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FIRST CLASS METALS PLC.

WORK REPORT ON THE MAY, SEPTEMBER AND NOVEMBER 2022 PROSPECTING AND SAMPLING PROGRAM

ON THE

MCKELLAR PROPERTY

WALSH & TUURI TOWNSHIPS

HEMLO AREA
ONTARIO, CANADA
NTS 42D/15

Bruce MacLachlan P. Geo (Limited)
Coleman Robertson, G.I.T., BSc.

Dec. 3rdth, 2022

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1.0 -SUMMARY-

From May 13th to 24th and Sept 4th, 5th & Nov 13th, 2022, a rock sampling program was carried out on First Class Metals Plc.'s McKellar claim group, see Figures 1-3 for location, access and property boundaries. 107 rock-grab samples were collected on the claims.

The historical McKellar Prospect shaft (Little Pic Silver Mine) was located in the eastern part of the property, part of a 400-550m long west-northwest-east-southeast Zn-Pb-Ag trend (see Figures 6 and 7). Samples returned up to **4.82% Zn, 0.22% Pb** and **80.3 ppm Ag** in metamorphosed felsic volcanics with a quartz-calcite-feldspar stockwork, anomalous but far short of historical values up to: **13.0% Zn**, **7.14% Pb** and **21.8 oz/ton** (**747 gpt**) **Ag** across 4.5 feet (1.4m) at the shaft and **32.31% Zn**, **1.14% Pb** and **2.2 oz/ton** (**75 gpt**) **Ag** across 3.5 feet (1.1m) from a trench. A 1.81 ton (1.64 tonne) bulk sample in the late 1800s also reportedly returned an average value of $125 silver and $50 to $60 lead (~**100 oz/ton Ag** or ~**3400 gpt Ag**). Now that the trend has been located and sampled, more systematic work can take place, such as soil sampling and perhaps a gravity survey followed by diamond drilling. The trend did not respond well to a historical ground EM survey by Inco in the early '80s.

A second east to northeast-trending Zn-trend occurs south of the above trend in the vicinity of the historical Alvey Occurrence next to an arc-shaped lake (see Figures 6 and 7). Elevated Zn values up to **417 ppm** were obtained along this trend, but historical results of up to **28% Zn** and **0.48 oz/ton** (**16.5 gpt**) Ag from a carbonate vein and **1.34 oz/ton** (**45.9 gpt**) **Ag**, **146ppm Cu**, and **1.55% Pb** from iron formation were not replicated. More extensive sampling will need to occur in these locations. Historical drilling on the east side of the lake returned a broad Zn anomaly of **449 ppm** / 104.3m. The Alvey area should be included in an airborne gravity survey should one take place.

Both trends occur close to a volcanic-sedimentary contact on the south limb of a regional antiform (see Figures 5-7). A high-resolution airborne magnetic survey would help ascertain the lithologies and structures in this area, along with more detailed field mapping. An airborne EM survey could be flown across the property at the same time.

The historical Goldbar Lake Occurrence in the central part of the claims and gold values up to about 1 g/tonne in the western part of the claims were not visited during this program. No anomalous gold values were obtained in the eastern and southern parts of the property where the current exploration program took place, as had been hoped based on the presence of extensive folded iron formation on the property.

Samples of the McKellar Diatreme in the southern part of the claims returned elevated REE and Nb values (see Results and Table 1). The diatreme has never been systematically sampled, trenched, or drilled, allowing for future exploration possibilities.

2.0 -INTRODUCTION-

First Class Metals Plc. acquired the McKellar Property in September of 2021. The main target minerals are zinc, copper, silver and gold based on previous discoveries in the area and historical base metal and gold occurrences located on the property. Rare Earth Elements (REE) are a secondary target based on the occurrence of a diatreme breccia in the southern claims.

2.1 PROPERTY DESCRIPTION, PERMIT, LOCATION AND ACCESS

The McKellar property is located northeast of Lake Superior in northern Ontario (See Figure 1), approximately 25 kilometres northwest of the town of Marathon and immediately north of Highway 17 (see Figure 2). Access to the property is best achieved by travelling west from the town of Marathon, Ontario along Highway 17 for approximately 35km's then turning north into an open clearing. From here access is best achieved by travelling northwest along a series of ATV trails (see Figure 3). Alternately, access can be achieved by helicopter from the town of Marathon.

The McKellar property is comprised of 51 Single Cell Mining Claims and 7 Boundary Cell Mining Claims. See Figure 3 and claim list in Table 4, Appendix V.

2.2 CLIMATE, RESOURCES, LOCAL INFRASTRUCTURE AND PHYSIOGRAPHY

The McKellar property is located within the Canadian Shield, which is a major physiographic division of Canada. The property is situated in areas of swamps, small lakes, and moderate to steep hills and cliffs, with scattered to locally abundant outcrop. Elevation across the project area ranges from approximately 220 to 370 meters where explored.

The property is located approximately 25km's northwest of the town of Marathon, Ontario, (see Figure 2), where supplies, accommodations, storage units and shipping services are readily available.

Vegetation is generally comprised of a variety of second growth trees such as spruce, balsam, birch, and alders. Significant water bodies which lie at least partially on the property include Goldbar, McKellar and Del Lakes (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℃ to -32℃, and average July temperatures are between 24℃ and 32℃. 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.

The Hemlo Gold Mine, owned by Barrick Gold Corporation is the most significant mineral deposit in the area, located about 35 kilometers east of Marathon. It has operated continuously for more than 30 years, producing more than 21 million ounces of gold (www.barrick.com/English/operations/hemlo). The Superior Lake Zinc and Copper Project is located about 80 kilometers west-northwest of Marathon, consisting of the Winston Lake and Pick Lake Deposits. The Winston Deposit was mined between 1988 and 1998, producing 3.3 Mt at **14% Zn**, **1% Cu**, **1 g/t Au** and **30 g/t Ag**, closing in 1998 due to low zinc prices. The project is currently in the Advanced Exploration Phase with Indicated and Inferred Resources of 2.62 Mt outlined (www.metallumzinc.com/projects). The Marathon Palladium & Copper project, owned by Generation Mining Ltd., is located about 8km north of Marathon. A March 2021 Feasability Study projects that the project will produce an average of 245,000 ounces of Palladium Equivalent annually over a minimum 13-year mine life (genmining.com/projects/overview). See Figure 4 for deposit locations.

2.3 PERSONNEL

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

Tom Savage of Superior Geospatial provided drafting and GIS support.

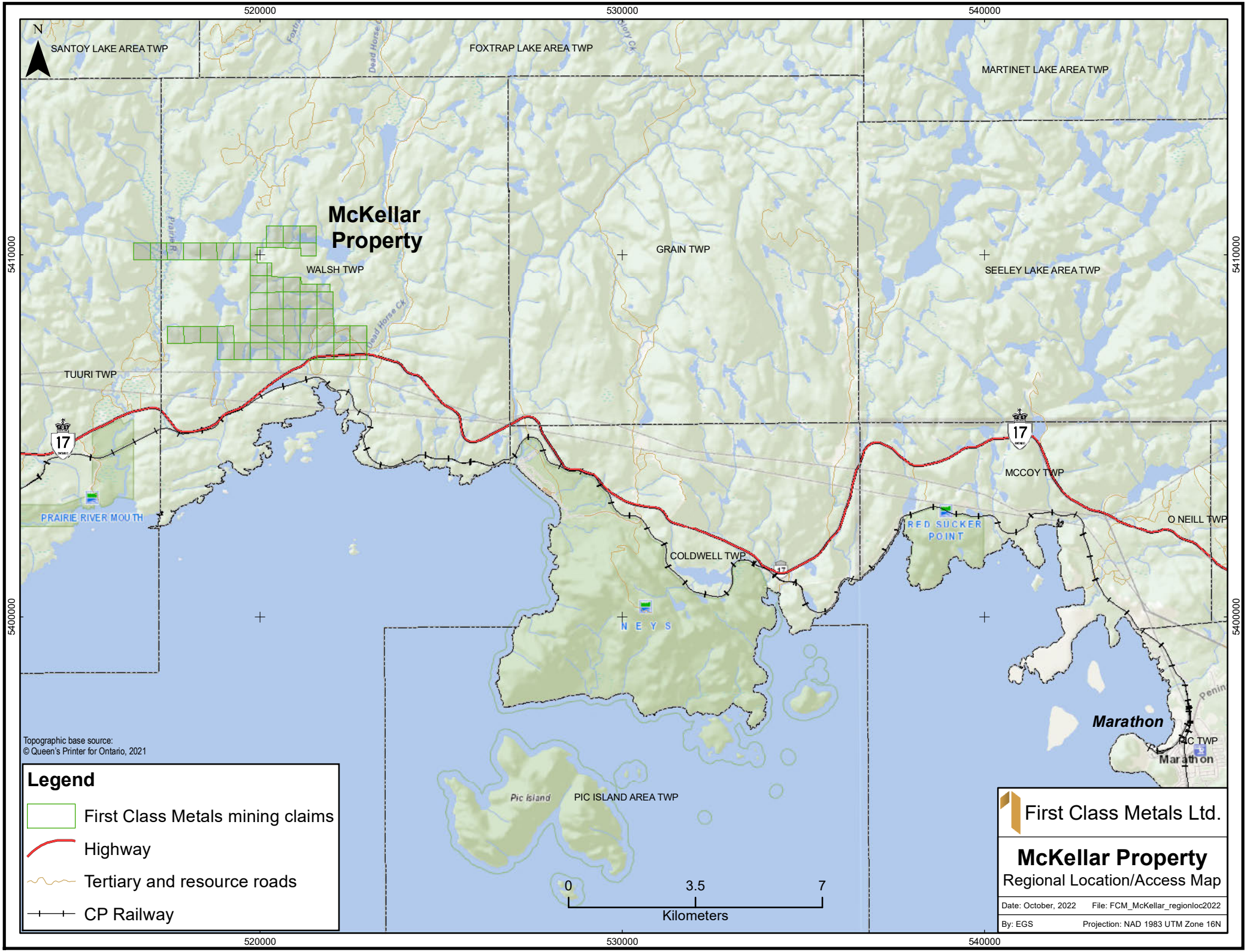
David Powers and John Londry of EGS carried out a data compilation of the property prior to the commencement of field work.

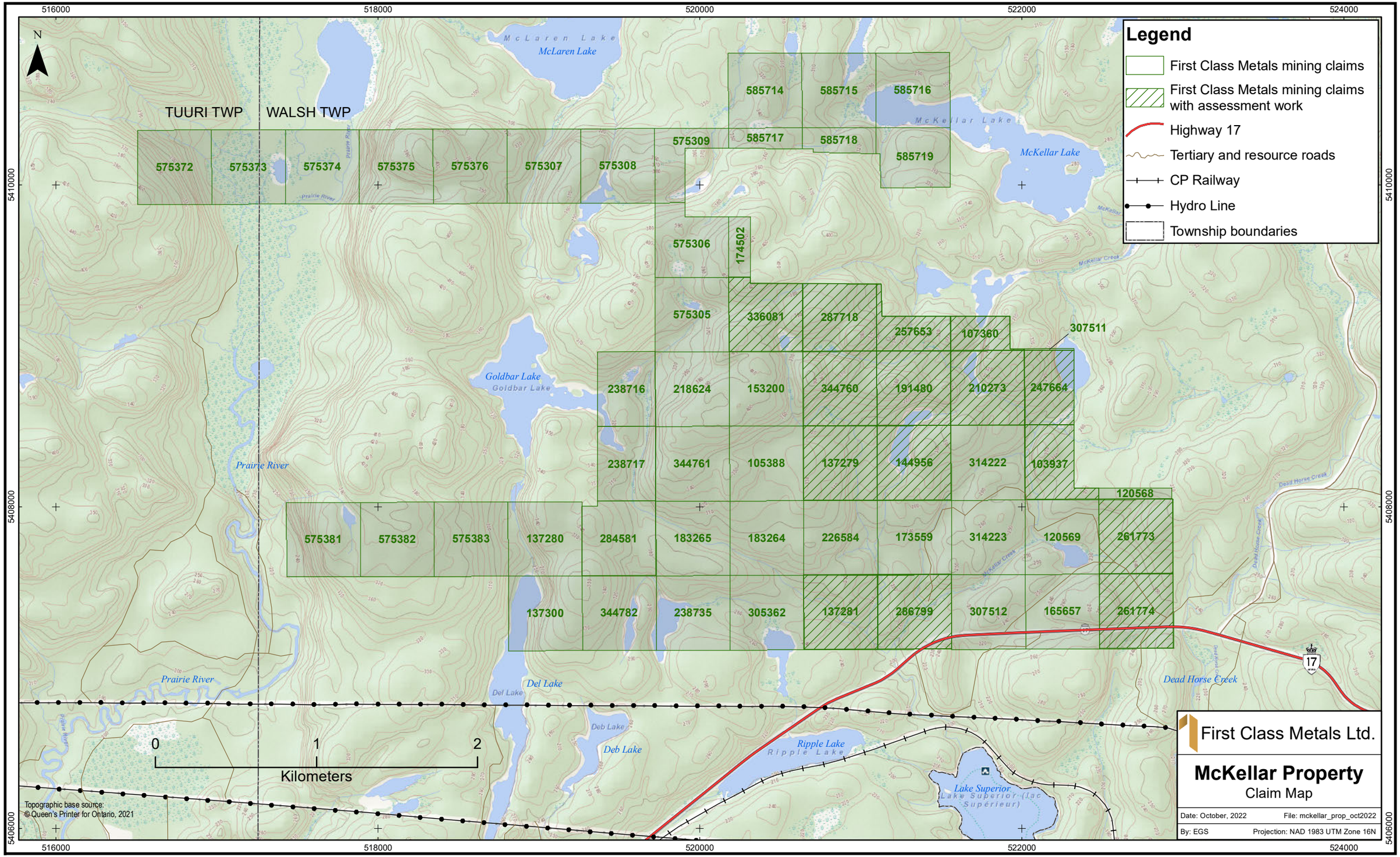
First Class Metals Ltd.

McKellar Property
General Location Map

Date: October, 2022

Name: EGS File: FCM_ontloc_McKellar_oct2022


520000
530000
540000
5410000
5400000
N
SANTOY LAKE AREA TWP
FOXTRAP LAKE AREA TWP
MARTINET LAKE AREA TWP
McKellar Property
WALSH TWP
GRAIN TWP
SEELEY LAKE AREA TWP
TUURI TWP
MCCOY TWP
O NEILL TWP
PRAIRIE RIVER MOUTH
RED SUCKER POINT
COLDWELL TWP
NEYS
Marathon
PIC TWP
Pic Island
PIC ISLAND AREA TWP
Topographic base source:
© Queen's Printer for Ontario, 2021
Legend
First Class Metals mining claims
Highway
Tertiary and resource roads
CP Railway
0
3.5
7
Kilometers
First Class Metals Ltd.
McKellar Property
Regional Location/Access Map
Date: October, 2022
File: FCM_McKellar_regionloc2022
By: EGS
Projection: NAD 1983 UTM Zone 16N


516000
518000
520000
522000
524000
5410000
5408000
5406000
N
TUURI TWP
WALSH TWP
McLaren Lake
McKellar Lake
Goldbar Lake
Prairie River
Del Lake
Deb Lake
Ripple Lake
Lake Superior
Dead Horse Creek
McKellar Creek
575372
575373
575374
575375
575376
575307
575308
575309
585714
585715
585716
585717
585718
585719
575306
174502
575305
336081
287718
257653
107360
307511
238716
218624
153200
344760
191480
210273
247664
238717
344761
105388
137279
144956
314222
103937
120568
575381
575382
575383
137280
284581
183265
183264
226584
173559
314223
120569
261773
137300
344782
238735
305362
137281
286799
307512
165657
261774
17
0
1
2
Kilometers
Topographic base source:
© Queen's Printer for Ontario, 2021
Legend
First Class Metals mining claims
First Class Metals mining claims with assessment work
Highway 17
Tertiary and resource roads
CP Railway
Hydro Line
Township boundaries
First Class Metals Ltd.
McKellar Property
Claim Map
Date: October, 2022
File: mckellar_prop_oct2022
By: EGS
Projection: NAD 1983 UTM Zone 16N

3.0 -GEOLOGY-

3.1 REGIONAL GEOLOGY

The property is located in the northwestern portion of the Schreiber-Hemlo Greenstone belt, within the Wawa Subprovince of the Superior Province (see Figure 4). The supracrustal rocks of the Schreiber-Hemlo greenstone belt are metamorphosed volcano-sedimentary rocks of mafic, intermediate and felsic composition ranging in age from ~2720 Ma to ~2688 Ma (Corfu & Muir, 1989; Lin, 2001). Metamorphic grades increase from upper greenschist facies in the western part of the belt to middle amphibolite facies in the eastern part of the belt. Based on titanite age dating, the regional amphibolite-facies metamorphism occurred between ~2678 and ~2676 Ma (Corfu & Muir, 1989b; Lin, 2001).

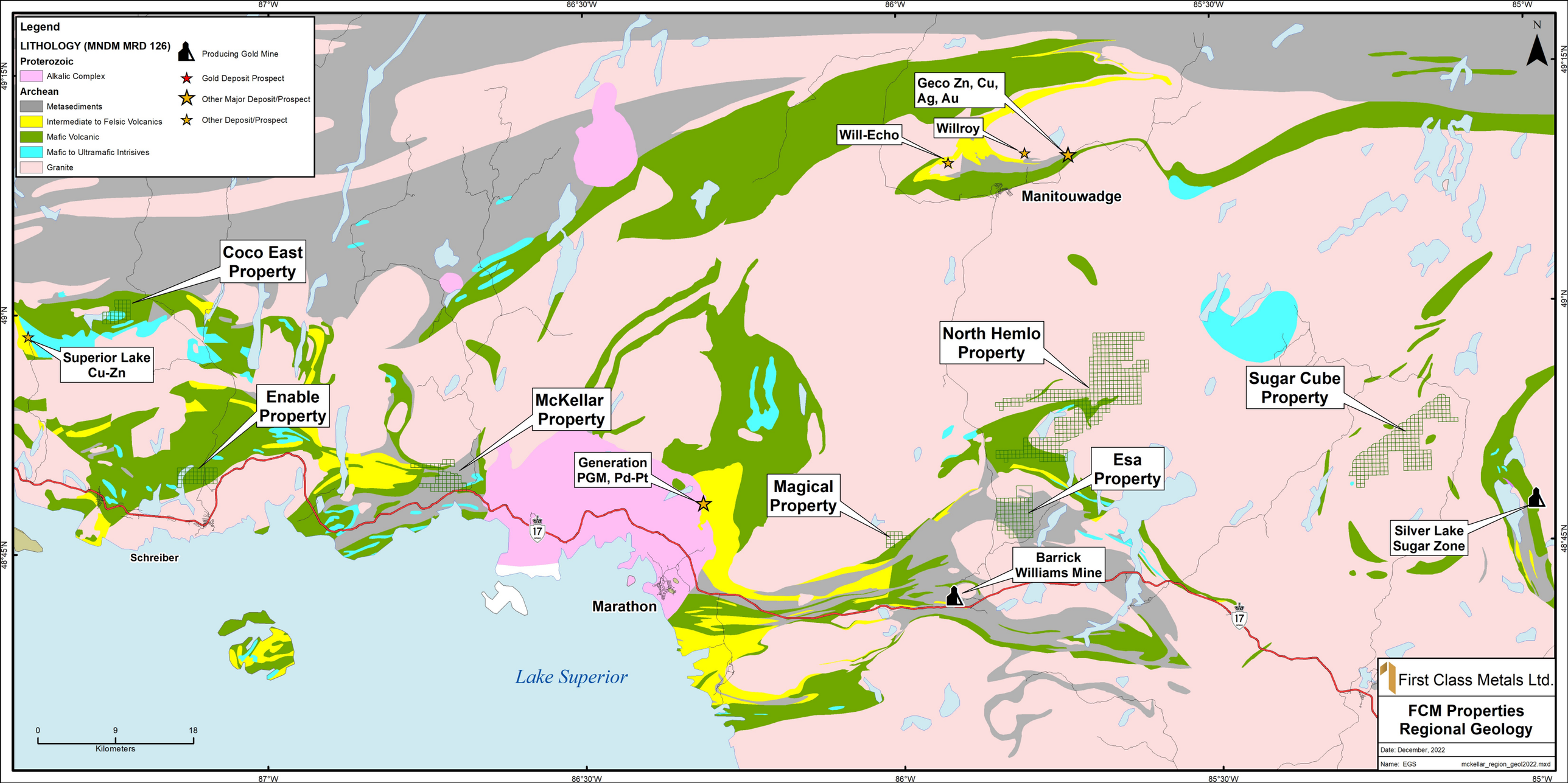
The greenstone belt is intruded by granodioritic-tonalitic plutons and related dykes. Major plutons include the Pukaskwa Intrusive Complex, the Heron Bay Pluton, the Cedar Lake Pluton and the Gowan Lake Pluton. A marginal gneissic phase of the Pukaskwa complex yielded a U-Pb zircon age of ~2719 Ma. An internal phase of the complex, the Heron Bay Pluton and the Cedar Lake Pluton yielded U-Pb zircon ages of ~2688 Ma. The Gowan Lake pluton yielded a U-Pb zircon age of ~2678 Ma (Corfu & Muir, 1989a; Lin, 2001).

3.2 PROPERTY GEOLOGY

The property geology for the main, southern claims of the property is modified from Degagne (1989):

The rocks on the property can generally be divided into two major sequences. From the old Noranda northern property boundary to just south of the old Noranda baseline (a short distance south of Goldbar Lake), the rocks consist of an intercalated sequence of minor mafic flows, intermediate ash tuff, quartz-porphyritic felsic tuff, and felsic synvolcanic dykes. Chert-rich, sulphide-bearing iron formation occurs as narrow beds intercalated with the volcanics. This iron formation is generally limited to the southern half of the volcanic sequence. A thick succession of sedimentary rocks composed primarily of greywacke and argillite and containing numerous intercalated beds of iron formation extends south from the volcanic sequence to the southern property boundary. Several large intrusive bodies of dioritic to gabbroic composition are located within the northern volcanic package. These sill-like bodies which at times are hard to distinguish from the mafic flows were probably intruded with the volcanics. All volcanic rocks as well as the mafic sills are moderately to strongly altered with the most intense alteration occurring in an east-west striking band within the northern package of rocks. Within this band, mafic flows and intermediate tuffs display variable amounts of biotite alteration (rare occurrences of garnet are also present within the mafic flows), and the felsic tuffs display strong sericite alteration and minor blue quartz eyes. The mafic sills within this band have been altered to coarse biotite - actinolite with rare coarse red garnet occurring sporadically throughout. A distinctive quartz-sericite schist unit hosts three important base metal showings, one of which (the Goldbar Lake Showing) occurs on the property and two of which (Prairie West and Marlhill Showings) occur west of the property. The McKellar Showings in the eastern part of the property occur in sulphidic iron formations and brecciated felsic tuff. All units on the property, with the exception of the mafic sills, are strongly foliated. The rocks strike between 090 and 110 degrees and dip vertical to steeply south. All units on the property have been intruded by younger, north-trending diabase dykes.

The northern claims of the property contain east-west slivers of greenstone bordered to the north by a large tonalitic suite. Chert containing anomalous molybdenum and zinc was discovered west of McKellar Lake in 2016 by government mapping (Magnus, 2017). See Figure 5 for the latest interpretation of the local geology by Magnus.


Legend
LITHOLOGY (MNDM MRD 126)
Proterozoic
Alkalic Complex
Archean
Metasediments
Intermediate to Felsic Volcanics
Mafic Volcanic
Mafic to Ultramafic Intrisives
Granite
Producing Gold Mine
Gold Deposit Prospect
Other Major Deposit/Prospect
Other Deposit/Prospect
N
87°W
86°30'W
86°W
85°30'W
85°W
49°15'N
49°N
48°45'N
Geco Zn, Cu, Ag, Au
Will-Echo
Willroy
Manitouwadge
Coco East Property
Superior Lake Cu-Zn
Enable Property
McKellar Property
Generation PGM, Pd-Pt
North Hemlo Property
Sugar Cube Property
Esa Property
Magical Property
Silver Lake Sugar Zone
Barrick Williams Mine
Schreiber
Marathon
17
Lake Superior
0
9
18
Kilometers
First Class Metals Ltd.
FCM Properties
Regional Geology
Date: December, 2022
Name: EGS
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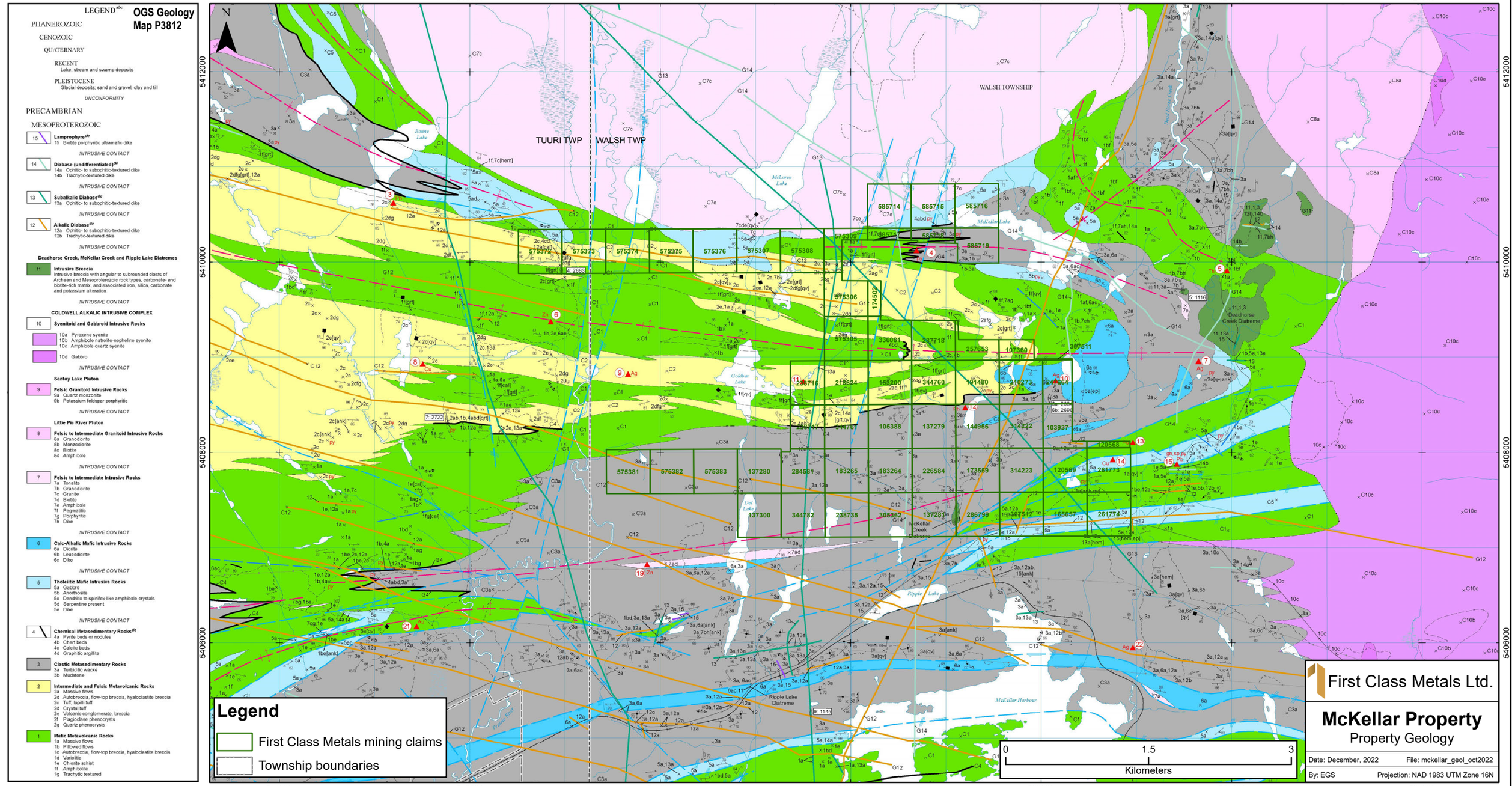
LEGEND[abc]
OGS Geology Map P3812
PHANEROZOIC
CENOZOIC
QUATERNARY
RECENT
Lake, stream and swamp deposits
PLEISTOCENE
Glacial deposits; sand and gravel, clay and till
UNCONFORMITY
PRECAMBRIAN
MESOPROTEROZOIC
15 Lamprophyre[dc]
15 Biotite porphyritic ultramafic dike
INTRUSIVE CONTACT
14 Diabase (undifferentiated)[dc]
14a Ophitic- to subophitic-textured dike
14b Trachytic-textured dike
INTRUSIVE CONTACT
13 Subalkalic Diabase[dc]
13a Ophitic- to subophitic-textured dike
INTRUSIVE CONTACT
12 Alkalic Diabase[dc]
12a Ophitic- to subophitic-textured dike
12b Trachytic-textured dike
INTRUSIVE CONTACT
Deadhorse Creek, McKellar Creek and Ripple Lake Diatremes
11 Intrusive Breccia
Intrusive breccia with angular to subrounded clasts of Archean and Mesoproterozoic rock types, carbonate- and biotite-rich matrix, and associated iron, silica, carbonate and potassium alteration
INTRUSIVE CONTACT
COLDWELL ALKALIC INTRUSIVE COMPLEX
10 Syenitoid and Gabbroid Intrusive Rocks
10a Pyroxene syenite
10b Amphibole natrolite-nepheline syenite
10c Amphibole quartz syenite
10d Gabbro
INTRUSIVE CONTACT
Santoy Lake Pluton
9 Felsic Granitoid Intrusive Rocks
9a Quartz monzonite
9b Potassium feldspar porphyritic
INTRUSIVE CONTACT
Little Pic River Pluton
8 Felsic to Intermediate Granitoid Intrusive Rocks
8a Granodiorite
8b Monzodiorite
8c Biotite
8d Amphibole
INTRUSIVE CONTACT
7 Felsic to Intermediate Intrusive Rocks
7a Tonalite
7b Granodiorite
7c Granite
7d Biotite
7e Amphibole
7f Pegmatitic
7g Porphyritic
7h Dike
INTRUSIVE CONTACT
6 Calc-Alkalic Mafic Intrusive Rocks
6a Diorite
6b Leucodiorite
6c Dike
INTRUSIVE CONTACT
5 Tholeiitic Mafic Intrusive Rocks
5a Gabbro
5b Anorthosite
5c Dendritic to spinifex-like amphibole crystals
5d Serpentine present
5e Dike
INTRUSIVE CONTACT
4 Chemical Metasedimentary Rocks[dc]
4a Pyrite beds or nodules
4b Chert beds
4c Calcite beds
4d Graphitic argillite
3 Clastic Metasedimentary Rocks
3a Turbiditic wacke
3b Mudstone
2 Intermediate and Felsic Metavolcanic Rocks
2a Massive flows
2d Autobreccia, flow-top breccia, hyaloclastite breccia
2c Tuff, lapilli tuff
2d Crystal tuff
2e Volcanic conglomerate, breccia
2f Plagioclase phenocrysts
2g Quartz phenocrysts
1 Mafic Metavolcanic Rocks
1a Massive flows
1b Pillowed flows
1c Autobreccia, flow-top breccia, hyaloclastite breccia
1d Variolitic
1e Chlorite schist
1f Amphibolite
1g Trachytic textured
N
TUURI TWP
WALSH TWP
WALSH TOWNSHIP
Bonnie Lake
McLaren Lake
McKellar Lake
Goldbar Lake
Del Lake
Ripple Lake
McKellar Harbour
Deadhorse Creek
Prairie River
McKellar Creek Diatreme
Ripple Lake Diatreme
Deadhorse Creek Diatreme
Legend
First Class Metals mining claims
Township boundaries
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First Class Metals Ltd.
McKellar Property
Property Geology
Date: December, 2022
File: mckellar_geol_oct2022
By: EGS
Projection: NAD 1983 UTM Zone 16N

4.0 -EXPLORATION HISTORY-

1875-2011:

The **McKellar Bay Mines Prospect** (also known as the Little Pic Silver Mine) is located in the eastern part of the current McKellar property and has been described in the OGS MDI database as a fracture or fault zone within rhyolitic and dacitic tuffs, mineralized with pyrite, sphalerite, and galena. D. MacKellar reported stripping, trenching and shaft sinking in 1875. A 1.81 ton (1.64 tonne) bulk sample returned an average value of $125 silver and $50 to $60 lead (~**100 oz/ton Ag** or ~**3400 gpt Ag**). Various other operators worked the prospect in the 1900s and 2000s, including: Saratoga Exploration Company Ltd. (1952, geological mapping, prospecting, and sampling); MacKellar Bay Mines Ltd. (1954, 9 diamond drill holes totalling 609.4m); Keevel Mining Group Ltd. (1965, airborne MAG/EM survey); Halren Mines Ltd. (1968, soil survey); Canadian Nickel Company Ltd. (1981, ground MAG/EM, mapping, lithogeochemical sampling and 1 diamond drill hole 161.2m long), J. Ternowsky (1984, compilation work, mapping and diamond drilling), SH Resident Geologist staff (OGS) (1985, property examination and lithogeochemical sampling), Noranda Exploration Company Ltd., Cumberland Resources Ltd. and Redfern Resources Ltd. (1988-1990, geological mapping, geochemical and geophysical surveys, and diamond drilling west of the McKellar prospect); Major General Resources (1998, linecutting and ground magnetometer survey); and D. Michano, B. Gionet, J.G. Michano, and W. Michano (2008 and 2010-2011, prospecting and sampling). The best historical results from the property besides high silver grades from a bulk sample include **13.0% Zn**, **7.14% Pb** and **21.8 oz/ton** (**747 gpt**) **Ag** across 4.5 feet (1.4m) at the shaft and **32.31% Zn**, **1.14% Pb** and **2.2 oz/ton** (**75 gpt**) **Ag** across 3.5 feet (1.1m) from a trench (MENDM, MDI 42D15SE00017). Work for which assessment files could be located is described in more detail below.

1875-2011:

The **Goldbar Lake Prospect** is located on the current McKellar property immediately east of Goldbar lake and is described in the OGS MDI database as a sheared contact zone between amphibolite to the north and dacitic tuff altered to chlorite-sericite schist to the south, mineralized with chalcopyrite, pyrite and sphalerite in quartz stringers. P. MacKellar reported the extraction of a 4.5 ton (4.08 tonne) bulk sample which returned **10.125% Cu**, **0.07 oz/ton** (**2.4 gpt**) Au and **1.77 oz/ton** (**60.7 gpt**) **Ag**, while grab samples returned up to **25.25% Cu**. Various other operators worked the showing in the 1900s and 2000s, including: T.J. Cook and A. Crout (1952, grab and channel sampling); Tomcar Mines Ltd. (1953, unspecified surface work); Marlhill Mines Ltd. (1955, geological mapping, prospecting, unspecified surface work and diamond drilling of 28 holes totalling 3453m), R.W. Pitkanen and E.S. Opas / Conwest Exploration Co. Ltd. (1965-1969, diamond drilling of 5 holes totalling 135.5m and trenching); Canadian Nickel Company Ltd. (1981, ground MAG/EM survey, geological mapping and lithogeochemical sampling); SH Resident Geologist staff (OGS) (1984 and 1989, property examination and lithogeochemical sampling); J. Ternowsky (1984, geological compilation and lithogeochemical sampling); Tri-Minex/Metallgesellschaft (1986, ground geophysical UTEM survey); Noranda Exploration Company Ltd., Cumberland Resources Ltd. and Redfern Resources Ltd. (1988-1990, prospecting, geological mapping, geophysical and geochemical surveys, and diamond drilling of 3 holes totaling 812m in 1989 and 8 holes totaling 2309.5m in 1990, not all on the Goldbar showing); and D. Michano, B. Gionet, J.G. Michano, and W. Michano (2008 and 2010-2011, prospecting and sampling) (MENDM, MDI 42D15SE00015). Work for which assessment files could be located is described in more detail below.

1875-2016:

The **Alvey Occurrence** is located in the eastern part of the current McKellar property, not far west of a small, arcuate lake. The OGS MDI database describes two showings, one of iron formation with abundant pyrite and a carbonate vein with sphalerite and galena. P. McKellar reported unspecified silver exploration in 1875 at this location. Operators in the 1900s and 2000s include: Wincore Exploration Ltd. (1950, 3 diamond drill holes totaling 83m); Canadian Nickel Company Ltd. (1981, geological survey including lithogeochemical sampling; and 1984, geophysical survey, geological mapping and diamond drilling); OGS Resident Geologist staff (1983, property examination and lithogeochemical sampling); and Brian Fowler (2017, soil sampling). Up to **0.48 oz/ton** (**16.5 gpt**) **Ag** and **28% Zn** were obtained from the carbonate vein with massive sphalerite. Grab samples by Inco returned up to **300ppm Cu**, **755ppm Zn** and **25ppb Au**, and grabs by the OGS returned **1.34 oz/ton** (**45.9 gpt**) **Ag**, **146ppm Cu**, and **1.55% Pb**. (MENDM, MDI 42D15SE00022). Work for which assessment files could be located is described in more detail below.

1950:

W. A. Gray drilled three holes (for Wincore?) on a single claim west of an arcuate lake which lies on the current McKellar property (in the vicinity of the Alvey Occurrence, see MDI42D15SE00022). He described schistose, silicified and slaty material with disseminated or stringer sulphides, up to 20% pyrite. No assays are given (Gray, 1950, 42D15NE0070).

1953-1967:

J.W.R. Walker of the OGS completed preliminary 1 inch to ¼ mile mapping of the area during 1953-1954 (Walker, 1956). A second more detailed report with colour geology maps was published in 1967 (Walker, 1967, Geological Report 50).

1954:

Mackellar Bay Mines completed a 2000-foot (610 meter) drill program at the MacKellar Bay Mines Prospect, on three claims in an area which lies in the eastern part of the current McKellar property in the midst of a cluster of three small lakes. Sphalerite and minor galena were noted in hole M-2; minor sphalerite was noted in hole M-5; heavy pyrite and pyrrhotite with minor chalcopyrite, sphalerite and galena locally in hole M-6; minor sphalerite stringers and almost 6 feet of heavy pyrite mineralization in hole M-7; zones of silicification and heavy pyrite in hole M-9, including an interval from 159.6 to 186.4 feet (27 feet or 8.2m) of ‘considerable pyrite in seams and disseminated masses’ (Mackellar Bay Mines Ltd., 1954, file 42D15NE0069).

1967-2013:

The **McKellar Diatreme** was discovered in 1967 by J. Walker of the OGS, though he interpreted it at first as a conglomerate, and it was only identified as a diatreme by R. Sage of the OGS in 1975. Later workers included J. Scott of the MNDM (1976, recognized the diatreme as radioactive); L. Kaye (Staked in 1977); V. Stenlund (1983-1984, two diamond drill holes); J. Bond and R. Renner (2001-2013, prospecting, mapping, sampling (‘01-’03, ‘09), claim post georeferencing, mapping and sampling (’13) (MENDM MDI 000000001864). The breccia is approximately 240m long on a north-south axis and up to 60m wide, emplaced within schistose argillite and siltstone (Sage 1982). Work for which assessment files could be located is described in more detail below.

1968:

Conwest Exploration Co. Ltd. drilled 5 diamond drill holes for a total of 444 feet (135m) on the Goldbar Lake Showing (see MDI42D15SE00015) in an area located on the current McKellar property east of Goldbar Lake, obtaining up to **4.73% Cu**, **0.98% Zn** & **2.12 oz/t Ag** (**72.7 gpt**) over 3.6 feet (1.1m) (Pitkanen, 1968, file 42D15NE0071).

1981:

Paul Skalezky drilled 3 holes on two claims, two of which were drilled on ground encompassed by the current McKellar property. One hole 70105 was drilled east of the north shore of an arcuate lake in the central part of the current property, and hole 70104 was drilled ~200m north of 70105. This is in the vicinity of the Mckellar showings to the east and the Alvey Occurrence to the west. A third hole 70106 was drilled immediately south of Goldbar Lake off the current claims. Assays of up to **0.45% Zn** (with **0.022% Cu**) were obtained over 1.5 meters in graphitic argillite in hole 70105. Cu assays of up to **0.040%** were obtained in this hole (Skalezky, 1981, file 42D15NE0043).

1981:

Inco carried out comprehensive geological mapping, magnetometer and horizontal loop EM surveys, and diamond drilling on their Ternowesky Option property, covering an area of which much lies on the southern part of the current McKellar property. Four main showings (Prairie West, Marlhill, Goldbar Lake and Mackellar Bay Mines) were present on the property, of which only the Goldbar Lake and Mackellar showings are on the present claims. No further mineralization was discovered as a result of mapping, and the EM survey located a number of sulphide facies iron formations. Drill testing of these targets yielded no economic mineralization (Perry, 1982, file 42D15NE0045).

1982-1987:

The Halonen Silver Occurrence is located in the far eastern part of the current McKellar property (Schnieders et al., 1996). The OGS MDI database describes the showing as a 15cm to 1.8m wide quartz vein mineralized with argentiferous galena, sphalerite and minor chalcopyrite. V. Halonen conducted trenching and blasting in 1982 and 1984; the OGS examined the occurrence in 1983 and 1987; and M. Joa and R. Walton conducted prospecting and sampling in 1987. The vein returned up to **0.04 opt** (**1.4 gpt**) Au, **26.3 opt** (**902 gpt**) **Ag**, **12.4% Pb** and **5.9% Zn** (MENDM, MDI 42D15SE00028).

