B416446																							
B416447																							
B416448																							
B416449																							
B416450																							
C271051																							
C271052																							
C271053																							
C271054																							
C271055	149	31	18.4	123	13.9	4.9	1180	1520	760	3.8	1100	125000 0	330	42	147	910	3060	1340	20700	10.9	210	0.2	7780
C271056																							
C271057																							
C271058	175	28	21.2	230	17.5	5.9	1190	1320	690	5.1	1020	143000 0	450	35	219	943	3520	1290	22000	13.4	207	0.6	7130
C271059	1590	153	21.0	204	173	8.8	1050	12900	370	59.6	1500	847000	760	94	144	9780	5820	1160	46500	22.4	2150	0.3	5640
C271060																							
C271062																							
C271063																							
C271065																							
C271067																							
C271069	288	51	39.4	266	30.4	13.7	1440	2870	910	8.4	1210	701000	600	34	248	1770	4450	1700	48600	12.4	391	0.5	12200
C271071																							
C271073																							
C271075	332	65	36.5	276	32.9	15.2	1080	2690	1140	8.3	1130	349000 0	550	41	384	1870	5230	1290	65600	16.5	423	0.3	9970
C271076																							
C271077	320	49	36.1	245	32.4	14.5	1300	2610	1330	9.1	1670	352000 0	510	27	286	1780	6750	1360	53400	21.0	393	0.8	13200
C271078																							
C271079																							
C271080																							
C271081																							
C271082																							
C271083																							
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C271091																							
C271092																							
C271093																							
C271094																							
C271095																							
C271096																							

Analyte Symbol	Gd	Ge	Hf	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.4	3	0.4	2	0.2	0.2	10	10	10	0.5	2	100	10	5	2	5	50	4	50	0.2	1	0.2	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
C271097																							
C271098																							
C271099																							
C271100																							
A1104557																							
A1104558																							
A1104559																							
A1104560																							
A1104561																							
A1104563																							
A1104564																							

Analyte Symbol	Re	Sb	Se	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.2	10	100	1	50	40	0.2	0.2	8	2	150	1	0.1	1	10	25	2	0.4	400	20
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
A371451																				
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B416437																				
B416438																				
B416439																				
B416440																				
B416441																				

Analyte Symbol	Re	Sb	Se	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.2	10	100	1	50	40	0.2	0.2	8	2	150	1	0.1	1	10	25	2	0.4	400	20
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
B416442																				
B416443																				
B416444	< 0.2	560	800	887	710	35400	2.9	98.5	< 8	261	41700	34	32.0	242	4430	51	3330	222	45300	1400
B416445	< 0.2	220	400	174	330	28000	2.5	20.8	48	252	60300	50	5.5	87	3380	37	543	40.1	73900	730
B416446																				
B416447																				
B416448																				
B416449																				
B416450																				
C271051																				
C271052																				
C271053																				
C271054																				
C271055	< 0.2	190	< 100	131	330	36300	1.9	16.6	< 8	153	46500	79	4.3	80	3070	49	417	31.0	97200	660
C271056																				
C271057																				
C271058	< 0.2	260	400	163	400	55700	3.4	19.3	29	205	64700	78	5.7	92	3670	52	538	38.4	193000	740
C271059	0.8	570	1500	1510	290	50900	2.5	177	19	252	34600	105	61.0	229	6250	42	5840	419	36300	800
C271060																				
C271062																				
C271063																				
C271065																				
C271067																				
C271069	0.2	500	700	291	890	40000	3.4	35.2	19	343	45700	54	9.2	238	4700	67	903	62.2	47600	1110
C271071																				
C271073																				
C271075	0.3	560	800	307	930	53600	4.1	38.8	19	438	91100	125	11.1	205	7130	85	953	71.8	238000	1360
C271076																				
C271077	0.3	530	900	295	920	85600	2.7	37.9	28	321	58100	79	10.5	185	4820	75	992	72.0	339000	1160
C271078																				
C271079																				
C271080																				
C271081																				
C271082																				
C271083																				
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C271094																				
C271095																				
C271096																				
C271097																				
C271098																				
C271099																				

Analyte Symbol	Re	Sb	Se	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.2	10	100	1	50	40	0.2	0.2	8	2	150	1	0.1	1	10	25	2	0.4	400	20
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
C271100																				
A1104557																				
A1104558																				
A1104559																				
A1104560																				
A1104561																				
A1104563																				
A1104564																				

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	0.5	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-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-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
CLV-1 Meas																							
CLV-1 Cert																							
OREAS 101b (4 Acid) Meas										> 500	43.9				422	10.7				2.49	860		1.29
OREAS 101b (4 Acid) Cert										1325	45				412	10.7				2.36	754		1.23
OREAS 101b (4 Acid) Meas										> 500	48.0				365	9.74				2.21	852		1.21
OREAS 101b (4 Acid) Cert										1325	45				412	10.7				2.36	754		1.23
OREAS 101b (4 Acid) Meas										> 500	43.8				385	9.81				2.30	817		1.19
OREAS 101b (4 Acid) Cert										1325	45				412	10.7				2.36	754		1.23
OREAS 101b (4 Acid) Meas										> 500	42.9				379	10.3				2.32	790		1.21
OREAS 101b (4 Acid) Cert										1325	45				412	10.7				2.36	754		1.23
OREAS 101b (4 Acid) Meas										> 500	43.5				432	9.84				1.70	771		1.20
OREAS 101b (4 Acid) Cert										1325	45				412	10.7				2.36	754		1.23
OREAS 98 (4 Acid) Meas		45.6					98.8					114			> 10000								
OREAS 98 (4 Acid) Cert		45.1					97.2					121			14800 0.0								
OREAS 98 (4 Acid) Meas		44.0					99.6					115			> 10000								
OREAS 98 (4 Acid) Cert		45.1					97.2					121			14800 0.0								
OREAS 98 (4 Acid) Meas		43.9					94.1					123			> 10000								
OREAS 98 (4 Acid) Cert		45.1					97.2					121			14800 0.0								
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
CLV-2 Meas																							
CLV-2 Cert																							
OREAS 13b (4-Acid) Meas		0.83		52.6								70.7	8810		2190								
OREAS 13b (4-Acid) Cert		0.86		57								75	8650.0 00		2327.0 000								
OREAS 13b (4-Acid) Meas													9210										
OREAS 13b (4-Acid) Cert													8650.0 00										
OREAS 13b (4-Acid) Meas													9900										
OREAS 13b (4-Acid) Cert													8650.0 00										
OREAS 903 (4 Acid) Meas		0.53	6.18	49.0	200	4.78	9.16	0.60	0.18	85.1	133	74	3.62	6640	4.15	15.2		3.9	0.141	3.44	40.0	18.1	0.81

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	0.5	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-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-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
OREAS 903 (4 Acid) Cert		0.432	5.89	49.7	197	4.42	8.90	0.625	0.200	82.0	131	73.0	3.57	6520	4.16	15.0		4.56	0.160	3.31	40.0	18.3	0.714
OREAS 903 (4 Acid) Meas		0.53	6.11	51.2	190	4.87	9.27	0.68	0.22	84.5	141	66	3.78	6830	4.21	15.9		0.3	0.153	2.95	40.7	17.4	0.76
OREAS 903 (4 Acid) Cert		0.432	5.89	49.7	197	4.42	8.90	0.625	0.200	82.0	131	73.0	3.57	6520	4.16	15.0		4.56	0.160	3.31	40.0	18.3	0.714
OREAS 903 (4 Acid) Meas		0.49	5.94	49.3	220	4.68	8.99	0.69	0.21	80.2	142	92	3.58	6530	4.23	14.0		4.5	0.145	3.70	41.1	18.1	0.75
OREAS 903 (4 Acid) Cert		0.432	5.89	49.7	197	4.42	8.90	0.625	0.200	82.0	131	73.0	3.57	6520	4.16	15.0		4.56	0.160	3.31	40.0	18.3	0.714
OREAS 903 (4 Acid) Meas			6.01		210			0.65				77			4.06					3.66			0.73
OREAS 903 (4 Acid) Cert			5.89		197			0.625				73.0			4.16					3.31			0.714
OREAS 903 (4 Acid) Meas			6.00		190			0.66				64			4.08					2.37			0.74
OREAS 903 (4 Acid) Cert			5.89		197			0.625				73.0			4.16					3.31			0.714
OREAS 45d (4-Acid) Meas			7.62		190			0.19				542			13.6					0.40			0.24
OREAS 45d (4-Acid) Cert			8.150		183.0			0.185				549			14.5					0.412			0.245
OREAS 45d (4-Acid) Meas			7.74		190			0.18				574			13.9					0.39			0.24
OREAS 45d (4-Acid) Cert			8.150		183.0			0.185				549			14.5					0.412			0.245
OREAS 45d (4-Acid) Meas			7.87		190			0.19				470			13.8					0.40			0.25
OREAS 45d (4-Acid) Cert			8.150		183.0			0.185				549			14.5					0.412			0.245
CDV-1 Meas																							
CDV-1 Cert																							
OREAS 96 (4 Acid) Meas		10.8					28.2					51.3			> 10000								
OREAS 96 (4 Acid) Cert		11.5					26.3					49.9			39300								
OREAS 96 (4 Acid) Meas		11.1					27.7					51.9			> 10000								
OREAS 96 (4 Acid) Cert		11.5					26.3					49.9			39300								
Oreas 77b (4 Acid) Meas		1.60	1.81	1520	20	0.34	3.38	3.14	1.19	27.7	1560	274	2.19	3240	26.6	4.32		1.1	0.102	0.34	14.2	15.1	2.30
Oreas 77b (4 Acid) Cert		1.62	1.94	2050	118	0.470	3.44	3.06	1.20	27.7	1550	280	2.32	3430	29.9	4.61		1.15	0.112	0.361	15.8	18.8	2.59
Oreas 77b (4 Acid) Meas		1.53	1.69	1610	40	0.55	3.40	2.68	1.10	27.5	1420	250	2.30	3280	26.3	4.38		1.1	0.104	0.32	15.0	19.6	2.44
Oreas 77b (4 Acid) Cert		1.62	1.94	2050	118	0.470	3.44	3.06	1.20	27.7	1550	280	2.32	3430	29.9	4.61		1.15	0.112	0.361	15.8	18.8	2.59
Oreas 72b (4 Acid) Meas		0.30	4.88	132	270	1.01	0.66	3.03	0.31	43.2	132	696	3.14	209	6.68	11.2		2.4	0.044	1.22	21.9	32.5	9.60
Oreas 72b (4 Acid) Cert		0.230	4.79	146	330	1.02	0.680	2.79	0.310	43.6	131	771	3.37	222	6.84	11.7		2.51	0.0490	1.14	24.4	33.3	9.59
Oreas 72b (4 Acid) Meas		0.31	4.43	151	310	1.00	0.74	2.61	0.26	43.9	132	556	3.26	243	6.41	9.48		2.5	0.042	1.05	24.0	32.5	8.75
Oreas 72b (4 Acid) Cert		0.230	4.79	146	330	1.02	0.680	2.79	0.310	43.6	131	771	3.37	222	6.84	11.7		2.51	0.0490	1.14	24.4	33.3	9.59
Oreas 72b (4 Acid) Meas			4.64		320			2.77				626			6.55					1.06			9.12

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	0.5	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-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-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
Oreas 72b (4 Acid) Cert			4.79		330			2.79				771			6.84					1.14			9.59
OREAS 239 (Fire Assay) Meas	3490																						
OREAS 239 (Fire Assay) Cert	3550																						
OREAS 239 (Fire Assay) Meas	3420																						
OREAS 239 (Fire Assay) Cert	3550																						
OREAS 239 (Fire Assay) Meas	3400																						
OREAS 239 (Fire Assay) Cert	3550																						
Oreas E1336 (Fire Assay) Meas	501																						
Oreas E1336 (Fire Assay) Cert	510.000																						
Oreas E1336 (Fire Assay) Meas	481																						
Oreas E1336 (Fire Assay) Cert	510.000																						
Oreas E1336 (Fire Assay) Meas	518																						
Oreas E1336 (Fire Assay) Cert	510.000																						
OREAS 681 (4 Acid) Meas		0.18	7.46		410	1.39	0.09	5.62		39.6	47.5	1240	3.82	274	7.44	14.2		1.8	0.034	1.33	18.0	13.0	5.01
OREAS 681 (4 Acid) Cert		0.118	7.91		442	1.41	0.0980	5.98		40.6	51.0	1640	4.02	264	7.47	17.6		1.70	0.0420	1.35	18.8	13.0	5.19
OREAS 681 (4 Acid) Meas			7.96		430			5.89				1930			7.55					1.31			5.19
OREAS 681 (4 Acid) Cert			7.91		442			5.98				1640			7.47					1.35			5.19
OREAS 681 (4 Acid) Meas			7.81		430			5.86				1550			7.46					1.32			5.17
OREAS 681 (4 Acid) Cert			7.91		442			5.98				1640			7.47					1.35			5.19
OREAS 247 (4 Acid) Meas			6.18		540			0.87				82			3.19					1.92			1.22
OREAS 247 (4 Acid) Cert			6.08		550			0.826				97.0			3.32					2.45			1.22
OREAS 147 (4 Acid) Meas			4.76		1760			1.15				69			3.14					1.65			0.56
OREAS 147 (4 Acid) Cert			4.90		1940			1.09				57.0			3.23					1.60			0.535
OREAS 147 (4 Acid) Meas			5.09		1980			1.19				44			3.18					1.49			0.56
OREAS 147 (4 Acid) Cert			4.90		1940			1.09				57.0			3.23					1.60			0.535
OREAS 147 (4 Acid) Meas			5.11		1990			1.20				49			3.18					1.59			0.57
OREAS 147 (4 Acid) Cert			4.90		1940			1.09				57.0			3.23					1.60			0.535
Oreas 521 (4 Acid) Meas		0.91	4.71	257		0.98	6.00	3.80		109	426	48	0.78	6110	20.1	16.7		3.3	0.162	3.12	81.8	15.9	1.11
Oreas 521 (4 Acid) Cert		0.89	4.77	336		0.86	5.85	3.86		123	386	31	0.72	6070	20.7	17.4		3.2	0.180	3.16	139	16.4	1.13