1983-1984:

V. Stenlund drilled two diamond drill holes totaling 141 meters in the vicinity of the McKellar Diatreme, intersecting greywacke (Stenlund 1983, 1984, files 42D15NE0037, 42D15NE0042).

1988:

M.W. Carter, OGS, completed mapping of the Schreiber-Terrace Bay area (Carter, 1988, open file report 5692).

1988-1990:

In 1988, Noranda Exploration flew an airborne magnetic and electromagnetic survey over their Marlhill property, which covered an area corresponding to much of the central part of the current McKellar property. (Questor Surveys Ltd., 1988, file 42D15NE0014). This was followed by geological mapping, geochemical sampling (soils and whole rock), a UTEM geophysical survey, and diamond drilling, targeting the same four showings that Inco targeted, two of which (the Goldbar Lake Prospect and

MacKellar Prospect), again, lie on the current property. The other two (Prairie West and Marlhill Showings) occur further west but along the same interpreted horizon as the Goldbar showing. 425 samples for Cu, Zn & Ag analysis as well as whole rock were collected. Whole rock sampling defined a wide zone of sodium depletion trending east-west across the property. The northern limit of the zone roughly corresponds to the quartz-sericite schist unit hosting the three major showings. 246 B horizon soils were collected at 50m intervals and analyzed for Cu and Zn. A zone of anomalous Zn (**>100ppm**) was delineated, corresponding to the northern limit of sodium depletion and the quartz-sericite schist unit. 3 diamond drill holes, all off the current property, targeted the Prairie West and Marlhill showings, and along strike from Marlhill to the east (Degagne, 1989, file 42D15SE8278).

During 1989 and into 1990, Noranda conducted further prospecting, mapping and diamond drilling program on their Marlhill Property, Two drill holes during the 1989 program targeted the Goldbar Showing and the eastern strike extension. MH90-05 tested the occurrence at depth and coincident magnetic and UTEM conductors, returning **0.12% Zn** over 27m and **0.92% Cu** and **0.21% Zn** over 2.1m, hosted by chlorite-biotite schist with 1-3% pyrite/pyrrhotite. MH90-07 tested an off-hole pulse-EM anomaly from MH90-05 200m to the east, as well as coincident magnetic and UTEM conductors. The best result was **0.26% Cu** over 1m in semi-massive pyrite/pyrrhotite hosted by hornblende-chlorite schist. Six other holes off the current property tested targets around Goldbar Lake or further west towards the Marlhill Showing (Thomson, 1990, file 42D15NE0012).

1996:

A high-density lake sediment and water geochemistry survey by the Ontario Geological Survey was completed in the Schreiber-Terrace Bay area (Ontario Geological Survey, 2000, open file report 6036).

1998:

Major General Resources conducted a ground magnetometer survey over their Prairie River Property, which included ground encompassed by much of the southern part of the current McKellar Property but stretched much further to the west past Prairie River. The program was successful in locating a number of linear to lenticular highs and lows, generally conforming to westerly to west-northwesterly geological trends (Gill & Lebel, 1999, file 42D15SE2001).

2004-2005:

Ripple Lake Diamonds Inc. conducted diamond exploration on their property, which at its south end covered much of the current McKellar claim group. The OGS had completed a till and alluvium sampling program and an airborne geophysical program in 1999. In November 2003 three microdiamonds were returned from a sample of diatreme on the highway near Ripple Lake. In 2004, a petrographic study of diatreme dyke samples, structural interpretation of remote sensing data, and heavy mineral sampling were carried out. In 2005, further heavy mineral sampling was completed, as well as a petrographic study on a fragment of kimberlite found on the claims, and an airborne geophysical survey in the northern part of the property which overlapped with the OGS airborne survey further south on the property (Kaminsky & Cavey, 2006, file 20000001165).

2005:

Phoenix Matachewan Mines completed a time-domain EM survey over the area (Geotech Ltd., 2006, file 20000001858). Accessory magnetic data maps from this survey have been georeferenced and the TMI (Total Magnetic Intensity) map is the background for Figure 6.

2001-2013:

Russel Renner and James Bond staked the McKellar Diatreme and conducted prospecting, sampling and mapping on the claims from 2001-2003. Samples of diatreme and quartz-carbonate float were collected, of which 10 were sent for analysis, returning 'no significant results' (Renner 2003, file 42D15SE2017).

In 2009, claim lines were reestablished and further samples of diatreme were collected, returning elevated rare earth element values (Renner 2009, file 20000000183).

In 2013, claim posts were georeferenced and further prospecting was carried out on claim lines. 5 grab samples were sent for analysis (Renner 2013, file 20000009114).

2010-2011:

Prospectors Duncan Michano, Brian Gionet, John Michano and William Michano staked a group of claims in the Goldbar Lake, McKellar Lake and Deadhorse Creek area, covering an area from the highway up to the southern part of the current McKellar property. Prospecting and sampling were carried out in the summers of 2010 and 2011. Up to **100ppm Ag**, **150ppm Cu**, **1.4% Pb** and **4.4% Zn** were obtained from the MacKellar showings, and up to **35ppm Ag**, **1.4% Cu**, **480ppm Pb**, **7510ppm Zn**, and **148ppb Au** were obtained from the Goldbar Showing. Quartz-carbonate veins were discovered in Mckellar Creek southeast of Goldbar Lake (on the current claims) containing minor pyrite, fuchsite, and tourmaline (Michano, 2012, file 20000007091).

2016:

Seamus Magnus of the OGS mapped the area at 1:20,000 scale (Magnus, 2017, map P.3812). A chemical metasedimentary horizon was discovered immediately west of McKellar Lake which returned **6419ppm Mo** and **4400ppm Zn** (MENDM, MDI000000002210). This is located in the northeastern part of the current McKellar property.

2017:

An investigation into the Alvey occurrence on the west shore of an arcuate lake in the central-east part of the McKellar property was initiated by Brian Fowler, as follow-up to a VTEM survey by Phoenix Matachewan Mines over the area which had outlined several untested anomalies in the vicinity. An effort was made by Fowler to trace the exhalite unit along strike, but he was unable to trace a continuous sub-unit beyond the immediate outcrop(s). 64 soil samples were collected in the vicinity of the Alvey trenches and VTEM anomalies to the west and north. Elevated but no distinctly anomalous Zn was obtained near the trenches, while values **>300ppm** and **>200ppm Zn** were obtained on the west and north anomalies respectively (Fowler, 2017, file 20000016059).

2021:

First Class Metals Inc. carried out a one-day prospecting program on September 2, 2021. Two rock-grab samples were collected, no significant assays were returned. From December 15th to 18th, 2021, a small lake sediment sampling program was carried out. A few anomalous zinc values were obtained (MacLachlan 2021, 2022).

5.0 -2022 EXPLORATION PROGRAM -

5.1 INTRODUCTION

From May 13th to 24th, September 4th to 5th and November 13th of 2022 a prospecting and sampling program was carried out on the McKellar property, located approximately 25 kilometres northwest of the town of Marathon (Figure 2).

A data compilation was carried out prior to the commencement of fieldwork, including digitization of historical rock sampling and E.M. conductor axes, and compilation of drillhole data.

Access to the southern part of the property on May 14th, Sept 4th, Sept 5th and Nov 13th was achieved by truck along Highway 17.

On May 15th, a small tent camp was flown in by helicopter to the northwest shore of a small lake in the eastern claims of the property, subsequently named Cascade Lake for ease of reference, because of a waterfall in a nearby stream. An open gravel lot on the Dead Horse Creek Road was used as a staging area for flying the gear and personnel in.

GPS tracks and sample locations were recorded using a handheld Garmin GPS displaying UTM: NAD 83 Zone 16 metric coordinates. Tracks were downloaded, saved as separate files by date and type (e.g. foot traverse, truck) and plotted on the various Map Sheets. All point data was entered in an Excel database then imported into MapInfo / Discover software.

A total of 107 grab samples were collected for gold and multi-element ICP analysis, as well as select whole rock geochemical analysis and thin section work. Samples collected were individually bagged, labelled and photographed in the field, and a small 'rep' (representative piece) of each sample was collected. Sample descriptions and Points of Interest (any geological or non-geological feature of note) were recorded by notebook in the field and entered into Excel at camp. Rice bags full of samples were shipped to Activation Labs (Actlabs) in Thunder Bay via Ontario Northland's bus service.

105 rock samples were analyzed for Au using Actlabs package 1A2-50, a 50g fire assay with atomic absorption finish. 97 samples also underwent multi-element analysis using Actlabs package 1F2-Tbay, a total digestion with ICP-OES finish. Samples with Ba and Zn overages were analyzed using Actlabs package 8-Peroxide ICP, a sodium peroxide fusion with ICP finish.

1 sample was analyzed using Actlabs package 1C-Exp, a gold and Pt-Pd fire assay with ICPMS finish, and 2 samples were analyzed using Actlabs package 1C-OES, a Pt-Pd fire assay with ICP-OES finish.

9 samples were analyzed using Actlabs package Ultratrace 3, a combination of INAA analysis and multi-acid digestion with ICP / ICPMS finish (package includes rare earth elements).

1 sample was analyzed using Actlabs package 4LITHO (1-10), a major oxides and trace element lithium borate fusion with ICP-OES / ICP-MS finish.

A few samples will be sent out for thin section work at a later date.

Actlabs-Schedule-of-Services-CAD-2022..pdf

See Table of Contents for locations of Sample Description Sheets, Map Sheets, etc.

5.2 RESULTS

Prospecting and sampling took place in several areas on the property, see below. Sample locations can be viewed on the 'Prospecting and Grab Sampling' Map Sheet.

McKellar Prospect Area

An east-west blasted shaft / pit was located at the base of a south-facing slope within 20 meters of where the Ontario government MDI (Mineral Deposit Inventory) database had positioned the McKellar Prospect. The shaft / pit is filled with water and is approximately 7-8m long and 2-3m wide. The dump is located immediately to the south. The rock face on the north side of the shaft consists of amygdaloidal mafic volcanics (amygdules generally of calcite). A thin (~0.5m) unit of grey-green, medium-grained rock described as intermediate intrusive (but probably metamorphosed intermediate volcanics) with dark green, somewhat 'greasy' textured crystals and smaller white-beige feldspars and red garnets was observed trending ~E-W about 1m south of the rock face. Two samples (B416207 & B416208) were collected of the mafic volcanics and intermediate rock. Two samples (B416205 & B416206) were collected on the dump of fine-grained, grey-green to tan-coloured rock with pinkish-tan feldspar-quartz-calcite veinlet stockwork and minor galena, chalcopyrite and possible sphalerite. The rock resembles a finer-grained, more bleached version of the intermediate unit at the pit, and may be metamorphosed and altered felsic to intermediate volcanics. Sample B416205 and B416206 returned the highest Zn, Pb and Ag grades of the program: **4.82% Zn**, **0.22% Pb**, & **80.3 ppm Ag** in the former sample and **2.28% Zn**, **0.16% Pb** and **41 ppm Ag** in the latter. Other notable values in these two samples include **295 ppm Cd** & **20.4 % Ca**, both the highest values of the program, and **183 ppm Cu**, **1.67% Mn** & **172 ppm As**, some of the highest values of the program. The intermediate rock at the pit returned **341 ppm Zn** (sample B416207). The mafic volcanic at the trench returned **0.14% Ba** & **1200 ppm Sr**, the second-highest and highest values of the program respectively (sample B416208).

McKellar Prospect Shaft / Pit look E

*Sample B416205 – **4.82% Zn**, **0.22% Pb**, **80.3 ppm Ag***

A small trench (5-6m long, 2-3m wide) was located about 80m west-northwest of the McKellar Prospect shaft, trending 100 degrees. Outcrop is present at the west end where a flagged rock corresponding to a historical sample was located, consisting of carbonatized mafic volcanic with 2-3% fine disseminated pyrite. A sample collected here returned **82 ppb Zn** (sample B416212).

Several other outcrops of strongly carbonatized rock, possibly metapelite or perhaps mafic to intermediate tuff, with generally about 2-3% pyrite and up to 10% locally, were traced from west-northwest to east-northeast of the McKellar Prospect. 7 samples (B416221-B416226, B416239) were collected over a span of 250 m from west to east. At the western end of these samples, sample B416239 returned **449 ppm Zn**. At the eastern end of these samples, a couple of historical flags were located as well as some quartz / remobilized chert blocks (sample B416227, returning **227 ppm Zn** & **103 ppm Cu**). In the middle of this cluster of samples, about 30m northwest of the shaft, sample B416224 returned **0.27% Zn**.

Sample B416224 – ***0.266% Zn***

5 samples (B416229-B416234) were collected on a ridge 100m east of the previous samples, within a magnetic high. Much quartz is present here, which may be mostly remobilized chert from iron formation. These returned low values of elements of interest.

4 samples (B416235-B416238) were collected stratigraphically north of the altered metasediments / iron formation mentioned above, north to northwest of the McKellar Prospect shaft / pit. These consisted of mafic volcanics with minor potassic stringers associated with minor pyrite (B416235), glassy white quartz veining in intermediate schist (B416236-B416237), and silicified mafic volcanics with 0.5% disseminated pyrite and minor red garnet (B416238). These returned no significant values.

1 sample (B416228) was collected 170m east-southeast of the shaft, consisting of strongly bleached and gossanous rock adjacent to mafic volcanic outcrop containing minor potassic stringers. It returned **206 ppm As**, one of the highest values of the program.

3 samples (B416209-B416211) were collected about 40m west of the McKellar Prospect shaft / pit, along an old presumed winter drill trail, of frost heave quartz blocks hosted in intermediate schist. The quartz was generally glassy and white with no observed sulphides. These returned up to **166 ppm Zn** (sample B416209).

McKellar West Area

This area corresponds to the possible strike extension of the McKellar zones described above, from about 170m to 550m to the west-northwest of the shaft, following a structure that runs along a stream valley, the south end of Cascade Lake and a narrow valley west of Cascade Lake.

Sample B416213 was collected on the north side of the stream valley slightly southeast of Cascade Lake, consisting of hematized, locally gneissic granodiorite to diorite and 0.5% disseminated pyrite, considerably different from most of the other samples in the area. It returned no significant results.

Samples B416214-B416216 were collected on the south side of the stream valley, consisting of silicified mafic volcanics / tuffs with up to 1-2% pyrite. These returned up to **438 ppm Zr**, the highest value of the program (B416216).

Samples B416217-B416219 were collected on the southwest shore of Cascade Lake. Samples B416217-B416218 consisted of moderately magnetic mafic rock, described as mafic volcanics and gabbro respectively, but possibly also metamorphosed iron formation because of the magnetism, with pink garnet observed. These returned **1.38%** & **1.26% Mn**, two of the highest values of the program, as well as **18.6%** & **22.4% Fe**. Sample B416219 was located 40m further north along the shore and consisted of mafic volcanics with minor qtz-carb alteration and stringers with trace chalcopyrite, and minor pyrite overall. This sample returned no significant values.

A presumed winter drill trail continues west of Cascade Lake, following the valley mentioned above, and a few north-south trenches were located along it, containing no outcrop. However, one of the trenches at the base of the slope on the north side of the valley contained some rusty regolith. A sample of altered felsic volcanics containing 1% ‘pods’ of galena or galena-rich material as well as 0.5% pyrite and minor chalcopyrite (B416241), was collected from the regolith, resembling the mineralized samples at the McKellar Prospect shaft. This sample returned **1.36% Zn**, **635 ppm Pb**, **1.67% Mn**, **95 ppm Cu**, **216 ppm As** and **11.6 ppm Ag**, some of the highest program values in all the above elements. Further up the hill, glassy white-grey quartz veining in felsic volcanic outcrop was sampled, weakly hematized with trace pyrite (B416240), returning no significant values. On the south side of the valley, magnetite-chert iron formation and micaceous schist with augens of possible quartz were located, with no significant mineralization observed.

Old trench on north side of valley, look W

Sample B416241 – ***1.36% Zn, 635 ppm Pb, 11.6 ppm Ag***

Finally, at the western extent of sampling, dykes of aphanitic syenitic material as well as magnetic fine-grained syenite to gabbro with minor pyrite were located. Two samples were collected (B416242-B416243). These may be related to the Coldwell alkaline intrusive complex to the east. Sample B416243 returned notable values of **0.18% Ba**, **868 ppm Sr** & **235 ppm V**. The slope curves to the southwest here, across the strike of the stratigraphy. A sample of silicified mafic volcanic talus with 0.5% pyrite and possible sphalerite in patches of red-brown rust was collected (B416244), returning **590 ppm Zn**. This may represent the strike extension of the McKellar Prospect Zn Trend, and is located approximately 550 meters west-northwest of the McKellar Prospect.

Alvey Occurrence Area

A 3 x 3 m blasted pit was located at the base of an east-facing hill around where the MDI database had positioned the Alvey Occurrence. A sample (A371276) of strongly sheared, strongly silicified argillite with 2-3% pyrite stringers returned **382 ppm Zn**, falling far short of historical results. 7 other samples were collected in the immediate area or along strike to the southwest, returning low values of elements of interest.

Pit in vicinity of historical Alvey Occurrence, look WNW

Alvey North Area

Northeast of the Alvey Occurrence, along the north side of an arcuate lake and rugged stream valley immediately to the east, 24 samples were collected of argillite, mafic to intermediate volcanics and quartz veining. Two historical diamond drill holes (M-6 and 70105) had tested this east-west structure, returning up to **0.45% Zn** / 1.5 m. Grab samples in the current program returned up to **417 ppm Zn** (sample A371261), with many samples returning **>100 ppm Zn**. Sample A371261 consisted of mafic to intermediate volcanics with 1% disseminated pyrite. A 3m long blasted pit on the rock face above this sample returned low Zn values.

West of Cascade Lake Area

Several samples were collected from 500m to 1100m west of Cascade Lake. 2 samples (A371288, A371289) were collected on a hilltop 500m west of the lake, consisting of locally magnetic garnet-biotite-hornblende schist. These returned low values of elements of interest. 6 samples (A371290-A371295) were collected along a west-northwest-east-southeast-trending creek valley, ending at a small lake 1.1 km west of Cascade Lake. These returned up to **204 ppm Cu** (sample A371293) on the east shore of the lake, the third highest value of the program, as well as up to **42.3% Fe** from intensely weathered iron formation (A371295), the highest value of the program. Samples along the creek line up with the McKellar Prospect trend, but it is unclear if they correspond to the same mineralized horizons as no felsic-intermediate

volcanics were observed and Zn values are low. The creek also crosscuts folded stratigraphy according to OGS map P3812 (see Figures 5 & 7), although the mapping was coarse enough that revisions to the interpretation could potentially be made.

North of Cascade Lake Area

3 samples (A371285-A371287) were collected of iron formation / chert approximately 100m north of Cascade Lake. These returned up to **229 ppm Zn** (A371286), **1.12% Mn** & **20% Fe** (A371285).

McKellar Diatreme Area

9 samples (E5830151-E5830159) were collected at the McKellar Diatreme in the southern part of the Property, in outcrop within an approximately 40m by 70m area. 1 additional sample (E5830168) of subangular diatreme float was collected in a stream valley further south along with several other samples (see below). The Diatreme consists of rounded white to pink quartzite fragments in a dark grey, fine-grained matrix. According to Sage (1982) the rounding is likely due to 'milling' of the sedimentary fragments during emplacement of the diatreme. Samples of outcrop and float returned anomalous rare earth element (REE) values, see Table 1 below comparing these values to average crustal values. Samples also returned up to **206 ppm Nb**.

Table 1: McKellar Diatreme Best REE Sample Results Compared to Crustal Averages

Rare Earth Element (REE)	Crustal Abundance ppm*	Top value McKellar Diatreme ppm	Ratio Diatreme / Crustal	Top Value other McKellar Samples ppm
Ce	66.5	501	7.5	
Dy	5.2	40.7	7.8	
Er	3.5	18.9	5.4	
Eu	2	14	7	
Gd	6.2	40.2	6.5	
Ho	1.3	6.4	4.9	
La	39	256	6.6	
Lu	0.8	1.8	2.3	
Nd	41.5	249	6	
Pm	0	n/a		
Pr	9.2	56.2	6.1	
Sc	22	14	0.6	34
Sm	7.05	58.7	8.3	
Tb	1.2	6.9	5.8	
Tm	0.52	2.1	4	
Y	33	194	5.9	37
Yb	3.2	15.4	4.8	
		AVG	**5.6**	

*https://geology.com/usgs/ree-geology

McKellar Diatreme Breccia hand sample

Southern Claims Area

7 samples (E5830164-E5830170) were collected in a northwest-southeast-trending streambed in the southern claims of the McKellar Property. Samples were mostly of interesting-looking angular to subangular float. Besides the diatreme float mentioned above, samples returned up to **361 ppm As** (sample E5830169, argillite with 50% massive pyrite) and **703 ppm Cu** (sample E5830167, brecciated felsic intrusive with quartz veining and 0.5% pyrite). These were both the highest values of the program.

4 samples (B416201-B416204) were collected approximately 200m east of the above samples, consisting of sheared mafic to intermediate volcanics and possibly metasediments. These returned up to **0.11% Ba** (B416202), **907 ppm Cr** (B416204), and **431 ppm Ni** (B416203). These were the highest Cr and Ni values of the program.

2 samples (E5830171-E5830172) were collected of foliated metasediments on the north side of Highway 17, containing 1% pyrite stringers. These returned up to **201 ppm As** & **335 ppm Cu** (sample E5830172), and **266 ppm V** (E5830171), the highest value of the program.

6.0 -DISCUSSION OF RESULTS AND RECOMMENDATIONS-

6.1 DISCUSSION OF RESULTS

McKellar Prospect

The historical McKellar Prospect (Little Pic Silver Mine) and associated Zn-Pb-Ag trend was located and sampled over a strike length of at least 400 meters and possibly up to 550 meters. Samples on the dump at the historical shaft returned up to **4.82 % Zn**, **0.22% Pb** and **80.3 ppm Ag**, values which are anomalous but which fall short of historical values obtained here. The shaft area itself is poorly exposed. The best mineralization occurs in metamorphosed and altered felsic to intermediate volcanics with quartz-feldspar-calcite stockwork, though 30 meters northwest of the shaft up to **0.27% Zn** was obtained from carbonatized metasediments or possibly mafic to intermediate volcanics. Anomalous Zn-Pb-Ag mineralization is associated with elevated Cu, Cd, Ca, Mn, and As. Mafic volcanics adjacent to mineralized horizons are elevated in Sr and Ba.

400 meters along strike to the west-northwest, following a topographical structure and magnetic high-low boundary, a sample of felsic metavolcanics similar to the samples at the shaft returned **1.36% Zn**, **635 ppm Pb** and **11.6 ppm Ag**. 150 meters further to the west-northwest, a sample of silicified mafic volcanics returned **590 ppm Zn**, likely a part of the same mineralized system. Fine-grained syenitic to gabbroic dykes were located in this area and in the creek west of the McKellar Prospect, suggesting that the structure hosting the base metal mineralization was intruded by later dykes, possibly related to the Coldwell alkaline complex to the east. A calc-alkaline mafic intrusion is shown on government map P3812 north and east of the McKellar Prospect as well (the overlap of the intrusion with the showing on the map is incorrect) emplaced into a regional fold nose, and granodiorite dykes were also observed locally on the property.

Historically identified conductor axes were digitized prior to the exploration program (see Figures 6 and 7). The McKellar Zn trend did not respond well to Inco's ground EM survey in the early 80s (conductor axes compiled by Gill & Lebel 1999), which is perhaps not surprising as the mineralization appears to be zinc-dominated and sphalerite is not conductive (although high silver grades have also been recorded in the past). Few assays are available from historical drilling along this trend. Hole 70104 close to the west

end of the trend returned **0.16% Zn** / 4.4m. Mineralized zones along this trend seem to be fairly narrow, though locally high-grade as at the shaft.

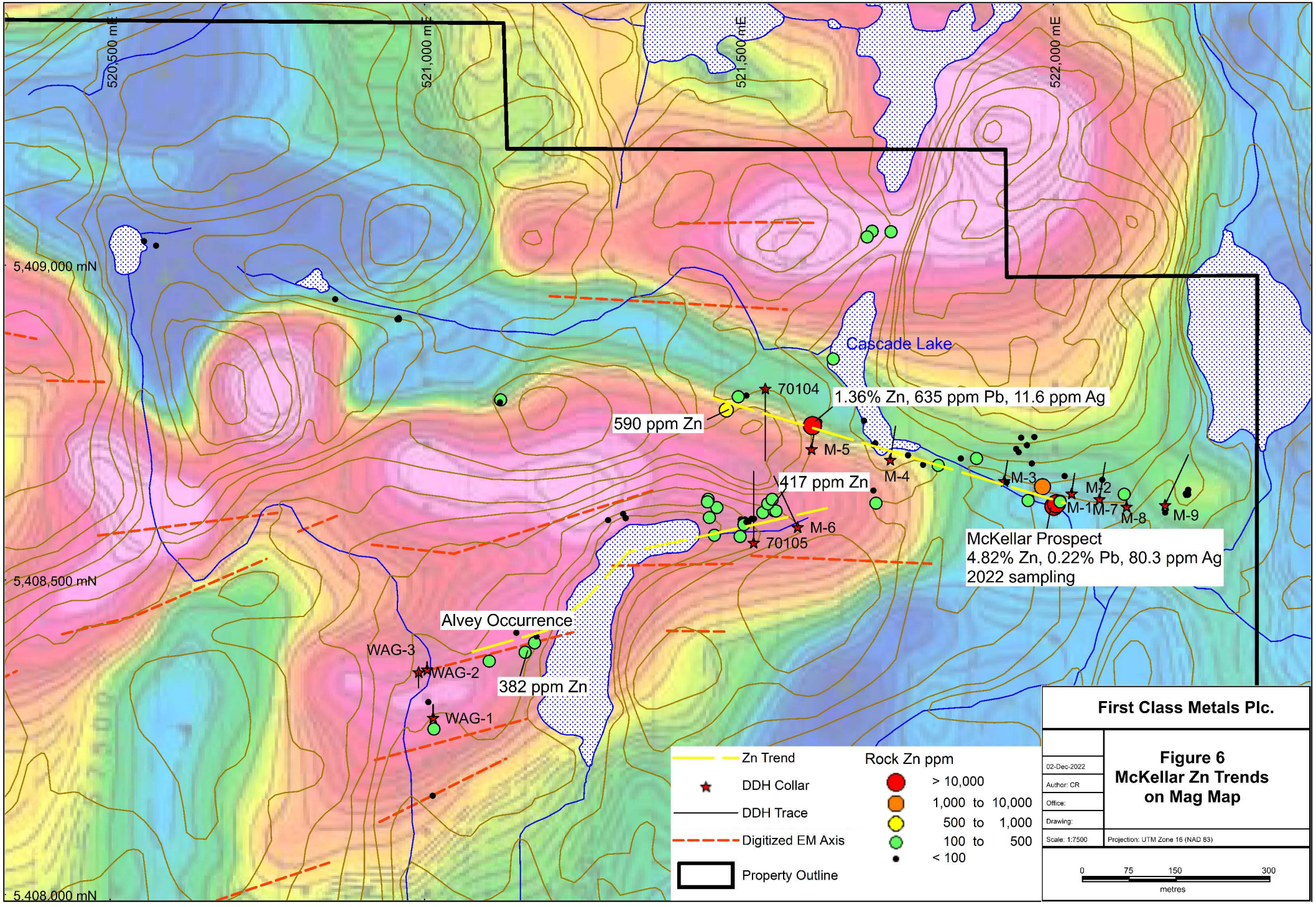
Alvey Occurrence

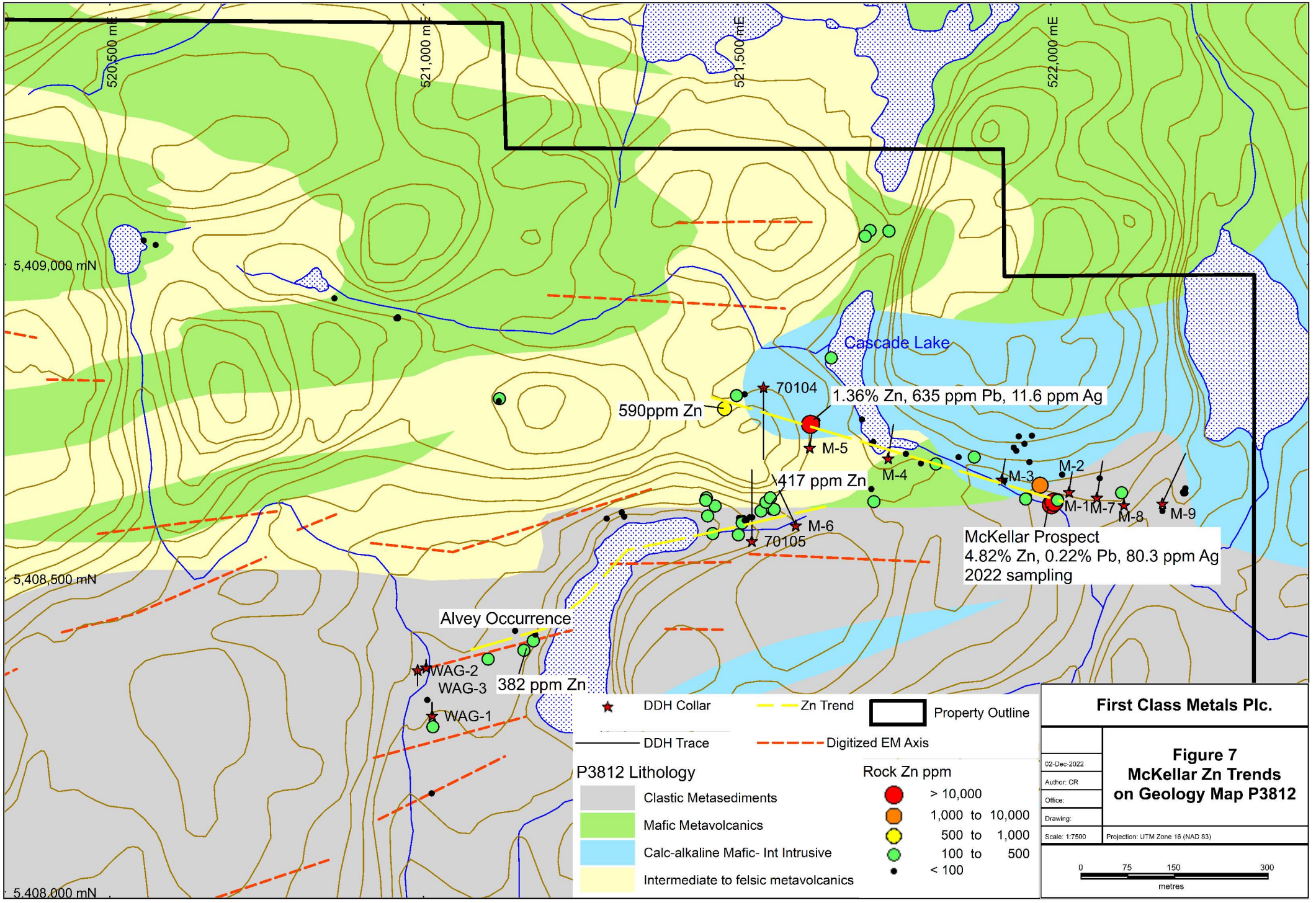
One major pit and minor stripping were located in the vicinity of the Alvey Occurrence but historical grades were not replicated, with only up to **382 ppm Zn** being obtained from argillite with pyrite stringers. Several other samples of argillite or mafic volcanic to the northeast returned anomalous zinc up to **417 ppm Zn**, possibly part of the same horizon which has been folded in an arc shape which the nearby lake mimics. Historical drilling targeting the east-west stream valley on the northeast side of the lake returned a broad zinc anomaly of **449 ppm** / 104.3m in hole 70105, including **0.18%** / 8.5m. Ground EM conductors in this area are associated with graphitic argillite, not necessarily with base metal mineralization.

The McKellar Prospect Zn trend and the Alvey Zn trend straddle the north and south sides of a volcanic-sedimentary contact respectively, along the south limb of a regional antiform (see Figures 5-7). A high-resolution airborne magnetic survey and EM survey would help decipher the lithological and structural features in this area and help establish continuity of the mineralized zones. A tightly-spaced airborne gravity survey over these areas might be warranted if the EM response is weak to non-existent.

McKellar Diatreme

Samples of the McKellar Diatreme breccia in the southern claims returned elevated REE values on average about 5 times higher than the crustal abundance, as well as elevated Nb up to 206 ppm. To our knowledge there has been no systematic rock sampling, stripping, channel sampling or drilling across this intrusion, leaving the door open to future exploration possibilities.


520,500 mE
521,000 mE
521,500 mE
522,000 mE
5,409,000 mN
5,408,500 mN
5,408,000 mN
Cascade Lake
70104
590 ppm Zn
1.36% Zn, 635 ppm Pb, 11.6 ppm Ag
M-5
M-4
M-3
M-2
M-1
M-7
M-8
M-9
417 ppm Zn
M-6
70105
McKellar Prospect
4.82% Zn, 0.22% Pb, 80.3 ppm Ag
2022 sampling
Alvey Occurrence
WAG-3
WAG-2
WAG-1
382 ppm Zn
Zn Trend
DDH Collar
DDH Trace
Digitized EM Axis
Property Outline
Rock Zn ppm
> 10,000
1,000 to 10,000
500 to 1,000
100 to 500
< 100
First Class Metals Plc.
Figure 6
McKellar Zn Trends
on Mag Map
02-Dec-2022
Author: CR
Office:
Drawing:
Scale: 1:7500
Projection: UTM Zone 16 (NAD 83)
0
75
150
300
metres


520,500 mE
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5,409,000 mN
5,408,500 mN
5,408,000 mN
Cascade Lake
70104
590ppm Zn
1.36% Zn, 635 ppm Pb, 11.6 ppm Ag
M-5
M-4
M-3
M-2
M-1
M-7
M-8
M-9
417 ppm Zn
M-6
70105
McKellar Prospect
4.82% Zn, 0.22% Pb, 80.3 ppm Ag
2022 sampling
Alvey Occurrence
WAG-2
WAG-3
WAG-1
382 ppm Zn
DDH Collar
Zn Trend
Property Outline
DDH Trace
Digitized EM Axis
P3812 Lithology
Clastic Metasediments
Mafic Metavolcanics
Calc-alkaline Mafic- Int Intrusive
Intermediate to felsic metavolcanics
Rock Zn ppm
> 10,000
1,000 to 10,000
500 to 1,000
100 to 500
< 100
First Class Metals Plc.
Figure 7
McKellar Zn Trends
on Geology Map P3812
02-Dec-2022
Author: CR
Office:
Drawing:
Scale: 1:7500
Projection: UTM Zone 16 (NAD 83)
0
75
150
300
metres

6.2 RECOMMENDATIONS

- Systematic soil sampling across and along strike from the McKellar Prospect Zn-Pb-Ag trend.

- More extensive rock sampling at the Alvey Occurrence.

- High-resolution airborne Mag / EM survey across the property, possibly a tightly spaced airborne gravity survey over the McKellar Prospect / Alvey area.

- Diamond drilling along the McKellar and Alvey Zn trends, pending promising results from the above.

- Mechanical stripping / channel sampling across the McKellar Diatreme, possibly soil sampling where outcrop cannot be located.

- Sampling and mapping at the Goldbar Lake Occurrence and gold showing in the western claims.

7.0 -STATEMENTS OF QUALIFICATIONS-

I, Bruce A. MacLachlan P. Geo (Limited), residing in Timmins, Ontario, do hereby certify that:

1) First Class Metals Plc. 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., Portofino Resources Inc., Frontline Gold Corporation and others.

1) I am co- author of the report titled 'Work Report on the May, September and November Prospecting and Sampling Program on the McKellar Property, Walsh and Tuuri Townships, Hemlo Area, Ontario, Canada, NTS 42D/15.'

4) I have worked at various locations across First Class Metals' properties in the Hemlo area.

5) I do not have any interest or securities of First-Class Metals Plc.

Dated at Timmins, Ontario, this 3rd day of December 2022.

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

PROFESSIONAL GEOSCIENTIST
LIMITED MEMBER
BRUCE A. MACLACHLAN
ONTARIO

Bruce A. MacLachlan
2099840 Ontario Inc. 1025
"Emerald Geological Services"

I, Coleman Robertson, Geoscientist in Training (G.I.T.) with the Association of Professional Geoscientists of Ontario (APGO), residing in Ottawa, Ontario, do hereby certify that:

2) *I am an employee of Emerald Geological Services which is currently contracted by First Class* Metals Plc.

3) I am a Geoscientist in Training, registered in the province of Ontario (APGO No. 10821).

4) I graduated with a Bachelor of Science (Honours) degree in Earth Sciences at McGill University in 2014.

5) 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 First Class Metals Plc., Portofino Resources Inc., GoldOn Resources Ltd., Hemlo Explorers Inc., Frontline Gold Corporation, and Bold Ventures Inc.

6) I am co- author of the report titled 'Work Report on the May, September and November Prospecting and Sampling Program on the McKellar Property, Walsh and Tuuri Townships, Hemlo Area, Ontario, Canada, NTS 42D/15.'

7) I have worked extensively across the Property.

Dated at Ottawa, Ontario, this 3rd day of December 2022.