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	0.5	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-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-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
Oreas 521 (4 Acid) Meas		0.82	4.72	217		0.85	5.99	3.75		101	392	34	0.70	6280	20.1	16.5		3.1	0.167	3.32	76.5	15.6	1.09
Oreas 521 (4 Acid) Cert		0.89	4.77	336		0.86	5.85	3.86		123	386	31	0.72	6070	20.7	17.4		3.2	0.180	3.16	139	16.4	1.13
Oreas 521 (4 Acid) Meas		0.86	4.44	322		1.12	6.05	3.67		80.0	366	31	0.75	6000	18.6	15.7		3.4	0.166	2.91	63.0	18.0	1.10
Oreas 521 (4 Acid) Cert		0.89	4.77	336		0.860	5.85	3.86		123	386	31	0.72	6070	20.7	17.4		3.2	0.180	3.16	139	16.4	1.13
Oreas 521 (4 Acid) Meas			4.96					3.91				44			20.6					3.18			1.21
Oreas 521 (4 Acid) Cert			4.77					3.86				31			20.7					3.16			1.13
Oreas 521 (4 Acid) Meas			4.61					3.77				30			19.3					2.96			1.14
Oreas 521 (4 Acid) Cert			4.77					3.86				31			20.7					3.16			1.13
OREAS 70b (4 Acid) Meas		0.19	3.78	137	200	0.87	0.82	2.92	0.33	26.8	76.5		3.20	49.7	5.53	7.44		1.8	0.033	0.59	14.0	34.1	13.1
OREAS 70b (4 Acid) Cert		0.17	3.87	148	200	1.0	0.84	3.05	0.36	28.2	78.0		3.44	52.0	5.52	10.1		1.9	0.047	0.62	15.3	34.4	13.4
OREAS 620 (4 Acid) Meas		36.4	7.57	46.9	60	2.47	1.88	1.68	167	67.6	13.2	18	5.20	1820	3.07	23.6		5.6	1.13	2.68	27.5	22.0	0.34
OREAS 620 (4 Acid) Cert		38.5	6.72	50.0	2000	2.36	1.93	1.60	163	64.0	12.1	22	5.01	1730	2.94	23.7		5.6	1.15	2.63	29.7	20.0	0.34
OREAS 620 (4 Acid) Meas		35.5	6.35	51.1	200	2.36	1.92	1.69	160	65.0	13.0	19	5.03	1850	2.86	25.2		5.4	1.21	2.53	26.4	19.6	0.34
OREAS 620 (4 Acid) Cert		38.5	6.72	50.0	2500	2.36	1.93	1.60	163	64.0	12.1	22	5.01	1730	2.94	23.7		5.6	1.15	2.63	29.7	20.0	0.34
OREAS 620 (4 Acid) Meas			6.87		60			1.70				16			2.92					1.95			0.35
OREAS 620 (4 Acid) Cert			6.72		2000			1.60				22			2.94					2.63			0.34
A371465 Orig		0.05	1.21	3.6	270	0.19	0.18	0.62	0.29	9.67	1.6	12	0.68	7.9	0.56	1.72	< 0.05	0.1	0.012	0.32	5.0	3.0	0.15
A371465 Dup		0.05	1.15	3.4	270	0.18	0.19	0.60	0.30	9.55	1.6	13	0.67	7.0	0.53	1.53	< 0.05	< 0.1	0.013	0.30	4.8	3.2	0.14
A371473 Orig	7.6																						
A371473 Dup	8.0																						
A371481 Orig		0.09	2.31	2.8	340	0.39	0.16	1.29	0.46	13.2	4.4	23	1.10	10.6	1.04	4.27	0.08	0.4	0.016	0.58	6.7	4.3	0.33
A371481 Dup		0.09	2.20	3.4	320	0.43	0.17	1.26	0.55	12.9	4.8	19	1.13	12.2	0.98	4.47	0.09	< 0.1	0.013	0.54	6.8	4.7	0.31
A371483 Orig	6.5																						
A371483 Dup	7.0																						
A371485 Orig	7.2																						
A371485 Dup	7.0																						
A371499 Orig		0.12	3.04	2.6	410	0.60	0.15	1.62	0.53	16.9	8.2	54	1.38	8.4	1.55	8.75	0.08	< 0.1	0.027	0.70	8.4	7.3	0.49
A371499 Dup		0.10	3.61	2.6	430	0.76	0.14	1.70	0.42	17.2	8.7	39	1.36	10.4	1.82	9.81	0.14	< 0.1	0.024	0.80	8.5	8.0	0.56
B416430 Orig	6.9																						
B416430 Dup	5.7																						
B416437 Orig	5.5																						
B416437 Dup	4.8																						
B416438 Orig		0.11	3.90	2.7	410	0.66	0.11	1.86	0.48	13.2	5.5	55	0.91	9.3	1.55	7.78	0.10	0.7	0.026	0.96	7.1	5.3	0.51
B416438 Dup		0.11	4.00	1.7	400	0.69	0.11	1.90	0.52	14.4	5.4	40	0.87	8.5	1.54	7.78	0.20	2.7	0.022	0.99	7.8	5.1	0.52
C271054 Orig	6.3																						
C271054 Dup	13.5																						
C271056 Orig		0.11	2.29	3.6	500	0.42	0.23	2.23	0.84	12.6	4.3	42	1.60	9.0	1.03	2.21	0.07	< 0.1	0.024	0.59	6.3	5.4	0.32
C271056 Dup		0.11	2.09	3.8	510	0.37	0.24	2.26	0.89	11.5	4.0	22	1.58	10.3	0.96	1.66	0.07	0.2	0.025	0.56	6.1	5.3	0.31
C271075 Orig		0.14	1.47	3.9	500	0.44	0.22	1.41	1.35	9.90	4.0	20	0.89	12.6	0.72	0.70	< 0.05	< 0.1	0.018	0.43	4.8	3.9	0.21

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	0.5	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-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-MS	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS	TD-ICP	TD-MS	TD-MS	TD-ICP
C271075 Dup		0.14	1.31	4.0	510	0.37	0.23	1.44	1.26	10.1	4.2	16	1.00	14.1	0.69	0.23	< 0.05	< 0.1	0.017	0.41	5.0	4.2	0.21
C271077 Orig																							
C271077 Dup																							
C271082 Orig	6.0																						
C271082 Dup	5.3																						
C271090 Orig	7.4																						
C271090 Dup	5.9																						
C271091 Orig	6.7	0.05	3.40	4.3	500	0.63	0.24	1.86	0.50	20.3	6.6	35	1.78	7.8	1.68	4.74	0.24	< 0.1	0.031	0.75	9.4	8.9	0.50
C271091 Dup	6.8	0.05	3.33	4.5	530	0.57	0.23	1.83	0.61	20.3	6.2	36	1.73	7.8	1.63	4.14	0.21	< 0.1	0.023	0.73	9.5	8.4	0.49
A1104558 Orig		0.07	1.80	3.8	450	0.39	0.28	1.45	1.13	14.4	14.2	18	1.25	13.3	0.88	1.52	< 0.05	< 0.1	0.018	0.50	7.1	5.2	0.26
A1104558 Dup		0.08	1.72	4.2	440	0.40	0.27	1.42	1.01	13.2	14.0	19	1.26	12.7	0.86	1.86	0.05	< 0.1	0.017	0.48	6.5	5.1	0.25
A1104560 Orig	10.1																						
A1104560 Dup	9.5																						
Method Blank		< 0.01	< 0.01	0.4	< 10	< 0.05	< 0.01	< 0.01	< 0.02	0.02	< 0.1	3	< 0.05	0.5	< 0.01	0.15	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	0.5	< 0.01
Method Blank		< 0.01	< 0.01	0.5	< 10	< 0.05	< 0.01	< 0.01	< 0.02	0.04	< 0.1	8	< 0.05	0.5	< 0.01	0.19	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	0.3	< 0.01
Method Blank			< 0.01		< 10			< 0.01				5			< 0.01					< 0.01			< 0.01
Method Blank			< 0.01		< 10			< 0.01							< 0.01					< 0.01			< 0.01
Method Blank			< 0.01		< 10			< 0.01							< 0.01					< 0.01			< 0.01
Method Blank		< 0.01	0.02	< 0.2	< 10	0.06	< 0.01	< 0.01	0.04	< 0.01	< 0.1	3	< 0.05	0.2	< 0.01	0.19	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank			0.02		< 10			< 0.01				2			< 0.01					< 0.01			< 0.01
Method Blank			< 0.01		< 10			< 0.01				< 1			< 0.01					< 0.01			< 0.01
Method Blank		< 0.01	< 0.01	0.7	< 10	0.26	< 0.01	< 0.01	< 0.02	0.01	< 0.1	3	< 0.05	0.7	< 0.01	0.23	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank			< 0.01		< 10			< 0.01				2			< 0.01					< 0.01			< 0.01
Method Blank		< 0.01	< 0.01	< 0.2	< 10	0.15	< 0.01	< 0.01	0.03	< 0.01	< 0.1	5	< 0.05	0.2	< 0.01	0.20	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	0.8	< 0.01
Method Blank			< 0.01		< 10			< 0.01				4			< 0.01					< 0.01			< 0.01
Method Blank		< 0.01	< 0.01	0.6	< 10	0.13	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	7	< 0.05	0.3	< 0.01	0.17	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank			< 0.01		< 10			< 0.01				6			< 0.01					< 0.01			< 0.01
Method Blank		< 0.01	< 0.01	0.3	< 10	0.18	0.02	< 0.01	< 0.02	0.02	< 0.1	6	< 0.05	1.9	< 0.01	0.20	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank			< 0.01		< 10			< 0.01				5			< 0.01					< 0.01			< 0.01
Method Blank	1.8																						
Method Blank	1.8																						
Method Blank	1.7																						
Method Blank	2.2																						
Method Blank	1.7																						
Method Blank	1.4																						
Method Blank	1.6																						
Method Blank	2.1																						
Method Blank																							

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
CLV-1 Meas																							
CLV-1 Cert																							
OREAS 101b (4 Acid) Meas	969	20.0			8.5	1160	22.7											38.7	0.396		381	67	
OREAS 101b (4 Acid) Cert	927	20.1			8.2	1118	23											36.4	0.35		387	77	
OREAS 101b (4 Acid) Meas	881	17.9			8.6	1180	22.0											37.6	0.364		424	71	
OREAS 101b (4 Acid) Cert	927	20.1			8.2	1118	23											36.4	0.35		387	77	
OREAS 101b (4 Acid) Meas	949	19.5			8.1	1040	22.2											37.2	0.364		450	82	
OREAS 101b (4 Acid) Cert	927	20.1			8.2	1118	23											36.4	0.35		387	77	
OREAS 101b (4 Acid) Meas	959	18.2			8.1		22.3											36.9	0.362		433	82	
OREAS 101b (4 Acid) Cert	927	20.1			8.2		23											36.4	0.35		387	77	
OREAS 101b (4 Acid) Meas	929	19.4			8.8		23.7											37.7	0.353		381	79	
OREAS 101b (4 Acid) Cert	927	20.1			8.2		23											36.4	0.35		387	77	
OREAS 98 (4 Acid) Meas							350			> 10.0	11.0		154	212									
OREAS 98 (4 Acid) Cert							345			15.5	20.1		158	206									
OREAS 98 (4 Acid) Meas							349			> 10.0	4.56		155	217									
OREAS 98 (4 Acid) Cert							345			15.5	20.1		158	206									
OREAS 98 (4 Acid) Meas							348			> 10.0	6.34		192	218									
OREAS 98 (4 Acid) Cert							345			15.5	20.1		158	206									
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													
CLV-2 Meas																							
CLV-2 Cert																							
OREAS 13b (4-Acid) Meas		8.94			2090					1.11													
OREAS 13b (4-Acid) Cert		9.00			2247.0000					1.2													
OREAS 13b (4-Acid) Meas										1.19													
OREAS 13b (4-Acid) Cert										1.2													
OREAS 13b (4-Acid) Meas										1.17													
OREAS 13b (4-Acid) Cert										1.2													
OREAS 903 (4 Acid) Meas	690	4.29	0.03		52.6	1170	10.7	124		0.52	1.60	9.4	5	2.5	82.4	0.54		13.4	0.313	0.60	7.8	68	

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 903 (4 Acid) Cert	690	4.32	0.0300		54.0	1070	11.3	137		0.500	1.57	10.2	6.06	2.63	77.0	0.540		13.6	0.192	0.620	7.58	74.0	
OREAS 903 (4 Acid) Meas	665	4.28	0.03		52.9	1110	11.4	123		0.46	1.67	10.0	6	2.8	88.7	< 0.05		13.8	0.325	0.63	8.1	75	
OREAS 903 (4 Acid) Cert	690	4.32	0.0300		54.0	1070	11.3	137		0.500	1.57	10.2	6.06	2.63	77.0	0.540		13.6	0.192	0.620	7.58	74.0	
OREAS 903 (4 Acid) Meas	780	4.39	0.03		54.5	1000	11.3	144		0.50	1.61	10.1	6	2.7	78.3	0.83		13.8	0.312	0.64	7.7	88	
OREAS 903 (4 Acid) Cert	690	4.32	0.0300		54.0	1070	11.3	137		0.500	1.57	10.2	6.06	2.63	77.0	0.540		13.6	0.192	0.620	7.58	74.0	
OREAS 903 (4 Acid) Meas	720		0.03							0.50									0.302			85	
OREAS 903 (4 Acid) Cert	690		0.0300							0.500									0.192			74.0	
OREAS 903 (4 Acid) Meas	709		0.03							0.47									0.292			84	
OREAS 903 (4 Acid) Cert	690		0.0300							0.500									0.192			74.0	
OREAS 45d (4-Acid) Meas	526		0.09			380				0.05									0.529			186	
OREAS 45d (4-Acid) Cert	490.000		0.101			420.000				0.049									0.773			235.0	
OREAS 45d (4-Acid) Meas	512		0.09			390				0.05									0.701			226	
OREAS 45d (4-Acid) Cert	490.000		0.101			420.000				0.049									0.773			235.0	
OREAS 45d (4-Acid) Meas	515		0.10			340				0.04									0.204			111	
OREAS 45d (4-Acid) Cert	490.000		0.101			420.000				0.049									0.773			235.0	
CDV-1 Meas																							
CDV-1 Cert																							
OREAS 96 (4 Acid) Meas							104			3.89	3.87		45	67.8									
OREAS 96 (4 Acid) Cert							101			4.19	5.09		40.7	65.6									
OREAS 96 (4 Acid) Meas							102			4.24	3.23		46	68.3									
OREAS 96 (4 Acid) Cert							101			4.19	5.09		40.7	65.6									
Oreas 77b (4 Acid) Meas	626		0.37	3.4 > 10000			57.0	17.3	0.021		6.90	3.3		1.5	34.1	0.24	1.35	6.26	0.054	1.32	1.8	32	3.6
Oreas 77b (4 Acid) Cert	640		0.434	3.26 113000			61.0	19.1	0.0220		9.100	3.51		1.59	34.4	0.280	1.35	6.61	0.0640	1.37	1.71	33.6	3.07
Oreas 77b (4 Acid) Meas	603		0.37	3.3 > 10000			60.3	18.8	0.023		6.31	3.7		1.6	38.3	0.26	1.42	6.53	0.058	1.38	1.8	36	3.1
Oreas 77b (4 Acid) Cert	640		0.434	3.26 113000			61.0	19.1	0.0220		9.100	3.51		1.59	34.4	0.280	1.35	6.61	0.0640	1.37	1.71	33.6	3.07
Oreas 72b (4 Acid) Meas	1050	4.37	1.04	5.7	7190	240	14.6	43.0		1.54	0.87	12.3		1.3	65.3	0.40	0.14	10.5	0.200	0.33	4.8	76	4.0
Oreas 72b (4 Acid) Cert	1010	4.01	1.01	5.50	6860	260	14.9	50.8		1.49	0.870	12.8		1.43	63.8	0.430	0.0920	11.3	0.216	0.350	4.68	73.6	4.00
Oreas 72b (4 Acid) Meas	936	4.09	0.94	6.3	7080	250	16.3	49.0		1.37	0.97	13.1		1.4	71.4	0.45	0.12	11.4	0.201	0.36	4.8	71	4.4
Oreas 72b (4 Acid) Cert	1010	4.01	1.01	5.50	6860	260	14.9	50.8		1.49	0.870	12.8		1.43	63.8	0.430	0.0920	11.3	0.216	0.350	4.68	73.6	4.00
Oreas 72b (4 Acid) Meas	1030		0.92							1.43									0.207			75	

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 72b (4 Acid) Cert	1010		1.01							1.49									0.216			73.6	
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
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OREAS 239 (Fire Assay) Cert																							
OREAS 239 (Fire Assay) Meas																							
OREAS 681 (4 Acid) Meas	1260	1.41	1.58	6.2	520	1300	10.1	78.0		0.10	0.23	27.3		1.7	514	0.43		6.70	0.564		1.4	242	1.1
OREAS 681 (4 Acid) Cert	1310	1.38	1.61	6.17	503	1410	10.2	80.0		0.109	0.240	27.7		1.89	478	0.420		6.55	0.588		1.44	253	1.09
OREAS 681 (4 Acid) Meas	1330		1.50			1240				0.11									0.317			192	
OREAS 681 (4 Acid) Cert	1310		1.61			1410				0.109									0.588			253	
OREAS 681 (4 Acid) Meas	1330		1.52			1330				0.10									0.516			240	
OREAS 681 (4 Acid) Cert	1310		1.61			1410				0.109									0.588			253	
OREAS 247 (4 Acid) Meas	379		0.45			430				0.69									0.359			72	
OREAS 247 (4 Acid) Cert	360		0.499			480				0.714									0.390			82.0	
OREAS 147 (4 Acid) Meas	418		0.97			1190				0.02									0.281			51	
OREAS 147 (4 Acid) Cert	390		0.948			1550				0.0300									0.470			60.0	
OREAS 147 (4 Acid) Meas	409		0.94			860				0.02									0.329			59	
OREAS 147 (4 Acid) Cert	390		0.948			1550				0.0300									0.470			60.0	
OREAS 147 (4 Acid) Meas	406		0.93			930				0.02									0.269			51	
OREAS 147 (4 Acid) Cert	390		0.948			1550				0.0300									0.470			60.0	
Oreas 521 (4 Acid) Meas	3420	137	0.91	2.9	73.1	780	7.0	95.7	0.064	1.77	3.31	13.7	2	6.9	116	< 0.05	0.20	4.36	0.385	0.27	31.5	222	30.3
Oreas 521 (4 Acid) Cert	3210	138	0.98	5.6	73.0	810	9.3	98.0	0.064	1.80	5.66	13.9	2	7.1	158	0.5	0.76	8.26	0.393	0.27	31.0	209	92.0

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 521 (4 Acid) Meas	3190	122	0.95	2.0	71.2	790	7.8	89.3	0.065	1.74	3.14	13.9	2	6.5	103	< 0.05	0.19	4.09	0.350	0.26	32.5	210	19.1	
Oreas 521 (4 Acid) Cert	3210	138	0.98	5.6	73.0	810	9.3	98.0	0.064	1.80	5.66	13.9	2	7.1	158	0.5	0.76	8.26	0.393	0.27	31.0	209	92.0	
Oreas 521 (4 Acid) Meas	3020	150	0.94	6.7	73.0	750	8.7	103	0.068	1.65	3.93	14.5	3	7.4	91.2	0.45	0.70	4.99	0.401	0.29	33.0	205	99.2	
Oreas 521 (4 Acid) Cert	3210	138	0.98	5.6	73.0	810	9.3	98.0	0.064	1.80	5.66	13.9	2	7.1	158	0.45	0.76	8.26	0.393	0.27	31.0	209	92.0	
Oreas 521 (4 Acid) Meas	3170		0.94							1.75									0.359			209		
Oreas 521 (4 Acid) Cert	3210		0.98							1.80									0.393			209		
Oreas 521 (4 Acid) Meas	3090		0.91							1.71									0.310			198		
Oreas 521 (4 Acid) Cert	3210		0.98							1.80									0.393			209		
OREAS 70b (4 Acid) Meas	1110	2.76	0.78	3.6	2160	220	14.3			0.30	0.51	11.8		1.2	74.9	0.28		6.40	0.176	0.33	1.7	67	4.3	
OREAS 70b (4 Acid) Cert	1150	3.30	0.77	3.7	2180	220	13.7			0.31	0.56	12.4		1.2	74.0	0.30		6.91	0.181	0.33	1.7	67	4.9	
OREAS 620 (4 Acid) Meas	412	8.21	2.09	12.4	14.7	350	8330	101		2.75	10.7	4.9		5.0	111	0.16		7.78	0.155	1.46	4.1	22	1.7	
OREAS 620 (4 Acid) Cert	440	9.47	1.94	13.1	15.2	350	7740	116		2.47	76.0	5.2		4.9	131	1.1		11.0	0.135	1.61	4.2	21	2.2	
OREAS 620 (4 Acid) Meas	437	8.55	1.80	14.3	16.8	360	7390	118		2.51	12.4	5.0		4.9	137	0.47		8.43	0.156	1.60	3.8	24	1.9	
OREAS 620 (4 Acid) Cert	440	9.47	1.94	13.1	15.2	350	7740	116		2.47	76.0	5.2		4.9	131	1.1		11.0	0.135	1.61	4.2	21	2.2	
OREAS 620 (4 Acid) Meas	410		1.88							2.54									0.157			24		
OREAS 620 (4 Acid) Cert	440		1.94							2.47									0.135			21		
A371465 Orig	162	0.53	0.28	1.0	7.4	560	35.3	13.3	< 0.002	0.12	0.38	1.9	< 1	0.4	58.4	< 0.05	< 0.05	1.51	0.108	0.14	1.1	20	0.3	
A371465 Dup	152	0.52	0.26	0.8	7.5	580	35.6	13.0	< 0.002	0.11	0.40	1.7	< 1	0.4	56.4	< 0.05	< 0.05	1.47	0.103	0.15	0.5	20	0.2	
A371473 Orig																								
A371473 Dup																								
A371481 Orig	869	0.77	0.65	0.7	9.8	900	29.4	22.4	< 0.002	0.13	0.25	3.3	< 1	0.3	119	< 0.05	< 0.05	1.89	0.159	0.21	0.6	39	0.2	
A371481 Dup	829	0.85	0.59	0.8	10.1	1000	31.8	23.2	< 0.002	0.15	0.38	3.6	< 1	0.4	124	< 0.05	< 0.05	1.86	0.170	0.23	0.7	36	0.3	
A371483 Orig																								
A371483 Dup																								
A371485 Orig																								
A371485 Dup																								
A371499 Orig	2070	0.59	0.86	1.5	14.9	880	28.6	31.7	0.003	0.12	0.44	4.4	< 1	0.9	152	< 0.05	< 0.05	2.21	0.229	0.23	0.6	52	0.3	
A371499 Dup	1820	0.44	1.04	1.1	17.0	790	25.0	32.9	0.003	0.10	0.27	5.4	1	0.9	166	< 0.05	< 0.05	2.31	0.267	0.23	0.7	61	< 0.1	
B416430 Orig																								
B416430 Dup																								
B416437 Orig																								
B416437 Dup																								
B416438 Orig	456	< 0.05	1.41	< 0.1	15.2	370	17.6	39.2	< 0.002	0.08	< 0.05	6.1	< 1	0.6	196	< 0.05	< 0.05	1.76	0.105	0.22	0.6	34	< 0.1	
B416438 Dup	471	0.14	1.45	0.4	12.8	430	18.8	39.1	< 0.002	0.07	< 0.05	6.0	< 1	0.6	203	< 0.05	< 0.05	1.81	0.200	0.22	0.6	51	< 0.1	
C271054 Orig																								
C271054 Dup																								
C271056 Orig	1610	0.59	0.63	1.1	8.5	1130	40.3	31.0	< 0.002	0.15	0.56	3.2	1	0.7	150	< 0.05	< 0.05	2.12	0.163	0.24	0.7	38	0.3	
C271056 Dup	1680	0.60	0.55	0.7	8.2	1140	41.4	29.3	< 0.002	0.15	0.41	2.8	< 1	0.4	143	< 0.05	< 0.05	1.83	0.137	0.25	0.6	35	0.2	
C271075 Orig	3610	0.58	0.34	0.9	6.8	1310	45.6	20.7	< 0.002	0.18	0.52	2.3	1	0.6	98.3	< 0.05	< 0.05	1.50	0.103	0.24	0.5	26	0.2	