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

Signed,

Coleman Robertson

8.0 - REFERENCES-

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APPENDIX I

Rock Sample Description Table
(Table 2)

Table 2 **McKellar 2022 Rock Sample Descriptions**

Sample	Easting	Northing	Elevation	Date	Area	Claim	Sample Type	Rock Type	Rock Code	Description	Source	Assay Certificate No.
B416201	521267	5407167	219	14-May-22	Southeast claims close to highway	286799	Grab	Mafic Volcanic	MV	Weakly sheared mafic to intermediate volcanic, moderate qtz-calcite alteration, min-mod limonite staining, possible minor Fe-carb staining, minor pyrite. Shear strikes 280 degrees dipping 78 deg. N.	Outcrop	A22-07554
B416202	521271	5407160	220	14-May-22	Southeast claims close to highway	286799	Grab	Mafic Volcanic	MV	Weakly to moderately sheared mafic volcanic with weak carb alteration, surficial rusty staining, trace-0.5% fine disseminated pyrite. Shear strikes 270 degrees dipping 77 deg N.	Outcrop	A22-07554
B416203	521280	5407155	221	14-May-22	Southeast claims close to highway	286799	Grab	Feldspar Porphyry	FP	Moderately to strongly sheared/schistose intermediate rock with feldspar phenocrysts in fine-grained dark grey-black (biotitic?) matrix (feldspar porphyry? Feldspathic wacke?), weak-moderate qtz-carb alteration, a bit wavy foliation but about 260 degrees dipping 75 deg N.	Outcrop	A22-07554
B416204	521280	5407153	221	14-May-22	Southeast claims close to highway	286799	Grab	Feldspar Porphyry	FP	Moderately to strongly sheared/schistose intermediate rock with feldspar phenocrysts in fine-grained dark grey-black (biotitic?) matrix (feldspar porphyry? Feldspathic wacke?), weak-moderate qtz-carb alteration. Outcrop 1m S of previous sample B416203.	Outcrop	A22-07554
B416205	522001	5408617	271	16-May-22	McKellar Prospect	210273	Grab	Intermediate Intrusive	Int-int	Light grey-green to tan, fine-grained intermediate intrusive (or possibly intermediate to felsic metavolcanics) with moderate pinkish-tan feldspar stockwork with lesser quartz and calcite, containing minor blebs of galena, chalcopyrite and possible sphalerite. Angular rubble on dump south of trench / possible shaft.	Rubble	A22-07061
B416206	522005	5408621	277	16-May-22	McKellar Prospect	210273	Grab	Intermediate Intrusive	Int-int	Light grey-green to tan, fine-grained intermediate intrusive (or possibly intermediate to felsic metavolcanics) with moderate pinkish-tan feldspar stockwork with lesser quartz and calcite, containing minor blebs of galena, chalcopyrite and possible sphalerite. Angular rubble on dump south of trench / possible shaft.	Rubble	A22-07061
B416207	522011	5408625	275	16-May-22	McKellar Prospect	210273	Grab	Intermediate Intrusive	Int-int	Medium-grained, grey-green intermediate intrusive (?) with dark green, somewhat 'greasy'-textured crystals and white feldspars, possible reddish garnet scattered. About 40cm of width exposed in outcrop at trench / shaft, adjacent to amygdaloidal MV to N and S. Rocks appear to strike ~E-W.	Outcrop	A22-07061
B416208	522011	5408624	275	16-May-22	McKellar Prospect	210273	Grab	Mafic Volcanic	MV	Fine-grained, amygdaloidal mafic volcanics, generally calcite amygdules. Loose outcrop adjacent to (south of) previous sample B416207 at trench / shaft.	Outcrop	A22-07061
B416209	521962	5408628	285	16-May-22	Trail west of McKellar Prospect	210273	Grab	Quartz Vein	Qtz	Glassy, white quartz vein. Large (1.5 by 1 by 0.3m) angular qtz block beside old trail.	Frost Heave	A22-07061
B416210	521965	5408631	285	16-May-22	Trail west of McKellar Prospect	210273	Grab	Quartz Vein	Qtz	~10cm white-grey quartz vein, mostly glassy but looks somewhat granular / recrystallized locally, local orange tinge, minor tourmaline needles locally, moderate intermediate schist wall rock with moderate wavy foliation and moderate to strong presence of white mica, minor flakes of dark green mica. Frost heave block.	Frost Heave	A22-07061
B416211	521960	5408626	285	16-May-22	Trail west of McKellar Prospect	210273	Channel	Quartz Vein	Qtz	Glassy white quartz vein with local orange staining, angular rubble in old trail.	Rubble	A22-07061
B416212	521926	5408655	297	16-May-22	Pit west of McKellar Prospect	210273	Channel	Mafic Volcanic	MV	Mafic Volcanic with moderate to strong carb alteration, minor quartz, 2-3% fine disseminated pyrite. Outcrop in old pit.	Outcrop	A22-07061

Sample	Easting	Northing	Elevation	Date	Area	Claim	Sample Type	Rock Type	Rock Code	Description	Source	Assay Certificate No.
B416213	521853	5408693	296	16-May-22	Stream southeast of Cascade Lake	210273	Channel	Intermediate Intrusive	Int-int	Rusty, fine to medium-grained, possible deformed granodiorite or diorite, weak to locally moderate foliation/banding of felsic/mafic minerals, local hematite staining, minor quartz veining, 0.5% disseminated pyrite. Loose outcrop / talus slightly below probable source on hill.	Outcrop	A22-07061
B416214	521817	5408682	296	16-May-22	Stream southeast of Cascade Lake	210273	Channel	Mafic Volcanic	MV	Silicified mafic volcanic or possible metased, 1-2% pyrite overall, up to 1cm pyrite band/stringer. Foliation and fractures strike 100 degrees dipping 75 deg S.	Outcrop	A22-07061
B416215	521793	5408683	293	16-May-22	Stream southeast of Cascade Lake	210273	Channel	Mafic Tuff	Tuff	Weakly silicified mafic to intermediate tuff, somewhat faded feldspar crystals, 0.5% disseminated pyrite. Outcrop.	Outcrop	A22-07061
B416216	521769	5408698	294	16-May-22	Stream southeast of Cascade Lake	210273	Channel	Mafic Volcanic	MV	Moderately to strongly silicified mafic volcanic, possible minor to moderate Fe-carb alteration, possible specularite along fracture planes, 0.5% disseminated pyrite. Weak foliation in outcrop at 350 degrees dipping 70 deg E.	Outcrop	A22-07061
B416217	521714	5408714	293	16-May-22	Stream southeast of Cascade Lake	210273	Channel	Mafic Volcanic	MV	Rusty mafic volcanic with pink garnets or garnet clusters up to 0.5cm, minor qtz-carb alteration, minor qtz-carb stringers, 0.5% fine disseminated pyrite. Moderately magnetic. Outcrop.	Outcrop	A22-07061
B416218	521717	5408717	293	16-May-22	West shore of Cascade Lake	210273	Channel	Gabbro	Gab	Rusty, fine-grained gabbro, moderately magnetic with 0.5% disseminated pyrite. Outcrop 3m NE of previous sample B416217.	Outcrop	A22-07061
B416219	521699	5408753	298	16-May-22	West shore of Cascade Lake	210273	Channel	Mafic Volcanic	MV	Fine-grained mafic volcanic with minor qtz-carb alteration, minor <1mm qtz-carb stringers with trace chalcopyrite, otherwise minor disseminated pyrite. Outcrop.	Outcrop	A22-07061
B416220	521650	5408851	288	16-May-22	West shore of Cascade Lake	210273	Channel	Quartz Vein	Qtz	Sugary orange-white to grey quartz, somewhat folded with magnetite along foliation planes, possible minor Fe-carb alteration, trace pyrite. Probable chert band from iron formation. Angular float on W shore of Cascade Lake.	Float	A22-07061
B416221	521945	5408703	301	17-May-22	Hillside NW of McKellar Prospect	210273	Channel	Metasediment	Sed	Fine-grained silicified and / or carb-altered metasediment, 1-2% disseminated pyrite. Loose outcrop.	Outcrop	A22-07061
B416222	521941	5408708	301	17-May-22	Hillside NW of McKellar Prospect	210273	Channel	Metasediment	Sed	Fine-grained, silicified and / or carb-altered sediment or tuffaceous intermediate to mafic volcanic with 1-2% disseminated pyrite. Siltstone or silty mudstone? Loose outcrop.	Outcrop	A22-07061
B416223	521966	5408685	303	17-May-22	Hillside NW of McKellar Prospect	210273	Channel	Metasediment	Sed	Fine-grained, grey green metasediment or intermediate to mafic volcanic with strong carb alteration, very minor potassic stringers, 3-4% fine disseminated pyrite locally up to 10%. Outcrop on NE side of SE-trending stream.	Outcrop	A22-07061
B416224	521983	5408648	293	17-May-22	Hillside NW of McKellar Prospect	210273	Channel	Metasediment	Sed	Fine-grained, grey-green, strongly carb-altered metasediment or intermediate to mafic volcanic, 5% disseminated pyrite. Non-magnetic. Outcrop.	Outcrop	A22-07061
B416225	522078	5408659	282	17-May-22	Hillside NE of McKellar Prospect	247664	Channel	Metasediment	Sed	Fine-grained, grey-green, strongly carb-altered metasediment or intermediate to mafic volcanic, 3-4% disseminated pyrite, locally up to 10%. Some red-brown pockmarked rusty patches could be sphalerite. Non-magnetic. Outcrop.	Outcrop	A22-07061

Sample	Easting	Northing	Elevation	Date	Area	Claim	Sample Type	Rock Type	Rock Code	Description	Source	Assay Certificate No.
B416226	522116	5408639	266	17-May-22	Hillside E of McKellar Prospect	247664	Channel	Metasediment	Sed	Very rusty, fine-grained, grey-green, strongly carb and / or qtz-carb-altered metasediment or intermediate to mafic volcanic, 5-10% disseminated pyrite cubes. Some red-brown rusty patches might be sphalerite. Outcrop.	Outcrop	A22-07061
B416227	522113	5408636	266	17-May-22	Hillside E of McKellar Prospect	247664	Grab	Quartz Vein	Qtz	Sugary grey-white quartz vein, at least 10cm wide, with trace pyrite, possible trace sphalerite. Loose outcrop 3m SE of previous sample B416226.	Outcrop	A22-07061
B416228	522178	5408607	268	17-May-22	Hillside E of McKellar Prospect	247664	Grab	Gossan	Gos	Extremely bleached rock with strong surficial rust, sulphides visible in silica-rich dark grey sections, minor visible overall. Loose outcrop calved off rock face, which is mafic volcanic with potassic blebs / stringers.	Outcrop	A22-07061
B416229	522211	5408637	270	17-May-22	Ridge E of McKellar Prospect 100m from E claim boundary	247664	Grab	Quartz Vein	Qtz	Glassy, white-grey quartz vein with orange-yellow staining in fine-grained, biotitic metasediments (?). Minor to moderate red hematite staining, mostly within quartz, 0.5% pyrite blebs in the wall rock, trace-0.5% overall. Frost heave / loose outcrop beneath overturned tree roots.	Frost Heave	A22-07061
B416230	522211.5	5408635	270	17-May-22	Ridge E of McKellar Prospect 100m from E claim boundary	247664	Select cut	Quartz Vein	Qtz	Glassy to locally sugary grey-white quartz vein at apparent contact between vein and mafics to south, trends 075 degrees with subvertical dip, at least 1.8m wide. Moderate hematite and limonite staining, a bit of mafic material incorporated, minor pyrite stringers to scattered cubes with some rusted out.	Outcrop	A22-07061
B416231	522211.5	5408634.9	270	17-May-22	Ridge E of McKellar Prospect 100m from E claim boundary	247664	Select cut	Mafic Volcanic	MV	Weakly to moderately silicified mafic volcanic with 1% pyrite stringers. Outcrop immediately adjacent to previous sample B416230 to south.	Outcrop	A22-07061
B416232	522214.5	5408635.5	270	17-May-22	Ridge E of McKellar Prospect 100m from E claim boundary	247664	Select cut	Quartz Vein	Qtz	Half of sample is extremely silicified / bleached rock with 1% disseminated pyrite and << 1mm rusted out cubes, half recrystallized glassy white-grey quartz vein with minor scattered pyrite cubes, minor hematite staining. Outcrop 3m ENE of previous sample B416231.	Outcrop	A22-07061
B416233	522214	5408640	270	17-May-22	Ridge E of McKellar Prospect 100m from E claim boundary	247664	Select cut	Quartz Vein	Qtz	Rusty-stained sugary quartz with rusted out pyrite cubes visible locally, minor patches of strongly silicified wall rock. Might be chert bed. Loose outcrop.	Outcrop	A22-07061
B416234	522214.5	5408643	270	17-May-22	Ridge E of McKellar Prospect 100m from E claim boundary	247664	Select cut	Mafic Volcanic	MV	Silicified mafic volcanic with 1% disseminated pyrite. Outcrop 3m NNE of previous sample B416233.	Outcrop	A22-07061
B416235	522018	5408665	294	17-May-22	Hillside N of McKellar Prospect	247664	Select cut	Mafic Volcanic	MV	Rusty, silicified mafic volcanic with minor quartz veining, minor stringers of kspar associated with minor pyrite overall. Possible minor sphalerite in red-brown rusty patches. Outcrop.	Outcrop	A22-07061
B416236	521958	5408714	303	17-May-22	Hillside NW of McKellar Prospect	210273	Select cut	Quartz Vein	Qtz	Glassy, white-grey quartz vein with minor 1mm tan feldspar stringers, minor <1mm kspar stringers along fractures, minor intermediate schist wall rock. 10cm+ talus block.	Talus	A22-07061
B416237	521970	5408727	301	17-May-22	Hillside NW of McKellar Prospect	210273	Select cut	Quartz Vein	Qtz	Glassy, white-grey quartz vein in weakly sheared intermediate volcanic outcrop, ~80cm width exposed.	Outcrop	A22-07061
B416238	521949	5408726	306	17-May-22	Hillside NW of McKellar Prospect	210273	Select cut	Mafic Volcanic	MV	Weakly silicified, weakly sheared mafic volcanic with minor reddish garnet, 0.5% disseminated pyrite. Outcrop.	Outcrop	A22-07061

Sample	Easting	Northing	Elevation	Date	Area	Claim	Sample Type	Rock Type	Rock Code	Description	Source	Assay Certificate No.
B416239	521878	5408693	291	17-May-22	Stream southeast of Cascade Lake	210273	Select cut	Metasediment	Sed	Rusty, fine-grained, grey-green, strongly carb-altered metasediment or intermediate to mafic volcanic, several parallel fractures, trace-1% disseminated pyrite. Outcrop.	Outcrop	A22-07061
B416240	521628	5408751	314	18-May-22	Hillside west of Cascade Lake	210273	Select cut	Quartz Vein	Qtz	Moderate glassy white-grey quartz veining in altered, siliceous felsic volcanic, minor Fe-carb and hematite staining, trace pyrite specks within quartz and wall rock. Outcrop.	Outcrop	A22-07061
B416241	521617	5408745	314	18-May-22	Old pit west of Cascade Lake	210273	Select cut	Felsic Volcanic	Fel-vol	Rusty, altered felsic volcanic with 1% 'pods' of galena or galena-rich material, 0.5% disseminated pyrite, minor chalcopyrite blebs. Regolith / frost heave in side of old pit at base of N-facing hill.	Frost Heave	A22-07061
B416242	521512	5408793	306	18-May-22	Ridge west of Cascade Lake	191480	Select cut	Syenite Dyke	Sye	Aphanitic syenite dyke with quartz blebs. Dyke intrudes parallel to outcrop of magnetic gabbro or possibly pyroxenite that trends east-west.	Outcrop	A22-07061
B416243	521499	5408791	307	18-May-22	Ridge west of Cascade Lake	191480	Select cut	Syenite Dyke	Sye	Moderately magnetic, fine-grained syenite or syenogabbro, talus at base of ridge.	Talus	A22-07061
B416244	521480	5408770	307	18-May-22	Ridge west of Cascade Lake	191480	Select cut	Mafic Volcanic	MV	Rusty, fine-grained, silicified mafic volcanic with minor to moderate red-brown rust (sphalerite?), trace-0.5% disseminated pyrite. Non-magnetic. Talus at base of hill where there is similar outcrop.	Talus	A22-07061
A371251	521510	5408596	294	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Select cut	Quartz Vein	Qtz	Sugary white to locally greyish quartz vein, moderate limonite staining, trace pyrite and possible minor sphalerite along fractures which are sometimes parallel. Minor argillite wall rock. Frost heave on roughly east-west trending, high ridge.	Frost Heave	A22-07061
A371252	521503	5408596	284	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Select cut	Quartz Vein	Qtz	Sugary white to greyish quartz vein, minor to moderate limonite and minor hematite staining. Frost heave / loose outcrop on same ridge as previous sample A371251.	Frost Heave	A22-07061
A371253	521503	5408592	286	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Select cut	Quartz Vein	Qtz	Sugary white to greyish quartz vein with minor to moderate limonite staining, weakly to moderately fractured with up to 10% sulphides (pyrite, sphalerite) on frac planes, minor overall. Outcrop ~4m S of previous sample A371252.	Outcrop	A22-07061
A371254	521504	5408589	286	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Select cut	Quartz Vein	Qtz	Sugary white to locally grey to dark grey quartz vein, minor to moderate limonite and minor hematite staining, several parallel fractures, minor pyrite within minor sections of wall rock or greyer quartz, possible minor sphalerite. Frost heave / loose outcrop 3m SSE of previous sample A371253.	Frost Heave	A22-07061
A371255	521508	5408588	286	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Select cut	Metasediment	Sed	Strongly sheared, pervasively rusty, dark grey, fine-grained metasediment where fresher surface visible (probably argillite), moderate bronzy mica (phlogopite?), much pockmarked orange to red-brown rust, might be considerable sphalerite (>10%?). Non-magnetic. Frost heave block 4m ESE of previous sample A371254.	Frost Heave	A22-07061
A371256	521512	5408592	288	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Select cut	Quartz Vein	Qtz	Sugary white-grey quartz vein with minor to moderate limonite staining, possible minor sphalerite along fractures. Frost heave / loose outcrop 4m NE of previous sample A371255 and 1-2m up the ridge.	Frost Heave	A22-07061
A371257	521515	5408592	290	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Select cut	Quartz Vein	Qtz	Glassy to sugary, white to greyish quartz vein with minor to moderate limonite staining, minor pyrite and possibly sphalerite along fracture planes. Outcrop 3m E of previous sample A371256.	Outcrop	A22-07061

Sample	Easting	Northing	Elevation	Date	Area	Claim	Sample Type	Rock Type	Rock Code	Description	Source	Assay Certificate No.
A371258	521520	5408597	290	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Select cut	Quartz Vein	Qtz	Sugary grey-white quartz vein with minor to moderate hematite and limonite staining, trace-0.5% pyrite especially along minor 1-2mm bands of mafic wall rock, weakly fractured, possible minor sphalerite along frac planes. Outcrop 5m NE of previous sample A371257.	Outcrop	A22-07061
A371259	521524	5408597	290	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Select cut	Quartz Vein	Qtz	Glassy to sugary, white-grey quartz vein with minor limonite and minor to moderate hematite staining, moderate to strong presence of dark red-brown rust weathering to almost black, possibly semi-massive sphalerite in vein? Loose outcrop 4m E of previous sample A371258.	Outcrop	A22-07061
A371260	521539	5408604	290	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Grab	Quartz Vein	Qtz	Sugary white-grey quartz vein with minor thin (1-2mm) bands of mafic wall rock, minor to moderate limonite and hematite staining, might be as much as 0.5% sphalerite along fractures. Outcrop on same ridge as previous samples.	Outcrop	A22-07061
A371261	521538	5408607	297	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Grab	Mafic Volcanic	MV	Sheared, weakly to moderately silicified intermediate to mafic volcanic with 1% disseminated pyrite. Talus on moderate to steep SSW-facing slope leading up to rusty rock face ~30m away.	Talus	A22-07061
A371262	521556	5408610	296	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Grab	Gossan	Gos	Pervasively rusty, strongly silicified, weakly to moderately sheared rock of unknown protolith, might be mafic or intermediate volcanic. 3-4% disseminated to blebby pyrite. Talus up-slope of previous sample A371261.	Talus	A22-07061
A371263	521559	5408609.5	296	19-May-22	S-facing ridge / slope east of curved lake in E claims	210273	Grab	Intermediate Volcanic	Int-vol	Very rusty, moderately sheared, silicified intermediate to mafic volcanic with 1-3% blebby pyrite overall, locally up to 10%. Talus on same slope as previous sample A371262.	Talus	A22-07061
A371264	521546	5408621	289	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Grab	Mudstone	Mud	Moderately sheared, strongly silicified rock, possibly fine-grained mudstone as below on the ridge, 1-2% disseminated to blebby pyrite. Talus on same slope as previous sample A371263.	Talus	A22-07061
A371265	521553	5408628	308	19-May-22	S-facing ridge / slope east of curved lake in E claims	191480	Grab	Metasediment	Sed	Very rusty, strongly silicified, somewhat gritty metasediment (greywacke?) or possibly intermediate to mafic tuff. 1% pyrite blebs to stringers. Outcrop in blasted pit on cliff above previous samples.	Outcrop	A22-07061
A371266	521718	5408622	298	19-May-22	S-facing ridge / slope east of curved lake in E claims	210273	Grab	Metasediment	Sed	Rusty, moderately to strongly silicified metasediment (greywacke?) or possible intermediate to mafic tuff, feels a bit gritty, contains 1% disseminated pyrite, minor to moderate mica, possibly phlogopite. Outcrop.	Outcrop	A22-07061
A371267	521714	5408642	295	19-May-22	S-facing ridge / slope east of curved lake in E claims	210273	Select cut	Gossan	Gos	Very rusty, moderately sheared, strongly bleached / silicified rock of unknown protolith. Shearing may strike 040 degrees dipping 80 deg SE, other fractures at 300 degrees dipping 80 deg. NE.	Outcrop	A22-07061
A371268	521502	5408569	291	21-May-22	N-facing slope east of curved lake in E claims	191480	Select cut	Mafic Tuff	Tuff	Moderately to strongly sheared, moderately to strongly silicified mafic to intermediate tuff, some relict feldspar phenos still visible, minor phlogopite, 0.5% pyrite. Outcrop, shear strikes 080 degrees with subvertical dip, lineations in shr plane plunge 50 degrees to E.	Outcrop	A22-07061

Sample	Easting	Northing	Elevation	Date	Area	Claim	Sample Type	Rock Type	Rock Code	Description	Source	Assay Certificate No.
A371269	521461	5408571	285	21-May-22	N-facing slope east of curved lake in E claims	191480	Select cut	Mafic Tuff	Tuff	Rusty, moderately to strongly sheared, moderately to strongly silicified mafic to intermediate tuff, minor 1mm stringers of possible green carb and lesser kspar stringers <1mm, trace-0.5% fine disseminated pyrite. Outcrop, shear strikes 075 degrees dipping 80 deg. S, lineations in shr plane plunge 50-60 deg E.	Outcrop	A22-07061
A371270	521453	5408599	284	21-May-22	S-facing slope north of curved lake in E claims	191480	Select cut	Mafic Tuff	Tuff	Strongly silicified, possible mafic to intermediate tuff with 3-4% disseminated to blebby pyrite. Large (1m by 1m by 0.5m) talus block at base of steep south-facing slope.	Talus	A22-07061
A371271	521465	5408615	296	21-May-22	S-facing slope north of curved lake in E claims	191480	Select cut	Gossan	Gos	Very rusty, strongly silicified, well-foliated rock of unknown protolith with 20-30% pyrite as semi-massive clumps. Large (2m by 2m by 2m) talus boulder at base of steep south-facing slope.	Talus	A22-07061
A371272	521451	5408628	297	21-May-22	S-facing slope north of curved lake in E claims	191480	Select cut	Gossan	Gos	Strongly sheared, strongly silicified gossanous rock with 30-40% pyrite as semi-massive clumps to disseminations. Talus boulder.	Talus	A22-07061
A371273	521450	5408624	297	21-May-22	S-facing slope north of curved lake in E claims	191480	Select cut	Gossan	Gos	Strongly silicified, strongly sheared gossanous rock, 1-2% disseminated to stringer pyrite / pyrrhotite, magnetic. Talus boulder.	Talus	A22-07061
A371274	521320	5408598	297	21-May-22	S-facing slope north of curved lake in E claims	191480	Select cut	Quartz Vein	Qtz	Sugary white to greyish quartz vein with minor to moderate limonite and locally strong hematite staining, moderate overall, moderately fractured with possible sphalerite infill, possibly up to 5% sphalerite. Frost heave on slope facing lake.	Frost Heave	A22-07061
A371275	521175	5408400	295	21-May-22	Alvey Occurrence Pit	144956	Select cut	Argillite	Arg	Strong silicified, strongly sheared argillite with 10% pyrite stringers, moderate phlogopite on shear planes, Outcrop at one of the Alvey pits. 075 to 080 degree strike with subvertical dip.	Outcrop	A22-07061
A371276	521160	5408385	286	21-May-22	Alvey Occurrence Pit	144956	Select cut	Argillite	Arg	Strongly sheared, strongly silicified argillite with 2-3% stringer to disseminated pyrite. Outcrop at one of the Alvey pits. 065 degree strike with subvertical dip.	Outcrop	A22-07061
A371277	521146	5408416	291	21-May-22	Close to Alvey Occurrence	144956	Select cut	Greywacke	Wacke	Rusty, moderately sheared, weakly to moderately silicified greywacke (?), somewhat gritty with feldspar grains in fine-grained dark grey-black matrix, some coarser hornblende crystals visible, minor to moderate hematite staining, minor 1-2mm orange recrystallized quartz stringer. Outcrop, shear strikes 090 degrees with subvertical dip.	Outcrop	A22-07061
A371278	521103	5408371	286	21-May-22	West of Alvey Pits	144956	Select cut	Mafic Tuff	Tuff	Moderately sheared, silicified or possibly albitized intermediate to mafic tuff, somewhat of a greenish hue to the alteration, feldspar phenocrysts are pink-white. Outcrop, shear strikes 070 degrees with subvertical dip.	Outcrop	A22-07061
A371279	521006	5408306	290	21-May-22	West of Alvey Pits	137279	Select cut	Mafic Tuff	Tuff	Sheared, moderately to strongly silicified mafic tuff (?), minor pyrite and possibly up to 1% sphalerite along fractures in rock. Outcrop, shear strikes 075 degrees with subvertical dip.	Outcrop	A22-07061
A371280	521015	5408263	293	21-May-22	West of Alvey Pits close to 3 historical DDHs	137279	Select cut	Mafic Tuff	Tuff	Very rusty, strongly sheared rock, might be strongly albitized, slightly fresher section makes it look like it might be a mafic tuff as seen elsewhere in the area. Could be considerable sphalerite in sections of red-brown rust. Outcrop, shear strikes 075 degrees with subvertical dip.	Outcrop	A22-07061

Sample	Easting	Northing	Elevation	Date	Area	Claim	Sample Type	Rock Type	Rock Code	Description	Source	Assay Certificate No.
A371281	521013	5408157	280	21-May-22	Southwest of Alvey Occurrence in N-S creek	137279	Grab	Granodiorite	Grano	Somewhat rusty, fine-to-medium-grained, weakly to moderately silicified massive granodiorite with minor blebs of quartz and 0.5% pyrite blebs. Might be minor sphalerite. May be a dyke at least a meter wide, goes back into sheared seds to south.	Outcrop	A22-07061
A371282	521178	5408410	283	21-May-22	Northeast of Alvey Pits	144956	Channel	Mafic Tuff	Tuff	Moderately to strongly sheared, silicified mafic tuff with minor disseminated pyrite, might be some sphalerite in red-brown rusty patches. Outcrop, strikes 065 degrees with subvertical dip.	Outcrop	A22-07061
A371283	521292	5408595	286	21-May-22	S-facing slope north of curved lake in E claims	191480	Channel	Quartz Vein	Qtz	Sugary white quartz vein with locally moderate hematite, minor to moderate limonite staining, might be as much as 20% red-brown sphalerite crystals on one side of vein, as a somewhat dendritic-looking mass. Talus on slope.	Talus	A22-07061
A371284	521316	5408605	291	21-May-22	S-facing slope north of curved lake in E claims	191480	Channel	Quartz	Qtz	Sugary, grey to dark grey to white quartz with minor to moderate limonite staining, some darker grey thin bands may be ultra-silicified wall rock. Talus on slope.	Talus	A22-07061
A371285	521742	5409053	298	22-May-22	E-W ridge north of Cascade Lake	107360	Channel	Iron Formation	IF	Strongly sheared, strongly magnetic iron formation with moderate sugary quartz (chert), minor pyrite throughout, magnetite crystals visible, could contain significant sphalerite. Frost heave on saddle-shaped ridge between Cascade Lake and lake to north.	Frost Heave	A22-07061
A371286	521712	5409054	310	22-May-22	E-W ridge north of Cascade Lake	107360	Channel	Chert	Che	Sugary, grey-white to tan quartz / recrystallized chert with minor pyrite. Frost heave on east-facing slope.	Frost Heave	A22-07061
A371287	521704	5409045	317	22-May-22	E-W ridge north of Cascade Lake	107360	Channel	Chert	Che	Sugary, grey to tan to white rusty quartz / recrystallized chert with minor strongly sheared iron formation wall rock which is tan-coloured / bleached with maybe 0.5% magnetite crystals. Outcrop.	Outcrop	A22-07061
A371288	521121	5408786	361	23-May-22	Hilltop 500m W of Cascade Lake	191480	Grab	Garnet-biotite-hornblende Schist	Sch	Garnet-biotite-hornblende schist, red garnet crystals up to 2cm, minor pyrite stringers / blebs. Outcrop.	Outcrop	A22-07061
A371289	521120	5408782	361	23-May-22	Hilltop 500m W of Cascade Lake	191480	Grab	Garnet-biotite-hornblende Schist	Sch	Garnet-biotite-hornblende schist, red garnet crystals up to 2cm, up to 0.5cm seam of magnetite. Outcrop.	Outcrop	A22-07061
A371290	520957	5408914	358	23-May-22	Stream gully between Goldbar and Cascade Lakes	344760	Grab	Chert	Che	Sugary grey-white quartz / recrystallized chert adjacent to iron formation, 1% pyrite stringers associated with minor Fe-carb, minor kspar and / or hematite, and tan-coloured feldspar along fractures (moderate fracs). Outcrop.	Outcrop	A22-07061
A371291	520959	5408914	358	23-May-22	Stream gully between Goldbar and Cascade Lakes	344760	Grab	Iron Formation	IF	Strongly magnetic iron formation with 40% semi-massive to stringer pyrite, minor Fe-carb, minor kspar and / or hematite with fractures and py stringers. Outcrop 2m E of previous sample A371290.	Outcrop	A22-07061
A371292	520959	5408916	356	23-May-22	Stream gully between Goldbar and Cascade Lakes	344760	Grab	Quartz	Qtz	Sugary, grey-white quartz with minor to moderate Fe-carb, minor kspar and / or hematite associated with 1-5% pyrite stringers. Talus 2m N of previous sample A371291.	Talus	A22-07061
A371293	520554	5409038	364	23-May-22	East shore of small lake between Goldbar and Cascade Lakes	336081	Grab	Gossan	Gos	Very rusty, altered rock, moderately to strongly bleached (albite?), in some places looks like might be felsic-intermediate volcanic, elsewhere like possible fine-grained, tan, gritty seds. 0.5-1% blebby to disseminated pyrite. Loose outcrop.	Outcrop	A22-07061
A371294	520573	5409031	370	23-May-22	East shore of small lake between Goldbar and Cascade Lakes	336081	Grab	Chert	Che	Chert, dark grey and light grey bands a few mm wide, minor rusted out sulphides. Outcrop, banding trends 135 degrees.	Outcrop	A22-07061

Sample	Easting	Northing	Elevation	Date	Area	Claim	Sample Type	Rock Type	Rock Code	Description	Source	Assay Certificate No.
A371295	520858	5408946	365	23-May-22	Stream gully between Goldbar and Cascade Lakes	344760	Grab	Iron Formation	IF	Pervasively rusty iron formation with abundant weathered out sulphides, some pieces are as light as pumice. Red-brown to bright orange rust, might have been massive sphalerite (?). Outcrop.	Outcrop	A22-07061
E5830151	521136	5407301	223	04-Sep-22	McKellar Diatreme	286799	Grab	Diatreme	Diat	Diatreme breccia, dark grey fine-grained groundmass with <1mm mafic, quartz and kspar phenocrysts, angular to sub-rounded kspar-rich fragments (syenite?) up to a few cm generally, and angular to sub-rounded quartzite fragments that can be 10cm or greater. Trace pyrite in the matrix. Outcrop.	Outcrop	A22-13026
E5830152	521138	5407286	226	04-Sep-22	McKellar Diatreme	286799	Grab	Diatreme	Diat	Diatreme breccia as per previous description. Outcrop.	Outcrop	A22-13026
E5830153	521129	5407287	226	04-Sep-22	McKellar Diatreme	286799	Grab	Diatreme	Diat	Diatreme breccia, decrease in fragments and increase in kspar phenocrysts. Outcrop.	Outcrop	A22-13026
E5830154	521105	5407269	218	04-Sep-22	McKellar Diatreme	286799	Grab	Diatreme	Diat	Diatreme breccia in outcrop.	Outcrop	A22-13026
E5830155	521106	5407282	217	04-Sep-22	McKellar Diatreme	286799	Grab	Diatreme	Diat	Diatreme breccia in outcrop.	Outcrop	A22-13026
E5830156	521109	5407290	217	04-Sep-22	McKellar Diatreme	286799	Grab	Diatreme	Diat	Diatreme breccia in outcrop.	Outcrop	A22-13026
E5830157	521119	5407297	226	04-Sep-22	McKellar Diatreme	286799	Grab	Diatreme	Diat	Diatreme breccia, sample 'skims' a 10cm quartzite fragment. Outcrop.	Outcrop	A22-13026
E5830158	521094	5407263	217	04-Sep-22	McKellar Diatreme	137281	Grab	Diatreme	Diat	Diatreme breccia, appears to be pockmarks containing iron carbonate alteration. Outcrop.	Outcrop	A22-13026
E5830159	521107	5407239	213	04-Sep-22	McKellar Diatreme	286799	Grab	Diatreme	Diat	Appears to be diatreme without fragments, just the mafic groundmass and <<1mm phenocrysts, with minor pyrite specks and minor Fe-carb staining. Outcrop.	Outcrop	A22-13026
E5830164	521089	5407134	216	05-Sep-22	Streambed in southern claims.	137281	Grab	Syenogabbro	Sye	Syenogabbro with minor ~1mm quartz-kspar stringers, trace-0.5% pyrite. 30 by 15 by 10cm angular float in streambed.	Float	A22-13026
E5830165	521084	5407136	210	05-Sep-22	Streambed in southern claims.	137281	Grab	Quartz	Qtz	Mostly recrystallized quartz, locally magnetic with 1-2% pyrite stringers, may be altered chert. Somewhat rusty subangular 20 by 20 by 10cm boulder in streambed.	Float	A22-13026
E5830166	521081	5407146	207	05-Sep-22	Streambed in southern claims.	137281	Grab	Quartz	Qtz	Glassy, white-grey quartz, may be some grey strongly silicified wall rock, trace-0.5% pyrite. 40 by 40 by 20cm angular boulder in streambed.	Float	A22-13026
E5830167	521076	5407154	204	05-Sep-22	Streambed in southern claims.	137281	Grab	Felsic Intrusive	Fel-int	Felsic intrusive brecciated by moderate white quartz veining. Possible minor to moderate Fe-carb alteration, 0.5% disseminated pyrite. Subangular 5cm float in streambed.	Float	A22-13026
E5830168	521051	5407181	214	05-Sep-22	Streambed in southern claims.	137281	Grab	Diatreme	Diat	Possible diatreme, moderate rounded kspar-rich fragments (syenite?), minor pyrite. Subangular 40 by 20 by 10cm float in streambed.	Float	A22-13026
E5830169	521016	5407209	203	05-Sep-22	Streambed in southern claims.	137281	Grab	Argillite	Arg	Strongly quartz-flooded argillite with semi-massive pyrite (50%?), with perhaps 2-3% chalcopyrite and minor bornite. Sub-rounded to sub-angular boulder in streambed.	Float	A22-13026
E5830170	521000	5407233	211	05-Sep-22	Streambed in southern claims.	137281	Grab	Metasediment	Sed	Fine-grained, dark grey, silicified metasediment with moderate white quartz veining and felsic dykelets associated with 0.5% pyrite overall and minor kspar. May be a fault on this (SW) side of the stream, as the outcrop in the stream does not appear to be mineralized.	Outcrop	A22-13026
E5830171	521359	5407127	209	05-Sep-22	North side of Highway 17.	286799	Grab	Metasediment	Sed	Rusty, fine-grained, grey metasediments with 1% pyrite stringers. Outcrop close to highway, strikes ~270 degrees with steep dip N.	Outcrop	A22-13026

Sample	Easting	Northing	Elevation	Date	Area	Claim	Sample Type	Rock Type	Rock Code	Description	Source	Assay Certificate No.
E5830172	521389	5407148	209	05-Sep-22	North side of Highway 17.	286799	Grab	Metasediment	Sed	Rusty, silicified, fine-grained, grey metasediments with 1% pyrite stringers. Outcrop close to highway, strikes 274 degrees dipping 77 deg. N.	Outcrop	A22-13026
B25516									Std	Standard OREAS 219		A22-07061
B25517									Blk	Blank CDN BL-10		A22-07061
B25518									Std	Standard OREAS 229b		A22-07061

APPENDIX II

Rock Sample Assay Certificates
(ActLabs)

Quality Analysis ... *Innovative Technologies*

Report No.: **A22-07061**
Report Date: **18-Aug-22**
Date Submitted: **27-May-22**
Your Reference: **MCK**

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

ATTN: Bruce MacLachlan

CERTIFICATE OF ANALYSIS

92 Rock samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
1A2-50-Tbay	QOP AA-Au (Au - Fire Assay AA)	2022-06-21 18:26:54
1A3-50-Tbay	QOP AA-Au (Au - Fire Assay Gravimetric)	2022-06-24 12:57:12
1C-OES-Tbay	QOP PGE-OES (Fire Assay ICPOES)	2022-08-17 08:52:29
1F2-Tbay	QOP Total (Total Digestion ICPOES)	2022-07-25 13:16:20

REPORT **A22-07061**

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.

Footnote: no material for sample B416201-B416204. Insufficient material for B25518.

SCC Accredited LAB LAB Accrédité CCN TM

LabID: 673

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control Coordinator

ACTIVATION LABORATORIES LTD.
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Report No.: **A22-07061**
Report Date: **18-Aug-22**
Date Submitted: **27-May-22**
Your Reference: **MCK**

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

ATTN: Bruce MacLachlan

CERTIFICATE OF ANALYSIS

92 Rock samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
8-Peroxide ICP	QOP Sodium Peroxide (Sodium Peroxide Fusion ICP)	

REPORT **A22-07061**

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.

Footnote: no material for sample B416201-B416204. Insufficient material for B25518.

SCC Accredited LAB Accrédité CCN TM

LabID: 266

CERTIFIED BY:

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Quality Control Coordinator

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Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
B416205	7	80.3	1.06	99	44	< 1	< 2	20.4	295	7	15	183	5.91	3	0.37	6.08	2	12900	6	0.01	20	0.012	2200
B416206	6	41.0	1.08	172	30	< 1	8	18.3	139	8	17	76	9.27	3	0.38	5.91	3	16700	3	0.01	19	0.013	1610
B416207	< 5	9.1	7.65	58	108	2	< 2	4.05	4.0	51	125	90	7.32	18	0.27	0.54	56	2700	3	0.02	117	0.064	132
B416208	< 5	0.5	7.79	16	> 1000	2	< 2	4.79	1.0	28	12	38	6.35	17	1.64	2.02	27	1110	2	2.66	30	0.232	11
B416209	< 5	< 0.3	0.09	< 3	8	< 1	< 2	0.04	< 0.3	< 1	45	6	0.77	< 1	0.04	0.01	< 1	181	3	0.01	3	0.002	3
B416210	< 5	< 0.3	1.81	< 3	86	< 1	< 2	0.51	< 0.3	< 1	34	< 1	1.49	4	0.52	0.18	8	384	3	0.25	3	0.003	< 3
B416211	< 5	< 0.3	3.17	< 3	174	< 1	< 2	1.04	0.5	< 1	39	14	2.38	13	0.96	0.45	15	1680	3	0.17	4	0.006	74
B416212	< 5	0.9	5.76	< 3	107	< 1	< 2	0.44	< 0.3	20	177	56	7.33	17	0.50	1.70	20	826	2	3.77	129	0.157	37
B416213	< 5	< 0.3	1.16	< 3	14	< 1	< 2	0.51	< 0.3	9	26	6	5.20	8	0.03	0.36	11	720	2	0.02	16	0.004	6
B416214	< 5	0.7	5.56	< 3	117	< 1	< 2	1.67	< 0.3	27	134	48	9.93	13	0.82	1.78	23	1960	2	1.57	108	0.091	34
B416215	< 5	0.7	5.69	< 3	435	2	4	1.15	< 0.3	2	9	2	8.70	21	2.12	1.03	31	1520	< 1	1.26	4	0.009	6
B416216	< 5	0.9	6.19	< 3	410	2	< 2	0.13	< 0.3	< 1	22	7	4.07	16	2.34	0.14	6	1090	< 1	2.86	3	0.013	< 3
B416217	< 5	1.0	5.56	31	77	1	2	3.74	< 0.3	2	9	25	18.6	16	0.20	1.20	36	13800	< 1	0.01	7	0.016	11
B416218	< 5	0.9	4.20	6	62	1	< 2	3.66	< 0.3	< 1	10	5	22.4	13	0.13	1.89	6	12600	< 1	0.22	6	0.015	15
B416219	< 5	< 0.3	7.53	15	194	< 1	< 2	3.32	< 0.3	24	103	53	8.53	20	0.85	2.23	34	2930	< 1	2.18	65	0.110	< 3
B416220	< 5	< 0.3	0.08	< 3	14	< 1	10	0.76	0.7	< 1	26	5	12.1	1	0.01	1.02	< 1	6730	3	0.01	5	0.004	40
B416221	< 5	0.3	7.80	< 3	45	1	3	1.94	< 0.3	69	189	7	5.15	18	0.18	1.84	15	2610	< 1	5.01	173	0.133	16
B416222	< 5	0.9	6.35	< 3	65	< 1	2	1.48	< 0.3	33	157	24	7.72	17	0.29	1.49	8	1860	1	4.71	186	0.124	26
B416223	< 5	0.6	6.47	5	97	< 1	< 2	1.49	< 0.3	9	117	6	6.39	15	0.32	1.54	6	1070	< 1	4.47	53	0.087	55
B416224	< 5	0.5	7.72	< 3	95	3	< 2	0.31	5.4	28	64	44	7.91	20	0.25	2.65	25	1140	2	4.09	144	0.120	46
B416225	7	0.4	6.61	18	78	< 1	< 2	0.87	< 0.3	26	45	13	10.4	16	0.71	1.24	7	884	1	4.21	130	0.084	20
B416226	9	1.1	5.13	38	51	< 1	< 2	0.30	< 0.3	44	28	6	14.4	13	0.40	0.67	10	568	5	3.25	66	0.043	396
B416227	< 5	< 0.3	0.74	< 3	33	< 1	< 2	0.18	0.4	8	33	103	1.99	3	0.03	0.38	5	341	5	0.26	11	0.005	8
B416228	30	1.0	1.23	206	50	< 1	5	0.02	< 0.3	13	18	2	12.7	4	0.36	0.01	4	100	11	1.09	17	0.006	49
B416229	5	< 0.3	4.18	< 3	62	< 1	< 2	3.27	< 0.3	< 1	109	6	9.90	13	0.21	1.05	10	2110	< 1	0.31	13	0.128	7
B416230	< 5	< 0.3	0.66	5	31	< 1	< 2	0.02	< 0.3	3	36	12	3.63	3	0.08	0.04	1	180	10	0.35	11	0.020	9
B416231	< 5	< 0.3	9.75	< 3	320	1	< 2	1.71	< 0.3	30	201	12	10.8	25	1.40	2.42	54	2470	< 1	2.69	91	0.134	< 3
B416232	< 5	< 0.3	0.06	< 3	9	< 1	< 2	0.03	< 0.3	< 1	35	7	2.35	< 1	0.04	0.01	< 1	119	2	0.02	6	0.005	5
B416233	< 5	< 0.3	0.05	< 3	< 7	< 1	< 2	0.29	< 0.3	1	38	6	1.91	< 1	0.01	0.13	< 1	467	2	0.01	3	0.002	< 3
B416234	< 5	< 0.3	0.08	3	< 7	< 1	< 2	0.71	< 0.3	< 1	35	30	4.38	< 1	0.01	0.29	< 1	1610	2	0.02	5	0.002	< 3
B416235	< 5	< 0.3	7.62	< 3	166	< 1	< 2	2.50	< 0.3	29	115	9	4.97	16	0.82	1.70	12	1690	< 1	4.40	92	0.104	35
B416236	< 5	< 0.3	2.94	< 3	282	1	< 2	0.11	< 0.3	< 1	34	3	1.25	8	1.52	0.22	11	425	2	0.18	3	0.007	12
B416237	< 5	< 0.3	0.48	< 3	31	< 1	< 2	0.09	< 0.3	< 1	41	27	1.04	1	0.17	0.06	3	263	3	0.04	3	0.006	16
B416238	< 5	0.6	4.78	< 3	336	1	< 2	0.22	< 0.3	< 1	20	6	5.60	14	1.54	0.87	31	1280	2	0.50	5	0.012	6
B416239	< 5	< 0.3	8.86	< 3	117	< 1	< 2	1.84	0.6	24	98	30	3.98	20	0.36	2.09	16	1800	< 1	5.39	165	0.101	31
B416240	< 5	< 0.3	3.06	< 3	136	< 1	< 2	0.18	< 0.3	13	69	15	1.72	7	0.95	0.36	20	328	< 1	1.39	34	0.046	< 3
B416241	5	11.6	4.74	216	95	2	< 2	0.54	88.5	23	11	95	10.2	10	1.44	0.46	22	16700	33	0.02	20	0.184	635
B416242	< 5	< 0.3	5.65	< 3	341	< 1	< 2	0.07	< 0.3	< 1	17	3	1.13	13	0.73	0.09	4	164	1	3.62	2	0.008	< 3
B416243	6	0.5	7.44	< 3	> 1000	2	< 2	5.24	< 0.3	41	7	102	9.83	17	1.01	2.65	20	1740	1	3.00	26	0.389	< 3
B416244	5	0.9	3.16	22	47	2	2	0.10	< 0.3	27	77	109	8.14	9	0.14	0.39	37	570	4	0.02	39	0.033	9
A371251	< 5	< 0.3	0.21	7	39	< 1	< 2	0.01	< 0.3	< 1	31	7	2.61	1	0.11	0.02	< 1	134	4	0.01	3	0.006	4
A371252	< 5	< 0.3	0.10	< 3	13	< 1	< 2	< 0.01	< 0.3	< 1	29	3	1.27	< 1	0.04	0.02	< 1	117	2	0.01	2	0.003	< 3
A371253	< 5	< 0.3	0.07	< 3	< 7	< 1	< 2	0.02	< 0.3	< 1	33	3	1.09	< 1	< 0.01	0.01	< 1	178	2	0.01	4	0.003	< 3
A371254	< 5	< 0.3	0.05	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	34	5	1.22	< 1	0.01	< 0.01	< 1	137	2	0.01	5	0.002	< 3
A371255	< 5	0.7	4.09	16	163	< 1	< 2	0.02	< 0.3	< 1	41	65	17.8	18	1.18	0.74	15	1030	9	0.02	5	0.044	15
A371256	< 5	< 0.3	0.06	< 3	9	< 1	< 2	< 0.01	< 0.3	< 1	38	8	1.80	< 1	0.03	0.01	< 1	130	2	< 0.01	2	0.005	< 3
A371257	< 5	< 0.3	0.05	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	35	3	1.66	< 1	0.01	< 0.01	< 1	98	2	< 0.01	3	0.004	< 3
A371258	< 5	< 0.3	0.13	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	44	4	1.40	< 1	0.01	0.06	1	222	3	< 0.01	6	0.002	< 3
A371259	< 5	< 0.3	0.07	< 3	8	< 1	< 2	0.02	< 0.3	1	30	5	1.78	< 1	< 0.01	< 0.01	< 1	608	2	< 0.01	6	0.005	< 3
A371260	< 5	< 0.3	0.09	< 3	< 7	< 1	< 2	0.01	< 0.3	2	25	5	1.56	< 1	0.02	< 0.01	< 1	290	2	0.01	6	0.002	3
A371261	8	0.5	8.62	< 3	31	< 1	< 2	1.12	0.5	227	111	107	12.7	25	1.36	2.97	54	1130	1	1.93	391	0.142	< 3

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
A371262	5	0.4	7.29	< 3	38	< 1	< 2	1.33	< 0.3	51	89	106	11.7	13	0.82	1.29	30	645	1	2.17	321	0.109	< 3
A371263	9	0.5	7.40	< 3	72	< 1	< 2	0.85	< 0.3	91	108	129	15.7	21	0.94	2.94	61	1020	2	1.70	305	0.117	4
A371264	7	0.5	6.38	< 3	71	< 1	5	0.98	< 0.3	68	169	93	8.15	20	1.06	1.67	42	632	3	2.23	188	0.105	< 3
A371265	< 5	0.5	7.16	< 3	138	< 1	< 2	0.93	< 0.3	32	158	44	6.68	13	0.82	1.15	27	632	< 1	2.93	120	0.113	< 3
A371266	< 5	0.5	7.95	< 3	204	2	< 2	2.19	< 0.3	23	122	78	4.71	18	0.75	2.71	16	869	3	4.06	52	0.164	13
A371267	< 5	< 0.3	0.16	< 3	27	< 1	2	1.20	< 0.3	< 1	17	6	19.2	4	0.09	1.28	< 1	7140	< 1	0.02	9	0.005	5
A371268	< 5	< 0.3	7.51	< 3	169	< 1	< 2	1.45	< 0.3	11	120	39	7.02	19	0.56	2.41	39	712	< 1	2.92	58	0.149	6
A371269	< 5	< 0.3	7.82	< 3	90	< 1	< 2	3.29	< 0.3	21	98	34	5.84	22	0.41	2.37	23	1000	< 1	3.63	78	0.127	< 3
A371270	5	0.4	6.96	< 3	40	< 1	< 2	1.70	< 0.3	30	71	99	12.2	15	0.58	2.49	47	838	< 1	1.57	304	0.108	< 3
A371271	6	< 0.3	6.65	45	33	< 1	< 2	2.03	< 0.3	116	88	34	11.0	14	0.75	1.34	31	533	< 1	1.42	136	0.096	< 3
A371272	7	0.3	6.29	43	31	< 1	< 2	1.98	< 0.3	102	84	60	13.0	16	0.77	1.65	33	491	1	1.56	92	0.095	< 3
A371273	< 5	0.3	7.99	< 3	205	< 1	< 2	2.97	0.3	28	105	35	4.91	18	0.57	2.10	27	646	< 1	2.59	104	0.100	4
A371274	< 5	< 0.3	0.08	8	< 7	< 1	< 2	0.01	< 0.3	< 1	38	9	3.50	< 1	0.01	< 0.01	< 1	120	4	0.01	6	0.009	< 3
A371275	9	0.5	5.16	39	30	< 1	< 2	1.33	< 0.3	53	88	105	17.9	13	0.49	1.57	20	492	4	1.31	75	0.083	< 3
A371276	7	0.4	7.14	16	48	< 1	< 2	2.93	0.8	43	56	69	9.36	14	0.49	1.85	15	622	1	2.39	95	0.104	< 3
A371277	< 5	< 0.3	7.80	< 3	116	< 1	< 2	3.84	< 0.3	10	100	18	9.06	18	0.17	3.13	20	1130	< 1	1.64	30	0.094	< 3
A371278	< 5	0.3	8.53	< 3	62	< 1	< 2	2.99	< 0.3	2	86	10	5.39	18	0.30	2.62	15	941	< 1	3.36	6	0.132	4
A371279	< 5	< 0.3	7.82	5	97	< 1	< 2	2.70	< 0.3	< 1	114	7	9.08	18	0.28	2.31	13	1020	< 1	2.83	8	0.079	5
A371280	8	0.8	6.00	10	474	< 1	< 2	0.63	< 0.3	< 1	91	27	10.0	19	1.83	0.71	7	226	5	2.50	12	0.073	9
A371281	< 5	0.4	8.74	< 3	714	2	< 2	2.35	< 0.3	12	14	16	4.25	20	1.68	1.28	27	726	< 1	3.07	3	0.105	11
A371282	7	0.4	5.68	< 3	207	< 1	< 2	2.30	0.4	< 1	116	28	12.3	17	0.81	1.99	11	646	< 1	1.49	7	0.072	< 3
A371283	< 5	0.3	0.11	< 3	< 7	< 1	< 2	0.08	< 0.3	< 1	29	4	2.56	< 1	< 0.01	0.11	< 1	1210	1	0.01	2	0.012	< 3
A371284	< 5	< 0.3	0.04	4	< 7	< 1	< 2	< 0.01	< 0.3	< 1	35	3	0.98	< 1	0.01	< 0.01	< 1	108	2	0.01	2	0.004	< 3
A371285	< 5	< 0.3	0.37	< 3	14	< 1	3	0.44	< 0.3	3	20	11	20.0	2	0.04	1.77	1	11200	20	0.02	8	0.004	9
A371286	< 5	0.7	0.06	4	10	< 1	< 2	0.26	0.7	1	34	6	2.04	< 1	< 0.01	0.06	5	1560	3	< 0.01	4	0.003	28
A371287	< 5	< 0.3	0.39	< 3	< 7	< 1	4	0.21	< 0.3	1	24	3	15.3	1	0.01	1.57	< 1	8910	< 1	0.01	6	0.008	4
A371288	< 5	1.0	6.85	5	18	< 1	< 2	3.29	< 0.3	2	10	24	21.6	23	0.21	2.53	18	7660	< 1	0.30	7	0.013	< 3
A371289	< 5	0.9	3.75	4	62	< 1	< 2	4.47	< 0.3	< 1	6	15	24.5	12	0.17	2.16	4	17600	4	0.26	5	0.023	< 3
A371290	7	0.5	0.12	< 3	12	< 1	< 2	0.04	< 0.3	5	32	39	6.88	3	< 0.01	0.04	1	725	3	0.01	11	0.003	32
A371291	7	1.2	1.35	9	17	< 1	3	0.20	< 0.3	15	16	101	22.9	7	0.04	0.41	6	2960	10	< 0.01	33	0.008	24
A371292	8	1.1	0.65	< 3	42	< 1	8	0.06	< 0.3	17	38	101	14.5	4	< 0.01	0.14	8	1420	3	< 0.01	30	0.002	21
A371293	7	0.5	5.92	< 3	41	< 1	< 2	0.17	< 0.3	42	120	204	11.6	18	0.24	0.78	13	339	1	3.62	49	0.103	46
A371294	6	< 0.3	1.03	6	32	< 1	< 2	0.10	< 0.3	< 1	28	27	1.30	2	0.05	0.01	10	109	5	0.02	3	0.072	< 3
A371295	7	0.6	0.15	24	132	< 1	3	< 0.01	< 0.3	< 1	15	87	42.3	27	0.05	0.02	2	64	< 1	< 0.01	4	0.042	61
B25516	743	0.3	6.64	10	211	< 1	< 2	6.15	< 0.3	43	87	157	9.42	16	0.32	3.81	11	1520	< 1	2.24	74	0.052	< 3
B25517	7	< 0.3	6.97	< 3	789	< 1	< 2	1.75	< 0.3	4	22	30	2.61	12	1.49	0.51	3	694	5	3.07	13	0.040	< 3
B25518	> 5000																						

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	Au	Pd	Pt
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	ppb	ppb
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.02	5	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FA-GRA	FA-ICP	FA-ICP
B416205	37	2.58	< 4	265	11	0.06	< 5	< 10	29	5	4	> 10000	13			
B416206	21	3.07	5	225	9	0.07	< 5	< 10	33	10	5	> 10000	16			
B416207	< 5	0.04	29	41	< 2	0.42	< 5	< 10	199	< 5	13	341	87			
B416208	< 5	0.03	9	1200	3	0.47	< 5	< 10	117	5	21	113	173			
B416209	< 5	< 0.01	< 4	4	< 2	< 0.01	< 5	< 10	2	< 5	1	29	< 5			
B416210	< 5	< 0.01	< 4	24	< 2	0.03	< 5	< 10	< 2	< 5	10	38	58			
B416211	< 5	0.09	< 4	62	< 2	0.03	< 5	< 10	3	< 5	24	166	42			
B416212	< 5	0.91	17	149	16	0.97	< 5	< 10	208	< 5	12	82	162			
B416213	< 5	0.89	< 4	8	< 2	0.03	< 5	< 10	10	< 5	12	21	68			
B416214	< 5	2.03	15	121	< 2	0.63	< 5	< 10	144	< 5	10	123	60			
B416215	< 5	0.16	6	178	< 2	0.12	< 5	< 10	3	< 5	33	30	352			
B416216	< 5	0.16	5	58	< 2	0.14	< 5	< 10	8	< 5	34	23	438			
B416217	< 5	0.42	6	56	5	0.15	< 5	< 10	13	< 5	37	91	303			
B416218	< 5	0.73	5	49	9	0.11	< 5	< 10	7	6	27	94	232			
B416219	< 5	0.30	24	327	5	0.27	< 5	< 10	140	6	17	49	17			
B416220	< 5	0.05	< 4	10	< 2	< 0.01	< 5	< 10	7	5	7	218	8			
B416221	< 5	0.75	21	74	21	0.82	< 5	< 10	180	< 5	23	79	77			
B416222	< 5	2.67	18	96	8	0.91	< 5	< 10	185	< 5	10	28	84			
B416223	< 5	1.77	16	68	4	0.64	< 5	< 10	137	< 5	8	38	63			
B416224	< 5	2.23	20	53	6	0.86	< 5	< 10	190	9	33	2660	135			
B416225	< 5	4.84	14	63	2	0.62	< 5	< 10	151	< 5	9	30	79			
B416226	< 5	11.9	8	97	4	0.82	< 5	< 10	139	< 5	5	38	85			
B416227	< 5	0.14	< 4	8	< 2	0.03	< 5	< 10	13	< 5	2	227	27			
B416228	< 5	9.83	< 4	19	< 2	0.04	< 5	< 10	6	< 5	2	4	18			
B416229	< 5	0.52	13	191	6	0.44	< 5	< 10	123	< 5	16	59	26			
B416230	< 5	1.28	< 4	9	< 2	0.05	< 5	< 10	12	< 5	3	8	46			
B416231	< 5	1.30	26	337	< 2	0.60	< 5	< 10	110	< 5	19	52	36			
B416232	< 5	0.59	< 4	3	< 2	< 0.01	< 5	< 10	6	< 5	< 1	10	< 5			
B416233	< 5	0.10	< 4	2	< 2	< 0.01	< 5	< 10	4	< 5	< 1	5	< 5			
B416234	< 5	0.37	< 4	4	< 2	< 0.01	< 5	< 10	9	< 5	2	13	8			
B416235	< 5	0.61	19	121	3	0.53	< 5	< 10	102	< 5	16	37	48			
B416236	< 5	< 0.01	< 4	26	< 2	0.16	< 5	< 10	3	< 5	24	81	71			
B416237	< 5	0.03	< 4	3	< 2	< 0.01	< 5	< 10	< 2	< 5	4	23	6			
B416238	< 5	0.63	6	58	< 2	0.13	< 5	< 10	5	< 5	27	47	282			
B416239	< 5	0.15	23	178	< 2	0.26	< 5	< 10	64	< 5	24	449	58			
B416240	< 5	0.14	8	74	< 2	0.37	< 5	< 10	80	< 5	10	18	20			
B416241	15	0.95	13	80	9	0.42	< 5	< 10	117	10	23	> 10000	43			
B416242	< 5	0.01	5	76	< 2	0.15	< 5	< 10	3	< 5	18	25	169		< 5	< 5
B416243	< 5	0.08	19	868	< 2	0.76	< 5	< 10	235	< 5	29	125	206			
B416244	< 5	0.74	7	13	< 2	0.24	< 5	< 10	48	8	25	590	185		< 5	< 5
A371251	< 5	0.10	< 4	3	< 2	0.01	< 5	< 10	12	< 5	< 1	32	9			
A371252	< 5	0.06	< 4	2	< 2	0.01	< 5	< 10	8	< 5	1	6	16			
A371253	< 5	0.07	< 4	2	< 2	< 0.01	< 5	< 10	4	< 5	< 1	7	7			
A371254	< 5	0.15	< 4	3	< 2	< 0.01	< 5	< 10	3	< 5	< 1	10	< 5			
A371255	< 5	0.32	13	4	3	0.46	< 5	< 10	139	21	2	152	205			
A371256	< 5	0.09	< 4	1	< 2	< 0.01	< 5	< 10	8	< 5	< 1	8	8			
A371257	< 5	0.08	< 4	2	< 2	< 0.01	< 5	< 10	4	< 5	< 1	4	9			
A371258	< 5	0.20	< 4	2	< 2	0.02	< 5	< 10	14	< 5	< 1	30	11			
A371259	< 5	0.06	< 4	2	< 2	< 0.01	< 5	< 10	5	< 5	1	16	16			
A371260	< 5	0.08	< 4	3	< 2	< 0.01	< 5	< 10	5	< 5	< 1	20	6			

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	Au	Pd	Pt
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	ppb	ppb
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.02	5	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FA-GRA	FA-ICP	FA-ICP
A371261	< 5	8.08	25	147	< 2	0.50	< 5	< 10	224	5	15	417	159			
A371262	< 5	6.65	18	168	< 2	0.42	< 5	< 10	156	< 5	14	191	114			
A371263	< 5	9.26	21	124	< 2	0.49	< 5	< 10	205	< 5	13	137	129			
A371264	< 5	5.24	17	174	3	0.71	< 5	< 10	209	< 5	10	126	133			
A371265	< 5	1.92	17	196	10	0.72	< 5	< 10	168	< 5	18	130	121			
A371266	< 5	1.80	15	440	6	0.36	< 5	< 10	139	< 5	16	120	226			
A371267	< 5	0.24	< 4	5	< 2	< 0.01	< 5	< 10	8	< 5	2	12	8			
A371268	< 5	1.30	20	241	< 2	0.49	< 5	< 10	84	< 5	14	178	76			
A371269	< 5	0.93	19	119	< 2	0.42	< 5	< 10	77	< 5	18	214	60			
A371270	< 5	8.33	18	161	< 2	0.48	< 5	< 10	164	< 5	13	138	108			
A371271	< 5	9.50	16	149	< 2	0.58	< 5	< 10	157	< 5	14	214	88			
A371272	< 5	10.4	14	164	< 2	0.47	< 5	< 10	153	< 5	11	199	94			
A371273	< 5	1.91	16	235	< 2	0.60	< 5	< 10	162	< 5	13	228	102			
A371274	< 5	0.03	< 4	4	< 2	< 0.01	< 5	< 10	6	< 5	< 1	13	< 5			
A371275	< 5	15.8	13	153	8	0.37	< 5	< 10	139	< 5	11	111	92			
A371276	< 5	8.17	17	266	3	0.55	< 5	< 10	151	< 5	17	382	102			
A371277	< 5	0.18	23	172	< 2	0.25	< 5	< 10	108	< 5	16	90	25			
A371278	< 5	0.27	25	385	< 2	0.56	< 5	< 10	182	< 5	15	113	127			
A371279	< 5	0.54	19	264	4	0.39	< 5	< 10	98	< 5	12	90	56			
A371280	< 5	0.48	11	226	8	0.55	< 5	< 10	170	< 5	5	106	126			
A371281	< 5	0.59	6	885	10	0.32	< 5	< 10	58	< 5	9	80	129			
A371282	< 5	0.59	17	221	< 2	0.52	< 5	< 10	151	< 5	8	70	48			
A371283	< 5	0.03	< 4	3	< 2	0.01	< 5	< 10	5	< 5	2	20	< 5			
A371284	< 5	0.03	< 4	2	< 2	< 0.01	< 5	< 10	3	< 5	< 1	4	< 5			
A371285	< 5	0.08	5	9	< 2	0.02	< 5	< 10	9	< 5	17	207	16			
A371286	< 5	0.03	< 4	7	< 2	< 0.01	< 5	< 10	5	< 5	2	229	< 5			
A371287	< 5	0.04	< 4	< 1	13	0.02	< 5	< 10	8	< 5	9	117	16			
A371288	< 5	0.30	8	27	< 2	0.17	< 5	< 10	19	6	34	109	371			
A371289	< 5	0.06	4	132	5	0.09	< 5	< 10	4	< 5	26	80	214			
A371290	< 5	2.87	< 4	2	2	< 0.01	< 5	< 10	7	< 5	3	63	6			
A371291	< 5	10.5	< 4	5	4	0.04	< 5	< 10	35	7	12	53	54			
A371292	< 5	8.56	< 4	2	< 2	< 0.01	< 5	< 10	16	< 5	4	22	13			
A371293	< 5	1.26	18	82	3	0.57	< 5	< 10	164	< 5	9	15	33			
A371294	< 5	0.06	< 4	8	< 2	0.05	< 5	< 10	31	< 5	6	5	< 5			
A371295	13	0.78	< 4	2	< 2	0.10	< 5	20	108	< 5	7	17	48			
B25516	< 5	0.18	39	118	< 2	0.70	< 5	< 10	300	< 5	23	97	50			
B25517	< 5	0.05	6	196	< 2	0.19	< 5	< 10	34	< 5	15	39	61			
B25518														12.2		

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Oreas 72a (4 Acid) Meas				< 3						145	191	311	9.11								6310		
Oreas 72a (4 Acid) Cert				14.7						157	228	316	9.63								6930.000		
Oreas 72a (4 Acid) Meas				4						148	168	313	9.33								6480		
Oreas 72a (4 Acid) Cert				14.7						157	228	316	9.63								6930.000		
Oreas 72a (4 Acid) Meas				< 3						145	174	312	9.14								6510		
Oreas 72a (4 Acid) Cert				14.7						157	228	316	9.63								6930.000		
Oreas 72a (4 Acid) Meas				< 3						149	167	295	9.58								6390		
Oreas 72a (4 Acid) Cert				14.7						157	228	316	9.63								6930.000		
Oreas 72a (4 Acid) Meas				6						145	182	344	9.53								6330		
Oreas 72a (4 Acid) Cert				14.7						157	228	316	9.63								6930.000		
Oreas 72a (4 Acid) Meas				4						139	165	316	9.33								6280		
Oreas 72a (4 Acid) Cert				14.7						157	228	316	9.63								6930.000		
OREAS 98 (4 Acid) Meas		41.6					77			121		> 10000											293
OREAS 98 (4 Acid) Cert		45.1					97.2			121		148000											345
OREAS 98 (4 Acid) Meas		41.0					58			122		> 10000											300
OREAS 98 (4 Acid) Cert		45.1					97.2			121		148000											345
OREAS 98 (4 Acid) Meas		38.9					70			118		> 10000											285
OREAS 98 (4 Acid) Cert		45.1					97.2			121		148000											345
OREAS 98 (4 Acid) Meas		43.1					63			123		> 10000											304
OREAS 98 (4 Acid) Cert		45.1					97.2			121		148000											345
OREAS 98 (4 Acid) Meas		42.6					44			122		> 10000											303
OREAS 98 (4 Acid) Cert		45.1					97.2			121		148000											345
OREAS 98 (4 Acid) Meas		39.6					3			115		> 10000											299
OREAS 98 (4 Acid) Cert		45.1					97.2			121		148000											345
OREAS 904 (4 Acid) Meas		0.7	6.47	103	213	10	11	0.05		93	57	6540	6.71	19	3.12	0.58	17	440	3	0.04	49	0.108	10
OREAS 904 (4 Acid) Cert		0.551	6.30	98.0	194	7.86	4.05	0.0460		83.0	54.0	6120	6.68	16.7	3.31	0.556	16.7	410	2.12	0.0340	40.1	0.0980	10.6
OREAS 904 (4 Acid) Meas		0.3	6.67	83	221	10	7	0.05		96	55	6360	6.87	16	1.85	0.60	16	445	2	0.04	49	0.099	11
OREAS 904 (4 Acid) Cert		0.551	6.30	98.0	194	7.86	4.05	0.0460		83.0	54.0	6120	6.68	16.7	3.31	0.556	16.7	410	2.12	0.0340	40.1	0.0980	10.6
OREAS 904 (4 Acid) Meas		0.6	6.47	96	211	9	4	0.05		94	52	6150	6.61	16	2.91	0.58	16	419	3	0.04	44	0.103	10

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
OREAS 904 (4 Acid) Cert		0.551	6.30	98.0	194	7.86	4.05	0.0460		83.0	54.0	6120	6.68	16.7	3.31	0.556	16.7	410	2.12	0.0340	40.1	0.0980	10.6
OREAS 904 (4 Acid) Meas		0.6	6.71	103	193	10	< 2	0.05		96	64	5900	6.87	17	2.31	0.60	17	472	3	0.04	44	0.101	10
OREAS 904 (4 Acid) Cert		0.551	6.30	98.0	194	7.86	4.05	0.0460		83.0	54.0	6120	6.68	16.7	3.31	0.556	16.7	410	2.12	0.0340	40.1	0.0980	10.6
OREAS 904 (4 Acid) Meas		0.4	6.86	108	214	10	3	0.05		98	60	6100	6.98	17	3.04	0.61	17	471	2	0.04	48	0.100	13
OREAS 904 (4 Acid) Cert		0.551	6.30	98.0	194	7.86	4.05	0.0460		83.0	54.0	6120	6.68	16.7	3.31	0.556	16.7	410	2.12	0.0340	40.1	0.0980	10.6
SBC-1 Meas				18	803	3	< 2		< 0.3	23	79	30		27			172		3		85		27
SBC-1 Cert				25.7	788.0	3.20	0.70		0.40	22.7	109	31.0		27.0			163		2		83		35.0
SBC-1 Meas				29	800	3	2		< 0.3	21	76	34		24			150		3		83		25
SBC-1 Cert				25.7	788.0	3.20	0.70		0.40	22.7	109	31.0		27.0			163		2		83		35.0
SBC-1 Meas				29	713	3	< 2		0.4	22	111	29		27			161		2		84		29
SBC-1 Cert				25.7	788.0	3.20	0.70		0.40	22.7	109	31.0		27.0			163		2		83		35.0
SBC-1 Meas				24	662	3	< 2		0.4	21	73	31		26			156		6		84		28
SBC-1 Cert				25.7	788.0	3.20	0.70		0.40	22.7	109	31.0		27.0			163		2		83		35.0
OREAS 96 (4 Acid) Meas		11.4					46			50		> 10000											87
OREAS 96 (4 Acid) Cert		11.5					26.3			49.9		39300											101
OREAS 96 (4 Acid) Meas		11.4					10			51		> 10000											89
OREAS 96 (4 Acid) Cert		11.5					26.3			49.9		39300											101
OREAS 96 (4 Acid) Meas		11.0					27			49		> 10000											87
OREAS 96 (4 Acid) Cert		11.5					26.3			49.9		39300											101
OREAS 96 (4 Acid) Meas		11.5					25			52		> 10000											91
OREAS 96 (4 Acid) Cert		11.5					26.3			49.9		39300											101
OREAS 96 (4 Acid) Meas		11.5					14			52		> 10000											92
OREAS 96 (4 Acid) Cert		11.5					26.3			49.9		39300											101
OREAS 96 (4 Acid) Meas		11.1					14			49		> 10000											91
OREAS 96 (4 Acid) Cert		11.5					26.3			49.9		39300											101
OREAS 923 (4 Acid) Meas		1.5	7.27	7	435	2	14	0.48	< 0.3	24	72	4520	6.34	19	2.23	1.71	32	942	< 1	0.33	37	0.068	82
OREAS 923 (4 Acid) Cert		1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324	35.8	0.0630	83.0
OREAS 923 (4 Acid) Meas		1.7	7.18	4	460	2	15	0.48	0.3	23	107	4300	6.24	18	2.42	1.72	30	925	< 1	0.31	38	0.069	74
OREAS 923 (4 Acid) Cert		1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324	35.8	0.0630	83.0
OREAS 923 (4 Acid) Meas		1.5	6.94	7	444	2	26	0.47	< 0.3	22	71	4170	5.94	19	2.16	1.64	28	903	1	0.29	37	0.069	71
OREAS 923 (4 Acid) Cert		1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324	35.8	0.0630	83.0
OREAS 923 (4 Acid) Meas		2.1	7.71	3	428	2	16	0.52	0.5	24	85	4290	6.59	20	2.04	1.81	32	1070	< 1	0.33	44	0.067	83
OREAS 923 (4		1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324	35.8	0.0630	83.0

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Acid) Cert																							
OREAS 923 (4 Acid) Meas		2.1	7.78	5	453	2	11	0.51	0.4	24	81	4330	6.66	20	2.59	1.80	32	1020	< 1	0.34	42	0.067	81
OREAS 923 (4 Acid) Cert		1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324	35.8	0.0630	83.0
OREAS 923 (4 Acid) Meas		1.6	7.45	5	452	2	17	0.50	0.3	23	91	4540	6.51	19	2.55	1.79	31	1010	< 1	0.34	39	0.067	77
OREAS 923 (4 Acid) Cert		1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324	35.8	0.0630	83.0
OREAS 229b (Fire Assay) Meas																							
OREAS 229b (Fire Assay) Cert																							
OREAS 238 (Fire Assay) Meas	2980																						
OREAS 238 (Fire Assay) Cert	3030																						
OREAS 238 (Fire Assay) Meas	3040																						
OREAS 238 (Fire Assay) Cert	3030																						
OREAS 238 (Fire Assay) Meas	3080																						
OREAS 238 (Fire Assay) Cert	3030																						
OREAS 238 (Fire Assay) Meas	3090																						
OREAS 238 (Fire Assay) Cert	3030																						
OREAS 257b (Fire Assay) Meas																							
OREAS 257b (Fire Assay) Cert																							
Oreas E1336 (Fire Assay) Meas	518																						
Oreas E1336 (Fire Assay) Cert	510.000																						
Oreas E1336 (Fire Assay) Meas	502																						
Oreas E1336 (Fire Assay) Cert	510.000																						
Oreas E1336 (Fire Assay) Meas	502																						
Oreas E1336 (Fire Assay) Cert	510.000																						
Oreas E1336 (Fire Assay) Meas	506																						
Oreas E1336 (Fire Assay) Cert	510.000																						
OREAS 681 (4 Acid) Meas		< 0.3	7.62		418	1	< 2	5.64		48	1720	256	7.33	14	1.39	5.02	13	1220	< 1	1.53	467	0.133	7
OREAS 681 (4 Acid) Cert		0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61	503	0.141	10.2
OREAS 681 (4 Acid) Meas		< 0.3	7.81		419	1	< 2	5.76		50	1690	265	7.49	15	1.48	5.18	13	1260	< 1	1.49	495	0.128	5
OREAS 681 (4 Acid) Cert		0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61	503	0.141	10.2
OREAS 681 (4		< 0.3	7.62		421	1	4	5.71		48	1800	263	7.34	16	1.43	5.11	12	1250	< 1	1.45	490	0.141	5

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Acid) Meas																							
OREAS 681 (4 Acid) Cert		0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61	503	0.141	10.2
OREAS 681 (4 Acid) Meas		< 0.3	8.01		413	1	< 2	5.81		48	1610	260	7.58	16	1.34	5.11	13	1290	< 1	1.50	475	0.132	12
OREAS 681 (4 Acid) Cert		0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61	503	0.141	10.2
OREAS 681 (4 Acid) Meas		< 0.3	7.96		411	1	< 2	5.75		48	1650	252	7.62	17	1.35	5.12	13	1270	< 1	1.50	473	0.138	11
OREAS 681 (4 Acid) Cert		0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61	503	0.141	10.2
OREAS 681 (4 Acid) Meas		< 0.3	7.78		418	1	< 2	5.77		47	1910	265	7.49	17	1.33	5.17	13	1320	< 1	1.50	479	0.141	5
OREAS 681 (4 Acid) Cert		0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61	503	0.141	10.2
OREAS 247 (4 Acid) Meas		2.4	5.91	3050	492	2	< 2	0.83	< 0.3	13	92	42	3.08	16	1.42	1.19	31	367	< 1	0.47	47	0.044	29
OREAS 247 (4 Acid) Cert		2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499	45.9	0.0480	31.9
OREAS 247 (4 Acid) Meas		2.4	6.37	3170	553	2	< 2	0.87	< 0.3	13	95	42	3.36	16	2.17	1.29	32	378	< 1	0.49	50	0.044	30
OREAS 247 (4 Acid) Cert		2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499	45.9	0.0480	31.9
OREAS 247 (4 Acid) Meas		2.0	5.93	3320	535	2	< 2	0.84	< 0.3	12	97	40	3.17	14	1.87	1.23	30	372	< 1	0.46	49	0.048	30
OREAS 247 (4 Acid) Cert		2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499	45.9	0.0480	31.9
OREAS 247 (4 Acid) Meas		2.5	6.29	3220	547	2	< 2	0.90	< 0.3	13	105	41	3.22	16	1.97	1.26	31	382	< 1	0.48	50	0.044	30
OREAS 247 (4 Acid) Cert		2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499	45.9	0.0480	31.9
OREAS 247 (4 Acid) Meas		2.5	6.44	3540	543	2	< 2	0.92	< 0.3	14	90	40	3.34	17	2.55	1.29	31	404	< 1	0.50	50	0.047	31
OREAS 247 (4 Acid) Cert		2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499	45.9	0.0480	31.9
OREAS 247 (4 Acid) Meas		2.3	6.03	3300	537	2	< 2	0.87	< 0.3	13	107	41	3.18	16	2.23	1.25	31	388	< 1	0.50	49	0.047	30
OREAS 247 (4 Acid) Cert		2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499	45.9	0.0480	31.9
OREAS 620 (4 Acid) Meas		40.5	6.83	40	179	3	2	1.68	159	13	21	1860	2.91	23	1.81	0.35	20	407	9	1.86	17	0.039	> 5000
OREAS 620 (4 Acid) Cert		38.5	6.72	50	2490	2	2	1.60	163	12	22	1730	2.94	24	2.63	0.34	20	440	9	1.94	15	0.035	7740
OREAS 620 (4 Acid) Meas		41.2	6.88	42	202	3	< 2	1.69	159	14	20	1840	2.91	24	2.69	0.35	20	409	10	1.86	15	0.038	> 5000
OREAS 620 (4 Acid) Cert		38.5	6.72	50	2490	2	2	1.60	163	12	22	1730	2.94	24	2.63	0.34	20	440	9	1.94	15	0.035	7740
OREAS 620 (4 Acid) Meas		40.0	6.99	42	217	3	3	1.74	169	13	46	1750	3.01	22	2.76	0.36	20	423	10	1.84	16	0.040	> 5000
OREAS 620 (4 Acid) Cert		38.5	6.72	50	2490	2	2	1.60	163	12	22	1730	2.94	24	2.63	0.34	20	440	9	1.94	15	0.035	7740
OREAS 620 (4 Acid) Meas		40.2	7.14	50	233	2	< 2	1.79	172	15	25	1700	3.03	25	2.71	0.36	20	448	10	1.87	17	0.037	> 5000
OREAS 620 (4 Acid) Cert		38.5	6.72	50	2490	2	2	1.60	163	12	22	1730	2.94	24	2.63	0.34	20	440	9.5	1.94	15	0.035	7740
OREAS 620 (4 Acid) Meas		38.9	7.00	39	123	2	< 2	1.75	166	13	19	1770	2.90	23	2.60	0.35	19	426	10	1.79	18	0.038	> 5000
OREAS 620 (4		38.5	6.72	50	2490	2	2	1.60	163	12	22	1730	2.94	24	2.63	0.34	20	440	9.5	1.94	15	0.035	7740

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Acid) Cert																							
PK03 Meas																							
PK03 Cert																							
B416214 Orig	< 5																						
B416214 Dup	< 5																						
B416215 Orig		0.7	5.71	< 3	435	2	3	1.15	< 0.3	2	8	3	8.76	21	2.13	1.04	31	1520	< 1	1.26	3	0.009	3
B416215 Dup		0.7	5.67	7	434	2	5	1.14	< 0.3	2	10	2	8.64	20	2.12	1.03	31	1520	< 1	1.25	6	0.008	8
B416224 Orig	< 5																						
B416224 Dup	< 5																						
B416229 Orig		< 0.3	4.21	3	63	< 1	< 2	3.27	< 0.3	< 1	107	6	9.91	13	0.21	1.05	10	2110	2	0.31	13	0.129	5
B416229 Dup		< 0.3	4.15	< 3	62	< 1	< 2	3.27	< 0.3	< 1	112	7	9.89	13	0.21	1.04	10	2100	< 1	0.30	13	0.127	9
B416235 Orig	< 5																						
B416235 Dup	< 5																						
A371252 Orig	< 5																						
A371252 Dup	< 5																						
A371256 Orig	< 5	< 0.3	0.06	< 3	9	< 1	< 2	< 0.01	< 0.3	< 1	38	8	1.80	< 1	0.03	0.01	< 1	130	2	< 0.01	2	0.005	< 3
A371256 Split PREP DUP	< 5	< 0.3	0.05	< 3	8	< 1	< 2	< 0.01	< 0.3	< 1	32	6	1.57	< 1	0.02	0.01	< 1	115	2	< 0.01	2	0.004	< 3
A371263 Orig	10	0.5	7.39	< 3	62	< 1	< 2	0.85	< 0.3	91	105	129	15.7	21	0.94	2.95	61	1020	2	1.72	303	0.117	5
A371263 Dup	8	0.5	7.41	< 3	82	< 1	< 2	0.85	< 0.3	91	112	129	15.7	21	0.94	2.94	61	1020	2	1.68	307	0.116	4
A371275 Orig		0.5	5.24	34	35	< 1	< 2	1.33	< 0.3	52	92	106	18.1	13	0.50	1.57	20	497	4	1.32	75	0.082	< 3
A371275 Dup		0.5	5.08	44	25	< 1	< 2	1.33	< 0.3	53	85	105	17.6	14	0.48	1.56	20	488	4	1.30	76	0.083	3
A371276 Orig	7																						
A371276 Dup	6																						
A371282 Orig	6																						
A371282 Dup	7																						
A371289 Orig	< 5																						
A371289 Dup	< 5																						
A371295 Orig	7	0.6	0.15	24	132	< 1	3	< 0.01	< 0.3	< 1	15	87	42.3	27	0.05	0.02	2	64	< 1	< 0.01	4	0.042	61
A371295 Split PREP DUP	8	0.5	0.15	25	127	< 1	3	< 0.01	< 0.3	2	14	87	42.3	26	0.05	0.02	2	71	< 1	< 0.01	2	0.042	51
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank																							
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	9	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	7	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	7	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	6	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	8	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	8	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	5	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1		< 1	< 0.01	< 1	< 0.01	< 0.01	< 1	10	< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	7	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1	9	< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	9	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	8	1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	6	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	6	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	4	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	5	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1	7	< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	3	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	10	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1		< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank																							

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	Au	Pd	Pt
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	ppb	ppb
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.02	5	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FA-GRA	FA-ICP	FA-ICP
Oreas 72a (4 Acid) Meas		1.63														
Oreas 72a (4 Acid) Cert		1.74														
Oreas 72a (4 Acid) Meas		1.61														
Oreas 72a (4 Acid) Cert		1.74														
Oreas 72a (4 Acid) Meas		1.58														
Oreas 72a (4 Acid) Cert		1.74														
Oreas 72a (4 Acid) Meas		1.64														
Oreas 72a (4 Acid) Cert		1.74														
Oreas 72a (4 Acid) Meas		1.69														
Oreas 72a (4 Acid) Cert		1.74														
Oreas 72a (4 Acid) Meas		1.63														
Oreas 72a (4 Acid) Cert		1.74														
OREAS 98 (4 Acid) Meas	7	14.3										1290				
OREAS 98 (4 Acid) Cert	20.1	15.5										1360				
OREAS 98 (4 Acid) Meas	6	14.9										1300				
OREAS 98 (4 Acid) Cert	20.1	15.5										1360				
OREAS 98 (4 Acid) Meas	5	16.1										1290				
OREAS 98 (4 Acid) Cert	20.1	15.5										1360				
OREAS 98 (4 Acid) Meas	< 5	16.0										1350				
OREAS 98 (4 Acid) Cert	20.1	15.5										1360				
OREAS 98 (4 Acid) Meas	6	16.9										1350				
OREAS 98 (4 Acid) Cert	20.1	15.5										1360				
OREAS 98 (4 Acid) Meas	7	15.5										1320				
OREAS 98 (4 Acid) Cert	20.1	15.5										1360				
OREAS 904 (4 Acid) Meas	< 5	0.06	12	30			< 5	< 10	91	< 5	34	28	143			
OREAS 904 (4 Acid) Cert	1.48	0.0630	11.2	27.2			0.520	8.43	76.0	2.12	31.5	26.3	171			
OREAS 904 (4 Acid) Meas	< 5	0.07	12	31			< 5	< 10	73	< 5	35	30	42			
OREAS 904 (4 Acid) Cert	1.48	0.0630	11.2	27.2			0.520	8.43	76.0	2.12	31.5	26.3	171			
OREAS 904 (4 Acid) Meas	< 5	0.06	11	30			< 5	< 10	90	< 5	34	27	99			