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
C271075 Dup	3750	0.65	0.31	1.1	7.3	1350	47.9	20.6	< 0.002	0.19	0.58	2.2	1	0.7	99.1	< 0.05	0.05	1.53	0.101	0.24	0.5	25	2.1
C271077 Orig																							
C271077 Dup																							
C271082 Orig																							
C271082 Dup																							
C271090 Orig																							
C271090 Dup																							
C271091 Orig	843	0.44	0.91	1.0	17.5	760	51.1	34.8	< 0.002	0.10	0.48	5.2	1	1.5	161	< 0.05	< 0.05	2.79	0.232	0.35	0.8	58	< 0.1
C271091 Dup	849	0.52	0.88	1.2	17.9	780	49.8	34.0	< 0.002	0.10	0.53	5.1	< 1	1.4	156	< 0.05	< 0.05	2.64	0.227	0.34	0.7	59	0.2
A1104558 Orig	7130	0.83	0.44	0.3	9.5	1310	68.5	26.2	< 0.002	0.14	0.23	3.2	< 1	0.3	99.3	< 0.05	0.23	2.14	0.099	0.46	0.7	33	0.1
A1104558 Dup	7000	0.90	0.41	0.4	9.8	1450	66.0	25.1	< 0.002	0.15	0.28	3.2	< 1	0.3	90.7	< 0.05	0.05	1.95	0.118	0.44	0.7	33	0.2
A1104560 Orig																							
A1104560 Dup																							
Method Blank		0.07	< 0.01	< 0.1	< 0.2	< 10	0.9	< 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		0.08	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	< 0.1	< 1	< 0.2	0.5	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1	< 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			< 0.01			< 10				< 0.01									< 0.005				< 1
Method Blank	9	0.12	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	0.003	< 0.01	< 0.05	< 0.1	< 1	< 0.2	< 0.2	< 0.05	0.08	< 0.01	< 0.005	< 0.02	< 0.1	3	< 0.1
Method Blank	10		< 0.01							< 0.01									< 0.005				< 1
Method Blank			< 0.01			< 10				< 0.01									< 0.005				< 1
Method Blank	< 5	0.08	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	0.003	< 0.01	< 0.05	0.3	1	< 0.2	< 0.2	< 0.05	0.06	< 0.01	< 0.005	< 0.02	< 0.1	2	< 0.1
Method Blank	< 5		< 0.01							< 0.01									< 0.005				< 1
Method Blank	7	0.08	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	0.002	< 0.01	< 0.05	0.3	< 1	< 0.2	< 0.2	< 0.05	0.08	< 0.01	< 0.005	< 0.02	< 0.1	3	< 0.1
Method Blank	8		< 0.01							< 0.01									< 0.005				< 1
Method Blank	12	< 0.05	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	< 0.002	< 0.01	< 0.05	0.3	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1	2	< 0.1
Method Blank			< 0.01							< 0.01									< 0.005				< 1
Method Blank	9	0.17	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	< 0.002	0.04	< 0.05	0.2	< 1	< 0.2	< 0.2	< 0.05	0.10	< 0.01	< 0.005	< 0.02	< 0.1	3	< 0.1
Method Blank			< 0.01							< 0.01									< 0.005				< 1
Method Blank																							
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Analyte Symbol	Y	Zn	Zr	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	
Lower Limit	0.1	2	0.5	3	4	10	0.2	1	100	30	2	25	6	15	4	100	0.2	50	0.5	0.4	0.2	3	4	
Method Code	TD-MS	TD-ICP	TD-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	
CLV-1 Meas								11	48700			5650			483								1360	
CLV-1 Cert								11	49300			5940			494									1400
OREAS 101b (4 Acid) Meas	129																							
OREAS 101b (4 Acid) Cert	133																							
OREAS 101b (4 Acid) Meas	128																							
OREAS 101b (4 Acid) Cert	133																							
OREAS 101b (4 Acid) Meas	144																							
OREAS 101b (4 Acid) Cert	133																							
OREAS 101b (4 Acid) Meas	141																							
OREAS 101b (4 Acid) Cert	133																							
OREAS 101b (4 Acid) Meas	126																							
OREAS 101b (4 Acid) Cert	133																							
OREAS 98 (4 Acid) Meas		1250																						
OREAS 98 (4 Acid) Cert		1360																						
OREAS 98 (4 Acid) Meas		1360																						
OREAS 98 (4 Acid) Cert		1360																						
OREAS 98 (4 Acid) Meas		1320																						
OREAS 98 (4 Acid) Cert		1360																						
OREAS 98 (4 Acid) Meas		1320																						
OREAS 98 (4 Acid) Cert		1360																						
OREAS 98 (4 Acid) Meas		1330																						
OREAS 98 (4 Acid) Cert		1360																						
CLV-2 Meas								41	22600															
CLV-2 Cert								43	22500															
OREAS 13b (4-Acid) Meas		106																						
OREAS 13b (4-Acid) Cert		133																						
OREAS 13b (4-Acid) Meas		152																						
OREAS 13b (4-Acid) Cert		133																						
OREAS 13b (4-Acid) Meas		156																						
OREAS 13b (4-Acid) Cert		133																						
OREAS 903 (4 Acid) Meas	21.5	27	145																					

Analyte Symbol	Y	Zn	Zr	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Lower Limit	0.1	2	0.5	3	4	10	0.2	1	100	30	2	25	6	15	4	100	0.2	50	0.5	0.4	0.2	3	4
Method Code	TD-MS	TD-ICP	TD-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
OREAS 903 (4 Acid) Cert	22.5	24.3	152																				
OREAS 903 (4 Acid) Meas	22.7	27	32.4																				
OREAS 903 (4 Acid) Cert	22.5	24.3	152																				
OREAS 903 (4 Acid) Meas	20.9	27	158																				
OREAS 903 (4 Acid) Cert	22.5	24.3	152																				
OREAS 903 (4 Acid) Meas		26																					
OREAS 903 (4 Acid) Cert		24.3																					
OREAS 903 (4 Acid) Meas		27																					
OREAS 903 (4 Acid) Cert		24.3																					
OREAS 45d (4-Acid) Meas		45																					
OREAS 45d (4-Acid) Cert		45.7																					
OREAS 45d (4-Acid) Meas		46																					
OREAS 45d (4-Acid) Cert		45.7																					
OREAS 45d (4-Acid) Meas		46																					
OREAS 45d (4-Acid) Cert		45.7																					
CDV-1 Meas				9	1290	1310	2.3	18	8300		20	20500	40	4370	1990	12200	121	8620				2690	527
CDV-1 Cert				9	1500	1300	2.3	12	8500		20	19400	40	4350	2000	12100	121	8610				2560	600
OREAS 96 (4 Acid) Meas		433																					
OREAS 96 (4 Acid) Cert		457																					
OREAS 96 (4 Acid) Meas		462																					
OREAS 96 (4 Acid) Cert		457																					
Oreas 77b (4 Acid) Meas	6.4	194	40.9																				
Oreas 77b (4 Acid) Cert	6.55	205	37.9																				
Oreas 77b (4 Acid) Meas	6.6	188	39.3																				
Oreas 77b (4 Acid) Cert	6.55	205	37.9																				
Oreas 72b (4 Acid) Meas	12.5	94	89.4																				
Oreas 72b (4 Acid) Cert	12.8	99.0	88.0																				
Oreas 72b (4 Acid) Meas	12.7	87	93.5																				
Oreas 72b (4 Acid) Cert	12.8	99.0	88.0																				
Oreas 72b (4 Acid) Meas		96																					

Analyte Symbol	Y	Zn	Zr	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Lower Limit	0.1	2	0.5	3	4	10	0.2	1	100	30	2	25	6	15	4	100	0.2	50	0.5	0.4	0.2	3	4
Method Code	TD-MS	TD-ICP	TD-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
Oreas 72b (4 Acid) Cert		99.0																					
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
OREAS 681 (4 Acid) Meas	16.2	75	62.3																				
OREAS 681 (4 Acid) Cert	17.5	88.0	58.0																				
OREAS 681 (4 Acid) Meas		85																					
OREAS 681 (4 Acid) Cert		88.0																					
OREAS 681 (4 Acid) Meas		85																					
OREAS 681 (4 Acid) Cert		88.0																					
OREAS 247 (4 Acid) Meas		88																					
OREAS 247 (4 Acid) Cert		86.0																					
OREAS 147 (4 Acid) Meas		146																					
OREAS 147 (4 Acid) Cert		138																					
OREAS 147 (4 Acid) Meas		146																					
OREAS 147 (4 Acid) Cert		138																					
OREAS 147 (4 Acid) Meas		147																					
OREAS 147 (4 Acid) Cert		138																					
Oreas 521 (4 Acid) Meas	19.9	27	135																				
Oreas 521 (4 Acid) Cert	19.9	24	123																				

Analyte Symbol	Y	Zn	Zr	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Lower Limit	0.1	2	0.5	3	4	10	0.2	1	100	30	2	25	6	15	4	100	0.2	50	0.5	0.4	0.2	3	4
Method Code	TD-MS	TD-ICP	TD-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
Oreas 521 (4 Acid) Meas	18.7	26	126																				
Oreas 521 (4 Acid) Cert	19.9	24	123																				
Oreas 521 (4 Acid) Meas	19.6	23	132																				
Oreas 521 (4 Acid) Cert	19.9	24	123																				
Oreas 521 (4 Acid) Meas		27																					
Oreas 521 (4 Acid) Cert		24																					
Oreas 521 (4 Acid) Meas		25																					
Oreas 521 (4 Acid) Cert		24																					
OREAS 70b (4 Acid) Meas	8.9	100	66.5																				
OREAS 70b (4 Acid) Cert	9.8	110	66.0																				
OREAS 620 (4 Acid) Meas	12.4	> 10000	213																				
OREAS 620 (4 Acid) Cert	12.3	31500	202																				
OREAS 620 (4 Acid) Meas	12.6	> 10000	213																				
OREAS 620 (4 Acid) Cert	12.3	31500	202																				
OREAS 620 (4 Acid) Meas		> 10000																					
OREAS 620 (4 Acid) Cert		31500																					
A371465 Orig	3.3	25	6.0																				
A371465 Dup	3.1	24	3.5																				
A371473 Orig																							
A371473 Dup																							
A371481 Orig	4.2	63	19.5																				
A371481 Dup	4.6	64	5.0																				
A371483 Orig																							
A371483 Dup																							
A371485 Orig																							
A371485 Dup																							
A371499 Orig	5.4	98	2.0																				
A371499 Dup	5.9	96	2.6																				
B416430 Orig																							
B416430 Dup																							
B416437 Orig																							
B416437 Dup																							
B416438 Orig	5.7	82	25.0																				
B416438 Dup	5.7	84	102																				
C271054 Orig																							
C271054 Dup																							
C271056 Orig	4.1	166	3.3																				
C271056 Dup	3.9	177	6.5																				
C271075 Orig	3.1	244	3.4																				

Analyte Symbol	Gd	Ge	Hf	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.4	3	0.4	2	0.2	0.2	10	10	10	0.5	2	100	10	5	2	5	50	4	50	0.2	1	0.2	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
CLV-1 Meas							1750				1190	539000	2210	133				556	11000				2240
CLV-1 Cert							1760				1240	571000	2180	134				581	11100				2230
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 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
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OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
CLV-2 Meas																							
CLV-2 Cert																							
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							
OREAS 903 (4 Acid) Meas																							

Analyte Symbol	Gd	Ge	Hf	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb	
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb	
Lower Limit	0.4	3	0.4	2	0.2	0.2	10	10	10	0.5	2	100	10	5	2	5	50	4	50	0.2	1	0.2	10	
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	
OREAS 903 (4 Acid) Cert																								
OREAS 903 (4 Acid) Meas																								
OREAS 903 (4 Acid) Cert																								
OREAS 903 (4 Acid) Meas																								
OREAS 903 (4 Acid) Cert																								
OREAS 903 (4 Acid) Meas																								
OREAS 903 (4 Acid) Cert																								
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OREAS 903 (4 Acid) Meas																								
OREAS 903 (4 Acid) Cert																								
OREAS 903 (4 Acid) Meas																								
OREAS 45d (4-Acid) Meas																								
OREAS 45d (4-Acid) Cert																								
OREAS 45d (4-Acid) Meas																								
OREAS 45d (4-Acid) Cert																								
OREAS 45d (4-Acid) Meas																								
OREAS 45d (4-Acid) Cert																								
CDV-1 Meas		30	45.9	41			1810	2300	460		1380	415000	200	62	60		6420	415	1280				2460	
CDV-1 Cert		30	46	41			1800	2310	560		1310	413000	200	60	60		6400	400	1330				2600	
OREAS 96 (4 Acid) Meas																								
OREAS 96 (4 Acid) Cert																								
OREAS 96 (4 Acid) Meas																								
OREAS 96 (4 Acid) Cert																								
Oreas 77b (4 Acid) Meas																								
Oreas 77b (4 Acid) Cert																								
Oreas 77b (4 Acid) Meas																								
Oreas 77b (4 Acid) Cert																								
Oreas 77b (4 Acid) Meas																								
Oreas 77b (4 Acid) Cert																								
Oreas 72b (4 Acid) Meas																								
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Oreas 72b (4 Acid) Meas																								
Oreas 72b (4 Acid) Cert																								
Oreas 72b (4 Acid) Meas																								
Oreas 72b (4 Acid) Cert																								
Oreas 72b (4 Acid) Meas																								

Analyte Symbol	Gd	Ge	Hf	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.4	3	0.4	2	0.2	0.2	10	10	10	0.5	2	100	10	5	2	5	50	4	50	0.2	1	0.2	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
Oreas 72b (4 Acid) Cert																							
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
OREAS 681 (4 Acid) Meas																							
OREAS 681 (4 Acid) Cert																							
OREAS 681 (4 Acid) Meas																							
OREAS 681 (4 Acid) Cert																							
OREAS 681 (4 Acid) Meas																							
OREAS 681 (4 Acid) Cert																							
OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 147 (4 Acid) Meas																							
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OREAS 147 (4 Acid) Meas																							
OREAS 147 (4 Acid) Cert																							
OREAS 147 (4 Acid) Meas																							
OREAS 147 (4 Acid) Cert																							
Oreas 521 (4 Acid) Meas																							
Oreas 521 (4 Acid) Cert																							

Analyte Symbol	Gd	Ge	Hf	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.4	3	0.4	2	0.2	0.2	10	10	10	0.5	2	100	10	5	2	5	50	4	50	0.2	1	0.2	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
Oreas 521 (4 Acid) Meas																							
Oreas 521 (4 Acid) Cert																							
Oreas 521 (4 Acid) Meas																							
Oreas 521 (4 Acid) Cert																							
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Oreas 521 (4 Acid) Meas																							
Oreas 521 (4 Acid) Cert																							
OREAS 70b (4 Acid) Meas																							
OREAS 70b (4 Acid) Cert																							
OREAS 620 (4 Acid) Meas																							
OREAS 620 (4 Acid) Cert																							
OREAS 620 (4 Acid) Meas																							
OREAS 620 (4 Acid) Cert																							
OREAS 620 (4 Acid) Meas																							
OREAS 620 (4 Acid) Cert																							
A371465 Orig																							
A371465 Dup																							
A371473 Orig																							
A371473 Dup																							
A371481 Orig																							
A371481 Dup																							
A371483 Orig																							
A371483 Dup																							
A371485 Orig																							
A371485 Dup																							
A371499 Orig																							
A371499 Dup																							
B416430 Orig																							
B416430 Dup																							
B416437 Orig																							
B416437 Dup																							
B416438 Orig																							
B416438 Dup																							
C271054 Orig																							
C271054 Dup																							
C271056 Orig																							
C271056 Dup																							
C271075 Orig																							

Analyte Symbol	Re	Sb	Se	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.2	10	100	1	50	40	0.2	0.2	8	2	150	1	0.1	1	10	25	2	0.4	400	20
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
CLV-1 Meas						26600		17.6						95100					73800	
CLV-1 Cert						28500		17.0						98500					74000	
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																				
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OREAS 98 (4 Acid) Meas																				
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OREAS 98 (4 Acid) Cert																				
OREAS 98 (4 Acid) Meas																				
OREAS 98 (4 Acid) Cert																				
CLV-2 Meas	23.0																			
CLV-2 Cert	23.0																			
OREAS 13b (4-Acid) Meas																				
OREAS 13b (4-Acid) Cert																				
OREAS 13b (4-Acid) Meas																				
OREAS 13b (4-Acid) Cert																				
OREAS 13b (4-Acid) Meas																				
OREAS 13b (4-Acid) Cert																				
OREAS 903 (4 Acid) Meas																				

Analyte Symbol	Re	Sb	Se	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.2	10	100	1	50	40	0.2	0.2	8	2	150	1	0.1	1	10	25	2	0.4	400	20
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
Acid) Meas																				
Oreas 72b (4 Acid) Cert																				
OREAS 239 (Fire Assay) Meas																				
OREAS 239 (Fire Assay) Cert																				
OREAS 239 (Fire Assay) Meas																				
OREAS 239 (Fire Assay) Cert																				
OREAS 239 (Fire Assay) Meas																				
OREAS 239 (Fire Assay) Cert																				
Oreas E1336 (Fire Assay) Meas																				
Oreas E1336 (Fire Assay) Cert																				
Oreas E1336 (Fire Assay) Meas																				
Oreas E1336 (Fire Assay) Cert																				
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Oreas E1336 (Fire Assay) Cert																				
Oreas E1336 (Fire Assay) Meas																				
Oreas E1336 (Fire Assay) Cert																				
OREAS 681 (4 Acid) Meas																				
OREAS 681 (4 Acid) Cert																				
OREAS 681 (4 Acid) Meas																				
OREAS 681 (4 Acid) Cert																				
OREAS 681 (4 Acid) Meas																				
OREAS 681 (4 Acid) Cert																				
OREAS 247 (4 Acid) Meas																				
OREAS 247 (4 Acid) Cert																				
OREAS 147 (4 Acid) Meas																				
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OREAS 147 (4 Acid) Meas																				
OREAS 147 (4 Acid) Cert																				
OREAS 147 (4 Acid) Meas																				
OREAS 147 (4 Acid) Cert																				
Oreas 521 (4 Acid) Meas																				
Oreas 521 (4																				

Analyte Symbol	Re	Sb	Se	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	0.2	10	100	1	50	40	0.2	0.2	8	2	150	1	0.1	1	10	25	2	0.4	400	20
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
Acid) Cert																				
Oreas 521 (4 Acid) Meas																				
Oreas 521 (4 Acid) Cert																				
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OREAS 70b (4 Acid) Meas																				
OREAS 70b (4 Acid) Cert																				
OREAS 620 (4 Acid) Meas																				
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OREAS 620 (4 Acid) Meas																				
OREAS 620 (4 Acid) Cert																				
A371465 Orig																				
A371465 Dup																				
A371473 Orig																				
A371473 Dup																				
A371481 Orig																				
A371481 Dup																				
A371483 Orig																				
A371483 Dup																				
A371485 Orig																				
A371485 Dup																				
A371499 Orig																				
A371499 Dup																				
B416430 Orig																				
B416430 Dup																				
B416437 Orig																				
B416437 Dup																				
B416438 Orig																				
B416438 Dup																				
C271054 Orig																				
C271054 Dup																				
C271056 Orig																				
C271056 Dup																				



Report No.: A22-15793
 Report Date: 13-Dec-22
 Date Submitted: 27-Oct-22
 Your Reference: Pine

Emerald Geological Services
 222 Emerald St
 Timmins ON P4R 1N3
 Canada

ATTN: Bruce MacLachlan

CERTIFICATE OF ANALYSIS

23 Soil samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
1A2-50	QOP AA-Au (Au-Fire Assay AA)	2022-11-23 13:55:02
UT-6M	QOP Total/QOP Ultratrace- 4acid Digest (Total Digestion ICPOES/ICPMS)	2022-11-23 20:08:45

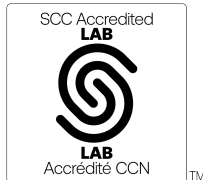
REPORT **A22-15793**

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.



LabID: 266

ACTIVATION LABORATORIES LTD.
 41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
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CERTIFIED BY:

Mark Vandergeest
 Quality Control Coordinator

Results

Activation Laboratories Ltd.

Report: A22-15793

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
A371452	54	0.12	6.63	482	390	0.95	0.19	1.96	0.08	25.8	13.9	61	0.83	14.4	4.29	16.8	0.10	2.1	0.041	1.14	11.7	18.6	1.04
A371470	< 5	0.05	6.02	1.4	430	0.78	0.11	2.07	0.07	23.0	9.7	62	0.78	8.9	3.39	15.1	0.05	2.1	0.027	1.25	8.8	10.8	0.87
A371472	< 5	0.08	6.59	1.1	460	1.00	0.13	2.05	0.08	27.2	15.5	60	1.25	8.7	3.75	16.4	0.12	2.4	0.042	1.25	11.3	16.3	1.05
A371474	< 5	0.05	6.83	1.2	430	0.99	0.09	2.54	0.11	36.4	16.1	61	1.01	11.2	3.53	15.6	0.10	2.5	0.045	1.20	12.7	12.0	1.23
A371476	< 5	0.08	6.18	1.3	450	0.94	0.10	2.04	0.11	21.5	10.8	39	1.11	6.4	2.76	16.1	0.07	3.6	0.029	1.31	10.1	13.5	0.82
A371478	< 5	0.06	6.74	1.3	370	0.96	0.08	2.31	0.09	23.8	14.3	67	0.64	16.9	3.58	14.9	0.09	4.0	0.042	1.05	11.0	13.0	1.07
A371480	< 5	0.10	6.60	2.4	410	0.89	0.11	2.09	0.11	26.9	14.0	57	0.98	11.9	3.66	16.0	0.08	2.7	0.038	1.17	11.9	14.7	1.00
A371482	< 5	0.09	7.06	1.1	430	0.95	0.09	2.27	0.06	29.5	14.5	59	1.05	22.3	3.57	15.1	0.12	1.1	0.035	1.19	13.9	13.6	1.19
A371484	< 5	0.06	6.92	0.7	420	0.86	0.06	2.66	0.06	42.4	15.4	65	0.88	10.1	3.54	15.9	0.12	2.6	0.039	1.21	12.1	10.6	1.25
A371486	< 5	0.13	6.77	3.0	460	0.90	0.12	2.07	0.17	30.0	14.6	62	1.58	45.0	3.68	17.7	0.11	1.8	0.035	1.27	12.9	17.1	1.11
A371488	< 5	0.06	7.13	1.1	490	1.06	0.11	2.27	0.12	29.7	18.1	59	1.40	12.2	3.83	17.3	0.09	2.4	0.044	1.28	13.2	16.5	1.19
A371490	< 5	0.05	6.50	1.3	420	0.86	0.08	2.48	0.11	32.6	13.6	53	0.70	18.2	3.06	14.6	0.10	2.2	0.031	1.28	10.3	10.2	1.03
A371493	< 5	0.06	6.14	0.9	470	0.86	0.12	1.95	0.10	22.8	11.2	59	1.19	8.3	3.68	18.3	0.11	2.5	0.037	1.33	10.5	17.4	0.92
A371495	< 5	0.09	6.59	0.9	430	0.88	0.08	2.39	0.09	31.5	13.4	66	1.06	17.1	3.51	15.4	0.08	0.3	0.035	1.24	11.7	13.1	1.15
C271061	50	0.18	6.31	753	490	0.93	0.19	2.02	0.35	34.6	19.8	61	1.53	30.3	4.78	15.1	0.24	0.2	0.047	1.20	14.3	17.6	1.26
C271064	< 5	0.09	6.58	3.0	490	0.93	0.09	2.30	0.14	27.8	12.3	54	1.40	8.5	3.31	15.7	0.10	2.3	0.034	1.34	12.4	16.1	1.11
C271066	< 5	0.04	6.72	1.0	490	0.91	0.06	2.48	0.07	26.7	12.4	55	0.74	8.0	3.24	14.6	0.10	2.5	0.029	1.31	9.5	11.7	1.05
C271068	< 5	0.12	6.64	1.8	480	1.03	0.11	2.28	0.08	26.6	12.6	51	1.12	6.1	3.19	15.6	0.09	1.3	0.034	1.33	12.0	15.0	1.05
C271070	< 5	0.04	6.77	0.6	450	0.85	0.06	2.60	0.11	36.7	13.2	48	0.69	15.7	3.23	14.8	0.12	2.0	0.030	1.29	12.5	10.4	1.12
C271072	5	0.08	6.83	2.1	460	1.03	0.12	2.23	0.10	32.7	13.5	52	1.14	8.8	3.79	16.2	0.09	0.2	0.041	1.29	13.3	17.4	1.15
C271074	< 5	0.07	6.64	2.5	420	0.96	0.10	2.00	0.09	25.8	11.8	96	1.18	10.0	3.43	16.0	0.07	3.7	0.040	1.29	10.6	19.4	0.94
A1104565	< 5	0.05	7.78	0.9	20	0.87	0.05	0.28	0.11	4.39	0.2	2	1.08	1.5	0.52	21.0	0.06	0.4	< 0.005	3.89	2.1	27.9	0.04
A1104566	2240	0.17	7.62	343	730	2.11	0.36	0.83	0.08	81.9	13.9	86	9.00	28.1	4.00	17.9	0.28	2.1	0.058	2.97	39.3	42.0	1.63

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
A371452	427	0.85	1.71	< 0.1	34.4	230	13.0	37.1	0.002	0.02	< 0.05	11.5	< 1	< 0.2	217	< 0.05	< 0.05	3.80	0.089	0.23	1.0	48	0.3
A371470	441	0.21	1.89	< 0.1	23.1	170	10.8	37.5	< 0.002	0.01	< 0.05	9.1	< 1	< 0.2	249	< 0.05	0.07	2.88	0.051	0.21	0.8	24	< 0.1
A371472	441	0.22	1.75	< 0.1	35.6	310	14.2	42.8	< 0.002	0.02	< 0.05	10.8	< 1	0.2	241	< 0.05	0.09	4.03	0.107	0.23	1.0	40	0.1
A371474	573	0.17	1.85	< 0.1	37.5	290	12.3	40.5	0.002	0.01	< 0.05	14.3	< 1	< 0.2	260	< 0.05	< 0.05	4.83	0.084	0.23	1.1	31	0.4
A371476	398	0.12	1.88	< 0.1	23.5	180	12.2	46.4	0.003	< 0.01	< 0.05	9.0	< 1	< 0.2	265	< 0.05	< 0.05	2.97	0.122	0.25	1.0	39	< 0.1
A371478	443	0.27	1.84	< 0.1	32.7	320	9.6	33.4	0.003	0.03	< 0.05	12.4	< 1	0.3	251	< 0.05	< 0.05	3.84	0.244	0.19	0.9	84	< 0.1
A371480	407	0.10	1.82	< 0.1	28.7	240	12.0	37.7	0.003	0.02	< 0.05	11.1	< 1	< 0.2	230	< 0.05	< 0.05	3.48	0.200	0.23	1.0	70	< 0.1
A371482	462	0.09	1.83	< 0.1	34.1	250	10.8	38.7	0.002	0.02	< 0.05	12.0	< 1	< 0.2	246	< 0.05	< 0.05	5.14	0.099	0.22	1.2	34	< 0.1
A371484	577	0.13	1.90	< 0.1	36.0	380	9.5	38.2	0.004	0.01	< 0.05	13.7	< 1	< 0.2	281	< 0.05	0.08	4.17	0.103	0.19	1.0	39	0.1
A371486	569	0.10	1.73	< 0.1	36.1	600	13.3	48.6	< 0.002	0.02	< 0.05	11.3	< 1	< 0.2	239	< 0.05	0.08	4.26	0.095	0.27	1.2	47	< 0.1
A371488	562	0.08	1.86	< 0.1	38.2	440	11.7	46.0	< 0.002	< 0.01	< 0.05	11.9	< 1	< 0.2	258	< 0.05	0.05	4.51	0.090	0.24	1.1	36	< 0.1
A371490	609	0.07	2.09	< 0.1	28.6	380	10.1	44.0	< 0.002	< 0.01	< 0.05	11.6	< 1	< 0.2	282	< 0.05	< 0.05	4.62	0.074	0.23	0.7	28	< 0.1
A371493	416	0.08	1.80	< 0.1	25.8	140	13.4	43.5	< 0.002	< 0.01	< 0.05	9.7	< 1	< 0.2	236	< 0.05	< 0.05	3.30	0.107	0.25	1.0	36	< 0.1
A371495	766	< 0.05	1.87	< 0.1	29.1	310	10.4	38.7	< 0.002	0.01	< 0.05	11.6	< 1	< 0.2	235	< 0.05	< 0.05	3.36	0.104	0.22	0.9	42	< 0.1
C271061	1450	0.38	1.49	1.3	37.0	970	17.7	41.7	< 0.002	0.04	< 0.05	13.0	< 1	0.9	194	0.07	< 0.05	4.29	0.364	0.26	1.3	111	< 0.1
C271064	683	0.06	1.87	< 0.1	31.4	480	11.9	50.8	< 0.002	< 0.01	< 0.05	10.2	< 1	< 0.2	256	< 0.05	0.06	3.83	0.069	0.24	1.1	25	< 0.1
C271066	510	< 0.05	2.05	< 0.1	31.6	630	10.0	43.0	< 0.002	< 0.01	< 0.05	11.5	< 1	< 0.2	271	< 0.05	< 0.05	3.53	0.106	0.22	0.8	47	< 0.1
C271068	548	< 0.05	1.90	< 0.1	28.7	420	12.5	43.1	< 0.002	< 0.01	< 0.05	11.1	< 1	< 0.2	251	< 0.05	< 0.05	3.71	0.085	0.24	1.2	32	< 0.1
C271070	474	0.09	2.05	0.3	30.9	280	9.9	37.8	< 0.002	< 0.01	< 0.05	11.4	< 1	< 0.2	283	< 0.05	0.06	4.57	0.132	0.21	1.0	44	< 0.1
C271072	524	0.08	1.83	< 0.1	32.7	570	14.1	42.6	< 0.002	0.01	< 0.05	11.7	< 1	< 0.2	239	< 0.05	0.06	5.39	0.175	0.25	1.2	61	< 0.1
C271074	435	0.30	1.83	< 0.1	26.5	660	12.0	40.3	0.004	0.02	< 0.05	10.0	< 1	0.4	235	< 0.05	< 0.05	3.97	0.238	0.26	1.0	80	< 0.1
A1104565	119	0.23	6.82	0.4	0.7	< 10	6.6	67.2	0.004	< 0.01	0.16	0.6	1	0.7	39.9	< 0.05	0.07	0.33	< 0.005	0.69	0.2	2	< 0.1
A1104566	359	0.10	0.70	0.1	62.2	490	20.2	171	< 0.002	0.10	31.5	16.0	< 1	1.1	100	< 0.05	0.08	14.9	0.181	0.86	2.7	78	< 0.1