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	Au	Pd	Pt
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	ppb	ppb
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.02	5	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FA-GRA	FA-ICP	FA-ICP
OREAS 904 (4 Acid) Cert	1.48	0.0630	11.2	27.2			0.520	8.43	76.0	2.12	31.5	26.3	171			
OREAS 904 (4 Acid) Meas	< 5	0.07	11	32			< 5	< 10	85	< 5	34	28	85			
OREAS 904 (4 Acid) Cert	1.48	0.0630	11.2	27.2			0.520	8.43	76.0	2.12	31.5	26.3	171			
OREAS 904 (4 Acid) Meas	< 5	0.06	12	31			< 5	< 10	88	< 5	35	29	20			
OREAS 904 (4 Acid) Cert	1.48	0.0630	11.2	27.2			0.520	8.43	76.0	2.12	31.5	26.3	171			
SBC-1 Meas	< 5		19	192		0.49	< 5	< 10	224	6	31	197	111			
SBC-1 Cert	1.01		20.0	178.0		0.51	0.89	5.76	220.0	1.60	36.5	186	134.0			
SBC-1 Meas	< 5		19	177		0.48	< 5	< 10	231	< 5	31	182	110			
SBC-1 Cert	1.01		20.0	178.0		0.51	0.89	5.76	220.0	1.60	36.5	186	134.0			
SBC-1 Meas	< 5		19	188		0.52	< 5	< 10	220	5	31	197	116			
SBC-1 Cert	1.01		20.0	178.0		0.51	0.89	5.76	220.0	1.60	36.5	186	134.0			
SBC-1 Meas	< 5		19	189		0.48	< 5	< 10	209	< 5	28	193	106			
SBC-1 Cert	1.01		20.0	178.0		0.51	0.89	5.76	220.0	1.60	36.5	186	134.0			
OREAS 96 (4 Acid) Meas	< 5	4.28										435				
OREAS 96 (4 Acid) Cert	5.09	4.19										457				
OREAS 96 (4 Acid) Meas	< 5	4.24										446				
OREAS 96 (4 Acid) Cert	5.09	4.19										457				
OREAS 96 (4 Acid) Meas	< 5	4.29										438				
OREAS 96 (4 Acid) Cert	5.09	4.19										457				
OREAS 96 (4 Acid) Meas	< 5	4.45										468				
OREAS 96 (4 Acid) Cert	5.09	4.19										457				
OREAS 96 (4 Acid) Meas	< 5	4.43										470				
OREAS 96 (4 Acid) Cert	5.09	4.19										457				
OREAS 96 (4 Acid) Meas	< 5	4.40										459				
OREAS 96 (4 Acid) Cert	5.09	4.19										457				
OREAS 923 (4 Acid) Meas	< 5	0.71	13	46		0.43	< 5	< 10	99	9	26	348	130			
OREAS 923 (4 Acid) Cert	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116			
OREAS 923 (4 Acid) Meas	< 5	0.71	13	45		0.41	< 5	< 10	105	9	27	340	128			
OREAS 923 (4 Acid) Cert	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116			
OREAS 923 (4 Acid) Meas	< 5	0.68	13	43		0.40	< 5	< 10	103	11	27	332	130			
OREAS 923 (4 Acid) Cert	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116			
OREAS 923 (4 Acid) Meas	< 5	0.77	13	48		0.44	< 5	< 10	99	7	27	368	135			

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	Au	Pd	Pt
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	ppb	ppb
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.02	5	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FA-GRA	FA-ICP	FA-ICP
OREAS 923 (4 Acid) Cert	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116			
OREAS 923 (4 Acid) Meas	< 5	0.73	13	46		0.44	< 5	< 10	96	9	27	370	135			
OREAS 923 (4 Acid) Cert	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116			
OREAS 923 (4 Acid) Meas	< 5	0.70	13	48		0.43	< 5	< 10	96	8	26	358	130			
OREAS 923 (4 Acid) Cert	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116			
OREAS 229b (Fire Assay) Meas														11.7		
OREAS 229b (Fire Assay) Cert														11.95		
OREAS 238 (Fire Assay) Meas																
OREAS 238 (Fire Assay) Cert																
OREAS 238 (Fire Assay) Meas																
OREAS 238 (Fire Assay) Cert																
OREAS 238 (Fire Assay) Meas																
OREAS 238 (Fire Assay) Cert																
OREAS 238 (Fire Assay) Meas																
OREAS 238 (Fire Assay) Cert																
OREAS 257b (Fire Assay) Meas														13.6		
OREAS 257b (Fire Assay) Cert														14.220		
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	< 5	0.10	25	450		0.50		< 10	225	< 5	16	79	54			
OREAS 681 (4 Acid) Cert	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0			
OREAS 681 (4 Acid) Meas	< 5	0.10	26	466		0.41		< 10	216	< 5	16	82	44			
OREAS 681 (4 Acid) Cert	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0			

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	Au	Pd	Pt
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	ppb	ppb
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.02	5	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FA-GRA	FA-ICP	FA-ICP
OREAS 681 (4 Acid) Meas	< 5	0.10	26	450		0.58		< 10	260	5	17	80	62			
OREAS 681 (4 Acid) Cert	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0			
OREAS 681 (4 Acid) Meas	< 5	0.10	25	456		0.45		< 10	208	< 5	16	82	51			
OREAS 681 (4 Acid) Cert	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0			
OREAS 681 (4 Acid) Meas	< 5	0.10	26	451		0.56		< 10	242	< 5	16	79	60			
OREAS 681 (4 Acid) Cert	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0			
OREAS 681 (4 Acid) Meas	6	0.10	26	461		0.57		< 10	236	< 5	16	78	60			
OREAS 681 (4 Acid) Cert	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0			
OREAS 247 (4 Acid) Meas	282	0.68	11	96		0.32	< 5	< 10	70	< 5	17	84	122			
OREAS 247 (4 Acid) Cert	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125			
OREAS 247 (4 Acid) Meas	380	0.73	12	105		0.35	< 5	< 10	77	< 5	19	89	114			
OREAS 247 (4 Acid) Cert	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125			
OREAS 247 (4 Acid) Meas	259	0.69	12	99		0.35	< 5	< 10	80	< 5	18	85	140			
OREAS 247 (4 Acid) Cert	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125			
OREAS 247 (4 Acid) Meas	359	0.70	11	100		0.34	< 5	< 10	68	< 5	18	89	131			
OREAS 247 (4 Acid) Cert	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125			
OREAS 247 (4 Acid) Meas	294	0.73	12	103		0.38	< 5	< 10	71	< 5	19	89	123			
OREAS 247 (4 Acid) Cert	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125			
OREAS 247 (4 Acid) Meas	218	0.72	11	101		0.35	< 5	< 10	73	< 5	18	90	137			
OREAS 247 (4 Acid) Cert	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125			
OREAS 620 (4 Acid) Meas	26	2.56	6	117		0.16	< 5	< 10	24	< 5	14	> 10000	213			
OREAS 620 (4 Acid) Cert	76	2.47	5	131		0.14	2	4	21	2	12	31500	202			
OREAS 620 (4 Acid) Meas	38	2.58	6	118		0.16	< 5	< 10	24	< 5	14	> 10000	215			
OREAS 620 (4 Acid) Cert	76	2.47	5	131		0.14	2	4	21	2	12	31500	202			
OREAS 620 (4 Acid) Meas	18	2.59	6	123		0.17	< 5	< 10	25	< 5	15	> 10000	216			
OREAS 620 (4 Acid) Cert	76	2.47	5	131		0.14	2	4	21	2	12	31500	202			
OREAS 620 (4 Acid) Meas	16	2.61	6	124		0.16	< 5	< 10	23	< 5	13	> 10000	214			
OREAS 620 (4 Acid) Cert	76	2.47	5	131		0.14	2	4	21	2	12	31500	202			
OREAS 620 (4 Acid) Meas	9	2.51	5	127		0.16	< 5	< 10	23	< 5	13	> 10000	210			

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	Au	Pd	Pt
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	ppb	ppb
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.02	5	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FA-GRA	FA-ICP	FA-ICP
OREAS 620 (4 Acid) Cert	80	2.47	5	131		0.14	2	4	21	2	12	31500	202			
PK03 Meas															6280	4470
PK03 Cert															6028.000	4291.000
B416214 Orig																
B416214 Dup																
B416215 Orig	< 5	0.15	6	180	< 2	0.12	< 5	< 10	3	< 5	33	30	352			
B416215 Dup	< 5	0.16	6	176	< 2	0.12	< 5	< 10	3	< 5	33	29	353			
B416224 Orig																
B416224 Dup																
B416229 Orig	< 5	0.51	13	190	6	0.44	< 5	< 10	122	< 5	16	60	26			
B416229 Dup	< 5	0.53	13	191	6	0.44	< 5	< 10	124	< 5	16	58	26			
B416235 Orig																
B416235 Dup																
A371252 Orig																
A371252 Dup																
A371256 Orig	< 5	0.09	< 4	1	< 2	< 0.01	< 5	< 10	8	< 5	< 1	8	8			
A371256 Split PREP DUP	< 5	0.07	< 4	< 1	< 2	< 0.01	< 5	< 10	7	< 5	< 1	5	7			
A371263 Orig	< 5	9.32	21	123	< 2	0.49	< 5	< 10	205	< 5	13	138	127			
A371263 Dup	< 5	9.20	21	125	< 2	0.50	< 5	< 10	206	< 5	13	136	131			
A371275 Orig	< 5	15.7	13	154	13	0.38	< 5	< 10	139	< 5	11	110	93			
A371275 Dup	6	15.8	13	151	3	0.35	< 5	< 10	138	< 5	11	113	91			
A371276 Orig																
A371276 Dup																
A371282 Orig																
A371282 Dup																
A371289 Orig																
A371289 Dup																
A371295 Orig	13	0.78	< 4	2	< 2	0.10	< 5	20	108	< 5	7	17	48			
A371295 Split PREP DUP	7	0.81	< 4	2	3	0.10	< 5	20	107	< 5	7	17	49			
Method Blank																
Method Blank																
Method Blank																
Method Blank																
Method Blank																
Method Blank																
Method Blank																
Method Blank																
Method Blank														< 0.02		
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	1	< 5			

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	Au	Pd	Pt
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	ppb	ppb
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.02	5	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FA-GRA	FA-ICP	FA-ICP
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	1	< 5			
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5			
Method Blank															< 5	< 5

Quality Analysis ... *Innovative Technologies*

Report No.: **A22-07554**
Report Date: **28-Jul-22**
Date Submitted: **06-Jun-22**
Your Reference: **MCK**

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

ATTN: Bruce MacLachlan

CERTIFICATE OF ANALYSIS

4 Rock samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
1A2-50-Tbay	QOP AA-Au (Au - Fire Assay AA)	2022-06-28 10:31:11
1F2-Tbay	QOP Total (Total Digestion ICPOES)	2022-07-23 12:00:14

REPORT **A22-07554**

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.

SCC Accredited LAB Accrédité CCN TM

LabID: 673

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control Coordinator

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Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
B416201	< 5	< 0.3	9.00	9	582	1	< 2	3.34	0.4	20	47	23	5.35	18	1.83	2.64	38	742	< 1	3.28	36	0.148	13
B416202	< 5	< 0.3	8.44	3	> 1000	1	< 2	0.22	< 0.3	21	113	38	3.93	18	3.64	1.22	22	373	< 1	1.53	61	0.077	9
B416203	< 5	< 0.3	5.21	19	20	< 1	< 2	7.30	< 0.3	54	819	12	7.92	9	0.11	6.72	34	1510	< 1	0.01	431	0.017	4
B416204	< 5	< 0.3	4.55	< 3	22	< 1	< 2	5.53	< 0.3	43	907	44	7.46	8	0.02	7.29	42	1680	< 1	0.01	285	0.014	5

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
B416201	< 5	0.16	12	523	< 2	0.38	< 5	< 10	120	< 5	13	181	100
B416202	< 5	0.14	14	186	3	0.20	< 5	< 10	75	< 5	8	78	91
B416203	< 5	0.01	27	122	9	0.26	< 5	< 10	159	< 5	10	57	20
B416204	< 5	0.01	23	78	9	0.22	< 5	< 10	143	< 5	12	55	16

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Oreas 72a (4 Acid) Meas				5						140	157	293	9.39								6190		
Oreas 72a (4 Acid) Cert				14.7						157	228	316	9.63								6930.000		
Oreas 72a (4 Acid) Meas				< 3						147	188	331	9.88								6610		
Oreas 72a (4 Acid) Cert				14.7						157	228	316	9.63								6930.000		
Oreas 72a (4 Acid) Meas				9						141	168	310	9.71								6230		
Oreas 72a (4 Acid) Cert				14.7						157	228	316	9.63								6930.000		
OREAS 98 (4 Acid) Meas		41.8					100			120		> 10000											296
OREAS 98 (4 Acid) Cert		45.1					97.2			121		148000.0											345
OREAS 98 (4 Acid) Meas		44.0					107			119		> 10000											293
OREAS 98 (4 Acid) Cert		45.1					97.2			121		148000.0											345
OREAS 98 (4 Acid) Meas		42.8					75			115		> 10000											286
OREAS 98 (4 Acid) Cert		45.1					97.2			121		148000.0											345
SBC-1 Meas				26	738	3	< 2		0.4	22	78	29		26			170		2		88		32
SBC-1 Cert				25.7	788.0	3.20	0.70		0.40	22.7	109	31.0		27.0			163		2		83		35.0
SBC-1 Meas				23	677	3	< 2		0.3	21	73	27		26			166		3		87		32
SBC-1 Cert				25.7	788.0	3.20	0.70		0.40	22.7	109	31.0		27.0			163		2		83		35.0
SBC-1 Meas				27	730	3	< 2		0.4	22	109	30		26			174		2		86		31
SBC-1 Cert				25.7	788.0	3.20	0.70		0.40	22.7	109	31.0		27.0			163		2		83		35.0
OREAS 96 (4 Acid) Meas		11.4					25			50		> 10000											94
OREAS 96 (4 Acid) Cert		11.5					26.3			49.9		39300											101
OREAS 96 (4 Acid) Meas		10.8					26			50		> 10000											92
OREAS 96 (4 Acid) Cert		11.5					26.3			49.9		39300											101
OREAS 96 (4 Acid) Meas		10.6					23			49		> 10000											93
OREAS 96 (4 Acid) Cert		11.5					26.3			49.9		39300											101
OREAS 923 (4 Acid) Meas		2.0	7.34	7	469	3	13	0.51	0.4	23	74	4110	6.54	19	2.68	1.84	31	995	< 1	0.32	39	0.070	81
OREAS 923 (4 Acid) Cert		1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324	35.8	0.0630	83.0
OREAS 923 (4 Acid) Meas		2.4	7.51	7	459	3	13	0.51	0.3	23	71	4320	6.62	21	2.14	1.84	32	1020	< 1	0.32	39	0.069	85
OREAS 923 (4 Acid) Cert		1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324	35.8	0.0630	83.0
OREAS 923 (4 Acid) Meas		0.5	7.71	10	429	3	15	0.50	0.6	24	80	4550	6.89	20	2.22	1.87	33	1070	< 1	0.32	39	0.067	87
OREAS 923 (4 Acid) Cert		1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324	35.8	0.0630	83.0
OREAS 238 (Fire Assay) Meas	3090																						
OREAS 238 (Fire Assay) Cert	3030																						

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
OREAS 238 (Fire Assay) Meas	3060																						
OREAS 238 (Fire Assay) Cert	3030																						
OREAS 238 (Fire Assay) Meas	3160																						
OREAS 238 (Fire Assay) Cert	3030																						
Oreas E1336 (Fire Assay) Meas	514																						
Oreas E1336 (Fire Assay) Cert	510.000																						
Oreas E1336 (Fire Assay) Meas	522																						
Oreas E1336 (Fire Assay) Cert	510.000																						
Oreas E1336 (Fire Assay) Meas	513																						
Oreas E1336 (Fire Assay) Cert	510.000																						
OREAS 681 (4 Acid) Meas		0.3	7.78		433	1	< 2	5.76		46	1580	249	7.60	15	1.39	5.21	13	1300	< 1	1.60	470	0.141	9
OREAS 681 (4 Acid) Cert		0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61	503	0.141	10.2
OREAS 681 (4 Acid) Meas		< 0.3	7.77		433	1	< 2	5.74		46	1880	254	7.64	16	1.42	5.18	14	1310	< 1	1.62	476	0.136	10
OREAS 681 (4 Acid) Cert		0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61	503	0.141	10.2
OREAS 681 (4 Acid) Meas		< 0.3	7.86		402	1	< 2	5.54		45	1550	253	7.60	16	1.35	5.15	13	1280	< 1	1.53	448	0.124	9
OREAS 681 (4 Acid) Cert		0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61	503	0.141	10.2
OREAS 247 (4 Acid) Meas		2.5	6.17	3500	534	2	< 2	0.90	< 0.3	12	93	40	3.31	15	2.38	1.32	31	397	< 1	0.47	50	0.050	32
OREAS 247 (4 Acid) Cert		2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499	45.9	0.0480	31.9
OREAS 247 (4 Acid) Meas		2.6	6.28	3340	468	2	< 2	0.91	0.4	13	98	40	3.38	16	1.94	1.34	32	405	< 1	0.49	51	0.046	32
OREAS 247 (4 Acid) Cert		2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499	45.9	0.0480	31.9
OREAS 247 (4 Acid) Meas		0.9	6.33	3560	515	2	< 2	0.88	< 0.3	13	95	41	3.39	16	2.29	1.30	31	414	< 1	0.46	49	0.048	31
OREAS 247 (4 Acid) Cert		2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499	45.9	0.0480	31.9
OREAS 620 (4 Acid) Meas		41.2	7.11	54	85	3	< 2	1.79	170	13	28	1640	3.07	23	0.88	0.38	20	411	10	1.96	18	0.040	> 5000
OREAS 620 (4 Acid) Cert		38.5	6.72	50	2500	2	2	1.60	163	12	22	1730	2.94	24	2.6	0.34	20	440	9	1.94	15	0.035	7740
OREAS 620 (4 Acid) Meas		42.2	7.59	53	108	3	< 2	1.78	174	13	19	1780	3.25	24	0.99	0.39	21	465	10	1.96	18	0.039	> 5000
OREAS 620 (4 Acid) Cert		38.5	6.72	50	2490	2	2	1.60	163	12	22	1730	2.94	24	2.6	0.34	20	440	9.5	1.94	15	0.035	7740
OREAS 620 (4 Acid) Meas		41.5	7.06	52	108	3	< 2	1.70	168	13	22	1660	3.06	23	2.59	0.36	20	457	10	1.88	17	0.038	> 5000
OREAS 620 (4 Acid) Cert		38.5	6.72	50	2490	2	2	1.60	163	12	22	1730	2.94	24	2.63	0.34	20	440	9	1.94	15	0.035	7740
Method Blank	< 5																						
Method Blank	< 5																						

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni	P	Pb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm
Lower Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1	0.001	3
Method Code	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	4	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1		< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1		< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	2	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	9	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	3	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1	10	< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	9	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	1	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3
Method Blank		< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	7	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01	< 1	< 0.001	< 3

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Oreas 72a (4 Acid) Meas		1.61											
Oreas 72a (4 Acid) Cert		1.74											
Oreas 72a (4 Acid) Meas		1.79											
Oreas 72a (4 Acid) Cert		1.74											
Oreas 72a (4 Acid) Meas		1.70											
Oreas 72a (4 Acid) Cert		1.74											
OREAS 98 (4 Acid) Meas	5	15.5										1310	
OREAS 98 (4 Acid) Cert	20.1	15.5										1360	
OREAS 98 (4 Acid) Meas	< 5	16.1										1320	
OREAS 98 (4 Acid) Cert	20.1	15.5										1360	
OREAS 98 (4 Acid) Meas	< 5	15.4										1300	
OREAS 98 (4 Acid) Cert	20.1	15.5										1360	
SBC-1 Meas	< 5		20	199		0.52	< 5	< 10	228	< 5	34	191	117
SBC-1 Cert	1.01		20.0	178.0		0.51	0.89	5.76	220.0	1.60	36.5	186	134.0
SBC-1 Meas	6		19	193		0.52	< 5	< 10	221	< 5	33	188	114
SBC-1 Cert	1.01		20.0	178.0		0.51	0.89	5.76	220.0	1.60	36.5	186	134.0
SBC-1 Meas	< 5		16	184		0.53	< 5	< 10	220	< 5	24	196	117
SBC-1 Cert	1.01		20.0	178.0		0.51	0.89	5.76	220.0	1.60	36.5	186	134.0
OREAS 96 (4 Acid) Meas	< 5	4.31										454	
OREAS 96 (4 Acid) Cert	5.09	4.19										457	
OREAS 96 (4 Acid) Meas	< 5	4.44										465	
OREAS 96 (4 Acid) Cert	5.09	4.19										457	
OREAS 96 (4 Acid) Meas	< 5	4.39										453	
OREAS 96 (4 Acid) Cert	5.09	4.19										457	
OREAS 923 (4 Acid) Meas	< 5	0.71	13	47		0.46	< 5	< 10	101	7	27	352	128
OREAS 923 (4 Acid) Cert	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116
OREAS 923 (4 Acid) Meas	< 5	0.72	13	48		0.46	< 5	< 10	101	6	27	363	129
OREAS 923 (4 Acid) Cert	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116
OREAS 923 (4 Acid) Meas	< 5	0.77	13	49		0.44	< 5	< 10	98	11	26	377	130
OREAS 923 (4 Acid) Cert	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116
OREAS 238 (Fire Assay) Meas													
OREAS 238 (Fire Assay) Cert													

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
OREAS 238 (Fire Assay) Meas													
OREAS 238 (Fire Assay) Cert													
OREAS 238 (Fire Assay) Meas													
OREAS 238 (Fire Assay) Cert													
Oreas E1336 (Fire Assay) Meas													
Oreas E1336 (Fire Assay) Cert													
Oreas E1336 (Fire Assay) Meas													
Oreas E1336 (Fire Assay) Cert													
Oreas E1336 (Fire Assay) Meas													
Oreas E1336 (Fire Assay) Cert													
OREAS 681 (4 Acid) Meas	< 5	0.10	26	473		0.60		< 10	244	< 5	17	76	59
OREAS 681 (4 Acid) Cert	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0
OREAS 681 (4 Acid) Meas	< 5	0.10	25	473		0.55		< 10	234	< 5	16	77	58
OREAS 681 (4 Acid) Cert	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0
OREAS 681 (4 Acid) Meas	< 5	0.10	24	463		0.47		< 10	200	< 5	15	77	51
OREAS 681 (4 Acid) Cert	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0
OREAS 247 (4 Acid) Meas	273	0.71	12	108		0.40	< 5	< 10	72	< 5	20	89	116
OREAS 247 (4 Acid) Cert	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125
OREAS 247 (4 Acid) Meas	268	0.71	12	109		0.38	< 5	< 10	76	< 5	18	89	117
OREAS 247 (4 Acid) Cert	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125
OREAS 247 (4 Acid) Meas	245	0.73	12	105		0.35	< 5	< 10	70	< 5	18	88	127
OREAS 247 (4 Acid) Cert	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125
OREAS 620 (4 Acid) Meas	9	2.56	6	130		0.18	< 5	< 10	24	< 5	15	> 10000	215
OREAS 620 (4 Acid) Cert	80	2.47	5	131		0.14	2	4	21	2	12	31500	202
OREAS 620 (4 Acid) Meas	12	2.73	6	132		0.17	< 5	< 10	24	< 5	14	> 10000	214
OREAS 620 (4 Acid) Cert	76	2.47	5	131		0.14	2	4	21	2	12	31500	202
OREAS 620 (4 Acid) Meas	12	2.60	6	125		0.16	< 5	< 10	24	< 5	14	> 10000	203
OREAS 620 (4 Acid) Cert	76	2.47	5	131		0.14	2	4	21	2	12	31500	202
Method Blank													
Method Blank													

Analyte Symbol	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Method Blank													
Method Blank													
Method Blank													
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	1	< 5
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5
Method Blank	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5

Quality Analysis ... *Innovative Technologies*

Report No.: **A22-07554-Ba**
Report Date: **18-Aug-22**
Date Submitted: **06-Jun-22**
Your Reference: **MCK**

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

ATTN: Bruce MacLachlan

CERTIFICATE OF ANALYSIS

4 Rock samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
8-Peroxide ICP	QOP Sodium Peroxide (Sodium Peroxide Fusion ICP)	2022-08-12 15:14:29

REPORT **A22-07554-Ba**

Notes:

SCC Accredited LAB
LAB Accrédité CCN TM

LabID: 266

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control Coordinator

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

Analyte Symbol	Ba
Unit Symbol	%
Lower Limit	0.01
Method Code	FUS-Na2O2
B416202	0.11

Analyte Symbol	Ba
Unit Symbol	%
Lower Limit	0.01
Method Code	FUS-Na2O2
NOD-A-1 Meas	0.17
NOD-A-1 Cert	0.167
OREAS 134b (Fusion) Meas	0.15
OREAS 134b (Fusion) Cert	0.15
Method Blank	< 0.01

Quality Analysis ... *Innovative Technologies*

Report No.: **A22-13026**
Report Date: **25-Nov-22**
Date Submitted: **12-Sep-22**
Your Reference: **MCK**

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

ATTN: Bruce MacLachlan

CERTIFICATE OF ANALYSIS

22 Rock samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
1A2-50-Tbay	QOP AA-Au (Au - Fire Assay AA)	2022-10-01 15:26:22
1F2-Tbay	QOP Total (Total Digestion ICPOES)	2022-10-28 09:54:25

REPORT **A22-13026**

Notes:

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

Unaltered silicates and resistate minerals may not be dissolved. Values which exceed upper limit should be assayed.

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

We recommend reanalysis by fire assay Au, Pt, Pd Code 8 if values exceed upper limit.

We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

SCC Accredited LAB Accrédité CCN TM

LabID: 673

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

CERTIFIED BY:

Mark Vandergeest
Quality Control Coordinator

Report No.: **A22-13026**
Report Date: **25-Nov-22**
Date Submitted: **12-Sep-22**
Your Reference: **MCK**

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

ATTN: Bruce MacLachlan

CERTIFICATE OF ANALYSIS

22 Rock samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
1C-Exp	QOP PGE ICP-MS (Fire Assay-ICPMS)	2022-10-20 15:35:41
4LITHO (1-10)	QOP WRA/ QOP WRA 4B2 (/Major/Trace Elements Fusion ICPOES/ICPMS)	2022-10-31 10:39:19
UT-3	QOP INAAGEO/QOP Total/QOP Ultratrace- 4acid Digest/(INAA/Total Digestion ICPOES/ICPMS)	2022-10-12 11:23:56

REPORT **A22-13026**

Notes:

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

Unaltered silicates and resistate minerals may not be dissolved. Values which exceed upper limit should be assayed.

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

We recommend reanalysis by fire assay Au, Pt, Pd Code 8 if values exceed upper limit.

We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

SCC Accredited LAB Accrédité CCN TM

LabID: 266

ACTIVATION LABORATORIES LTD.
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

CERTIFIED BY:

Mark Vandergeest
Quality Control Coordinator

Analyte Symbol	Au	Pd	Pt	Au	Ag	Al	As	Ba	Be	Bi	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na	Ni
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppm
Lower Limit	5	1	1	2	0.3	0.01	3	7	1	2	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01	1
Method Code	FA-AA	FA-MS	FA-MS	FA-MS	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
E5830151	< 5					4.29											0.89	1.20	7	1260			
E5830152	< 5					4.72											1.82	1.20	8	1390			
E5830153	< 5					6.13											4.99	0.20	2	312			
E5830154	< 5					4.68											2.98	1.27	8	1890			
E5830155	< 5					4.64											2.12	0.82	5	1080			
E5830156	< 5					4.54											0.93	1.08	7	1020			
E5830157	< 5					1.46											0.77	0.24	3	429			
E5830158	< 5					5.43											1.89	1.48	14	1460			
E5830162	< 5					6.86											2.47	0.79	3	1290			
E5830168	< 5					5.88											3.93	0.54	4	2200			
E5830160	< 5				< 0.3	0.34	5	13	< 1	< 2	< 0.3	55	26	50	11.8	3	0.01	0.22	2	601	1	0.01	97
E5830161	< 5				< 0.3	1.06	< 3	82	< 1	< 2	< 0.3	3	20	5	0.72	2	0.42	0.10	3	212	2	0.04	5
E5830163	< 5				< 0.3	0.22	< 3	< 7	< 1	< 2	< 0.3	1	27	24	4.68	< 1	0.04	0.12	2	343	1	< 0.01	31
E5830165	< 5				< 0.3	1.05	< 3	37	< 1	< 2	< 0.3	2	30	29	5.88	4	0.14	0.45	6	5900	1	0.27	23
E5830166	< 5				< 0.3	2.26	3	18	< 1	< 2	< 0.3	6	34	2	0.87	4	0.10	0.03	< 1	181	2	1.56	12
E5830167	< 5				0.7	2.57	3	102	< 1	< 2	2.9	5	38	703	3.60	3	0.39	2.89	33	1850	1	0.02	17
E5830169	23				0.7	0.92	361	93	< 1	4	< 0.3	44	222	21	30.5	6	0.28	0.23	5	407	1	0.01	47
E5830170	5				< 0.3	6.33	6	354	2	< 2	0.4	30	27	37	5.11	16	2.07	2.01	13	1260	< 1	2.37	37
E5830171	< 5				< 0.3	7.11	< 3	129	< 1	< 2	< 0.3	22	62	118	8.73	17	1.46	3.46	33	845	< 1	1.67	53
E5830172	< 5				0.5	5.82	201	67	< 1	< 2	< 0.3	105	43	335	8.03	16	0.59	2.17	20	370	12	1.02	83
E5830164		< 1	< 1	16	0.4	7.61	< 3	286	2	< 2	< 0.3	30	13	47	5.06	18	1.30	1.77	19	876	< 1	3.75	12
E5830159																							

Analyte Symbol	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2
Unit Symbol	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%
Lower Limit	0.001	3	5	0.01	4	1	2	0.01	5	10	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01	0.01	0.001
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
E5830151	0.050			0.05				0.24															
E5830152	0.192			0.13				0.26															
E5830153	0.004			0.10				0.15															
E5830154	0.689			0.06				0.11															
E5830155	0.051			0.01				0.23															
E5830156	0.114			0.10				0.20															
E5830157	0.084			0.01				0.05															
E5830158	0.507			< 0.01				0.07															
E5830162	0.158			0.10				0.30															
E5830168	0.416			0.11				0.22															
E5830160	0.005	17	< 5	9.47	< 4	3	9	< 0.01	< 5	< 10	< 5	5	34	11									
E5830161	0.007	< 3	< 5	0.07	< 4	22	< 2	0.02	< 5	< 10	< 5	2	11	8									
E5830163	0.001	6	< 5	3.49	< 4	2	< 2	< 0.01	< 5	< 10	< 5	< 1	14	5									
E5830165	0.012	5	< 5	2.68	5	85	< 2	0.04	< 5	< 10	< 5	5	9	31									
E5830166	0.022	< 3	< 5	0.48	< 4	60	< 2	0.04	< 5	< 10	< 5	3	6	14									
E5830167	0.017	12	< 5	0.14	4	417	< 2	0.06	< 5	< 10	6	7	476	24									
E5830169	0.004	66	< 5	> 20.0	< 4	5	18	0.03	< 5	< 10	< 5	< 1	44	20									
E5830170	0.105	10	< 5	1.21	15	228	3	0.44	< 5	< 10	< 5	19	91	99									
E5830171	0.040	7	< 5	5.28	34	110	< 2	0.56	< 5	< 10	< 5	16	59	63									
E5830172	0.032	19	< 5	4.71	23	27	13	0.26	< 5	< 10	< 5	12	102	106									
E5830164	0.133	4	< 5	1.10	14	220	4	0.43	< 5	< 10	< 5	18	53	121									
E5830159															62.94	15.49	6.33	0.098	2.82	1.34	5.28	2.07	0.589

Analyte Symbol	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo	Ag	In
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2	0.5	0.2
Method Code	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
E5830151																							
E5830152																							
E5830153																							
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E5830166																							
E5830167																							
E5830169																							
E5830170																							
E5830171																							
E5830172																							
E5830164																							
E5830159	0.15	2.48	99.58	14	2	111	750	375	13	140	180	20	60	40	90	17	< 1	29	56	8	< 2	< 0.5	< 0.2

Analyte Symbol	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1	5	0.4
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
E5830151																							
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E5830167																							
E5830169																							
E5830170																							
E5830171																							
E5830172																							
E5830164																							
E5830159	1	0.7	2.1	28.4	55.6	6.27	23.1	4.3	1.11	3.2	0.4	2.6	0.5	1.4	0.20	1.4	0.22	3.7	0.5	< 1	0.4	12	< 0.4

Analyte Symbol	Th	U	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Ga
Unit Symbol	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm
Lower Limit	0.1	0.1	2	0.05	0.2	0.1	0.2	0.5	0.5	0.5	0.5	1	0.1	0.1	0.5	0.01	0.1	1	0.05	0.2	0.01	0.1	0.1
Method Code	FUS-MS	FUS-MS	INAA	MULT INAA/TD-ICP/TD-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	TD-MS	MULT TD-ICP/TD-ICP-MS	MULT INAA/TD-ICP/TD-MS	MULT INAA/TD-ICP/TD-MS	INAA	MULT INAA/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	MULT TD-ICP/TD-ICP-MS	INAA	TD-ICP	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	MULT INAA/TD-ICP-MS	INAA	INAA	MULT INAA/TD-ICP-MS	TD-MS
E5830151			< 2	0.66	46.3	0.1	1.1	7.5	30.8	89.6	7.2	678	3.3	0.1	< 0.5	4.52	8.6	101	0.74	3.3	3.68	0.6	9.1
E5830152			10	2.28	19.5	0.1	2.0	23.1	37.8	76.5	13.4	1360	2.9	0.2	< 0.5	5.89	13.1	117	0.66	7.7	4.29	0.7	5.1
E5830153			< 2	0.20	15.1	0.1	0.3	59.6	20.9	32.9	13.6	5560	2.2	0.2	< 0.5	0.59	8.9	58	0.66	< 0.2	1.41	0.9	63.9
E5830154			6	0.09	20.9	< 0.1	1.5	12.5	46.1	84.9	10.4	3190	2.3	0.1	< 0.5	8.39	14.9	113	0.54	10.9	4.59	0.4	12.7
E5830155			10	0.11	26.9	< 0.1	0.3	5.3	31.6	44.7	16.3	887	1.7	0.2	< 0.5	4.96	9.0	78	0.38	2.8	2.86	0.4	5.3
E5830156			3	1.11	12.5	< 0.1	1.8	7.8	40.6	64.7	8.6	516	3.0	0.1	< 0.5	4.20	9.6	118	0.72	5.0	4.16	0.6	10.9
E5830157			< 2	0.36	7.4	< 0.1	2.2	3.5	12.2	29.0	1.8	1020	1.0	< 0.1	< 0.5	1.41	4.7	36	0.30	1.7	1.47	0.4	< 0.1
E5830158			3	0.07	24.1	< 0.1	6.0	36.1	48.6	50.9	41.5	2660	3.6	0.2	< 0.5	6.32	17.5	106	2.05	10.1	4.26	0.3	23.1
E5830162			< 2	1.50	20.0	0.2	6.1	22.2	33.2	77.1	19.5	1050	1.9	0.2	< 0.5	3.24	17.0	92	0.35	3.4	3.41	2.0	12.2
E5830168			10	0.85	29.0	0.6	7.3	23.4	48.6	118	11.3	2320	2.2	0.3	< 0.5	2.88	16.3	112	0.58	12.9	4.59	1.0	3.6
E5830160																0.04							
E5830161																0.30							
E5830163																0.02							
E5830165																2.75							
E5830166																1.88							
E5830167																7.81							
E5830169																0.18							
E5830170																4.59							
E5830171																2.00							
E5830172																0.13							
E5830164																2.83							
E5830159	7.8	2.0																					

Analyte Symbol	Ge	Hg	In	Ir	Nb	Na	Rb	Re	Sb	Sc	Se	Sn	Sr	Ta	Te	Tb	Th	Tl	V	U	W	Y	Zr
Unit Symbol	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	1	0.1	5	0.1	0.01	0.2	0.001	0.1	0.1	0.1	1	0.2	0.1	0.1	0.5	0.1	0.05	2	0.1	1	0.1	1
Method Code	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	MULT I NAA/TD-ICP-MS	TD-MS	INAA	INAA	MULT I NAA/TD-ICP-MS	TD-MS	TD-MS	MULT I NAA/TD-ICP-MS	TD-MS	INAA	MULT I NAA/TD-ICP-MS	TD-MS	TD-ICP	MULT I NAA/TD-ICP-MS	INAA	TD-MS	TD-MS
E5830151	< 0.1	< 1	< 0.1	< 5	56.5	1.95	20.3	0.010	< 0.1	9.6	0.5	1	197	0.7	0.1	< 0.5	31.8	0.15	110	3.5	2	21.3	19
E5830152	< 0.1	< 1	< 0.1	< 5	206	1.90	29.2	0.009	0.5	8.8	0.4	2	372	6.4	0.1	1.6	67.2	0.24	141	5.4	3	69.1	20
E5830153	0.1	< 1	< 0.1	< 5	5.8	2.61	85.6	0.010	1.1	2.7	1.0	< 1	94.1	< 0.1	0.1	< 0.5	6.2	0.53	34	2.3	24	7.4	30
E5830154	< 0.1	< 1	< 0.1	< 5	1.4	1.01	44.7	0.010	0.4	8.6	< 0.1	< 1	621	< 0.1	< 0.1	5.4	86.4	0.36	133	23.4	3	194	6
E5830155	< 0.1	< 1	< 0.1	< 5	7.9	1.25	32.2	0.009	0.2	6.1	0.2	< 1	219	0.1	0.1	0.7	19.9	0.22	66	4.1	4	33.7	19
E5830156	< 0.1	< 1	< 0.1	< 5	93.8	2.23	17.4	0.010	0.2	9.4	0.5	1	270	1.5	0.2	0.8	54.0	0.14	120	4.8	< 1	38.4	18
E5830157	< 0.1	< 1	< 0.1	< 5	32.4	0.40	16.6	0.010	< 0.1	2.2	0.3	< 1	84.0	0.5	0.1	0.8	15.1	0.18	29	1.7	< 1	19.4	15
E5830158	< 0.1	< 1	< 0.1	< 5	< 0.1	1.03	56.2	< 0.001	1.6	9.3	< 0.1	< 1	> 1000	< 0.1	< 0.1	2.5	141	0.83	180	45.2	13	164	3
E5830162	< 0.1	< 1	< 0.1	< 5	136	4.12	32.6	0.010	0.6	7.5	0.3	2	487	2.7	0.1	< 0.5	37.7	0.28	132	14.2	5	63.6	79
E5830168	< 0.1	< 1	< 0.1	< 5	67.0	2.03	56.1	0.010	1.4	11.2	0.2	< 1	510	1.1	0.2	< 0.5	140	0.46	175	25.9	10	148	40
E5830160																			8				
E5830161																			14				
E5830163																			5				
E5830165																			55				
E5830166																			9				
E5830167																			25				
E5830169																			28				
E5830170																			150				
E5830171																			266				
E5830172																			128				
E5830164																			182				
E5830159																							

Analyte Symbol	La	La	Ce	Ce	Pr	Nd	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Lower Limit	0.1	0.5	0.1	3	0.1	0.1	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Method Code	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
E5830151	132	114	255	218	27.8	102	88	16.1	20.3	3.86	11.0	5.6	1.3	0.8	2.3	0.3	2.1	2.0	0.3	0.08	27.4
E5830152	199	172	379	325	42.0	156	164	28.6	37.6	8.50	24.1	18.7	3.9	2.7	6.3	0.7	4.3	3.9	0.5	0.17	28.6
E5830153	25.3	22.9	49.2	43	5.1	17.9	12	2.1	2.9	0.73	1.4	1.3	0.2	0.2	0.8	0.1	1.1	1.1	0.2	< 0.05	28.5
E5830154	252	195	494	395	56.2	215	225	43.3	48.9	12.9	38.1	40.7	6.9	7.0	18.9	2.5	15.4	12.9	1.8	0.65	26.8
E5830155	75.2	66.7	148	133	16.7	63.1	48	11.2	14.7	3.16	8.2	7.0	1.3	1.2	3.2	0.5	3.3	3.2	0.4	0.17	29.3
E5830156	151	130	295	259	33.5	126	151	21.9	27.7	5.73	15.9	10.4	2.3	1.4	3.5	0.5	3.0	3.1	0.4	0.16	28.5
E5830157	36.9	31.1	73.0	62	8.4	32.0	29	5.9	8.0	1.87	5.5	4.9	1.0	0.7	1.6	0.2	1.3	1.2	0.2	0.07	31.2
E5830158	199	179	411	361	47.1	178	185	33.4	47.3	10.0	37.4	38.0	6.5	6.4	15.9	2.1	13.2	11.1	1.7	0.66	30.4
E5830162	98.1	86.0	187	173	20.4	74.7	76	12.2	16.2	3.54	10.3	12.8	2.1	2.2	6.0	0.9	6.0	5.7	0.8	0.32	24.8
E5830168	256	211	501	427	56.2	218	249	46.6	58.7	14.0	40.2	34.8	6.7	5.2	12.8	1.8	11.2	10.1	1.4	0.63	28.9
E5830160																					
E5830161																					
E5830163																					
E5830165																					
E5830166																					
E5830167																					
E5830169																					
E5830170																					
E5830171																					
E5830172																					
E5830164																					
E5830159																					

Analyte Symbol	Au	Pd	Pt	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%
Lower Limit	5	1	1	2	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01
Method Code	FA-AA	FA-MS	FA-MS	FA-MS	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
NIST 694 Meas																							
NIST 694 Cert																							
SY-4 Meas																							
SY-4 Cert																							
Oreas 72a (4 Acid) Meas							5						139	183	304	9.08							
Oreas 72a (4 Acid) Cert							14.7						157	228	316	9.63							
Oreas 72a (4 Acid) Meas							10						144	198	320	9.42							
Oreas 72a (4 Acid) Cert							14.7						157	228	316	9.63							
Oreas 72a (4 Acid) Meas							< 3						146	189	334	9.93							
Oreas 72a (4 Acid) Cert							14.7						157	228	316	9.63							
BIR-1a Meas																							
BIR-1a Cert																							
ZW-C Meas																							
ZW-C Cert																							
OREAS 101b (Fusion) Meas																							
OREAS 101b (Fusion) Cert																							
OREAS 101b (4 Acid) Meas															417			2.14	1.16		857		
OREAS 101b (4 Acid) Cert															412			2.36	1.23		927		
OREAS 101b (4 Acid) Meas															421			1.37	1.25		982		
OREAS 101b (4 Acid) Cert															412			2.36	1.23		927		
OREAS 101b (4 Acid) Meas															417			1.67	1.25		942		
OREAS 101b (4 Acid) Cert															412			2.36	1.23		927		
OREAS 101b (4 Acid) Meas															448			2.55	1.26		954		
OREAS 101b (4 Acid) Cert															412			2.36	1.23		927		
OREAS 101b (4 Acid) Meas															422			2.13	1.24		972		
OREAS 101b (4 Acid) Cert															412			2.36	1.23		927		
OREAS 101b (4 Acid) Meas															424			1.70	1.23		973		
OREAS 101b (4 Acid) Cert															412			2.36	1.23		927		
OREAS 101b (4 Acid) Meas															411			1.83	1.20		942		
OREAS 101b (4 Acid) Cert															412			2.36	1.23		927		
OREAS 101b (4 Acid) Meas															434			2.35	1.27		954		
OREAS 101b (4 Acid) Cert															412			2.36	1.23		927		
OREAS 98 (4					41.4					77			118		> 10000								