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
A371452	9.9	39	77.7
A371470	8.0	55	80.5
A371472	9.7	54	89.1
A371474	11.7	51	93.8
A371476	9.0	46	142
A371478	10.1	38	158
A371480	9.2	52	120
A371482	11.3	54	57.0
A371484	12.3	44	106
A371486	11.2	79	74.4
A371488	11.5	79	94.3
A371490	9.6	51	89.6
A371493	9.4	73	99.3
A371495	10.8	57	22.0
C271061	11.5	94	12.8
C271064	9.8	129	86.0
C271066	9.7	63	107
C271068	10.1	103	64.5
C271070	10.3	45	91.6
C271072	10.8	65	16.8
C271074	8.6	49	86.8
A1104565	2.7	25	22.9
A1104566	19.1	101	65.9

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
OREAS 101b (4 Acid) Meas										> 500	41.4			411	9.37					1.92	775		1.25
OREAS 101b (4 Acid) Cert										1325	45			412	10.7					2.36	754		1.23
OREAS 101b (4 Acid) Meas										> 500	42.3			412	9.85					1.31	735		1.24
OREAS 101b (4 Acid) Cert										1325	45			412	10.7					2.36	754		1.23
OREAS 98 (4 Acid) Meas		46.5					96.4					122		> 10000									
OREAS 98 (4 Acid) Cert		45.1					97.2					121		14800 0.0									
OREAS 98 (4 Acid) Meas		42.9					92.6					122		> 10000									
OREAS 98 (4 Acid) Cert		45.1					97.2					121		14800 0.0									
OREAS 98 (4 Acid) Meas		44.4					89.1					123		> 10000									
OREAS 98 (4 Acid) Cert		45.1					97.2					121		14800 0.0									
OREAS 13b (4-Acid) Meas												9620											
OREAS 13b (4-Acid) Cert												8650.0 00											
OREAS 903 (4 Acid) Meas		0.50	6.00	53.1	200	4.64	8.76	0.67	0.19	84.0	136	71	3.54	6570	4.19	14.9		0.2	0.154	2.96	41.6	19.4	0.75
OREAS 903 (4 Acid) Cert		0.432	5.89	49.7	197	4.42	8.90	0.625	0.200	82.0	131	73.0	3.57	6520	4.16	15.0		4.56	0.160	3.31	40.0	18.3	0.714
OREAS 903 (4 Acid) Meas		0.48		54.6		5.19	8.94		0.17	80.7	129		3.43	6710		17.5		0.2	0.150		41.4	21.6	
OREAS 903 (4 Acid) Cert		0.432		49.7		4.42	8.90		0.200	82.0	131		3.57	6520		15.0		4.56	0.160		40.0	18.3	
OREAS 45d (4-Acid) Meas			7.88		190			0.20				515			14.1					0.44			0.25
OREAS 45d (4-Acid) Cert			8.150		183.0			0.185				549			14.5					0.412			0.245
OREAS 45d (4-Acid) Meas			7.68		190			0.19				537			13.9					0.43			0.25
OREAS 45d (4-Acid) Cert			8.150		183.0			0.185				549			14.5					0.412			0.245
OREAS 96 (4 Acid) Meas		11.2					27.6				49.1			> 10000									
OREAS 96 (4 Acid) Cert		11.5					26.3				49.9			39300									
OREAS 96 (4 Acid) Meas		10.3					25.7				47.9			> 10000									
OREAS 96 (4 Acid) Cert		11.5					26.3				49.9			39300									
Oreas 77b (4 Acid) Meas		1.51	1.71	1770	30	0.41	3.16	2.68	1.02	24.4	1500	225	2.04	3270	26.4	4.69		1.1	0.099	0.34	13.4	19.2	2.46
Oreas 77b (4 Acid) Cert		1.62	1.94	2050	118	0.470	3.44	3.06	1.20	27.7	1550	280	2.32	3430	29.9	4.61		1.15	0.112	0.361	15.8	18.8	2.59
Oreas 77b (4 Acid) Meas		1.59	1.75	1790	30	0.36	3.24	2.72	1.16	26.1	1510	269	2.10	3290	27.0	4.36		1.1	0.120	0.34	14.0	18.1	2.52
Oreas 77b (4 Acid) Cert		1.62	1.94	2050	118	0.470	3.44	3.06	1.20	27.7	1550	280	2.32	3430	29.9	4.61		1.15	0.112	0.361	15.8	18.8	2.59
Oreas 72b (4 Acid) Meas		0.29	4.56	143	230	0.95	0.65	2.68	0.25	41.3	119	631	3.02	215	6.66	12.4		2.5	0.048	1.14	23.1	37.8	9.18

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 72b (4 Acid) Cert		0.230	4.79	146	330	1.02	0.680	2.79	0.310	43.6	131	771	3.37	222	6.84	11.7		2.51	0.0490	1.14	24.4	33.3	9.59
Oreas 72b (4 Acid) Meas		0.31	4.55	160	300	1.01	0.72	2.70	0.33	43.2	129	648	3.08	225	6.68	14.0		2.6	0.039	1.12	23.3	38.4	9.31
Oreas 72b (4 Acid) Cert		0.230	4.79	146	330	1.02	0.680	2.79	0.310	43.6	131	771	3.37	222	6.84	11.7		2.51	0.0490	1.14	24.4	33.3	9.59
OREAS 239 (Fire Assay) Meas	3520																						
OREAS 239 (Fire Assay) Cert	3550																						
Oreas E1336 (Fire Assay) Meas	506																						
Oreas E1336 (Fire Assay) Cert	510.000																						
OREAS 681 (4 Acid) Meas			7.68		420			5.74				1630			7.45					1.39			5.13
OREAS 681 (4 Acid) Cert			7.91		442			5.98				1640			7.47					1.35			5.19
OREAS 681 (4 Acid) Meas			7.49		410			5.64				1330			7.37					1.37			5.05
OREAS 681 (4 Acid) Cert			7.91		442			5.98				1640			7.47					1.35			5.19
Oreas 521 (4 Acid) Meas		0.87	4.65	263		0.86	5.92	3.79		113	383	37	0.73	5990	19.7	16.8		3.4	0.182	3.21	91.0	16.2	1.17
Oreas 521 (4 Acid) Cert		0.89	4.77	336		0.86	5.85	3.86		123	386	31	0.72	6070	20.7	17.4		3.2	0.180	3.16	139	16.4	1.13
Oreas 521 (4 Acid) Meas		0.90	4.75	256		0.85	6.04	3.83		108	386	42	0.76	6170	20.1	16.8		3.4	0.179	2.91	76.3	16.4	1.18
Oreas 521 (4 Acid) Cert		0.89	4.77	336		0.86	5.85	3.86		123	386	31	0.72	6070	20.7	17.4		3.2	0.180	3.16	139	16.4	1.13
Oreas 521 (4 Acid) Meas		0.81		232		0.87	5.69			90.0	395		0.68	6010		17.0		3.2	0.159		66.3	18.6	
Oreas 521 (4 Acid) Cert		0.89		336		0.86	5.85			123	386		0.72	6070		17.4		3.2	0.180		139	16.4	
OREAS 620 (4 Acid) Meas		37.3	6.87	52.6	80	2.27	1.82	1.79	155	62.6	13.1	17	5.09	1790	2.99	23.6		5.5	1.11	2.06	26.4	20.4	0.36
OREAS 620 (4 Acid) Cert		38.5	6.72	50.0	2000	2.36	1.93	1.60	163	64.0	12.1	22	5.01	1730	2.94	23.7		5.6	1.15	2.63	29.7	20.0	0.34
OREAS 620 (4 Acid) Meas		37.1	6.21	49.0	70	2.35	1.97	1.78	160	66.7	13.0	22	5.10	1810	2.92	24.4		5.6	1.18	1.81	27.3	20.2	0.34
OREAS 620 (4 Acid) Cert		38.5	6.72	50.0	2000	2.36	1.93	1.60	163	64.0	12.1	22	5.01	1730	2.94	23.7		5.6	1.15	2.63	29.7	20.0	0.34
OREAS 620 (4 Acid) Meas		34.0	5.79	52.2	60	2.34	1.85	1.77	159	57.1	12.2	28	4.72	1780	2.88	21.8		5.4	1.15	1.42	22.3	22.8	0.34
OREAS 620 (4 Acid) Cert		38.5	6.72	50.0	2000	2.36	1.93	1.60	163	64.0	12.1	22	5.01	1730	2.94	23.7		5.6	1.15	2.63	29.7	20.0	0.34
A371484 Orig	< 5																						
A371484 Dup	< 5																						
C271066 Orig	< 5																						
C271066 Dup	< 5																						
C271074 Orig		0.07	6.68	2.7	420	0.95	0.10	2.01	0.08	26.0	11.8	146	1.19	10.2	3.48	15.9	0.06	3.9	0.036	1.29	10.7	19.2	0.96
C271074 Dup		0.08	6.60	2.4	410	0.96	0.10	1.99	0.09	25.6	11.8	47	1.17	9.9	3.39	16.2	0.09	3.6	0.044	1.28	10.5	19.5	0.93
Method Blank			< 0.01		< 10			< 0.01				6			< 0.01					< 0.01			< 0.01
Method Blank		< 0.01	0.01	0.6	< 10	< 0.05	0.01	< 0.01	< 0.02	0.01	< 0.1	3	< 0.05	< 0.2	< 0.01	0.30	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank		< 0.01	< 0.01	0.7	< 10	< 0.05	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	4	< 0.05	0.3	< 0.01	0.25	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank		< 0.01	< 0.01	0.3	< 10	< 0.05	0.03	< 0.01	< 0.02	0.05	< 0.1	4	< 0.05	0.6	< 0.01	0.28	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank		< 0.01	< 0.01	0.5	< 10	< 0.05	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	2	< 0.05	0.3	< 0.01	0.26	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	0.4	< 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	< 0.01	< 0.2	< 10	< 0.05	< 0.01	< 0.01	0.04	< 0.01	< 0.1	3	< 0.05	0.7	< 0.01	0.25	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	0.5	< 0.01
Method Blank			< 0.01		< 10			< 0.01							< 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	2	< 0.05	< 0.2	< 0.01	0.23	< 0.05	< 0.1	< 0.005	< 0.01	< 0.5	< 0.2	< 0.01
Method Blank			< 0.01		< 10			< 0.01							< 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 101b (4 Acid) Meas	945	18.6			9.1	1090	22.9											37.5	0.337		410	80	
OREAS 101b (4 Acid) Cert	927	20.1			8.2	1118	23											36.4	0.35		387	77	
OREAS 101b (4 Acid) Meas	956	18.9			8.5	1070	22.8											37.3	0.365		407	83	
OREAS 101b (4 Acid) Cert	927	20.1			8.2	1118	23											36.4	0.35		387	77	
OREAS 98 (4 Acid) Meas							357			> 10.0	11.0		173	219									
OREAS 98 (4 Acid) Cert							345			15.5	20.1		158	206									
OREAS 98 (4 Acid) Meas							325			> 10.0	6.66		159	200									
OREAS 98 (4 Acid) Cert							345			15.5	20.1		158	206									
OREAS 98 (4 Acid) Meas							320				10.0		165	198									
OREAS 98 (4 Acid) Cert							345				20.1		158	206									
OREAS 13b (4-Acid) Meas										1.20													
OREAS 13b (4-Acid) Cert										1.2													
OREAS 903 (4 Acid) Meas	717	4.44	0.03		52.7	1020	11.4	139		0.52	1.53	10.3	5	3.0	81.1	0.07		14.4	0.278	0.67	8.1	86	
OREAS 903 (4 Acid) Cert	690	4.32	0.0300		54.0	1070	11.3	137		0.500	1.57	10.2	6.06	2.63	77.0	0.540		13.6	0.192	0.620	7.58	74.0	
OREAS 903 (4 Acid) Meas		4.37			56.0		11.2	121			1.36	10.4	5	2.6	74.5	0.05		14.3		0.66	8.1		
OREAS 903 (4 Acid) Cert		4.32			54.0		11.3	137			1.57	10.2	6.06	2.63	77.0	0.540		13.6		0.620	7.58		
OREAS 45d (4-Acid) Meas	506		0.09			330				0.04									0.333			135	
OREAS 45d (4-Acid) Cert	490.000		0.101			420.000				0.049									0.773			235.0	
OREAS 45d (4-Acid) Meas	512		0.09			330				0.04									0.328			152	
OREAS 45d (4-Acid) Cert	490.000		0.101			420.000				0.049									0.773			235.0	
OREAS 96 (4 Acid) Meas							99.6			4.56	3.06		41	65.4									
OREAS 96 (4 Acid) Cert							101			4.19	5.09		40.7	65.6									
OREAS 96 (4 Acid) Meas							94.3			4.46	4.69		39	61.7									
OREAS 96 (4 Acid) Cert							101			4.19	5.09		40.7	65.6									
Oreas 77b (4 Acid) Meas	616		0.39	3.4	> 10000		56.3	16.9	0.026		7.66	3.5		1.4	30.9	0.24	1.48	6.12	0.058	1.36	1.8	40	3.3
Oreas 77b (4 Acid) Cert	640		0.434	3.26	113000		61.0	19.1	0.0220		9.100	3.51		1.59	34.4	0.280	1.35	6.61	0.0640	1.37	1.71	33.6	3.07
Oreas 77b (4 Acid) Meas	615		0.39	3.2	> 10000		56.9	17.3	0.021		4.44	3.6		1.6	31.8	0.25	1.49	6.23	0.059	1.38	1.7	40	2.9
Oreas 77b (4 Acid) Cert	640		0.434	3.26	113000		61.0	19.1	0.0220		9.100	3.51		1.59	34.4	0.280	1.35	6.61	0.0640	1.37	1.71	33.6	3.07
Oreas 72b (4 Acid) Meas	983	4.48	0.96	5.6	6560	250	14.2	41.9		1.49	0.65	13.3		1.4	57.2	0.41	0.14	10.4	0.202	0.35	4.5	74	3.9

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 72b (4 Acid) Cert	1010	4.01	1.01	5.50	6860	260	14.9	50.8		1.49	0.870	12.8		1.43	63.8	0.430	0.0920	11.3	0.216	0.350	4.68	73.6	4.00
Oreas 72b (4 Acid) Meas	1010	4.73	0.95	5.9	6950	260	14.3	44.3		1.50	0.61	13.5		1.5	57.7	0.41	0.13	11.0	0.201	0.37	4.7	75	4.7
Oreas 72b (4 Acid) Cert	1010	4.01	1.01	5.50	6860	260	14.9	50.8		1.49	0.870	12.8		1.43	63.8	0.430	0.0920	11.3	0.216	0.350	4.68	73.6	4.00
OREAS 239 (Fire Assay) Meas																							
OREAS 239 (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
OREAS 681 (4 Acid) Meas	1310		1.57			1230				0.11									0.424				212
OREAS 681 (4 Acid) Cert	1310		1.61			1410				0.109									0.588				253
OREAS 681 (4 Acid) Meas	1280		1.54			1320				0.10									0.550				244
OREAS 681 (4 Acid) Cert	1310		1.61			1410				0.109									0.588				253
Oreas 521 (4 Acid) Meas	3080	125	0.97	2.5	71.5	780	6.1	96.5	0.065	1.84	3.46	14.3	1	6.8	126	0.08	0.18	5.52	0.326	0.30	33.2	204	31.5
Oreas 521 (4 Acid) Cert	3210	138	0.98	5.6	73.0	810	9.3	98.0	0.064	1.80	5.66	13.9	2	7.1	158	0.5	0.76	8.26	0.393	0.27	31.0	209	92.0
Oreas 521 (4 Acid) Meas	3100	135	0.98	2.9	70.7	750	6.9	108	0.064	1.83	3.61	14.4	1	6.9	100	0.08	0.26	4.42	0.281	0.28	32.0	205	36.0
Oreas 521 (4 Acid) Cert	3210	138	0.98	5.6	73.0	810	9.3	98.0	0.064	1.80	5.66	13.9	2	7.1	158	0.5	0.76	8.26	0.393	0.27	31.0	209	92.0
Oreas 521 (4 Acid) Meas		114		1.1	76.8		7.9	91.0	0.064		2.17	14.3	1	5.5	71.2	< 0.05	0.15	2.99		0.28	31.5		12.4
Oreas 521 (4 Acid) Cert		138		5.6	73.0		9.3	98.0	0.064		5.66	13.9	2	7.1	158	0.5	0.76	8.26		0.27	31.0		92.0
OREAS 620 (4 Acid) Meas	406	8.30	1.87	12.0	15.1	360	8010	109		2.68	13.5	5.1		5.0	110	0.34		7.47	0.158	1.57	4.0	24	2.1
OREAS 620 (4 Acid) Cert	440	9.47	1.94	13.1	15.2	350	7740	116		2.47	76.0	5.2		4.9	131	1.1		11.0	0.135	1.61	4.2	21	2.2
OREAS 620 (4 Acid) Meas	424	8.53	1.92	12.7	15.2	340	8360	109		2.61	14.1	5.6		4.9	115	0.30		7.81	0.159	1.68	4.0	24	1.9
OREAS 620 (4 Acid) Cert	440	9.47	1.94	13.1	15.2	350	7740	116		2.47	76.0	5.2		4.9	131	1.1		11.0	0.135	1.61	4.2	21	2.2
OREAS 620 (4 Acid) Meas	477	7.66	1.81	12.5	15.2	320	8070	75.8		2.60	11.4	3.1		4.8	91.7	0.30		6.26	0.152	1.75	4.2	24	1.7
OREAS 620 (4 Acid) Cert	440	9.47	1.94	13.1	15.2	350	7740	116		2.47	76.0	5.2		4.9	131	1.1		11.0	0.135	1.61	4.2	21	2.2
A371484 Orig																							
A371484 Dup																							
C271066 Orig																							
C271066 Dup																							
C271074 Orig	447	0.41	1.83	0.2	27.1	700	11.9	39.6	0.003	0.02	< 0.05	9.9	< 1	0.5	239	< 0.05	< 0.05	3.80	0.283	0.25	1.0	88	0.1
C271074 Dup	423	0.18	1.83	< 0.1	25.9	610	12.2	41.0	0.005	0.02	< 0.05	10.1	< 1	0.2	232	< 0.05	< 0.05	4.15	0.194	0.26	1.0	72	< 0.1
Method Blank			< 0.01			< 10				< 0.01									< 0.005				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	0.06	< 0.01	< 0.005	< 0.02	< 0.1	2	< 0.1
Method Blank		0.07	< 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		< 0.05	< 0.01	< 0.1	1.1	< 10	0.5	< 0.1	< 0.002	< 0.01	0.30	< 0.1	< 1	< 0.2	< 0.2	< 0.05	< 0.05	< 0.01	< 0.005	< 0.02	< 0.1	< 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

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		0.09	< 0.01	< 0.1	< 0.2	< 10	< 0.5	< 0.1	0.004	< 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			< 0.01			< 10				< 0.01									< 0.005				1
Method Blank		0.10	< 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	9		< 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 101b (4 Acid) Meas	126		
OREAS 101b (4 Acid) Cert	133		
OREAS 101b (4 Acid) Meas	127		
OREAS 101b (4 Acid) Cert	133		
OREAS 98 (4 Acid) Meas		1300	
OREAS 98 (4 Acid) Cert		1360	
OREAS 98 (4 Acid) Meas		1280	
OREAS 98 (4 Acid) Cert		1360	
OREAS 98 (4 Acid) Meas			
OREAS 98 (4 Acid) Cert			
OREAS 13b (4-Acid) Meas		145	
OREAS 13b (4-Acid) Cert		133	
OREAS 903 (4 Acid) Meas	21.1	27	12.6
OREAS 903 (4 Acid) Cert	22.5	24.3	152
OREAS 903 (4 Acid) Meas	22.0		14.0
OREAS 903 (4 Acid) Cert	22.5		152
OREAS 45d (4-Acid) Meas		46	
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		449	
OREAS 96 (4 Acid) Cert		457	
OREAS 96 (4 Acid) Meas		440	
OREAS 96 (4 Acid) Cert		457	
Oreas 77b (4 Acid) Meas	6.6	174	38.3
Oreas 77b (4 Acid) Cert	6.55	205	37.9
Oreas 77b (4 Acid) Meas	6.6	178	38.5
Oreas 77b (4 Acid) Cert	6.55	205	37.9
Oreas 72b (4 Acid) Meas	11.8	87	83.5

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 72b (4 Acid) Cert	12.8	99.0	88.0
Oreas 72b (4 Acid) Meas	13.0	93	84.3
Oreas 72b (4 Acid) Cert	12.8	99.0	88.0
OREAS 239 (Fire Assay) Meas			
OREAS 239 (Fire Assay) Cert			
Oreas E1336 (Fire Assay) Meas			
Oreas E1336 (Fire Assay) Cert			
OREAS 681 (4 Acid) Meas		78	
OREAS 681 (4 Acid) Cert		88.0	
OREAS 681 (4 Acid) Meas		75	
OREAS 681 (4 Acid) Cert		88.0	
Oreas 521 (4 Acid) Meas	18.9	24	134
Oreas 521 (4 Acid) Cert	19.9	24	123
Oreas 521 (4 Acid) Meas	19.3	24	137
Oreas 521 (4 Acid) Cert	19.9	24	123
Oreas 521 (4 Acid) Meas	19.9		124
Oreas 521 (4 Acid) Cert	19.9		123
OREAS 620 (4 Acid) Meas	12.1	> 10000	213
OREAS 620 (4 Acid) Cert	12.3	31500	202
OREAS 620 (4 Acid) Meas	13.3	> 10000	201
OREAS 620 (4 Acid) Cert	12.3	31500	202
OREAS 620 (4 Acid) Meas	10.0	> 10000	184
OREAS 620 (4 Acid) Cert	12	31500	202
A371484 Orig			
A371484 Dup			
C271066 Orig			
C271066 Dup			
C271074 Orig	8.8	50	145
C271074 Dup	8.5	48	28.8
Method Blank		< 2	
Method Blank	< 0.1	< 2	< 0.5
Method Blank	< 0.1	< 2	1.1
Method Blank	< 0.1	< 2	< 0.5
Method Blank	< 0.1	< 2	< 0.5

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	< 0.1	< 2	< 0.5
Method Blank		< 2	
Method Blank	< 0.1	< 2	< 0.5
Method Blank		< 2	
Method Blank			
Method Blank			

APPENDIX V

Lab 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 (μm). 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 μm 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 μm	\$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 μm) save all portions	\$4.25
Code S1 DIS	Drying (60°C) and sieving (-177 μm), discard oversize	\$3.75
Code S1-230	Drying (60°C) and sieving (-63 μm), save oversize	\$5.75
Code S1-230 DIS	Drying (60°C) and sieving (-63 μm), discard oversize	\$5.25
Code S2	Lake bottom sediment preparation crush & sieve (-177 μm)	\$9.00
Code S3	Alternate size fractions and bracket sieving, add	\$2.75
Code S4	Selective Extractions or SGH drying (40°C) & sieving (-177 μm)	\$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 μm	\$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.

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 %
One Element	\$14.75	\$17.00
Each Additional Element	\$2.25	\$2.25
All Elements	\$20.50	\$22.75

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
Price:	\$17.00	\$21.25	\$24.00	\$35.00	\$28.50

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

Tools for Buried Deposit Targets

Biogeochemistry

Code 2A - Humus

Code 2B - Vegetation: INAA provides a very cost effective, rapid means of analyzing humus or vegetation to very low detection limits for gold and many other elements useful for geochemical exploration. The organic material is dried below 60°C, macerated and a 15 g aliquot is compressed into a briquette and analyzed using Code 2A or Code 2B depending on whether the material is purely organic (Code 2B) or contains mineral matter (Code 2A). These briquettes are irradiated and their gamma ray spectra are measured and quantified. The advantages of this technique are simplicity (less chance of human error and contamination, ashing is costly and the results in loss of gold) and INAA is the technique with ultimate sensitivity for gold and other trace elements. Prices listed in Codes 2A and 2B are for standard 15 g briquettes. Selected elements may be available at lower costs.

Code 2C - Vegetation Ash INAA

Code 2C1 - Vegetation Ash-ICP-OES:

Prices for Code 2C1 for single element is **\$6.50** with each additional element costing **\$2.75**.

Code 2D - Vegetation Ash-ICP-MS: Some geologists prefer ashing samples at low temperature (480°C) and determining metals on the ash. This may be advantageous, particularly if base metals are also required for your gold project or for base metal exploration. Note when samples are ashed, there may be volatile loss of certain elements (Au, As, Br, Hg, Cd, etc). Results are reported on an as received basis. Code 2D uses a proprietary acid digestion on the ash followed by ICP-MS and extends the list of elements which are available. Not all elements may be total. This package can be quite useful for diamond exploration.

Code 2E: This package is similar to Code 2D but requires a different digestion of the plant ash to obtain Au, Pt and Pd to low levels. This method has been shown to be very effective for PGE exploration.

Code 2F: Dry vegetation samples are dissolved in acid and analyzed by High Resolution ICP-MS.

Code 2G: Dry vegetation samples are dissolved in acid and analyzed by ICP-MS.

Actlabs only ashes vegetation in dedicated vegetation ashing furnaces to avoid contamination.