Analyte Symbol	Au	Pd	Pt	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%
Lower Limit	5	1	1	2	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01
Method Code	FA-AA	FA-MS	FA-MS	FA-MS	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Acid) Meas																							
OREAS 98 (4 Acid) Cert					45.1					97.2			121		14800 0.0								
OREAS 98 (4 Acid) Meas					41.9					46			122		> 10000								
OREAS 98 (4 Acid) Cert					45.1					97.2			121		14800 0.0								
OREAS 98 (4 Acid) Meas					44.1										> 10000								
OREAS 98 (4 Acid) Cert					45.1										14800 0.0								
OREAS 98 (4 Acid) Meas					42.5										> 10000								
OREAS 98 (4 Acid) Cert					45.1										14800 0.0								
OREAS 98 (4 Acid) Meas					42.2										> 10000								
OREAS 98 (4 Acid) Cert					45.1										14800 0.0								
OREAS 98 (4 Acid) Meas					42.3										> 10000								
OREAS 98 (4 Acid) Cert					45.1										14800 0.0								
OREAS 98 (4 Acid) Meas					42.2										> 10000								
OREAS 98 (4 Acid) Cert					45.1										14800 0.0								
OREAS 98 (4 Acid) Meas					43.3										> 10000								
OREAS 98 (4 Acid) Cert					45.1										14800 0.0								
OREAS 98 (4 Acid) Meas					42.7										> 10000								
OREAS 98 (4 Acid) Cert					45.1										14800 0.0								
NCS DC86318 Meas																							
NCS DC86318 Cert																							
USZ 25-2006 Meas																							
USZ 25-2006 Cert																							
DNC-1a Meas																							
DNC-1a Cert																							
OREAS 13b (4-Acid) Meas					0.9										2390								
OREAS 13b (4-Acid) Cert					0.86										2327.0 000								
OREAS 13b (4-Acid) Meas					1.0										2340								
OREAS 13b (4-Acid) Cert					0.86										2327.0 000								
OREAS 13b (4-Acid) Meas					0.9										2440								
OREAS 13b (4-Acid) Cert					0.86										2327.0 000								
OREAS 13b (4-Acid) Meas					0.8										2330								

Analyte Symbol	Au	Pd	Pt	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%
Lower Limit	5	1	1	2	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01
Method Code	FA-AA	FA-MS	FA-MS	FA-MS	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
OREAS 13b (4-Acid) Cert					0.86										2327.0 000								
OREAS 13b (4-Acid) Meas					0.7										2440								
OREAS 13b (4-Acid) Cert					0.86										2327.0 000								
BCR-2 Meas																							
BCR-2 Cert																							
USZ 42-2006 Meas																							
USZ 42-2006 Cert																							
OREAS 903 (4 Acid) Meas					0.4	6.11						< 0.3			6580			1.64	0.75	17	757		
OREAS 903 (4 Acid) Cert					0.432	5.89						0.200			6520			3.31	0.714	18.3	690		
OREAS 903 (4 Acid) Meas					0.4	5.97						< 0.3			6490			2.76	0.74	17	707		
OREAS 903 (4 Acid) Cert					0.432	5.89						0.200			6520			3.31	0.714	18.3	690		
OREAS 903 (4 Acid) Meas					0.7	6.05						< 0.3			6550			3.47	0.76	18	735		
OREAS 903 (4 Acid) Cert					0.432	5.89						0.200			6520			3.31	0.714	18.3	690		
OREAS 903 (4 Acid) Meas					0.4	6.02						< 0.3			6800			1.90	0.76	18	793		
OREAS 903 (4 Acid) Cert					0.432	5.89						0.200			6520			3.31	0.714	18.3	690		
OREAS 903 (4 Acid) Meas					0.3	5.95						< 0.3			6770			1.59	0.75	18	777		
OREAS 903 (4 Acid) Cert					0.432	5.89						0.200			6520			3.31	0.714	18.3	690		
OREAS 903 (4 Acid) Meas					< 0.3	6.28						< 0.3			6550			2.48	0.75	18	725		
OREAS 903 (4 Acid) Cert					0.432	5.89						0.200			6520			3.31	0.714	18.3	690		
OREAS 903 (4 Acid) Meas					0.7	6.23						0.5			6530			3.34	0.82	18	764		
OREAS 903 (4 Acid) Cert					0.432	5.89						0.200			6520			3.31	0.714	18.3	690		
OREAS 904 (4 Acid) Meas					0.9	6.52	100	210	10	< 2	0.05		93	66	6090	6.85	17	3.00	0.59	16	451	2	0.04
OREAS 904 (4 Acid) Cert					0.551	6.30	98.0	194	7.86	4.05	0.0460		83.0	54.0	6120	6.68	16.7	3.31	0.556	16.7	410	2.12	0.0340
OREAS 904 (4 Acid) Meas					0.4	6.38	86	219	10	< 2	0.05		91	61	6250	6.76	17	1.94	0.59	16	428	1	0.04
OREAS 904 (4 Acid) Cert					0.551	6.30	98.0	194	7.86	4.05	0.0460		83.0	54.0	6120	6.68	16.7	3.31	0.556	16.7	410	2.12	0.0340
SBC-1 Meas							26	752	3	2		0.4	22	109	30		27			154		2	
SBC-1 Cert							25.7	788.0	3.20	0.70		0.40	22.7	109	31.0		27.0			163		2	
SBC-1 Meas							24	778	3	< 2		0.4	21	88	33		27			160		2	
SBC-1 Cert							25.7	788.0	3.20	0.70		0.40	22.7	109	31.0		27.0			163		2	
SBC-1 Meas							20	779	3	2		0.5	21	79	35		27			157		2	
SBC-1 Cert							25.7	788.0	3.20	0.70		0.40	22.7	109	31.0		27.0			163		2	
OREAS 45d (4-Acid) Meas						7.93									373			0.40	0.24	21	514		
OREAS 45d (4-Acid) Cert						8.150									371			0.412	0.245	21.5	490.000		

Analyte Symbol	Au	Pd	Pt	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%
Lower Limit	5	1	1	2	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01
Method Code	FA-AA	FA-MS	FA-MS	FA-MS	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
OREAS 45d (4-Acid) Meas						8.14									380			0.39	0.25	21	525		
OREAS 45d (4-Acid) Cert						8.150									371			0.412	0.245	21.5	490.000		
OREAS 45d (4-Acid) Meas						7.72									385			0.43	0.25	21	546		
OREAS 45d (4-Acid) Cert						8.150									371			0.412	0.245	21.5	490.000		
OREAS 45d (4-Acid) Meas						8.13									363			0.39	0.24	21	523		
OREAS 45d (4-Acid) Cert						8.150									371			0.412	0.245	21.5	490.000		
OREAS 45d (4-Acid) Meas						8.10									391			0.43	0.26	22	530		
OREAS 45d (4-Acid) Cert						8.150									371			0.412	0.245	21.5	490.000		
REE-1 Meas																							
REE-1 Cert																							
CDN-PGMS-27 Meas		1920	1190	4520																			
CDN-PGMS-27 Cert		2000	1290.00	4800																			
OREAS 96 (4 Acid) Meas					11.6					18			50		> 10000								
OREAS 96 (4 Acid) Cert					11.5					26.3			49.9		39300								
OREAS 96 (4 Acid) Meas					11.5					11			49		> 10000								
OREAS 96 (4 Acid) Cert					11.5					26.3			49.9		39300								
OREAS 96 (4 Acid) Meas					10.2					7			49		> 10000								
OREAS 96 (4 Acid) Cert					11.5					26.3			49.9		39300								
OREAS 96 (4 Acid) Meas					11.2										> 10000								
OREAS 96 (4 Acid) Cert					11.5										39300								
OREAS 96 (4 Acid) Meas					11.4										> 10000								
OREAS 96 (4 Acid) Cert					11.5										39300								
OREAS 96 (4 Acid) Meas					11.4										> 10000								
OREAS 96 (4 Acid) Cert					11.5										39300								
OREAS 96 (4 Acid) Meas					11.6										> 10000								
OREAS 96 (4 Acid) Cert					11.5										39300								
OREAS 96 (4 Acid) Meas					11.6										> 10000								
OREAS 96 (4 Acid) Cert					11.5										39300								
OREAS 923 (4 Acid) Meas					1.6	7.43	5	464	3	13	0.48	0.5	23	79	4530	6.77	19	2.22	1.80	31	976	< 1	0.33
OREAS 923 (4 Acid) Cert					1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324

Analyte Symbol	Au	Pd	Pt	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%
Lower Limit	5	1	1	2	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01
Method Code	FA-AA	FA-MS	FA-MS	FA-MS	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
OREAS 923 (4 Acid) Meas					1.4	7.44	5	435	3	15	0.49	0.5	23	78	4520	6.72	21	1.86	1.81	31	994	< 1	0.33
OREAS 923 (4 Acid) Cert					1.60	7.29	7.61	434	2.42	21.4	0.473	0.420	23.1	71.0	4230	6.43	20.3	2.51	1.69	31.4	950	0.930	0.324
Oreas 77b (4 Acid) Meas					1.5	1.65						1.1			3280			0.32	2.45	17	590		
Oreas 77b (4 Acid) Cert					1.62	1.94						1.20			3430			0.361	2.59	18.8	640		
Oreas 77b (4 Acid) Meas					1.5	1.65						0.8			3250			0.31	2.43	17	622		
Oreas 77b (4 Acid) Cert					1.62	1.94						1.20			3430			0.361	2.59	18.8	640		
Oreas 77b (4 Acid) Meas					1.4	1.66						1.1			3150			0.33	2.39	16	582		
Oreas 77b (4 Acid) Cert					1.62	1.94						1.20			3430			0.361	2.59	18.8	640		
Oreas 77b (4 Acid) Meas					1.5	1.68						1.6			3260			0.31	2.48	17	600		
Oreas 77b (4 Acid) Cert					1.62	1.94						1.20			3430			0.361	2.59	18.8	640		
Oreas 77b (4 Acid) Meas					1.3	1.60						1.5			3110			0.31	2.36	16	599		
Oreas 77b (4 Acid) Cert					1.62	1.94						1.20			3430			0.361	2.59	18.8	640		
Oreas 72b (4 Acid) Meas					0.3	4.75						< 0.3			217			1.17	8.97	34	1030		
Oreas 72b (4 Acid) Cert					0.230	4.79						0.310			222			1.14	9.59	33.3	1010		
Oreas 72b (4 Acid) Meas					0.4	4.51						0.4			217			1.09	9.28	31	978		
Oreas 72b (4 Acid) Cert					0.230	4.79						0.310			222			1.14	9.59	33.3	1010		
Oreas 72b (4 Acid) Meas					0.4	4.56						0.6			224			1.09	9.46	32	1010		
Oreas 72b (4 Acid) Cert					0.230	4.79						0.310			222			1.14	9.59	33.3	1010		
Oreas 72b (4 Acid) Meas					0.4	4.58						0.4			220			1.13	9.30	30	1030		
Oreas 72b (4 Acid) Cert					0.230	4.79						0.310			222			1.14	9.59	33.3	1010		
Oreas 72b (4 Acid) Meas					0.4	4.51						0.4			216			1.13	9.14	29	1010		
Oreas 72b (4 Acid) Cert					0.230	4.79						0.310			222			1.14	9.59	33.3	1010		
Oreas 72b (4 Acid) Meas					0.3	4.82						0.3			219			1.08	9.22	30	1000		
Oreas 72b (4 Acid) Cert					0.230	4.79						0.310			222			1.14	9.59	33.3	1010		
Oreas 72b (4 Acid) Meas					0.3	4.78						0.3			226			1.09	9.48	32	1010		
Oreas 72b (4 Acid) Cert					0.230	4.79						0.310			222			1.14	9.59	33.3	1010		
OREAS 238 (Fire Assay) Meas	3010																						
OREAS 238 (Fire Assay) Cert	3030																						
W-2b Meas																							
W-2b Cert																							

Analyte Symbol	Au	Pd	Pt	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%
Lower Limit	5	1	1	2	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01
Method Code	FA-AA	FA-MS	FA-MS	FA-MS	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
Oreas E1336 (Fire Assay) Meas	502																						
Oreas E1336 (Fire Assay) Cert	510.000																						
OREAS 681 (4 Acid) Meas					< 0.3	7.73		399	1	3	5.55		49	1610	261	7.55	16	1.37	4.99	12	1240	1	1.50
OREAS 681 (4 Acid) Cert					0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61
OREAS 681 (4 Acid) Meas					< 0.3	7.96		427	1	< 2	5.83		48	1600	281	8.01	16	1.36	5.37	12	1290	< 1	1.46
OREAS 681 (4 Acid) Cert					0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61
OREAS 681 (4 Acid) Meas					< 0.3	7.94		428	1	< 2	5.96		49	1990	278	7.99	16	1.36	5.39	12	1320	< 1	1.49
OREAS 681 (4 Acid) Cert					0.118	7.91		442	1.41	0.0980	5.98		51.0	1640	264	7.47	17.6	1.35	5.19	13.0	1310	1.38	1.61
OREAS 681 (4 Acid) Meas					< 0.3	7.57									260			1.27	5.02	13	1250		
OREAS 681 (4 Acid) Cert					0.118	7.91									264			1.35	5.19	13.0	1310		
OREAS 681 (4 Acid) Meas					0.3	7.60									268			1.32	5.15	13	1270		
OREAS 681 (4 Acid) Cert					0.118	7.91									264			1.35	5.19	13.0	1310		
OREAS 681 (4 Acid) Meas					< 0.3	7.47									263			1.30	5.02	13	1240		
OREAS 681 (4 Acid) Cert					0.118	7.91									264			1.35	5.19	13.0	1310		
OREAS 681 (4 Acid) Meas					< 0.3	7.91									274			1.42	5.27	13	1340		
OREAS 681 (4 Acid) Cert					0.118	7.91									264			1.35	5.19	13.0	1310		
OREAS 681 (4 Acid) Meas					< 0.3	7.53									260			1.34	5.00	12	1300		
OREAS 681 (4 Acid) Cert					0.118	7.91									264			1.35	5.19	13.0	1310		
OREAS 681 (4 Acid) Meas					< 0.3	7.96									273			1.33	5.30	13	1330		
OREAS 681 (4 Acid) Cert					0.118	7.91									264			1.35	5.19	13.0	1310		
OREAS 681 (4 Acid) Meas					< 0.3	7.91									279			1.33	5.36	13	1320		
OREAS 681 (4 Acid) Cert					0.118	7.91									264			1.35	5.19	13.0	1310		
OREAS 247 (4 Acid) Meas					2.5	6.10	3350	564	3	< 2	0.88	< 0.3	13	91	40	3.27	18	2.34	1.24	29	381	< 1	0.48
OREAS 247 (4 Acid) Cert					2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499
OREAS 247 (4 Acid) Meas					2.0	6.33	3160	564	3	< 2	0.89	0.5	14	102	44	3.39	16	2.08	1.31	32	387	< 1	0.51
OREAS 247 (4 Acid) Cert					2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499
OREAS 247 (4 Acid) Meas					2.1	6.03	3030	500	3	< 2	0.87	0.4	13	104	41	3.31	17	1.59	1.28	32	384	< 1	0.49
OREAS 247 (4 Acid) Cert					2.16	6.08	3510	550	2.23	0.580	0.826	0.0650	12.0	97.0	42.2	3.32	16.3	2.45	1.22	31.8	360	1.76	0.499
OREAS 247 (4 Acid) Meas					2.4	6.07						< 0.3			42			1.52	1.25	29	402		

Analyte Symbol	Au	Pd	Pt	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%
Lower Limit	5	1	1	2	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01
Method Code	FA-AA	FA-MS	FA-MS	FA-MS	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
OREAS 247 (4 Acid) Cert					2.16	6.08						0.0650			42.2			2.45	1.22	31.8	360		
OREAS 147 (4 Acid) Meas						5.19									296			1.70	0.55	1840	378		
OREAS 147 (4 Acid) Cert						4.90									298			1.60	0.535	2260	390		
OREAS 147 (4 Acid) Meas						4.95									300			1.62	0.56	2120	419		
OREAS 147 (4 Acid) Cert						4.90									298			1.60	0.535	2260	390		
OREAS 147 (4 Acid) Meas						5.11									307			1.67	0.58	2220	424		
OREAS 147 (4 Acid) Cert						4.90									298			1.60	0.535	2260	390		
OREAS 147 (4 Acid) Meas						5.03									311			1.75	0.57	2070	441		
OREAS 147 (4 Acid) Cert						4.90									298			1.60	0.535	2260	390		
OREAS 147 (4 Acid) Meas						5.36									303			1.64	0.58	2230	436		
OREAS 147 (4 Acid) Cert						4.90									298			1.60	0.535	2260	390		
OREAS 147 (4 Acid) Meas						5.24									320			1.64	0.59	2260	432		
OREAS 147 (4 Acid) Cert						4.90									298			1.60	0.535	2260	390		
Oreas 521 (4 Acid) Meas					1.1	4.56									5820			2.93	1.14	16	3020		
Oreas 521 (4 Acid) Cert					0.89	4.77									6070			3.16	1.13	16	3210		
Oreas 521 (4 Acid) Meas					1.0	4.54									5840			3.06	1.14	16	3160		
Oreas 521 (4 Acid) Cert					0.89	4.77									6070			3.16	1.13	16	3210		
Oreas 521 (4 Acid) Meas					1.1	4.89									6280			3.26	1.22	17	3240		
Oreas 521 (4 Acid) Cert					0.89	4.77									6070			3.16	1.13	16	3210		
Oreas 521 (4 Acid) Meas					1.2	4.82									5860			2.99	1.17	16	3180		
Oreas 521 (4 Acid) Cert					0.89	4.77									6070			3.16	1.13	16	3210		
OREAS 70b (4 Acid) Meas					< 0.3	3.83						< 0.3			56			0.61	12.4	36	1160		
OREAS 70b (4 Acid) Cert					0.2	3.87						0.4			52			0.62	13.4	34	1150		
OREAS 70b (4 Acid) Meas					0.3	3.67						0.4			51			0.58	13.0	33	1080		
OREAS 70b (4 Acid) Cert					0.2	3.87						0.4			52			0.62	13.4	34	1150		
OREAS 70b (4 Acid) Meas					< 0.3	3.76						0.5			50			0.61	13.1	31	1170		
OREAS 70b (4 Acid) Cert					0.2	3.87						0.4			52			0.62	13.4	34	1150		
OREAS 70b (4 Acid) Meas					< 0.3	3.80						0.5			52			0.60	13.5	34	1170		
OREAS 70b (4 Acid) Cert					0.2	3.87						0.4			52			0.62	13.4	34	1150		

Analyte Symbol	Au	Pd	Pt	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%
Lower Limit	5	1	1	2	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01
Method Code	FA-AA	FA-MS	FA-MS	FA-MS	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
OREAS 620 (4 Acid) Meas					40.1	6.42	40	133	3	< 2	1.64	161	13	30	1720	2.92	23	2.28	0.34	18	420	8	1.81
OREAS 620 (4 Acid) Cert					38.5	6.72	50	2490	2	2	1.60	163	12	22	1730	2.94	24	2.63	0.34	20	440	9	1.94
OREAS 620 (4 Acid) Meas					40.5	7.16	45	144	3	< 2	1.72	166	14	27	1720	3.05	24	2.70	0.35	19	434	8	1.88
OREAS 620 (4 Acid) Cert					38.5	6.72	50	2490	2	2	1.60	163	12	22	1730	2.94	24	2.63	0.34	20	440	9	1.94
OREAS 620 (4 Acid) Meas					34.3	6.97	45	144	3	< 2	1.71	160	13	31	1780	3.04	25	1.27	0.36	19	425	8	1.82
OREAS 620 (4 Acid) Cert					38.5	6.72	50	2490	2	2	1.60	163	12	22	1730	2.94	24	2.63	0.34	20	440	9	1.94
OREAS 620 (4 Acid) Meas					40.1	6.96						151			1710			1.77	0.36	20	427		
OREAS 620 (4 Acid) Cert					38.5	6.72						163			1730			2.63	0.34	20	440		
OREAS 620 (4 Acid) Meas					40.2	6.92						166			1770			2.06	0.36	19	473		
OREAS 620 (4 Acid) Cert					38.5	6.72						163			1730			2.63	0.34	20	440		
OREAS 620 (4 Acid) Meas					40.2	6.99						165			1800			1.91	0.37	19	447		
OREAS 620 (4 Acid) Cert					38.5	6.72						163			1730			2.63	0.34	20	440		
OREAS 620 (4 Acid) Meas					40.9	5.78						166			1720			1.75	0.32	22	492		
OREAS 620 (4 Acid) Cert					38.5	6.72						163			1730			2.63	0.34	20	440		
OREAS 620 (4 Acid) Meas					39.8	6.93						164			1710			1.84	0.35	20	450		
OREAS 620 (4 Acid) Cert					38.5	6.72						163			1730			2.63	0.34	20	440		
OREAS 753 (4 Acid) Meas						8.40						1.5			18			1.56	0.01	8930	792		
OREAS 753 (4 Acid) Cert						8.22						1.54			18.4			1.93	0.011	9850.000	740.000		
OREAS 753 (4 Acid) Meas						8.41						1.5			18			1.74	0.01	8980	795		
OREAS 753 (4 Acid) Cert						8.22						1.54			18.4			1.93	0.011	9850.000	740.000		
OREAS 753 (4 Acid) Meas						8.44						1.4			19			1.33	0.01	8530	834		
OREAS 753 (4 Acid) Cert						8.22						1.54			18.4			1.93	0.011	9850.000	740.000		
OREAS 753 (4 Acid) Meas						8.93						1.7			19			1.98	0.01	8920	814		
OREAS 753 (4 Acid) Cert						8.22						1.54			18.4			1.93	0.011	9850.000	740.000		
DMMAS 125 Meas																							
DMMAS 125 Cert																							
E5830162 Orig	< 5																						
E5830162 Dup	< 5																						
E5830168 Orig					< 0.3	5.87						0.7			28			3.74	0.55	4	2190		
E5830168 Dup					< 0.3	5.90						0.6			30			4.12	0.54	4	2210		
E5830170 Orig	5																						
E5830170 Dup	6																						

Analyte Symbol	Au	Pd	Pt	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	Mg	Li	Mn	Mo	Na
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	%
Lower Limit	5	1	1	2	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	0.01	0.01	1	1	1	0.01
Method Code	FA-AA	FA-MS	FA-MS	FA-MS	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
E5830171 Orig					0.3	7.08	< 3	92	< 1	< 2	2.00	< 0.3	22	57	116	8.81	17	1.45	3.44	33	833	< 1	1.68
E5830171 Dup					< 0.3	7.14	4	165	< 1	3	2.00	< 0.3	21	67	121	8.66	17	1.47	3.47	33	857	< 1	1.66
E5830172 Orig	< 5																						
E5830172 Dup	< 5																						
E5830164 Orig		< 1	< 1	17																			
E5830164 Dup		< 1	< 1	15																			
E5830159 Orig																							
E5830159 Split PREP DUP																							
Method Blank		< 1	< 1	4																			
Method Blank		< 1	< 1	3																			
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank																							
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1	5		
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1	7		
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1	4		
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1	9		
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1	10		
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1	2		
Method Blank					< 0.3	< 0.01						< 0.3			< 1			< 0.01	< 0.01	< 1			
Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	6	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01
Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	9	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01
Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	3	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1	8	< 1	< 0.01
Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1		< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01
Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	10	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01
Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	5		< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01
Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	7	11	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01
Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	2	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01
Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	7	< 1	< 0.01	< 1	< 0.01	< 0.01	< 1		< 1	< 0.01
Method Blank																							
Method Blank																							

Analyte Symbol	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O
Unit Symbol	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
Lower Limit	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
NIST 694 Meas																	11.46	1.90	0.73	0.013	0.35	42.94	0.85
NIST 694 Cert																	11.2	1.80	0.790	0.0116	0.330	43.6	0.860
SY-4 Meas																	49.25	20.56	6.17	0.104	0.51	8.12	6.87
SY-4 Cert																	49.9	20.69	6.21	0.108	0.54	8.05	7.10
Oreas 72a (4 Acid) Meas	5830				1.66																		
Oreas 72a (4 Acid) Cert	6930.000				1.74																		
Oreas 72a (4 Acid) Meas	6090				1.74																		
Oreas 72a (4 Acid) Cert	6930.000				1.74																		
Oreas 72a (4 Acid) Meas	6520				1.77																		
Oreas 72a (4 Acid) Cert	6930.000				1.74																		
BIR-1a Meas																	48.27	16.13	11.31	0.163	9.73	12.93	1.85
BIR-1a Cert																	47.96	15.50	11.30	0.175	9.700	13.30	1.82
ZW-C Meas																							
ZW-C Cert																							
OREAS 101b (Fusion) Meas																							
OREAS 101b (Fusion) Cert																							
OREAS 101b (4 Acid) Meas	8	0.116	23						0.34														
OREAS 101b (4 Acid) Cert	8.2		23						0.35														
OREAS 101b (4 Acid) Meas	9	0.110	22						0.37														
OREAS 101b (4 Acid) Cert	8.2		23						0.35														
OREAS 101b (4 Acid) Meas	9	0.108	21						0.34														
OREAS 101b (4 Acid) Cert	8.2		23						0.35														
OREAS 101b (4 Acid) Meas	10	0.116	21						0.37														
OREAS 101b (4 Acid) Cert	8.2		23						0.35														
OREAS 101b (4 Acid) Meas	9	0.111	21						0.36														
OREAS 101b (4 Acid) Cert	8.2		23						0.35														
OREAS 101b (4 Acid) Meas	9	0.110	20						0.36														
OREAS 101b (4 Acid) Cert	8.2		23						0.35														
OREAS 101b (4 Acid) Meas	9	0.108	21						0.35														
OREAS 101b (4 Acid) Cert	8.2		23						0.35														
OREAS 101b (4 Acid) Meas	9	0.110	20						0.36														
OREAS 101b (4 Acid) Cert	8.2		23						0.35														

Analyte Symbol	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O
Unit Symbol	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
Lower Limit	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
OREAS 98 (4 Acid) Meas			312	< 5	16.6										1320								
OREAS 98 (4 Acid) Cert			345	20.1	15.5										1360								
OREAS 98 (4 Acid) Meas			324	6	17.0										1340								
OREAS 98 (4 Acid) Cert			345	20.1	15.5										1360								
OREAS 98 (4 Acid) Meas			348		15.3										1270								
OREAS 98 (4 Acid) Cert			345		15.5										1360								
OREAS 98 (4 Acid) Meas			305		15.6										1290								
OREAS 98 (4 Acid) Cert			345		15.5										1360								
OREAS 98 (4 Acid) Meas			301		15.6										1280								
OREAS 98 (4 Acid) Cert			345		15.5										1360								
OREAS 98 (4 Acid) Meas			307		16.0										1320								
OREAS 98 (4 Acid) Cert			345		15.5										1360								
OREAS 98 (4 Acid) Meas			300		16.0										1290								
OREAS 98 (4 Acid) Cert			345		15.5										1360								
OREAS 98 (4 Acid) Meas			307		17.3										1280								
OREAS 98 (4 Acid) Cert			345		15.5										1360								
OREAS 98 (4 Acid) Meas			311		16.9										1310								
OREAS 98 (4 Acid) Cert			345		15.5										1360								
NCS DC86318 Meas																							
NCS DC86318 Cert																							
USZ 25-2006 Meas																							
USZ 25-2006 Cert																							
DNC-1a Meas																	47.70	19.26	9.72	0.142	10.15	10.92	1.96
DNC-1a Cert																	47.15	18.34	9.97	0.150	10.13	11.49	1.890
OREAS 13b (4-Acid) Meas	2060				1.17										140								
OREAS 13b (4-Acid) Cert	2247.0000				1.2										133								
OREAS 13b (4-Acid) Meas	2040				1.09										117								
OREAS 13b (4-Acid) Cert	2247.0000				1.2										133								
OREAS 13b (4-Acid) Meas	2070				1.16										142								
OREAS 13b	2247.0				1.2										133								

Analyte Symbol	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O
Unit Symbol	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
Lower Limit	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
(4-Acid) Cert	000																						
OREAS 13b (4-Acid) Meas	2140				1.20										149								
OREAS 13b (4-Acid) Cert	2247.0 000				1.2										133								
OREAS 13b (4-Acid) Meas	2180				1.24										160								
OREAS 13b (4-Acid) Cert	2247.0 000				1.2										133								
BCR-2 Meas																	54.01	13.64	13.90	0.190	3.59	7.09	3.06
BCR-2 Cert																	54.1	13.5	13.8	0.196	3.59	7.12	3.16
USZ 42-2006 Meas																							
USZ 42-2006 Cert																							
OREAS 903 (4 Acid) Meas	57	0.102	9		0.50				0.29						27								
OREAS 903 (4 Acid) Cert	54.0	0.107	11.3		0.500				0.192						24.3								
OREAS 903 (4 Acid) Meas	56	0.105	10		0.50				0.30						26								
OREAS 903 (4 Acid) Cert	54.0	0.107	11.3		0.500				0.192						24.3								
OREAS 903 (4 Acid) Meas	57	0.111	7		0.50				0.30						27								
OREAS 903 (4 Acid) Cert	54.0	0.107	11.3		0.500				0.192						24.3								
OREAS 903 (4 Acid) Meas	57	0.104	10		0.49				0.31						26								
OREAS 903 (4 Acid) Cert	54.0	0.107	11.3		0.500				0.192						24.3								
OREAS 903 (4 Acid) Meas	57	0.104	11		0.49				0.31						26								
OREAS 903 (4 Acid) Cert	54.0	0.107	11.3		0.500				0.192						24.3								
OREAS 903 (4 Acid) Meas	56	0.104	10		0.52				0.30						27								
OREAS 903 (4 Acid) Cert	54.0	0.107	11.3		0.500				0.192						24.3								
OREAS 903 (4 Acid) Meas	56	0.120	9		0.60				0.30						27								
OREAS 903 (4 Acid) Cert	54.0	0.107	11.3		0.500				0.192						24.3								
OREAS 904 (4 Acid) Meas	45	0.103	13	< 5	0.06	12	30			< 5	< 10	90	< 5	33	28	154							
OREAS 904 (4 Acid) Cert	40.1	0.0980	10.6	1.48	0.0630	11.2	27.2			0.520	8.43	76.0	2.12	31.5	26.3	171							
OREAS 904 (4 Acid) Meas	47	0.093	13	< 5	0.06	12	30			< 5	< 10	82	< 5	34	26	45							
OREAS 904 (4 Acid) Cert	40.1	0.0980	10.6	1.48	0.0630	11.2	27.2			0.520	8.43	76.0	2.12	31.5	26.3	171							
SBC-1 Meas	82		32	< 5		16	168		0.51	< 5	< 10	229	6	26	195	119							
SBC-1 Cert	83		35.0	1.01		20.0	178.0		0.51	0.89	5.76	220.0	1.60	36.5	186	134.0							
SBC-1 Meas	85		26	< 5		18	185		0.51	< 5	< 10	221	6	27	187	111							
SBC-1 Cert	83		35.0	1.01		20.0	178.0		0.51	0.89	5.76	220.0	1.60	36.5	186	134.0							
SBC-1 Meas	83		26	< 5		18	183		0.47	< 5	< 10	220	6	28	200	105							

Analyte Symbol	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O
Unit Symbol	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
Lower Limit	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
SBC-1 Cert	83		35.0	1.01		20.0	178.0		0.51	0.89	5.76	220.0	1.60	36.5	186	134.0							
OREAS 45d (4-Acid) Meas	237	0.034	22		0.04				0.24						44								
OREAS 45d (4-Acid) Cert	231.0	0.042	21.8		0.049				0.773						45.7								
OREAS 45d (4-Acid) Meas	238	0.036	22		0.05				0.29						47								
OREAS 45d (4-Acid) Cert	231.0	0.042	21.8		0.049				0.773						45.7								
OREAS 45d (4-Acid) Meas	235	0.036	21		0.04				0.32						44								
OREAS 45d (4-Acid) Cert	231.0	0.042	21.8		0.049				0.773						45.7								
OREAS 45d (4-Acid) Meas	229	0.035	26		0.05				0.14						45								
OREAS 45d (4-Acid) Cert	231.0	0.042	21.8		0.049				0.773						45.7								
OREAS 45d (4-Acid) Meas	235	0.037	19		0.05				0.27						45								
OREAS 45d (4-Acid) Cert	231.0	0.042	21.8		0.049				0.773						45.7								
REE-1 Meas																							
REE-1 Cert																							
CDN-PGMS-27 Meas																							
CDN-PGMS-27 Cert																							
OREAS 96 (4 Acid) Meas			98	< 5	4.45										455								
OREAS 96 (4 Acid) Cert			101	5.09	4.19										457								
OREAS 96 (4 Acid) Meas			96	< 5	4.47										454								
OREAS 96 (4 Acid) Cert			101	5.09	4.19										457								
OREAS 96 (4 Acid) Meas			90	< 5	4.61										450								
OREAS 96 (4 Acid) Cert			101	5.09	4.19										457								
OREAS 96 (4 Acid) Meas			94		4.32										444								
OREAS 96 (4 Acid) Cert			101		4.19										457								
OREAS 96 (4 Acid) Meas			94		4.35										449								
OREAS 96 (4 Acid) Cert			101		4.19										457								
OREAS 96 (4 Acid) Meas			91		4.26										441								
OREAS 96 (4 Acid) Cert			101		4.19										457								
OREAS 96 (4 Acid) Meas			94		4.51										449								
OREAS 96 (4 Acid) Cert			101		4.19										457								
OREAS 96 (4			93		4.64										453								

Analyte Symbol	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O
Unit Symbol	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
Lower Limit	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
Acid) Meas																							
OREAS 96 (4 Acid) Cert			101		4.19										457								
OREAS 923 (4 Acid) Meas	38	0.065	76	8	0.75	13	45		0.43	< 5	< 10	97	10	26	354	132							
OREAS 923 (4 Acid) Cert	35.8	0.0630	83.0	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116							
OREAS 923 (4 Acid) Meas	34	0.065	76	< 5	0.74	13	45		0.43	< 5	< 10	99	12	26	366	135							
OREAS 923 (4 Acid) Cert	35.8	0.0630	83.0	1.29	0.691	13.1	43.0		0.405	0.860	3.06	91.0	4.85	26.4	345	116							
Oreas 77b (4 Acid) Meas	> 10000		63						0.06						176								
Oreas 77b (4 Acid) Cert	113000		61.0						0.0640						205								
Oreas 77b (4 Acid) Meas	> 10000		64						0.06						172								
Oreas 77b (4 Acid) Cert	113000		61.0						0.0640						205								
Oreas 77b (4 Acid) Meas	> 10000		65						0.05						169								
Oreas 77b (4 Acid) Cert	113000		61.0						0.0640						205								
Oreas 77b (4 Acid) Meas	> 10000		64						0.06						187								
Oreas 77b (4 Acid) Cert	113000		61.0						0.0640						205								
Oreas 77b (4 Acid) Meas	> 10000		52						0.06						167								
Oreas 77b (4 Acid) Cert	113000		61.0						0.0640						205								
Oreas 72b (4 Acid) Meas	6870	0.027	16		1.50				0.22						98								
Oreas 72b (4 Acid) Cert	6860	0.0260	14.9		1.49				0.216						99.0								
Oreas 72b (4 Acid) Meas	6390	0.025	10		1.41				0.20						88								
Oreas 72b (4 Acid) Cert	6860	0.0260	14.9		1.49				0.216						99.0								
Oreas 72b (4 Acid) Meas	6430	0.026	12		1.43				0.21						90								
Oreas 72b (4 Acid) Cert	6860	0.0260	14.9		1.49				0.216						99.0								
Oreas 72b (4 Acid) Meas	6390	0.026	18		1.44				0.21						91								
Oreas 72b (4 Acid) Cert	6860	0.0260	14.9		1.49				0.216						99.0								
Oreas 72b (4 Acid) Meas	6260	0.025	13		1.42				0.21						93								
Oreas 72b (4 Acid) Cert	6860	0.0260	14.9		1.49				0.216						99.0								
Oreas 72b (4 Acid) Meas	6430	0.026	15		1.47				0.20						94								
Oreas 72b (4 Acid) Cert	6860	0.0260	14.9		1.49				0.216						99.0								
Oreas 72b (4 Acid) Meas	6540	0.026	15		1.47				0.21						95								

Analyte Symbol	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O
Unit Symbol	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
Lower Limit	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
Oreas 72b (4 Acid) Cert	6860	0.0260	14.9		1.49				0.216						99.0								
OREAS 238 (Fire Assay) Meas																							
OREAS 238 (Fire Assay) Cert																							
W-2b Meas																	51.34	14.93	10.72	0.161	6.32	11.11	2.09
W-2b Cert																	52.4	15.4	10.7	0.163	6.37	10.9	2.14
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
OREAS 681 (4 Acid) Meas	448	0.130	11	< 5	0.10	25	449		0.55		< 10	236	< 5	15	78	57							
OREAS 681 (4 Acid) Cert	503	0.141	10.2	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0							
OREAS 681 (4 Acid) Meas	489	0.127	12	9	0.10	26	444		0.42		< 10	212	< 5	16	81	49							
OREAS 681 (4 Acid) Cert	503	0.141	10.2	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0							
OREAS 681 (4 Acid) Meas	504	0.140	5	< 5	0.10	26	448		0.58		< 10	251	< 5	16	84	67							
OREAS 681 (4 Acid) Cert	503	0.141	10.2	0.240	0.109	27.7	478		0.588		1.44	253	1.09	17.5	88.0	58.0							
OREAS 681 (4 Acid) Meas	449	0.124	7		0.10				0.26						76								
OREAS 681 (4 Acid) Cert	503	0.141	10.2		0.109				0.588						88.0								
OREAS 681 (4 Acid) Meas	458	0.136	6		0.10				0.56						77								
OREAS 681 (4 Acid) Cert	503	0.141	10.2		0.109				0.588						88.0								
OREAS 681 (4 Acid) Meas	451	0.129	6		0.10				0.50						77								
OREAS 681 (4 Acid) Cert	503	0.141	10.2		0.109				0.588						88.0								
OREAS 681 (4 Acid) Meas	467	0.139	8		0.11				0.58						81								
OREAS 681 (4 Acid) Cert	503	0.141	10.2		0.109				0.588						88.0								
OREAS 681 (4 Acid) Meas	449	0.132	9		0.10				0.55						76								
OREAS 681 (4 Acid) Cert	503	0.141	10.2		0.109				0.588						88.0								
OREAS 681 (4 Acid) Meas	481	0.140	12		0.11				0.57						85								
OREAS 681 (4 Acid) Cert	503	0.141	10.2		0.109				0.588						88.0								
OREAS 681 (4 Acid) Meas	485	0.139	14		0.11				0.57						85								
OREAS 681 (4 Acid) Cert	503	0.141	10.2		0.109				0.588						88.0								
OREAS 247 (4 Acid) Meas	47	0.047	30	371	0.73	12	98		0.37	< 5	< 10	72	< 5	18	87	120							
OREAS 247 (4 Acid) Cert	45.9	0.0480	31.9	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125							