	Humus INAA	Vegetation INAA	Ash Package INAA	Base Metal Vegetation Aqua Regia-ICP	Ash Package Digestion ICP-MS	Ash Package ICP-MS Au+Pt+Pd	Vegetation Unashed ICP-MS	Vegetation Unashed HR-ICP-MS
Package	Code 2A	Code 2B	Code 2C	Code 2C1	Code 2D	Code 2E	Code 2G	Code 2F
Ag	2	0.3 ppb	2	0.2	0.2	0.2	3	1
Al	-	-	-	-	2	2	4 ppm	-
As	1	0.01	0.5	-	1	3	10	5
Au	1 ppb	0.1 ppb	5 ppb	-	-	5 ppb	0.2	0.1
B	-	-	-	-	5	5	1 ppm	200
Ba	100	5	50	-	3	3	100	1 ppm
Be	-	-	-	-	0.005	0.08	30	0.1
Bi	-	-	-	-	0.05	0.05	2	1
Br	1	0.01	1	-	-	-	-	-
Ca	0.5%	0.01%	0.2%	-	0.1%	0.1%	25 ppm	2 ppm
Cd	-	-	-	-	0.01	0.01	6	0.1
Ce	1	0.1	3	-	0.01	0.01	15	0.5
Co	1	0.1	1	-	0.01	0.01	4	0.5
Cr	1	0.3	1	-	1	10	100	10
Cs	0.5	0.05	0.5	-	0.001	0.001	0.2	0.1
Cu	-	-	-	1	0.2	0.2	50	20
Dy	-	-	-	-	0.001	0.001	0.5	0.05
Er	-	-	-	-	0.001	0.001	0.4	0.05
Eu	0.2	0.05	0.01	-	0.001	0.001	0.2	0.1
Fe	0.05%	0.005%	0.05%	-	0.01%	0.01%	3 ppm	0.5 ppm
Ga	-	-	-	-	0.1	0.1	4	0.5
Gd	-	-	-	-	0.01	0.01	0.4	1
Ge	-	-	-	-	0.1	0.1	3	10
Hf	0.5	0.05	0.5	-	0.01	0.01	0.4	2
Hg	0.5	0.05	1	-	-	-	2	5
Ho	-	-	-	-	0.001	0.001	0.2	0.01
In	-	-	-	-	1 ppb	1 ppb	0.2	0.1
Ir	5 ppb	0.1 ppb	2 ppb	-	-	-	-	-
K	-	0.01%	0.05%	-	0.01%	0.01%	10 ppm	10 ppm
La	0.1	0.01	0.1	-	0.002	0.002	10	0.2
Li	-	-	-	-	0.5	0.5	10	5
Lu	0.1	0.001	0.05	-	0.001	0.001	0.5	0.2
Mg	-	-	-	-	0.01%	0.01%	2 ppm	0.5 ppm
Mn	-	-	-	1	0.1	0.1	100	10
Mo	0.5	0.05	2	1	0.1	0.1	10	1
Na	100	1	10	-	0.01%	0.01%	5 ppm	10 ppm
Nb	-	-	-	-	0.005	0.005	2	0.5
Nd	3	0.3	5	-	0.002	0.002	5	0.2
Ni	10	2	50	1	5	5	50	0.1 ppm
P	-	-	-	-	-	-	4 ppm	-
Pb	-	-	-	1	0.1	0.1	50	10
Pd	-	-	-	-	-	3 ppb	0.2	2
Pr	-	-	-	-	0.002	0.002	1	0.5
Pt	-	-	-	-	-	2 ppb	0.2	2
Rb	20	1	5	-	0.01	0.01	10	10
Re	-	-	-	-	0.1 ppb	0.1 ppb	0.2	0.1
Rh	-	-	-	-	-	-	-	-
Ru	-	-	-	-	-	10 ppb	-	-
Sb	0.1	0.005	0.1	-	0.02	0.02	10	0.2
Sc	0.1	0.01	0.1	-	0.5	0.5	-	1
Se	2	0.1	2	-	1	10	10	0.2 ppm
Si	-	-	-	-	0.2%	0.2%	-	-
Sm	0.1	0.001	0.1	-	0.001	0.001	1	0.1
Sn	-	-	-	-	-	1	50	40
Sr	100	10	300	-	0.1	0.1	40	20
Ta	0.5	0.05	0.5	-	0.001	0.001	0.2	0.1
Tb	0.2	0.1	0.5	-	0.001	0.001	0.2	0.02
Te	-	-	-	-	0.01	0.01	8	1
Th	0.5	0.1	0.1	-	0.001	0.001	2	5
Ti	-	-	-	-	1	1	150	20
Tl	-	-	-	-	0.001	0.001	1	0.5
Tm	-	-	-	-	0.001	0.001	0.1	0.05
U	0.1	0.01	0.1	-	0.001	0.001	1	1
V	-	-	-	-	1	10	10	10
W	1	0.05	1	-	0.5	0.5	25	5
Y	-	-	-	-	0.001	0.001	2	0.2
Yb	0.1	0.005	0.05	-	0.001	0.001	0.4	0.4
Zn	20	2	50	1	1	1	400	0.2 ppm
Zr	-	-	-	-	0.5	0.5	20	5
Price	\$23.00	\$27.00	\$25.00	\$12.50	\$30.75	\$38.50	\$40.00	On Request
						5g Price	\$45.00	

All elements are in ppb except where noted.

APPENDIX VI

Points of Interest

(Table 3)

Crooked Pine Property Points of Interest (Table 3)

POI_#	Initials	Date	UTM Zone	Easting	Northing	Elevation	Description	Photo(s)
1	CR	22-Oct-22	NAD 83 / Zone 15	646228	5407550	454	Possible water for pump.	

APPENDIX VII

List of Mining Cell-Claims (Table 4)

APPENDIX VIII
Statement of Expenditures
&
Expenditures per Claim
(Table 5)

Appendix VIII

STATEMENT of EXPENDITURES

The following is a breakdown of expenditures related to the 2022 field program on the Crooked Pine Property.

Labour:

Preparation, field work, travel

Labour	\$ 12,900.00
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Prepare maps etc.

Drafting & digitizing	\$ 231.00
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Report Writing

Report Writing	\$ 3,675.00
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Associated Costs:

Meals & Groceries	\$ 575.35
Ground Transportation (880km x \$1.00/km)	\$ 880.00
Motel	\$ 400.92
Camp Rental	\$ 1,200.00
Car Rental	\$ 1,780.29
ATV Gas	\$ 339.69
Supplies	\$ 331.56

Analytical Costs:

Act Labs (7 rock-grab samples)	\$ 428.65
Act Labs (21 B horizon soil samples)	\$ 979.55
Act Labs (108 A horizon soil samples)	<u>\$ 5,659.75</u>

TOTAL EXPENDITURES	\$ 27,751.47
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Table 5		Expenditures per Cell		
Claim-Cell No.	Rock Grab Samples Collected per Cell	B Horizon Soil Samples Collected per Cell	A Horizon (Humus) Soil Samples Collected per Cell	Expenditure per Cell
105158	6	7	7	\$ 4,102.00
579417	1	14	101	\$ 23,649.00
			Total	\$ 27,751.00

APPENDIX IX

Daily Log

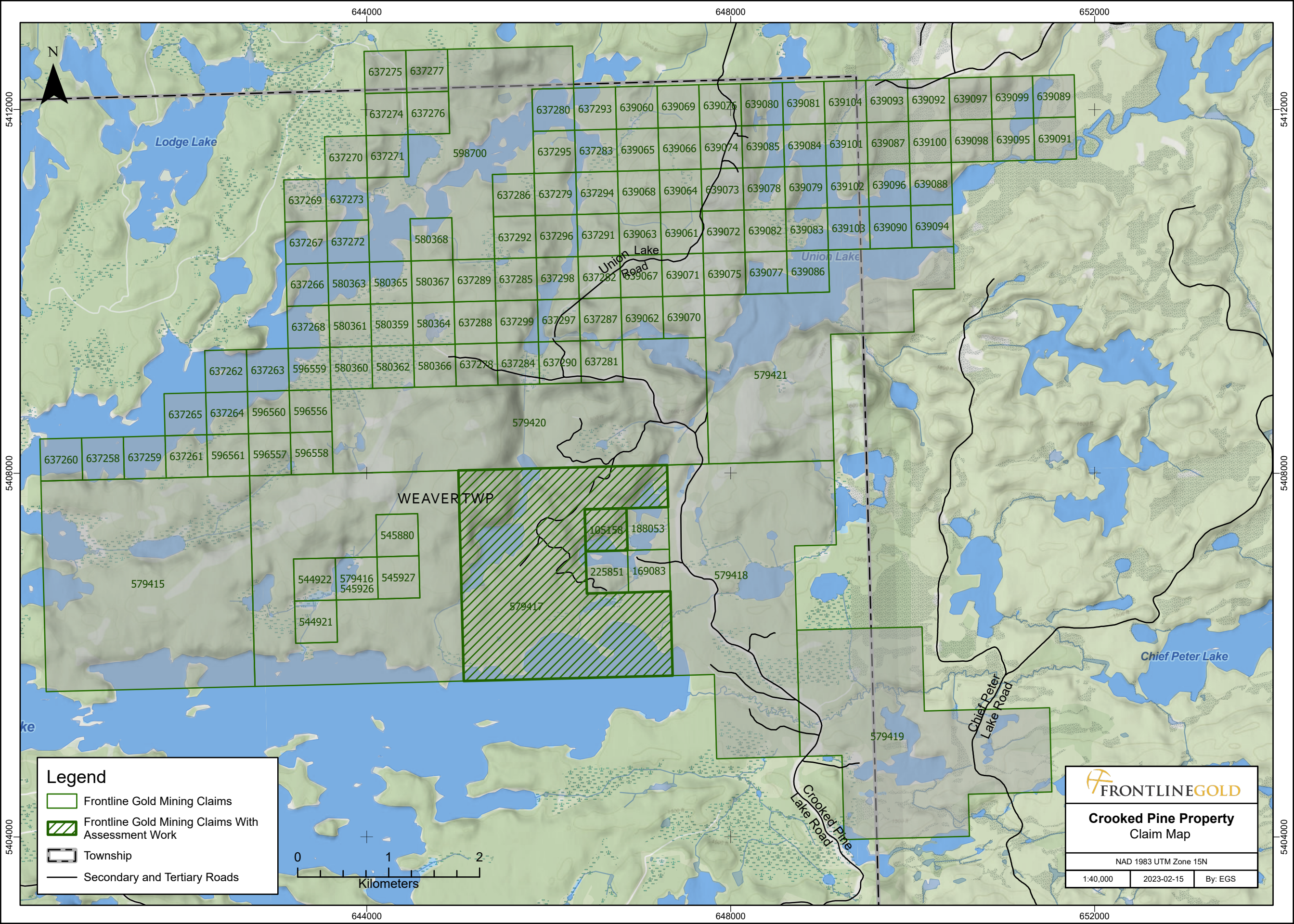
(Table 6)

Daily Log Crooked Pine Project October 2022

Date	B. Maclachlan days	Prospecting	Soil Sampling	Other	Activities		C. Robertson days	Prospecting	Soil Sampling	Other	Activities
Oct-19-2022	1			Travel	Drove to Camp, dropped off camp gear		1			Travel	Drove to Camp, dropped off camp gear
Oct-20-2022	1			Set up camp	Picked up groceries, set up camp		1			Set up camp	Picked up groceries, set up camp
Oct-21-2022	1		Soil Sampling		Soil sampling east of the South Zone		1		Soil Sampling		Soil sampling east of the South Zone
Oct-22-2022	1		Soil Sampling		Finished soil sampling at the South Zone		1		Soil Sampling		Finished soil sampling at the South Zone
Oct-23-2022	1		Soil Sampling		Soil sampling west of Trench 1		1		Soil Sampling		Soil sampling west of Trench 1
Oct-24-2022	1	Prospecting			Prospecting immedietly wst of Trench 1		1	Prospecting			Prospecting immedietly wst of Trench 1
Oct-25-2022	1		Soil Sampling		Soil sampling west of Trench 1		1		Soil Sampling		Soil sampling west of Trench 1
Oct-26-2022	1			Travel	Packed up gear, drove to Thunder Bay		1			Travel	Packed up gear, drove to Thunder Bay
Oct-27-2022	1			Travel	Returned to camp for a second load of gear, drove back to Thunder Bay		1			Travel	Returned to camp for a second load of gear, drove back to Thunder Bay
Total Days	9	1	4	4			9	1	4	4	

APPENDIX X

Map Sheets



Legend

- Frontline Gold Mining Claims
- Frontline Gold Mining Claims With Assessment Work
- Township
- Secondary and Tertiary Roads



**Crooked Pine Property
Claim Map**

NAD 1983 UTM Zone 15N

1:40,000	2023-02-15	By: EGS
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637275 637277
637274 637276
637270 637271
637269 637273
637267 637272
637266 580363 580365 580367 637289 637285 637298 637282 639067 639071 639075 639077 639086
637268 580361 580359 580364 637288 637299 637297 637287 639062 639070
637262 637263 596559 580360 580362 580366 637278 637284 637290 637281
637265 637264 596560 596556
637260 637258 637259 637261 596561 596557 596558

598700
580368
579420
579415
545880
544922 579416 545927
544921
579417
105158 188053
225851 169083
579418
579419

637280 637293 639060 639069 639076 639080 639081 639104 639093 639092 639097 639099 639089
637295 637283 639065 639066 639074 639085 639084 639101 639087 639100 639098 639095 639091
637286 637279 637294 639068 639064 639073 639078 639079 639102 639096 639088
637292 637296 637291 639063 639061 639072 639082 639083 639103 639090 639094

WEAVERTWP

Union Road

Crooked Pine Lake Road

Chief Peter Lake Road

Lodge Lake

Union Lake

Union Lake

Chief Peter Lake





Legend

- Frontline Gold Mining Claims

Grab Sample

- 2020
- 2021
- 2022

Soil Sample

- 2021
- 2022

Point of Interest

- 2020
- 2021
- 2022

Traverses - October 21, 2022

Traverses - October 22, 2022

Traverses - October 23, 2022

Traverses - October 24, 2022

Traverses - October 25, 2022

Traverses - October 21-25, 2022

FRONTLINEGOLD

Crooked Pine Property
2022 Prospecting Map: Samples & POIs

NAD 1983 UTM Zone 15N

1:8,000	2023-02-15	By: EGS
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