Analyte Symbol	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O
Unit Symbol	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
Lower Limit	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
OREAS 247 (4 Acid) Meas	54	0.044	33	332	0.73	12	104		0.36	< 5	< 10	73	< 5	18	90	128							
OREAS 247 (4 Acid) Cert	45.9	0.0480	31.9	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125							
OREAS 247 (4 Acid) Meas	50	0.045	29	242	0.72	11	101		0.34	< 5	< 10	74	< 5	17	87	143							
OREAS 247 (4 Acid) Cert	45.9	0.0480	31.9	3300	0.714	11.4	96.0		0.390	0.800	2.53	82.0	7.88	13.1	86.0	125							
OREAS 247 (4 Acid) Meas	47	0.041	29		0.67				0.33						85								
OREAS 247 (4 Acid) Cert	45.9	0.0480	31.9		0.714				0.390						86.0								
OREAS 147 (4 Acid) Meas	21	0.083	29		< 0.01				0.26						146								
OREAS 147 (4 Acid) Cert	21.2	0.155	27.8		0.0300				0.470						138								
OREAS 147 (4 Acid) Meas	28	0.116	26		0.02				0.32						146								
OREAS 147 (4 Acid) Cert	21.2	0.155	27.8		0.0300				0.470						138								
OREAS 147 (4 Acid) Meas	24	0.086	28		0.02				0.27						149								
OREAS 147 (4 Acid) Cert	21.2	0.155	27.8		0.0300				0.470						138								
OREAS 147 (4 Acid) Meas	24	0.115	26		0.02				0.26						148								
OREAS 147 (4 Acid) Cert	21.2	0.155	27.8		0.0300				0.470						138								
OREAS 147 (4 Acid) Meas	24	0.108	26		0.03				0.22						148								
OREAS 147 (4 Acid) Cert	21.2	0.155	27.8		0.0300				0.470						138								
OREAS 147 (4 Acid) Meas	23	0.124	25		0.03				0.32						147								
OREAS 147 (4 Acid) Cert	21.2	0.155	27.8		0.0300				0.470						138								
Oreas 521 (4 Acid) Meas	68	0.076	13		1.70				0.32						24								
Oreas 521 (4 Acid) Cert	73	0.081	9.3		1.80				0.39						24								
Oreas 521 (4 Acid) Meas	69	0.078	8		1.71				0.35						23								
Oreas 521 (4 Acid) Cert	73	0.081	9		1.80				0.39						24								
Oreas 521 (4 Acid) Meas	72	0.079	10		1.89				0.32						24								
Oreas 521 (4 Acid) Cert	73	0.081	9.3		1.80				0.39						24								
Oreas 521 (4 Acid) Meas	71	0.081	18		1.82				0.42						27								
Oreas 521 (4 Acid) Cert	73	0.081	9.3		1.80				0.39						24								
OREAS 70b (4 Acid) Meas	2140	0.025	15		0.24				0.19						110								
OREAS 70b (4 Acid) Cert	2180	0.022	14		0.31				0.18						112								
OREAS 70b (4	1940	0.022	11		0.29				0.17						97								

Analyte Symbol	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O
Unit Symbol	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
Lower Limit	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
Acid) Meas																							
OREAS 70b (4 Acid) Cert	2180	0.022	14		0.31				0.18						110								
OREAS 70b (4 Acid) Meas	1990	0.023	11		0.30				0.18						99								
OREAS 70b (4 Acid) Cert	2180	0.022	14		0.31				0.18						110								
OREAS 70b (4 Acid) Meas	2080	0.023	14		0.31				0.18						106								
OREAS 70b (4 Acid) Cert	2180	0.022	14		0.31				0.18						112								
OREAS 620 (4 Acid) Meas	17	0.036	> 5000	12	2.51	5	113		0.16	< 5	< 10	23	< 5	13	> 10000	212							
OREAS 620 (4 Acid) Cert	15	0.035	7740	76	2.47	5	131		0.14	2	4	21	2	12	31500	202							
OREAS 620 (4 Acid) Meas	17	0.038	> 5000	15	2.58	6	123		0.16	< 5	< 10	24	< 5	14	> 10000	215							
OREAS 620 (4 Acid) Cert	15	0.035	7740	76	2.47	5	131		0.14	2	4	21	2	12	31500	202							
OREAS 620 (4 Acid) Meas	16	0.036	> 5000	13	2.61	5	123		0.17	< 5	< 10	23	< 5	13	> 10000	209							
OREAS 620 (4 Acid) Cert	15	0.035	7740	76	2.47	5	131		0.14	2	4	21	2	12	31500	202							
OREAS 620 (4 Acid) Meas	15	0.037	> 5000		2.60				0.16						> 10000								
OREAS 620 (4 Acid) Cert	15	0.035	7740		2.47				0.14						31500								
OREAS 620 (4 Acid) Meas	17	0.037	> 5000		2.53				0.16						> 10000								
OREAS 620 (4 Acid) Cert	15	0.035	7740		2.47				0.14						31500								
OREAS 620 (4 Acid) Meas	16	0.037	> 5000		2.55				0.16						> 10000								
OREAS 620 (4 Acid) Cert	15	0.035	7740		2.47				0.14						31500								
OREAS 620 (4 Acid) Meas	16	0.034	> 5000		2.63				0.16						> 10000								
OREAS 620 (4 Acid) Cert	15	0.035	7740		2.47				0.14						31500								
OREAS 620 (4 Acid) Meas	16	0.036	> 5000		2.59				0.16						> 10000								
OREAS 620 (4 Acid) Cert	15	0.035	7740		2.47				0.14						31500								
OREAS 753 (4 Acid) Meas	12	0.113	6		0.01				< 0.01						96								
OREAS 753 (4 Acid) Cert	10.8	0.111	10.9		0.014				0.004						87								
OREAS 753 (4 Acid) Meas	13	0.114	5		0.01				< 0.01						96								
OREAS 753 (4 Acid) Cert	10.8	0.111	10.9		0.014				0.004						87								
OREAS 753 (4 Acid) Meas	12	0.114	7		0.01				< 0.01						95								
OREAS 753 (4 Acid) Cert	10.8	0.111	10.9		0.014				0.004						87								
OREAS 753 (4 Acid) Meas	13	0.118	6		0.02				< 0.01						97								

Analyte Symbol	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O
Unit Symbol	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
Lower Limit	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
OREAS 753 (4 Acid) Cert	10.8	0.111	10.9		0.014				0.004						87								
DMMAS 125 Meas																							
DMMAS 125 Cert																							
E5830162 Orig																							
E5830162 Dup																							
E5830168 Orig	49	0.388	20		0.09				0.17						119								
E5830168 Dup	48	0.443	20		0.12				0.26						117								
E5830170 Orig																							
E5830170 Dup																							
E5830171 Orig	51	0.040	7	< 5	5.26	34	109	< 2	0.56	< 5	< 10	267	< 5	16	59	62							
E5830171 Dup	54	0.039	8	< 5	5.30	33	110	2	0.56	< 5	< 10	265	< 5	17	60	63							
E5830172 Orig																							
E5830172 Dup																							
E5830164 Orig																							
E5830164 Dup																							
E5830159 Orig																	62.94	15.49	6.33	0.098	2.82	1.34	5.28
E5830159 Split PREP DUP																	62.27	15.71	6.22	0.096	2.84	1.31	5.39
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3		< 0.01				< 0.01						< 1								
Method Blank	< 1	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5							

Analyte Symbol	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O
Unit Symbol	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
Lower Limit	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.005	0.01	0.01	0.01
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
Method Blank	< 1	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5							
Method Blank	< 1	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5							
Method Blank	< 1	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5							
Method Blank	< 1	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5							
Method Blank	< 1	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5							
Method Blank	< 1	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5							
Method Blank	< 1	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5							
Method Blank	< 1	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5							
Method Blank																	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.01	< 0.01
Method Blank																	0.01	< 0.01	< 0.01	< 0.005	< 0.01	0.01	< 0.01

Analyte Symbol	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo
Unit Symbol	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
NIST 694 Meas	0.53	0.116	30.37					1631															
NIST 694 Cert	0.510	0.110	30.2					1740															
SY-4 Meas	1.62	0.281	0.13			< 1	3	7	344	1152	119	623		2			100	37			59	14	
SY-4 Cert	1.66	0.287	0.131			1.1	2.6	8.0	340	1191	119	517		3			93	35			55.0	13	
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
BIR-1a Meas	0.02	1.001	0.02			44	< 1	333	7	112	15	16	380	52	170	120	70	15		< 5		< 1	
BIR-1a Cert	0.030	0.96	0.021			44	0.58	310	6	110	16	18	370	52	170	125	70	16		0.44		0.6	
ZW-C Meas													60				1010	93			> 1000	221	
ZW-C Cert													56.0				1050	99			8500	198	
OREAS 101b (Fusion) Meas														43	< 20	400							20
OREAS 101b (Fusion) Cert														47	9	420							21
OREAS 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							
OREAS 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							
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OREAS 101b (4 Acid) Cert																							
OREAS 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							

Analyte Symbol	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo
Unit Symbol	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
OREAS 98 (4 Acid) Meas																							
OREAS 98 (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) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
NCS DC86318 Meas																					391		
NCS DC86318 Cert																					369.42		
USZ 25-2006 Meas														34	70		650				40		
USZ 25-2006 Cert														32.5	70.8		600				43.0		
DNC-1a Meas	0.24	0.488	0.06			32		154	112	150	17	39											
DNC-1a Cert	0.234	0.480	0.07			31		148	118	144	18.0	38.0											
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																							

Analyte Symbol	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo
Unit Symbol	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							
BCR-2 Meas	1.81	2.258	0.35			33		433	715	338	34	192											
BCR-2 Cert	1.79	2.26	0.35			33		416	683	346	37	188											
USZ 42-2006 Meas																	480				62	34	36
USZ 42-2006 Cert																	469				67.12	31.00	34.40
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) Cert																							
OREAS 904 (4 Acid) Meas																							
OREAS 904 (4 Acid) Cert																							
OREAS 904 (4 Acid) Meas																							
OREAS 904 (4 Acid) Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d																							

Analyte Symbol	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo
Unit Symbol	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
(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																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
REE-1 Meas													290	1	20	80				112	> 1000		
REE-1 Cert													277	1.58	24.7	79.7				124	1050		
CDN-PGMS-27 Meas																							
CDN-PGMS-27 Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
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OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							

Analyte Symbol	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo
Unit Symbol	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							
Oreas 77b (4 Acid) Meas																							
Oreas 77b (4 Acid) Cert																							
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Oreas 72b (4 Acid) Meas																							
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Oreas 72b (4 Acid) Cert																							
Oreas 72b (4 Acid) Meas																							
Oreas 72b (4 Acid) Cert																							
OREAS 238 (Fire Assay) Meas																							

Analyte Symbol	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo
Unit Symbol	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
OREAS 238 (Fire Assay) Cert																							
W-2b Meas	0.59	1.058	0.12			34	< 1	270	172	188	20	94	90	41	70	110	80	17	2	< 5	20	7	< 2
W-2b Cert	0.626	1.06	0.140			36.0	1.30	262	182	190	24.0	94.0	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20	21.0	7.90	0.600
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																							
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OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4																							

Analyte Symbol	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo
Unit Symbol	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 147 (4 Acid) Meas																							
OREAS 147 (4 Acid) Cert																							
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OREAS 147 (4 Acid) Cert																							
Oreas 521 (4 Acid) Meas																							
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Oreas 521 (4 Acid) Cert																							
OREAS 70b (4 Acid) Meas																							
OREAS 70b (4 Acid) Cert																							
OREAS 70b (4 Acid) Meas																							
OREAS 70b (4 Acid) Cert																							
OREAS 70b (4 Acid) Meas																							

Analyte Symbol	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo
Unit Symbol	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
OREAS 70b (4 Acid) Cert																							
OREAS 70b (4 Acid) Meas																							
OREAS 70b (4 Acid) Cert																							
OREAS 620 (4 Acid) Meas																							
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DMMAS 125 Meas																							
DMMAS 125 Cert																							

Analyte Symbol	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo
Unit Symbol	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
E5830162 Orig																							
E5830162 Dup																							
E5830168 Orig																							
E5830168 Dup																							
E5830170 Orig																							
E5830170 Dup																							
E5830171 Orig																							
E5830171 Dup																							
E5830172 Orig																							
E5830172 Dup																							
E5830164 Orig																							
E5830164 Dup																							
E5830159 Orig	2.07	0.589	0.15	2.48	99.58	14	2	111	750	375	13	140	180	20	60	40	90	17	< 1	29	56	8	< 2
E5830159 Split PREP DUP	2.11	0.591	0.16	2.38	99.09	15	2	111	759	381	13	136	190	21	70	40	100	18	< 1	31	57	8	< 2
Method Blank																							
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Analyte Symbol	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo
Unit Symbol	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20	10	30	1	1	5	2	1	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
Method Blank																							
Method Blank																							
Method Blank	< 0.01	< 0.001	0.02			< 1	< 1	< 5	< 2	< 2	< 1	< 2	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5	< 2	< 1	< 2
Method Blank	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5	< 2	< 2	< 1	< 2											

Analyte Symbol	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
NIST 694 Meas																							
NIST 694 Cert																							
SY-4 Meas					1.5	62.1	129	15.1	59.7	13.4	2.02	13.6	2.6	18.7	4.4	14.3	2.23	15.3	2.16	9.8	0.9		
SY-4 Cert					1.5	58	122	15.0	57	12.7	2.00	14.0	2.6	18.2	4.3	14.2	2.3	14.8	2.1	10.6	0.9		
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
BIR-1a Meas				0.5						1.2	0.55	2.0						1.8	0.26	0.6			
BIR-1a Cert				0.58						1.1	0.55	2.0						1.7	0.3	0.60			
ZW-C Meas			> 1000	4.5	254	30.1	101	9.30	24.8	6.6		4.3									79.5	317	32.9
ZW-C Cert			1300	4.2	260	30.0	97	9.5	25.0	6.6		4.70									82	320	34
OREAS 101b (Fusion) Meas						748	1260	122	371	48.0	7.42		5.5	33.0	6.6	19.3	2.77	18.2	2.69				
OREAS 101b (Fusion) Cert						789	1331	127	378	48	7.77		5.37	32.1	6.34	18.7	2.66	17.6	2.58				
OREAS 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							
OREAS 101b (4 Acid) Meas																							
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OREAS 101b (4 Acid) Cert																							

Analyte Symbol	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
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) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
NCS DC86318 Meas					11.3	1910	417	724	> 2000	> 1000	18.4	> 1000	449	> 1000	546	> 1000	254	> 1000	245				
NCS DC86318 Cert					11.88	1960	432	737	3429	1725	18.91	2168	468	3224	560	1750	271	1844	264				
USZ 25-2006 Meas						> 2000	> 3000	> 1000		811	189							50.0					
USZ 25-2006 Cert						19300	29000	2800		900	211.00							54.5					
DNC-1a Meas																							
DNC-1a 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																							

Analyte Symbol	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							
BCR-2 Meas																							
BCR-2 Cert																							
USZ 42-2006 Meas						> 2000	> 3000	> 1000	> 2000	503	84.0			53.0	8.0			19.0					
USZ 42-2006 Cert						21100	27600	2300	6500	539	87.22			57.63	7.86			17.85					
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 904 (4 Acid) Meas																							
OREAS 904 (4 Acid) Cert																							
OREAS 904 (4 Acid) Meas																							
OREAS 904 (4 Acid) Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d																							

Analyte Symbol	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
(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																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
REE-1 Meas			516		1.1	1660	> 3000	431	1460	388	23.7	422	108	864	207	700	108	694		475			
REE-1 Cert			498		1.07	1661	3960	435	1456	381	23.5	433	106	847	208	701	106	678		479			
CDN-PGMS-27 Meas																							
CDN-PGMS-27 Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
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OREAS 96 (4 Acid) Cert																							

Analyte Symbol	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							
Oreas 77b (4 Acid) Meas																							
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Oreas 72b (4 Acid) Meas																							
Oreas 72b (4 Acid) Cert																							
OREAS 238 (Fire Assay) Meas																							

Analyte Symbol	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
OREAS 238 (Fire Assay) Cert																							
W-2b Meas				0.8	0.9	10.1	23.2		13.0	3.5	1.10		0.6	3.8	0.8	2.3	0.37	2.1	0.34	2.5	0.5	< 1	0.1
W-2b Cert				0.790	0.990	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	2.10	0.330	2.60	0.500	0.300	0.200
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
OREAS 681 (4 Acid) Meas																							
OREAS 681 (4 Acid) Cert																							
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OREAS 247 (4 Acid) Meas																							
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OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4																							

Analyte Symbol	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 147 (4 Acid) Meas																							
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OREAS 70b (4 Acid) Meas																							
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OREAS 70b (4 Acid) Meas																							
OREAS 70b (4 Acid) Cert																							
OREAS 70b (4 Acid) Meas																							

Analyte Symbol	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
OREAS 70b (4 Acid) Cert																							
OREAS 70b (4 Acid) Meas																							
OREAS 70b (4 Acid) Cert																							
OREAS 620 (4 Acid) Meas																							
OREAS 620 (4 Acid) Cert																							
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OREAS 620 (4 Acid) Cert																							
OREAS 753 (4 Acid) Meas																							
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OREAS 753 (4 Acid) Meas																							
OREAS 753 (4 Acid) Cert																							
DMMAS 125 Meas																							
DMMAS 125 Cert																							

Analyte Symbol	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
E5830162 Orig																							
E5830162 Dup																							
E5830168 Orig																							
E5830168 Dup																							
E5830170 Orig																							
E5830170 Dup																							
E5830171 Orig																							
E5830171 Dup																							
E5830172 Orig																							
E5830172 Dup																							
E5830164 Orig																							
E5830164 Dup																							
E5830159 Orig	< 0.5	< 0.2	1	0.7	2.1	28.4	55.6	6.27	23.1	4.3	1.11	3.2	0.4	2.6	0.5	1.4	0.20	1.4	0.22	3.7	0.5	< 1	0.4
E5830159 Split PREP DUP	< 0.5	< 0.2	1	0.6	2.2	30.9	59.8	6.71	24.2	4.3	1.11	3.2	0.4	2.6	0.5	1.4	0.21	1.4	0.23	3.8	0.5	1	0.4
Method Blank																							
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Analyte Symbol	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
Method Blank																							
Method Blank																							
Method Blank	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.01	< 0.2	< 0.1	< 1	< 0.1
Method Blank																							

Analyte Symbol	Pb	Bi	Th	U	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	As	Ba	Ba	Be	Be	Bi	Bi	Br
Unit Symbol	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.4	0.1	0.1	2	0.05	5	0.2	0.1	0.2	0.5	0.5	20	0.5	50	0.5	1	50	0.1	1	0.02	2	0.5
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA
NIST 694 Meas																							
NIST 694 Cert																							
SY-4 Meas	9		1.4	0.9																			
SY-4 Cert	10		1.4	0.8																			
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
BIR-1a Meas	< 5																						
BIR-1a Cert	3																						
ZW-C Meas				18.4																			
ZW-C Cert				20.0																			
OREAS 101b (Fusion) Meas			35.3	378																			
OREAS 101b (Fusion) Cert			37.1	396																			
OREAS 101b (4 Acid) Meas								439		20.1	23.1	9.0											
OREAS 101b (4 Acid) Cert								412		20.1	23	8.2											
OREAS 101b (4 Acid) Meas								427		18.9	26.1	8.6											
OREAS 101b (4 Acid) Cert								412		20.1	23	8.2											
OREAS 101b (4 Acid) Meas								417		19.3	23.1	7.8											
OREAS 101b (4 Acid) Cert								412		20.1	23	8.2											
OREAS 101b (4 Acid) Meas								422		20.0	21.8	8.8											
OREAS 101b (4 Acid) Cert								412		20.1	23	8.2											
OREAS 101b (4 Acid) Meas								423		19.0	23.4	9.4											
OREAS 101b (4 Acid) Cert								412		20.1	23	8.2											
OREAS 101b (4 Acid) Meas								421		18.2	22.3	8.4											
OREAS 101b (4 Acid) Cert								412		20.1	23	8.2											
OREAS 101b (4 Acid) Meas								422		19.0	22.3	8.0											
OREAS 101b (4 Acid) Cert								412		20.1	23	8.2											
OREAS 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							

Analyte Symbol	Pb	Bi	Th	U	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	As	Ba	Ba	Be	Be	Bi	Bi	Br
Unit Symbol	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.4	0.1	0.1	2	0.05	5	0.2	0.1	0.2	0.5	0.5	20	0.5	50	0.5	1	50	0.1	1	0.02	2	0.5
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA
OREAS 98 (4 Acid) Meas						42.0		> 10000			315			1310							95.4	99	
OREAS 98 (4 Acid) Cert						45.1		14800 0.0			345			1360							97.2	97.2	
OREAS 98 (4 Acid) Meas						44.9		> 10000			322			1360							90.9	28	
OREAS 98 (4 Acid) Cert						45.1		14800 0.0			345			1360							97.2	97.2	
OREAS 98 (4 Acid) Meas						44.1		> 10000			348			1270							99.3	30	
OREAS 98 (4 Acid) Cert						45.1		14800 0.0			345			1360							97.2	97.2	
OREAS 98 (4 Acid) Meas						47.4		> 10000			323			1330							93.8	70	
OREAS 98 (4 Acid) Cert						45.1		14800 0.0			345			1360							97.2	97.2	
OREAS 98 (4 Acid) Meas						44.4		> 10000			340			1280							98.7	64	
OREAS 98 (4 Acid) Cert						45.1		14800 0.0			345			1360							97.2	97.2	
OREAS 98 (4 Acid) Meas						44.8		> 10000			347			1290							100	76	
OREAS 98 (4 Acid) Cert						45.1		14800 0.0			345			1360							97.2	97.2	
OREAS 98 (4 Acid) Meas																						38	
OREAS 98 (4 Acid) Cert																						97.2	
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
NCS DC86318 Meas			68.0																				
NCS DC86318 Cert			67.0																				
USZ 25-2006 Meas	1120																						
USZ 25-2006 Cert	1100																						
DNC-1a Meas																							
DNC-1a Cert																							
OREAS 13b (4-Acid) Meas						0.88		2210		9.4		2260		118									
OREAS 13b (4-Acid) Cert						0.86		2327.0 000		9.0		2247.0 000		133									
OREAS 13b (4-Acid) Meas						0.80		2230		8.5		2190		118									
OREAS 13b (4-Acid) Cert						0.86		2327.0 000		9.0		2247.0 000		133									
OREAS 13b (4-Acid) Meas						0.89		2310		9.4		2340		133									
OREAS 13b (4-Acid) Cert						0.86		2327.0 000		9.0		2247.0 000		133									

Analyte Symbol	Pb	Bi	Th	U	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	As	Ba	Ba	Be	Be	Bi	Bi	Br
Unit Symbol	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.4	0.1	0.1	2	0.05	5	0.2	0.1	0.2	0.5	0.5	20	0.5	50	0.5	1	50	0.1	1	0.02	2	0.5
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA
OREAS 13b (4-Acid) Meas						0.86		2410		8.9		2270		136									
OREAS 13b (4-Acid) Cert						0.86		2327.0000		9.0		2247.0000		133									
OREAS 13b (4-Acid) Meas						0.95		2360		9.3		2310		134									
OREAS 13b (4-Acid) Cert						0.86		2327.0000		9.0		2247.0000		133									
BCR-2 Meas																							
BCR-2 Cert																							
USZ 42-2006 Meas	1650		900																				
USZ 42-2006 Cert	1600		946																				
OREAS 903 (4 Acid) Meas																				5		12	
OREAS 903 (4 Acid) Cert																				4.42		8.90	
OREAS 903 (4 Acid) Meas																				5		14	
OREAS 903 (4 Acid) Cert																				4.42		8.90	
OREAS 903 (4 Acid) Meas																				5		7	
OREAS 903 (4 Acid) Cert																				4.42		8.90	
OREAS 903 (4 Acid) Meas																				5		11	
OREAS 903 (4 Acid) Cert																				4.42		8.90	
OREAS 903 (4 Acid) Meas																				5		17	
OREAS 903 (4 Acid) Cert																				4.42		8.90	
OREAS 903 (4 Acid) Meas																				5		< 2	
OREAS 903 (4 Acid) Cert																				4.42		8.90	
OREAS 903 (4 Acid) Meas																				5		9	
OREAS 903 (4 Acid) Cert																				4.42		8.90	
OREAS 904 (4 Acid) Meas																							
OREAS 904 (4 Acid) Cert																							
OREAS 904 (4 Acid) Meas																							
OREAS 904 (4 Acid) Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d																				< 1		< 2	

Analyte Symbol	Pb	Bi	Th	U	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	As	Ba	Ba	Be	Be	Bi	Bi	Br
Unit Symbol	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.4	0.1	0.1	2	0.05	5	0.2	0.1	0.2	0.5	0.5	20	0.5	50	0.5	1	50	0.1	1	0.02	2	0.5
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA
(4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																				0.79		0.31	
OREAS 45d (4-Acid) Meas																				< 1		< 2	
OREAS 45d (4-Acid) Cert																				0.79		0.31	
OREAS 45d (4-Acid) Meas																				< 1		< 2	
OREAS 45d (4-Acid) Cert																				0.79		0.31	
OREAS 45d (4-Acid) Meas																				< 1		< 2	
OREAS 45d (4-Acid) Cert																				0.79		0.31	
OREAS 45d (4-Acid) Meas																				< 1		< 2	
OREAS 45d (4-Acid) Cert																				0.79		0.31	
REE-1 Meas			736	146																			
REE-1 Cert			719	137																			
CDN-PGMS-27 Meas																							
CDN-PGMS-27 Cert																							
OREAS 96 (4 Acid) Meas						10.9		> 10000			93.3			418							25.4	13	
OREAS 96 (4 Acid) Cert						11.5		39300			101			457							26.3	26.3	
OREAS 96 (4 Acid) Meas						11.0		> 10000			94.8			449							25.6	9	
OREAS 96 (4 Acid) Cert						11.5		39300			101			457							26.3	26.3	
OREAS 96 (4 Acid) Meas						10.8		> 10000			96.9			443							27.9	15	
OREAS 96 (4 Acid) Cert						11.5		39300			101			457							26.3	26.3	
OREAS 96 (4 Acid) Meas						11.2		> 10000			96.9			460							28.9	9	
OREAS 96 (4 Acid) Cert						11.5		39300			101			457							26.3	26.3	
OREAS 96 (4 Acid) Meas						11.4		> 10000			99.1			443							28.5	16	
OREAS 96 (4 Acid) Cert						11.5		39300			101			457							26.3	26.3	
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							

Analyte Symbol	Pb	Bi	Th	U	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	As	Ba	Ba	Be	Be	Bi	Bi	Br
Unit Symbol	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.4	0.1	0.1	2	0.05	5	0.2	0.1	0.2	0.5	0.5	20	0.5	50	0.5	1	50	0.1	1	0.02	2	0.5
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							
Oreas 77b (4 Acid) Meas						1.52		3190	1.2		55.3	> 5000		235			27		0.4	< 1	3.43	< 2	
Oreas 77b (4 Acid) Cert						1.62		3430	1.20		61.0	113000		205			118		0.470	0.470	3.44	3.44	
Oreas 77b (4 Acid) Meas						1.52		3230	1.1		56.5	> 5000		205			58		0.5	< 1	3.18	< 2	
Oreas 77b (4 Acid) Cert						1.62		3430	1.20		61.0	113000		205			118		0.470	0.470	3.44	3.44	
Oreas 77b (4 Acid) Meas						1.52		3480	1.2		57.4	> 5000		206			61		0.5	< 1	3.34	< 2	
Oreas 77b (4 Acid) Cert						1.62		3430	1.20		61.0	113000		205			118		0.470	0.470	3.44	3.44	
Oreas 77b (4 Acid) Meas						1.64		3280	1.3		53.5	> 5000		201			119		0.7	< 1	3.26	11	
Oreas 77b (4 Acid) Cert						1.62		3430	1.20		61.0	113000		205			118		0.470	0.470	3.44	3.44	
Oreas 77b (4 Acid) Meas						1.61		3280	1.1		58.5	> 5000		208			50		0.5	< 1	3.47	7	
Oreas 77b (4 Acid) Cert						1.62		3430	1.20		61.0	113000		205			118		0.470	0.470	3.44	3.44	
Oreas 72b (4 Acid) Meas						0.27		216	0.3	4.6	14.8	> 5000		92.8			304		1.0	< 1	0.74	< 2	
Oreas 72b (4 Acid) Cert						0.230		222	0.310	4.01	14.9	6860		99.0			330		1.02	1.02	0.680	0.680	
Oreas 72b (4 Acid) Meas						0.31		217	0.2	4.6	15.6	> 5000		98.0			357		0.9	< 1	0.67	< 2	
Oreas 72b (4 Acid) Cert						0.230		222	0.310	4.01	14.9	6860		99.0			330		1.02	1.02	0.680	0.680	
Oreas 72b (4 Acid) Meas						0.29		229	0.3	4.3	13.5	> 5000		92.4			308		1.0	< 1	0.66	< 2	
Oreas 72b (4 Acid) Cert						0.230		222	0.310	4.01	14.9	6860		99.0			330		1.02	1.02	0.680	0.680	
Oreas 72b (4 Acid) Meas						0.27		211	0.3	5.2	13.8	> 5000		97.9			201		1.2	< 1	0.69	< 2	
Oreas 72b (4 Acid) Cert						0.230		222	0.310	4.01	14.9	6860		99.0			330		1.02	1.02	0.680	0.680	
Oreas 72b (4 Acid) Meas						0.29		223	0.3	4.5	14.6	> 5000		100			305		1.1	< 1	0.82	< 2	
Oreas 72b (4 Acid) Cert						0.230		222	0.310	4.01	14.9	6860		99.0			330		1.02	1.02	0.680	0.680	
Oreas 72b (4 Acid) Meas						0.30		241	0.3	4.8	14.9	> 5000		102			290		1.1	< 1	0.78	< 2	
Oreas 72b (4 Acid) Cert						0.230		222	0.310	4.01	14.9	6860		99.0			330		1.02	1.02	0.680	0.680	
Oreas 72b (4 Acid) Meas																				< 1		< 2	
Oreas 72b (4 Acid) Cert																				1.02		0.680	
OREAS 238 (Fire Assay) Meas																							

Analyte Symbol	Pb	Bi	Th	U	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	As	Ba	Ba	Be	Be	Bi	Bi	Br
Unit Symbol	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.4	0.1	0.1	2	0.05	5	0.2	0.1	0.2	0.5	0.5	20	0.5	50	0.5	1	50	0.1	1	0.02	2	0.5
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA
OREAS 238 (Fire Assay) Cert																							
W-2b Meas		< 0.4																					
W-2b Cert		0.0300																					
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
OREAS 681 (4 Acid) Meas						0.17		251		1.4	9.7	500		88.0			459		1.4	1	0.10	< 2	
OREAS 681 (4 Acid) Cert						0.118		264		1.38	10.2	503		88.0			442		1.41	1.41	0.0980	0.0980	
OREAS 681 (4 Acid) Meas						0.17		257		1.4	9.4	481		87.5			450		1.5	1	0.10	< 2	
OREAS 681 (4 Acid) Cert						0.118		264		1.38	10.2	503		88.0			442		1.41	1.41	0.0980	0.0980	
OREAS 681 (4 Acid) Meas						0.18		266		1.5	9.9	507		87.9			442		1.4	1	0.09	< 2	
OREAS 681 (4 Acid) Cert						0.118		264		1.38	10.2	503		88.0			442		1.41	1.41	0.0980	0.0980	
OREAS 681 (4 Acid) Meas																				1		< 2	
OREAS 681 (4 Acid) Cert																				1.41		0.0980	
OREAS 681 (4 Acid) Meas																				1		< 2	
OREAS 681 (4 Acid) Cert																				1.41		0.0980	
OREAS 681 (4 Acid) Meas																				1		< 2	
OREAS 681 (4 Acid) Cert																				1.41		0.0980	
OREAS 681 (4 Acid) Meas																				1		< 2	
OREAS 681 (4 Acid) Cert																				1.41		0.0980	
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						2.10		42.7	< 0.1	0.5	32.1	45.9		85.6			503		2.3	2	0.61	< 2	
OREAS 247 (4 Acid) Cert						2.16		42.2	0.0650	1.76	31.9	45.9		86.0			550		2.23	2.23	0.580	0.580	
OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4																							

Analyte Symbol	Pb	Bi	Th	U	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	As	Ba	Ba	Be	Be	Bi	Bi	Br
Unit Symbol	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.4	0.1	0.1	2	0.05	5	0.2	0.1	0.2	0.5	0.5	20	0.5	50	0.5	1	50	0.1	1	0.02	2	0.5
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA
Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 147 (4 Acid) Meas								296		3.3	29.0	21.3		146			2140		31.8	32	13.2	13	
OREAS 147 (4 Acid) Cert								298		7.99	27.8	21.2		138			1940		31.2	31.2	12.5	12.5	
OREAS 147 (4 Acid) Meas																				31		9	
OREAS 147 (4 Acid) Cert																				31.2		12.5	
OREAS 147 (4 Acid) Meas																				33		10	
OREAS 147 (4 Acid) Cert																				31.2		12.5	
OREAS 147 (4 Acid) Meas																				32		9	
OREAS 147 (4 Acid) Cert																				31.2		12.5	
OREAS 147 (4 Acid) Meas																				32		7	
OREAS 147 (4 Acid) Cert																				31.2		12.5	
OREAS 147 (4 Acid) Meas																				32		7	
OREAS 147 (4 Acid) Cert																				31.2		12.5	
Oreas 521 (4 Acid) Meas						0.89		6490		142	8.7	75.3		27.1					0.9	< 1	5.67	3	
Oreas 521 (4 Acid) Cert						0.89		6070		138	9.3	73.0		24.4					0.9	0.9	5.85	6	
Oreas 521 (4 Acid) Meas						0.87		5860		134	7.3	70.1		26.0					1.0	< 1	5.75	5	
Oreas 521 (4 Acid) Cert						0.89		6070		138	9.3	73.0		24.4					0.86	0.9	5.85	6	
Oreas 521 (4 Acid) Meas																				< 1		10	
Oreas 521 (4 Acid) Cert																				0.9		5.8	
Oreas 521 (4 Acid) Meas																				< 1		7	
Oreas 521 (4 Acid) Cert																				0.9		6	
OREAS 70b (4 Acid) Meas						0.19		52.8	0.4	3.6	13.9	2330		115			206		0.9	1	0.91	< 2	
OREAS 70b (4 Acid) Cert						0.17		52.0	0.4	3.3	13.7	2180		112			202		1	1	0.84	0.8	
OREAS 70b (4 Acid) Meas						0.20		55.5	0.2	3.6	14.5	2140		110			217		1.0	< 1	0.97	< 2	
OREAS 70b (4 Acid) Cert						0.17		52.0	0.4	3.3	13.7	2180		112			202		1.0	1	0.84	0.8	
OREAS 70b (4 Acid) Meas						0.18		52.4	0.4	3.2	12.8	2250		110			202		1.1	< 1	0.86	< 2	

Analyte Symbol	Pb	Bi	Th	U	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	As	Ba	Ba	Be	Be	Bi	Bi	Br
Unit Symbol	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.4	0.1	0.1	2	0.05	5	0.2	0.1	0.2	0.5	0.5	20	0.5	50	0.5	1	50	0.1	1	0.02	2	0.5
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA
OREAS 70b (4 Acid) Cert						0.17		52.0	0.4	3.3	13.7	2180		112			202		1.0	1	0.84	0.8	
OREAS 70b (4 Acid) Meas						0.17		51.7	0.3	3.5	13.6	2260		110			206		1.0	< 1	0.79	< 2	
OREAS 70b (4 Acid) Cert						0.17		52.0	0.4	3.3	13.7	2180		112			202		1	1	0.84	0.8	
OREAS 620 (4 Acid) Meas						36.2		1850	157	9.1	> 5000	16.0		> 10000			59		2.6	2	1.94	< 2	
OREAS 620 (4 Acid) Cert						38.5		1730	163	9.5	7740	15.2		31500			2500		2.4	2	1.93	2	
OREAS 620 (4 Acid) Meas						37.2		1850	174	9.0	> 5000	16.1		> 10000			91		2.4	2	1.86	< 2	
OREAS 620 (4 Acid) Cert						38.5		1730	163	9.5	7740	15.2		31500			2500		2.4	2	1.93	2	
OREAS 620 (4 Acid) Meas																				2		< 2	
OREAS 620 (4 Acid) Cert																				2		2	
OREAS 620 (4 Acid) Meas																				2		< 2	
OREAS 620 (4 Acid) Cert																				2		2	
OREAS 620 (4 Acid) Meas																				2		< 2	
OREAS 620 (4 Acid) Cert																				2		2	
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																							
OREAS 753 (4 Acid) Meas								19.8	1.6	3.7	12.3	12.5		82.8			16		125	112	2.20	< 2	
OREAS 753 (4 Acid) Cert								18.4	1.54	3.32	10.9	10.8		87			18.2		118	118	2.20	2.20	
OREAS 753 (4 Acid) Meas								20.3	1.4	3.4	12.4	11.2		83.1			17		121	114	2.25	< 2	
OREAS 753 (4 Acid) Cert								18.4	1.54	3.32	10.9	10.8		87			18.2		118	118	2.20	2.20	
OREAS 753 (4 Acid) Meas								18.0	1.7	3.3	10.7	10.7		87.0			18		103	115	2.24	< 2	
OREAS 753 (4 Acid) Cert								18.4	1.54	3.32	10.9	10.8		87			18.2		118	118	2.20	2.20	
OREAS 753 (4 Acid) Meas																				111		< 2	
OREAS 753 (4 Acid) Cert																				118		2.20	
DMMAS 125 Meas					1330								< 20		< 50	1530		130					
DMMAS 125 Cert					1410								55.8		91.0	1560		285					

Analyte Symbol	Pb	Bi	Th	U	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	As	Ba	Ba	Be	Be	Bi	Bi	Br
Unit Symbol	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.4	0.1	0.1	2	0.05	5	0.2	0.1	0.2	0.5	0.5	20	0.5	50	0.5	1	50	0.1	1	0.02	2	0.5
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA
E5830162 Orig																							
E5830162 Dup																							
E5830168 Orig						0.60		27.8	0.6	7.1	23.4	48.8		129			3430		2.2	2	0.26	< 2	
E5830168 Dup						1.09		30.1	0.6	7.4	23.3	48.3		125			3360		2.2	2	0.26	< 2	
E5830170 Orig																							
E5830170 Dup																							
E5830171 Orig																							
E5830171 Dup																							
E5830172 Orig																							
E5830172 Dup																							
E5830164 Orig																							
E5830164 Dup																							
E5830159 Orig	12	< 0.4	7.8	2.0																			
E5830159 Split PREP DUP	13	< 0.4	7.5	2.0																			
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank					< 2		< 5						< 20		< 50	< 0.5		< 50					< 0.5
Method Blank																				< 1		< 2	
Method Blank																				< 1		< 2	
Method Blank						< 0.05		< 0.2	< 0.1	< 0.2	< 0.5	< 0.5		1.2			< 1		< 0.1	< 1	< 0.02	< 2	
Method Blank																				< 1		< 2	
Method Blank																				< 1		< 2	
Method Blank						< 0.05		0.6	< 0.1	< 0.2	< 0.5	< 0.5		< 0.5			< 1		0.1	< 1	< 0.02	< 2	
Method Blank																				< 1		< 2	
Method Blank																				< 1		< 2	
Method Blank																				< 1		< 2	
Method Blank																				< 1		< 2	
Method Blank																				< 1		< 2	
Method Blank						< 0.05		< 0.2	< 0.1	< 0.2	< 0.5	< 0.5		0.9			< 1		0.3	< 1	< 0.02	< 2	
Method Blank						< 0.05		< 0.2	< 0.1	< 0.2	< 0.5	< 0.5		0.9			< 1		0.2	< 1	< 0.02	< 2	
Method Blank						< 0.05		< 0.2	< 0.1	< 0.2	< 0.5	< 0.5		1.8			< 1		0.3	< 1	< 0.02	< 2	
Method Blank																				< 1		< 2	
Method Blank						< 0.05		0.9	< 0.1	< 0.2	< 0.5	< 0.5		< 0.5			< 1		< 0.1	< 1	< 0.02	< 2	
Method Blank																				< 1		< 2	
Method Blank																				< 1		< 2	
Method Blank																				< 1		< 2	
Method Blank						< 0.05		1.3	< 0.1	< 0.2	1.4	< 0.5		1.4			< 1		< 0.1	< 1	0.11	< 2	
Method Blank																				< 1		< 2	
Method Blank						< 0.05		1.1	< 0.1	< 0.2	1.6	< 0.5		1.3			< 1		< 0.1	< 1	0.10	< 2	
Method Blank																				< 1		< 2	
Method Blank																				< 1		< 2	
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							

Analyte Symbol	Pb	Bi	Th	U	Au	Ag	Ag	Cu	Cd	Mo	Pb	Ni	Ni	Zn	Zn	As	Ba	Ba	Be	Be	Bi	Bi	Br
Unit Symbol	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.4	0.1	0.1	2	0.05	5	0.2	0.1	0.2	0.5	0.5	20	0.5	50	0.5	1	50	0.1	1	0.02	2	0.5
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA	TD-MS	INAA	TD-MS	TD-ICP	TD-MS	TD-ICP	INAA
Method Blank																							
Method Blank																							
Method Blank	< 5	< 0.4	< 0.1	< 0.1																			
Method Blank																							

Analyte Symbol	Ca	Co	Co	Cr	Cr	Cs	Cs	Eu	Fe	Hf	Hf	Ga	Ge	Hg	In	Ir	Nb	Na	Rb	Rb	Re	Sb	Sc
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	1	1	2	0.05	1	0.2	0.01	0.1	1	0.1	0.1	1	0.1	5	0.1	0.01	0.2	15	0.001	0.1	0.1
Method Code	TD-ICP	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA
NIST 694 Meas																							
NIST 694 Cert																							
SY-4 Meas																							
SY-4 Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
BIR-1a Meas																							
BIR-1a Cert																							
ZW-C Meas																							
ZW-C Cert																							
OREAS 101b (Fusion) Meas																							
OREAS 101b (Fusion) Cert																							
OREAS 101b (4 Acid) Meas		42.3																					
OREAS 101b (4 Acid) Cert		45																					
OREAS 101b (4 Acid) Meas		41.2																					
OREAS 101b (4 Acid) Cert		45																					
OREAS 101b (4 Acid) Meas		43.8																					
OREAS 101b (4 Acid) Cert		45																					
OREAS 101b (4 Acid) Meas		43.6																					
OREAS 101b (4 Acid) Cert		45																					
OREAS 101b (4 Acid) Meas		45.8																					
OREAS 101b (4 Acid) Cert		45																					
OREAS 101b (4 Acid) Meas		44.8																					
OREAS 101b (4 Acid) Cert		45																					
OREAS 101b (4 Acid) Meas		44.9																					
OREAS 101b (4 Acid) Cert		45																					
OREAS 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							
OREAS 98 (4		119																					

Analyte Symbol	Ca	Co	Co	Cr	Cr	Cs	Cs	Eu	Fe	Hf	Hf	Ga	Ge	Hg	In	Ir	Nb	Na	Rb	Rb	Re	Sb	Sc
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	1	1	2	0.05	1	0.2	0.01	0.1	1	0.1	0.1	1	0.1	5	0.1	0.01	0.2	15	0.001	0.1	0.1
Method Code	TD-ICP	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA
Acid) Meas																							
OREAS 98 (4 Acid) Cert		121																					
OREAS 98 (4 Acid) Meas		118																					
OREAS 98 (4 Acid) Cert		121																					
OREAS 98 (4 Acid) Meas		120																					
OREAS 98 (4 Acid) Cert		121																					
OREAS 98 (4 Acid) Meas		112																					
OREAS 98 (4 Acid) Cert		121																					
OREAS 98 (4 Acid) Meas		119																					
OREAS 98 (4 Acid) Cert		121																					
OREAS 98 (4 Acid) Meas		120																					
OREAS 98 (4 Acid) Cert		121																					
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
NCS DC86318 Meas																							
NCS DC86318 Cert																							
USZ 25-2006 Meas																							
USZ 25-2006 Cert																							
DNC-1a Meas																							
DNC-1a Cert																							
OREAS 13b (4-Acid) Meas		67.3		> 10.0																			
OREAS 13b (4-Acid) Cert		75		8650.000																			
OREAS 13b (4-Acid) Meas		67.5		> 10.0																			
OREAS 13b (4-Acid) Cert		75		8650.000																			
OREAS 13b (4-Acid) Meas		75.2		> 10.0																			
OREAS 13b (4-Acid) Cert		75		8650.000																			
OREAS 13b (4-Acid) Meas		74.0		> 10.0																			

Analyte Symbol	Ca	Co	Co	Cr	Cr	Cs	Cs	Eu	Fe	Hf	Hf	Ga	Ge	Hg	In	Ir	Nb	Na	Rb	Rb	Re	Sb	Sc
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	1	1	2	0.05	1	0.2	0.01	0.1	1	0.1	0.1	1	0.1	5	0.1	0.01	0.2	15	0.001	0.1	0.1
Method Code	TD-ICP	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA
OREAS 13b (4-Acid) Cert		75		8650.000																			
OREAS 13b (4-Acid) Meas		76.0		> 10.0																			
OREAS 13b (4-Acid) Cert		75		8650.000																			
BCR-2 Meas																							
BCR-2 Cert																							
USZ 42-2006 Meas																							
USZ 42-2006 Cert																							
OREAS 903 (4 Acid) Meas	0.68																						
OREAS 903 (4 Acid) Cert	0.625																						
OREAS 903 (4 Acid) Meas	0.67																						
OREAS 903 (4 Acid) Cert	0.625																						
OREAS 903 (4 Acid) Meas	0.68																						
OREAS 903 (4 Acid) Cert	0.625																						
OREAS 903 (4 Acid) Meas	0.69																						
OREAS 903 (4 Acid) Cert	0.625																						
OREAS 903 (4 Acid) Meas	0.67																						
OREAS 903 (4 Acid) Cert	0.625																						
OREAS 903 (4 Acid) Meas	0.68																						
OREAS 903 (4 Acid) Cert	0.625																						
OREAS 903 (4 Acid) Meas	0.70																						
OREAS 903 (4 Acid) Cert	0.625																						
OREAS 904 (4 Acid) Meas																							
OREAS 904 (4 Acid) Cert																							
OREAS 904 (4 Acid) Meas																							
OREAS 904 (4 Acid) Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d (4-Acid) Meas	0.19																						
OREAS 45d (4-Acid) Cert	0.185																						

Analyte Symbol	Ca	Co	Co	Cr	Cr	Cs	Cs	Eu	Fe	Hf	Hf	Ga	Ge	Hg	In	Ir	Nb	Na	Rb	Rb	Re	Sb	Sc
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	1	1	2	0.05	1	0.2	0.01	0.1	1	0.1	0.1	1	0.1	5	0.1	0.01	0.2	15	0.001	0.1	0.1
Method Code	TD-ICP	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA
OREAS 45d (4-Acid) Meas	0.20																						
OREAS 45d (4-Acid) Cert	0.185																						
OREAS 45d (4-Acid) Meas	0.19																						
OREAS 45d (4-Acid) Cert	0.185																						
OREAS 45d (4-Acid) Meas	0.19																						
OREAS 45d (4-Acid) Cert	0.185																						
OREAS 45d (4-Acid) Meas	0.19																						
OREAS 45d (4-Acid) Cert	0.185																						
REE-1 Meas																							
REE-1 Cert																							
CDN-PGMS-27 Meas																							
CDN-PGMS-27 Cert																							
OREAS 96 (4 Acid) Meas		46.9																					
OREAS 96 (4 Acid) Cert		49.9																					
OREAS 96 (4 Acid) Meas		46.1																					
OREAS 96 (4 Acid) Cert		49.9																					
OREAS 96 (4 Acid) Meas		46.0																					
OREAS 96 (4 Acid) Cert		49.9																					
OREAS 96 (4 Acid) Meas		50.9																					
OREAS 96 (4 Acid) Cert		49.9																					
OREAS 96 (4 Acid) Meas		50.3																					
OREAS 96 (4 Acid) Cert		49.9																					
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							

Analyte Symbol	Ca	Co	Co	Cr	Cr	Cs	Cs	Eu	Fe	Hf	Hf	Ga	Ge	Hg	In	Ir	Nb	Na	Rb	Rb	Re	Sb	Sc
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	1	1	2	0.05	1	0.2	0.01	0.1	1	0.1	0.1	1	0.1	5	0.1	0.01	0.2	15	0.001	0.1	0.1
Method Code	TD-ICP	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							
Oreas 77b (4 Acid) Meas	2.66	1500		> 10.0		2.07				1.1		4.6			0.1		3.1		16.9		0.019		
Oreas 77b (4 Acid) Cert	3.06	1550		280		2.32				1.15		4.61			0.112		3.26		19.1		0.0220		
Oreas 77b (4 Acid) Meas	2.64	1410		> 10.0		2.05				1.2		4.2			< 0.1		3.5		17.9		0.022		
Oreas 77b (4 Acid) Cert	3.06	1550		280		2.32				1.15		4.61			0.112		3.26		19.1		0.0220		
Oreas 77b (4 Acid) Meas	2.63	1560		> 10.0		2.04				1.2		4.4			0.1		3.6		18.5		0.022		
Oreas 77b (4 Acid) Cert	3.06	1550		280		2.32				1.15		4.61			0.112		3.26		19.1		0.0220		
Oreas 77b (4 Acid) Meas	2.71	1430		> 10.0		2.40				1.1		3.7			0.1		3.2		18.8		0.027		
Oreas 77b (4 Acid) Cert	3.06	1550		280		2.32				1.15		4.61			0.112		3.26		19.1		0.0220		
Oreas 77b (4 Acid) Meas	2.63	1540		> 10.0		2.07				1.1		4.4			0.1		3.1		17.7		0.018		
Oreas 77b (4 Acid) Cert	3.06	1550		280		2.32				1.15		4.61			0.112		3.26		19.1		0.0220		
Oreas 72b (4 Acid) Meas	2.90	124		> 10.0		2.84				2.5		10.9			< 0.1		5.9		48.6				
Oreas 72b (4 Acid) Cert	2.79	131		771		3.37				2.51		11.7			0.0490		5.50		50.8				
Oreas 72b (4 Acid) Meas	2.70	133		> 10.0		3.26				2.5		11.2			< 0.1		5.6		48.3				
Oreas 72b (4 Acid) Cert	2.79	131		771		3.37				2.51		11.7			0.0490		5.50		50.8				
Oreas 72b (4 Acid) Meas	2.75	122		> 10.0		3.04				2.4		9.2			< 0.1		5.7		42.7				
Oreas 72b (4 Acid) Cert	2.79	131		771		3.37				2.51		11.7			0.0490		5.50		50.8				
Oreas 72b (4 Acid) Meas	2.77	125		> 10.0		3.27				2.4		10.5			< 0.1		5.7		45.8				
Oreas 72b (4 Acid) Cert	2.79	131		771		3.37				2.51		11.7			0.0490		5.50		50.8				
Oreas 72b (4 Acid) Meas	2.72	139		> 10.0		3.09				2.5		10.7			< 0.1		5.5		46.9				
Oreas 72b (4 Acid) Cert	2.79	131		771		3.37				2.51		11.7			0.0490		5.50		50.8				
Oreas 72b (4 Acid) Meas	2.80	139		> 10.0		3.14				2.5		10.6			< 0.1		6.1		47.3				
Oreas 72b (4 Acid) Cert	2.79	131		771		3.37				2.51		11.7			0.0490		5.50		50.8				
Oreas 72b (4 Acid) Meas	2.80																						
Oreas 72b (4 Acid) Cert	2.79																						
OREAS 238 (Fire Assay) Meas																							
OREAS 238 (Fire Assay) Cert																							
W-2b Meas																							
W-2b Cert																							

Analyte Symbol	Ca	Co	Co	Cr	Cr	Cs	Cs	Eu	Fe	Hf	Hf	Ga	Ge	Hg	In	Ir	Nb	Na	Rb	Rb	Re	Sb	Sc
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	1	1	2	0.05	1	0.2	0.01	0.1	1	0.1	0.1	1	0.1	5	0.1	0.01	0.2	15	0.001	0.1	0.1
Method Code	TD-ICP	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
OREAS 681 (4 Acid) Meas	5.67	49.4		> 10.0		4.13				1.9		15.4			< 0.1		5.9		82.4				
OREAS 681 (4 Acid) Cert	5.98	51.0		1640		4.02				1.70		17.6			0.0420		6.17		80.0				
OREAS 681 (4 Acid) Meas	5.77	48.9		> 10.0		4.12				1.9		15.1			< 0.1		4.7		78.9				
OREAS 681 (4 Acid) Cert	5.98	51.0		1640		4.02				1.70		17.6			0.0420		6.17		80.0				
OREAS 681 (4 Acid) Meas	5.65	50.6		> 10.0		3.75				1.8		17.4			< 0.1		6.1		77.2				
OREAS 681 (4 Acid) Cert	5.98	51.0		1640		4.02				1.70		17.6			0.0420		6.17		80.0				
OREAS 681 (4 Acid) Meas	6.00																						
OREAS 681 (4 Acid) Cert	5.98																						
OREAS 681 (4 Acid) Meas	5.70																						
OREAS 681 (4 Acid) Cert	5.98																						
OREAS 681 (4 Acid) Meas	5.98																						
OREAS 681 (4 Acid) Cert	5.98																						
OREAS 681 (4 Acid) Meas	5.99																						
OREAS 681 (4 Acid) Cert	5.98																						
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	0.88	12.3		> 10.0		8.85				3.4		15.1			< 0.1		0.9		119				
OREAS 247 (4 Acid) Cert	0.826	12.0		97.0		8.49				3.57		16.3			0.0580		11.7		144				
OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4 Acid) Meas																							

Analyte Symbol	Ca	Co	Co	Cr	Cr	Cs	Cs	Eu	Fe	Hf	Hf	Ga	Ge	Hg	In	Ir	Nb	Na	Rb	Rb	Re	Sb	Sc
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	1	1	2	0.05	1	0.2	0.01	0.1	1	0.1	0.1	1	0.1	5	0.1	0.01	0.2	15	0.001	0.1	0.1
Method Code	TD-ICP	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA
OREAS 247 (4 Acid) Cert																							
OREAS 147 (4 Acid) Meas	1.18	6.7		> 10.0		> 100				0.4		20.1	< 0.1		3.1		127		1320				
OREAS 147 (4 Acid) Cert	1.09	6.90		57.0		238				2.99		22.6	0.750		2.61		1110		1160				
OREAS 147 (4 Acid) Meas	1.18																						
OREAS 147 (4 Acid) Cert	1.09																						
OREAS 147 (4 Acid) Meas	1.20																						
OREAS 147 (4 Acid) Cert	1.09																						
OREAS 147 (4 Acid) Meas	1.21																						
OREAS 147 (4 Acid) Cert	1.09																						
OREAS 147 (4 Acid) Meas	1.21																						
OREAS 147 (4 Acid) Cert	1.09																						
OREAS 147 (4 Acid) Meas	1.20																						
OREAS 147 (4 Acid) Cert	1.09																						
Oreas 521 (4 Acid) Meas	3.73	386		> 10.0		0.69				3.3		16.7			0.2		1.8		107		0.069		
Oreas 521 (4 Acid) Cert	3.86	386		30.9		0.72				3.2		17.4			0.2		5.6		98.0		0.064		
Oreas 521 (4 Acid) Meas	3.79	368		> 10.0		0.72				3.3		17.0			0.2		2.8		95.3		0.062		
Oreas 521 (4 Acid) Cert	3.86	386		30.9		0.72				3.2		17.4			0.2		5.6		98.0		0.064		
Oreas 521 (4 Acid) Meas	4.00																						
Oreas 521 (4 Acid) Cert	3.86																						
Oreas 521 (4 Acid) Meas	3.89																						
Oreas 521 (4 Acid) Cert	3.86																						
OREAS 70b (4 Acid) Meas	3.10	82.7				3.41				1.8		7.8			< 0.1		3.5						
OREAS 70b (4 Acid) Cert	3.05	78.0				3.44				1.9		10			0.05		3.7						
OREAS 70b (4 Acid) Meas	2.90	78.5				3.31				1.9		9.9			< 0.1		3.4						
OREAS 70b (4 Acid) Cert	3.05	78.0				3.44				1.9		10			0.05		3.7						
OREAS 70b (4 Acid) Meas	2.99	77.8				3.24				1.8		8.8			< 0.1		3.7						
OREAS 70b (4 Acid) Cert	3.05	78.0				3.44				1.9		10			0.05		3.7						
OREAS 70b (4 Acid) Meas	3.05	80.3				3.00				1.8		8.9			< 0.1		3.6						
OREAS 70b (4 Acid) Cert	3.05	78.0				3.44				1.9		10			0.05		3.7						

Analyte Symbol	Ca	Co	Co	Cr	Cr	Cs	Cs	Eu	Fe	Hf	Hf	Ga	Ge	Hg	In	Ir	Nb	Na	Rb	Rb	Re	Sb	Sc
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	1	1	2	0.05	1	0.2	0.01	0.1	1	0.1	0.1	1	0.1	5	0.1	0.01	0.2	15	0.001	0.1	0.1
Method Code	TD-ICP	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA
OREAS 620 (4 Acid) Meas	1.75	12.4		> 10.0		4.70				5.7		23.1			1.2		13.1		104				
OREAS 620 (4 Acid) Cert	1.60	12.1		21.9		5.01				5.6		23.7			1.1		13.1		116				
OREAS 620 (4 Acid) Meas	1.75	13.3		> 10.0		5.32				5.8		25.5			1.2		13.1		105				
OREAS 620 (4 Acid) Cert	1.60	12.1		21.9		5.01				5.6		23.7			1.1		13.1		116				
OREAS 620 (4 Acid) Meas	1.74																						
OREAS 620 (4 Acid) Cert	1.60																						
OREAS 620 (4 Acid) Meas	1.74																						
OREAS 620 (4 Acid) Cert	1.60																						
OREAS 620 (4 Acid) Meas	1.72																						
OREAS 620 (4 Acid) Cert	1.60																						
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																							
OREAS 753 (4 Acid) Meas	0.13	1.0		> 10.0		59.2				1.0		15.8					27.3		588				
OREAS 753 (4 Acid) Cert	0.113	0.96		20.8		64				1.06		16.1					36.3		612				
OREAS 753 (4 Acid) Meas	0.13	1.0		> 10.0		61.2				1.0		16.2					28.1		643				
OREAS 753 (4 Acid) Cert	0.113	0.96		20.8		64				1.06		16.1					36.3		612				
OREAS 753 (4 Acid) Meas	0.13	0.9		> 10.0		66.6				1.0		17.0					25.6		565				
OREAS 753 (4 Acid) Cert	0.113	0.96		20.8		64				1.06		16.1					36.3		612				
OREAS 753 (4 Acid) Meas	0.13																						
OREAS 753 (4 Acid) Cert	0.113																						
DMMAS 125 Meas			45		85		< 1	0.6	8.98		< 1							0.50		< 15		5.2	8.4
DMMAS 125 Cert			43.8		86.0		1.51	0.438	9.09		1.04							0.493		30.5		4.68	8.94
E5830162 Orig																							
E5830162 Dup																							
E5830168 Orig	2.89	15.6		> 10.0		0.61				0.7		2.7	< 0.1		< 0.1		41.8		54.5		0.010		
E5830168 Dup	2.88	15.2		> 10.0		0.55				1.4		4.4	< 0.1		< 0.1		92.1		57.8		0.010		
E5830170 Orig																							
E5830170 Dup																							

Analyte Symbol	Ca	Co	Co	Cr	Cr	Cs	Cs	Eu	Fe	Hf	Hf	Ga	Ge	Hg	In	Ir	Nb	Na	Rb	Rb	Re	Sb	Sc
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.1	1	1	2	0.05	1	0.2	0.01	0.1	1	0.1	0.1	1	0.1	5	0.1	0.01	0.2	15	0.001	0.1	0.1
Method Code	TD-ICP	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	INAA
E5830171 Orig																							
E5830171 Dup																							
E5830172 Orig																							
E5830172 Dup																							
E5830164 Orig																							
E5830164 Dup																							
E5830159 Orig																							
E5830159 Split PREP DUP																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank			< 1		< 2		< 1	< 0.2	< 0.01		< 1			< 1		< 5		< 0.01		< 15		< 0.1	< 0.1
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01	< 0.1		5		< 0.05				< 0.1		0.4	< 0.1		< 0.1		< 0.1		< 0.2		< 0.001		
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01	< 0.1		5		< 0.05				< 0.1		0.2	< 0.1		< 0.1		< 0.1		< 0.2		< 0.001		
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01	< 0.1		7		< 0.05				< 0.1		0.2	< 0.1		< 0.1		< 0.1		< 0.2		0.011		
Method Blank	< 0.01	< 0.1		6		< 0.05				< 0.1		0.2	< 0.1		< 0.1		< 0.1		< 0.2		0.009		
Method Blank	< 0.01	< 0.1		> 10.0		< 0.05				< 0.1		0.2	< 0.1		< 0.1		< 0.1		< 0.2		0.010		
Method Blank	< 0.01																						
Method Blank	< 0.01	< 0.1		4		< 0.05				< 0.1		0.1	< 0.1		< 0.1		< 0.1		< 0.2		0.002		
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01	< 0.1		8		< 0.05				< 0.1		0.2	< 0.1		< 0.1		< 0.1		< 0.2		< 0.001		
Method Blank	< 0.01																						
Method Blank	< 0.01	< 0.1		6		< 0.05				< 0.1		0.2	< 0.1		< 0.1		< 0.1		< 0.2		< 0.001		
Method Blank	< 0.01																						
Method Blank	< 0.01																						
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Analyte Symbol	Se	Se	Sn	Sr	Ta	Ta	Te	Tb	Th	Th	Tl	U	U	V	W	Y	Zr	La	La	Ce	Ce	Pr	Nd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	3	1	0.2	0.1	0.5	0.1	0.5	0.1	0.2	0.05	0.1	0.5	2	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1
Method Code	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
NIST 694 Meas																							
NIST 694 Cert																							
SY-4 Meas																							
SY-4 Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
Oreas 72a (4 Acid) Meas																							
Oreas 72a (4 Acid) Cert																							
BIR-1a Meas																							
BIR-1a Cert																							
ZW-C Meas																							
ZW-C Cert																							
OREAS 101b (Fusion) Meas																							
OREAS 101b (Fusion) Cert																							
OREAS 101b (4 Acid) Meas									37.5			380		74		128		705		1250		120	356
OREAS 101b (4 Acid) Cert									36.4			387		77		133		754		1325		127	388
OREAS 101b (4 Acid) Meas									35.8			380		80		130		746		1270		122	375
OREAS 101b (4 Acid) Cert									36.4			387		77		133		754		1325		127	388
OREAS 101b (4 Acid) Meas									37.0			406		78		134		765		1390		138	388
OREAS 101b (4 Acid) Cert									36.4			387		77		133		754		1325		127	388
OREAS 101b (4 Acid) Meas									33.8			397		79		126		805		1350		126	372
OREAS 101b (4 Acid) Cert									36.4			387		77		133		754		1325		127	388
OREAS 101b (4 Acid) Meas									38.4			419		79		128		752		1290		126	374
OREAS 101b (4 Acid) Cert									36.4			387		77		133		754		1325		127	388
OREAS 101b (4 Acid) Meas									35.9			386		78		124		739		1280		123	367
OREAS 101b (4 Acid) Cert									36.4			387		77		133		754		1325		127	388
OREAS 101b (4 Acid) Meas									35.8			407		79		115		743		1300		102	353
OREAS 101b (4 Acid) Cert									36.4			387		77		133		754		1325		127	388
OREAS 101b (4 Acid) Meas														81									
OREAS 101b (4 Acid) Cert														77									
OREAS 98 (4	160		181																				

Analyte Symbol	Se	Se	Sn	Sr	Ta	Ta	Te	Tb	Th	Th	Tl	U	U	V	W	Y	Zr	La	La	Ce	Ce	Pr	Nd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	3	1	0.2	0.1	0.5	0.1	0.5	0.1	0.2	0.05	0.1	0.5	2	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1
Method Code	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
Acid) Meas																							
OREAS 98 (4 Acid) Cert	158		206																				
OREAS 98 (4 Acid) Meas	167		> 200																				
OREAS 98 (4 Acid) Cert	158		206																				
OREAS 98 (4 Acid) Meas	168		182																				
OREAS 98 (4 Acid) Cert	158		206																				
OREAS 98 (4 Acid) Meas	187		200																				
OREAS 98 (4 Acid) Cert	158		206																				
OREAS 98 (4 Acid) Meas	171		200																				
OREAS 98 (4 Acid) Cert	158		206																				
OREAS 98 (4 Acid) Meas	170		> 200																				
OREAS 98 (4 Acid) Cert	158		206																				
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
NCS DC86318 Meas																							
NCS DC86318 Cert																							
USZ 25-2006 Meas																							
USZ 25-2006 Cert																							
DNC-1a Meas																							
DNC-1a 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																							

Analyte Symbol	Se	Se	Sn	Sr	Ta	Ta	Te	Tb	Th	Th	Tl	U	U	V	W	Y	Zr	La	La	Ce	Ce	Pr	Nd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	3	1	0.2	0.1	0.5	0.1	0.5	0.1	0.2	0.05	0.1	0.5	2	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1
Method Code	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
OREAS 13b (4-Acid) Cert																							
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							
BCR-2 Meas																							
BCR-2 Cert																							
USZ 42-2006 Meas																							
USZ 42-2006 Cert																							
OREAS 903 (4 Acid) Meas														84									
OREAS 903 (4 Acid) Cert														74.0									
OREAS 903 (4 Acid) Meas														83									
OREAS 903 (4 Acid) Cert														74.0									
OREAS 903 (4 Acid) Meas														83									
OREAS 903 (4 Acid) Cert														74.0									
OREAS 903 (4 Acid) Meas														84									
OREAS 903 (4 Acid) Cert														74.0									
OREAS 903 (4 Acid) Meas														83									
OREAS 903 (4 Acid) Cert														74.0									
OREAS 903 (4 Acid) Meas														84									
OREAS 903 (4 Acid) Cert														74.0									
OREAS 903 (4 Acid) Meas														84									
OREAS 903 (4 Acid) Cert														74.0									
OREAS 904 (4 Acid) Meas																							
OREAS 904 (4 Acid) Cert																							
OREAS 904 (4 Acid) Meas																							
OREAS 904 (4 Acid) Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d (4-Acid) Meas														109									
OREAS 45d (4-Acid) Cert														235.0									

Analyte Symbol	Se	Se	Sn	Sr	Ta	Ta	Te	Tb	Th	Th	Tl	U	U	V	W	Y	Zr	La	La	Ce	Ce	Pr	Nd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	3	1	0.2	0.1	0.5	0.1	0.5	0.1	0.2	0.05	0.1	0.5	2	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1
Method Code	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
OREAS 45d (4-Acid) Meas														124									
OREAS 45d (4-Acid) Cert														235.0									
OREAS 45d (4-Acid) Meas														139									
OREAS 45d (4-Acid) Cert														235.0									
OREAS 45d (4-Acid) Meas														91									
OREAS 45d (4-Acid) Cert														235.0									
OREAS 45d (4-Acid) Meas														129									
OREAS 45d (4-Acid) Cert														235.0									
REE-1 Meas																							
REE-1 Cert																							
CDN-PGMS-27 Meas																							
CDN-PGMS-27 Cert																							
OREAS 96 (4 Acid) Meas	42.5		67																				
OREAS 96 (4 Acid) Cert	40.7		65.6																				
OREAS 96 (4 Acid) Meas	43.8		67																				
OREAS 96 (4 Acid) Cert	40.7		65.6																				
OREAS 96 (4 Acid) Meas	44.0		58																				
OREAS 96 (4 Acid) Cert	40.7		65.6																				
OREAS 96 (4 Acid) Meas	43.4		64																				
OREAS 96 (4 Acid) Cert	40.7		65.6																				
OREAS 96 (4 Acid) Meas	43.1		64																				
OREAS 96 (4 Acid) Cert	40.7		65.6																				
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							

Analyte Symbol	Se	Se	Sn	Sr	Ta	Ta	Te	Tb	Th	Th	Tl	U	U	V	W	Y	Zr	La	La	Ce	Ce	Pr	Nd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	3	1	0.2	0.1	0.5	0.1	0.5	0.1	0.2	0.05	0.1	0.5	2	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1
Method Code	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							
Oreas 77b (4 Acid) Meas			2	31.3	0.2		1.1		5.9		1.30	1.6		35		6.5	37	14.5		26.1			
Oreas 77b (4 Acid) Cert			1.59	34.4	0.280		1.35		6.61		1.37	1.71		33.6		6.55	37.9	15.8		27.7			
Oreas 77b (4 Acid) Meas			1	35.1	0.3		1.3		6.3		1.34	1.9		35		6.7	42	14.4		26.5			
Oreas 77b (4 Acid) Cert			1.59	34.4	0.280		1.35		6.61		1.37	1.71		33.6		6.55	37.9	15.8		27.7			
Oreas 77b (4 Acid) Meas			2	34.7	0.3		1.4		6.6		1.35	1.8		31		7.0	41	15.3		26.3			
Oreas 77b (4 Acid) Cert			1.59	34.4	0.280		1.35		6.61		1.37	1.71		33.6		6.55	37.9	15.8		27.7			
Oreas 77b (4 Acid) Meas			2	36.3	0.2		1.7		5.5		1.31	1.7		34		6.3	35	16.1		27.3			
Oreas 77b (4 Acid) Cert			1.59	34.4	0.280		1.35		6.61		1.37	1.71		33.6		6.55	37.9	15.8		27.7			
Oreas 77b (4 Acid) Meas			1	32.3	0.3		1.1		6.1		1.39	1.8		32		6.4	37	14.8		25.8			
Oreas 77b (4 Acid) Cert			1.59	34.4	0.280		1.35		6.61		1.37	1.71		33.6		6.55	37.9	15.8		27.7			
Oreas 72b (4 Acid) Meas			1	66.9	0.4		0.1		10.8		0.33	4.6		72		12.1	89	22.1		39.4			
Oreas 72b (4 Acid) Cert			1.43	63.8	0.430		0.0920		11.3		0.350	4.68		73.6		12.8	88.0	24.4		43.6			
Oreas 72b (4 Acid) Meas			1	65.7	0.4		< 0.1		10.3		0.37	4.6		71		12.9	85	22.9		43.7			
Oreas 72b (4 Acid) Cert			1.43	63.8	0.430		0.0920		11.3		0.350	4.68		73.6		12.8	88.0	24.4		43.6			
Oreas 72b (4 Acid) Meas			1	62.1	0.4		0.2		9.4		0.34	4.3		73		11.4	76	22.6		38.9			
Oreas 72b (4 Acid) Cert			1.43	63.8	0.430		0.0920		11.3		0.350	4.68		73.6		12.8	88.0	24.4		43.6			
Oreas 72b (4 Acid) Meas			1	64.1	0.4		0.2		9.5		0.35	4.6		72		12.0	81	23.2		40.9			
Oreas 72b (4 Acid) Cert			1.43	63.8	0.430		0.0920		11.3		0.350	4.68		73.6		12.8	88.0	24.4		43.6			
Oreas 72b (4 Acid) Meas			1	64.4	0.4		0.1		10.8		0.36	4.7		71		12.5	87	23.5		41.9			
Oreas 72b (4 Acid) Cert			1.43	63.8	0.430		0.0920		11.3		0.350	4.68		73.6		12.8	88.0	24.4		43.6			
Oreas 72b (4 Acid) Meas			1	65.6	0.4		0.1		10.6		0.36	4.6		73		12.3	91	23.4		41.4			
Oreas 72b (4 Acid) Cert			1.43	63.8	0.430		0.0920		11.3		0.350	4.68		73.6		12.8	88.0	24.4		43.6			
Oreas 72b (4 Acid) Meas														73									
Oreas 72b (4 Acid) Cert														73.6									
OREAS 238 (Fire Assay) Meas																							
OREAS 238 (Fire Assay) Cert																							
W-2b Meas																							
W-2b Cert																							

Analyte Symbol	Se	Se	Sn	Sr	Ta	Ta	Te	Tb	Th	Th	Tl	U	U	V	W	Y	Zr	La	La	Ce	Ce	Pr	Nd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	3	1	0.2	0.1	0.5	0.1	0.5	0.1	0.2	0.05	0.1	0.5	2	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1
Method Code	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
Oreas E1336 (Fire Assay) Meas																							
Oreas E1336 (Fire Assay) Cert																							
OREAS 681 (4 Acid) Meas			2	488	0.3				6.7			1.4		166		16.1	57	18.9		39.5		4.9	20.4
OREAS 681 (4 Acid) Cert			1.89	478	0.420				6.55			1.44		253		17.5	58.0	18.8		40.6		5.32	21.9
OREAS 681 (4 Acid) Meas			2	494	0.2				6.1			1.4		245		16.1	60	18.7		39.0		4.8	20.1
OREAS 681 (4 Acid) Cert			1.89	478	0.420				6.55			1.44		253		17.5	58.0	18.8		40.6		5.32	21.9
OREAS 681 (4 Acid) Meas			2	453	0.4				6.4			1.6		226		16.2	63	17.8		37.9		4.9	19.9
OREAS 681 (4 Acid) Cert			1.89	478	0.420				6.55			1.44		253		17.5	58.0	18.8		40.6		5.32	21.9
OREAS 681 (4 Acid) Meas														248									
OREAS 681 (4 Acid) Cert														253									
OREAS 681 (4 Acid) Meas														238									
OREAS 681 (4 Acid) Cert														253									
OREAS 681 (4 Acid) Meas														253									
OREAS 681 (4 Acid) Cert														253									
OREAS 681 (4 Acid) Meas														250									
OREAS 681 (4 Acid) Cert														253									
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			2	107	< 0.1				12.2		0.80	2.7		68		16.3	112	34.7		67.5		7.8	28.9
OREAS 247 (4 Acid) Cert			3.31	96.0	0.920				12.6		0.800	2.53		82.0		13.1	125	33.1		67.0		7.90	29.3
OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4 Acid) Meas																							
OREAS 247 (4 Acid) Cert																							
OREAS 247 (4 Acid) Meas																							

Analyte Symbol	Se	Se	Sn	Sr	Ta	Ta	Te	Tb	Th	Th	Tl	U	U	V	W	Y	Zr	La	La	Ce	Ce	Pr	Nd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	3	1	0.2	0.1	0.5	0.1	0.5	0.1	0.2	0.05	0.1	0.5	2	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1
Method Code	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
OREAS 247 (4 Acid) Cert																							
OREAS 147 (4 Acid) Meas				301	1.7				92.5		11.6	16.0		52		26.3	17	690		1220		129	
OREAS 147 (4 Acid) Cert				299	17.8				93.0		10.8	15.8		60.0		26.3	105	663		1110		121	
OREAS 147 (4 Acid) Meas														52									
OREAS 147 (4 Acid) Cert														60.0									
OREAS 147 (4 Acid) Meas														54									
OREAS 147 (4 Acid) Cert														60.0									
OREAS 147 (4 Acid) Meas														49									
OREAS 147 (4 Acid) Cert														60.0									
OREAS 147 (4 Acid) Meas														46									
OREAS 147 (4 Acid) Cert														60.0									
OREAS 147 (4 Acid) Meas														55									
OREAS 147 (4 Acid) Cert														60.0									
Oreas 521 (4 Acid) Meas	1.1		7	103	< 0.1		0.2		3.8		0.28	30.7		191		20.8	136	88.5		109		8.5	26.1
Oreas 521 (4 Acid) Cert	2.4		7	158	0.5		0.8		8.3		0.27	31.0		209		19.9	123	139		123		8.4	25.4
Oreas 521 (4 Acid) Meas	1.8		6	100	< 0.1		0.3		4.2		0.28	30.4		197		18.4	118	89.5		104		8.2	25.8
Oreas 521 (4 Acid) Cert	2.4		7	158	0.5		0.8		8.3		0.27	31.0		209		19.9	123	139		123		8.4	25.4
Oreas 521 (4 Acid) Meas														198									
Oreas 521 (4 Acid) Cert														209									
Oreas 521 (4 Acid) Meas														218									
Oreas 521 (4 Acid) Cert														209									
OREAS 70b (4 Acid) Meas			1	75.5	0.3				6.7		0.33	1.7		62		9.0	71	14.4		27.5			
OREAS 70b (4 Acid) Cert			1	74.0	0.3				6.9		0.33	1.7		67		9.8	66	15.3		28.2			
OREAS 70b (4 Acid) Meas			1	77.5	0.3				6.6		0.35	1.7		65		9.5	66	14.3		27.3			
OREAS 70b (4 Acid) Cert			1	74.0	0.3				6.9		0.33	1.7		67		9.8	66	15.3		28.2			
OREAS 70b (4 Acid) Meas			1	70.7	0.3				6.2		0.35	1.7		65		8.3	59	14.5		25.6			
OREAS 70b (4 Acid) Cert			1	74.0	0.3				6.9		0.33	1.7		67		9.8	66	15.3		28.2			
OREAS 70b (4 Acid) Meas			1	69.2	0.3				6.3		0.33	1.7		66		8.3	63	14.3		25.5			
OREAS 70b (4 Acid) Cert			1	74.0	0.3				6.9		0.33	1.7		67		9.8	66	15.3		28.2			

Analyte Symbol	Se	Se	Sn	Sr	Ta	Ta	Te	Tb	Th	Th	Tl	U	U	V	W	Y	Zr	La	La	Ce	Ce	Pr	Nd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	3	1	0.2	0.1	0.5	0.1	0.5	0.1	0.2	0.05	0.1	0.5	2	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1
Method Code	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
OREAS 620 (4 Acid) Meas			5	124	0.4				9.7		1.56	4.2		24		13.4	211	29.5		66.8			
OREAS 620 (4 Acid) Cert			5	131	1				11		1.61	4.2		21		12.3	202	29.7		64.0			
OREAS 620 (4 Acid) Meas			4	122	0.2				7.2		1.54	4.1		23		13.0	198	28.7		66.6			
OREAS 620 (4 Acid) Cert			5	131	1				11		1.61	4.2		21		12.3	202	29.7		64.0			
OREAS 620 (4 Acid) Meas														23									
OREAS 620 (4 Acid) Cert														21									
OREAS 620 (4 Acid) Meas														24									
OREAS 620 (4 Acid) Cert														21									
OREAS 620 (4 Acid) Meas														23									
OREAS 620 (4 Acid) Cert														21									
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																							
OREAS 753 (4 Acid) Meas			78	22.7	12.6				0.3		3.53	4.7		2		0.7	10	0.3					0.3
OREAS 753 (4 Acid) Cert			84	25.5	20.0				0.26		3.67	5.83		1.16		0.65	11.4	0.36					0.28
OREAS 753 (4 Acid) Meas			83	21.9	12.8				0.3		3.71	4.8		< 2		0.7	10	0.4					0.2
OREAS 753 (4 Acid) Cert			84	25.5	20.0				0.26		3.67	5.83		1.16		0.65	11.4	0.36					0.28
OREAS 753 (4 Acid) Meas			74	26.2	10.6				0.2		3.67	4.7		< 2		0.6	9	0.3					0.3
OREAS 753 (4 Acid) Cert			84	25.5	20.0				0.26		3.67	5.83		1.16		0.65	11.4	0.36					0.28
OREAS 753 (4 Acid) Meas														< 2									
OREAS 753 (4 Acid) Cert														1.16									
DMMAS 125 Meas		< 3						< 0.5		0.9			16.2						7.4		11		
DMMAS 125 Cert		4.79						0.246		1.55			15.4						7.87		12.6		
E5830162 Orig																							
E5830162 Dup																							
E5830168 Orig	< 0.1		< 1	515	1.2		0.2		136		0.46	29.1		174		150	22	259		501		56.0	218
E5830168 Dup	0.2		1	505	1.1		0.1		138		0.47	28.9		175		146	58	253		500		56.3	217
E5830170 Orig																							
E5830170 Dup																							

Analyte Symbol	Se	Se	Sn	Sr	Ta	Ta	Te	Tb	Th	Th	Tl	U	U	V	W	Y	Zr	La	La	Ce	Ce	Pr	Nd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	3	1	0.2	0.1	0.5	0.1	0.5	0.1	0.2	0.05	0.1	0.5	2	1	0.1	1	0.1	0.5	0.1	3	0.1	0.1
Method Code	TD-MS	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS	INAA	TD-ICP	INAA	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	TD-MS	TD-MS
E5830171 Orig																							
E5830171 Dup																							
E5830172 Orig																							
E5830172 Dup																							
E5830164 Orig																							
E5830164 Dup																							
E5830159 Orig																							
E5830159 Split PREP DUP																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank		< 3				< 0.5		< 0.5		< 0.2			< 0.5		< 1				< 0.5		< 3		
Method Blank														< 2									
Method Blank														< 2									
Method Blank	0.4		< 1	< 0.2	< 0.1		< 0.1		< 0.1		< 0.05	< 0.1		< 2		< 0.1	< 1	< 0.1		< 0.1		< 0.1	< 0.1
Method Blank														< 2									
Method Blank														< 2									
Method Blank	0.7		< 1	< 0.2	< 0.1		< 0.1		< 0.1		< 0.05	< 0.1		< 2		< 0.1	< 1	< 0.1		< 0.1		< 0.1	< 0.1
Method Blank														< 2									
Method Blank														< 2									
Method Blank														< 2									
Method Blank														< 2									
Method Blank														< 2									
Method Blank	0.5		< 1	< 0.2	< 0.1		0.1		< 0.1		< 0.05	< 0.1		< 2		< 0.1	< 1	< 0.1		< 0.1		< 0.1	< 0.1
Method Blank	< 0.1		< 1	0.2	< 0.1		0.1		< 0.1		< 0.05	< 0.1		< 2		< 0.1	< 1	< 0.1		< 0.1		< 0.1	< 0.1
Method Blank	0.5		< 1	0.2	< 0.1		0.1		< 0.1		< 0.05	< 0.1		< 2		< 0.1	< 1	< 0.1		< 0.1		< 0.1	< 0.1
Method Blank														< 2									
Method Blank	1.0		< 1	0.2	< 0.1		< 0.1		< 0.1		< 0.05	< 0.1		< 2		< 0.1	< 1	< 0.1		< 0.1		< 0.1	< 0.1
Method Blank														< 2									
Method Blank														< 2									
Method Blank														< 2									
Method Blank	< 0.1		< 1	< 0.2	< 0.1		< 0.1		< 0.1		< 0.05	< 0.1		< 2		< 0.1	1	< 0.1		< 0.1		< 0.1	< 0.1
Method Blank														< 2									
Method Blank	< 0.1		< 1	< 0.2	< 0.1		< 0.1		< 0.1		< 0.05	< 0.1		< 2		< 0.1	< 1	< 0.1		< 0.1		< 0.1	< 0.1
Method Blank														< 2									
Method Blank														< 2									
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Method Blank																							

Analyte Symbol	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Lower Limit	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Method Code	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
NIST 694 Meas															
NIST 694 Cert															
SY-4 Meas															
SY-4 Cert															
Oreas 72a (4 Acid) Meas															
Oreas 72a (4 Acid) Cert															
Oreas 72a (4 Acid) Meas															
Oreas 72a (4 Acid) Cert															
Oreas 72a (4 Acid) Meas															
Oreas 72a (4 Acid) Cert															
BIR-1a Meas															
BIR-1a Cert															
ZW-C Meas															
ZW-C Cert															
OREAS 101b (Fusion) Meas															
OREAS 101b (Fusion) Cert															
OREAS 101b (4 Acid) Meas		40.1		6.63	34.4	24.7	4.5	4.5	13.1	1.9	12.8		1.9		
OREAS 101b (4 Acid) Cert		48		8.1	40	27	5.4	5.2	15	2.08	13.9		1.96		
OREAS 101b (4 Acid) Meas		40.4		6.79	35.7	25.6	4.7	4.9	13.5	1.9	13.0		1.8		
OREAS 101b (4 Acid) Cert		48		8.1	40	27	5.4	5.2	15	2.08	13.9		1.96		
OREAS 101b (4 Acid) Meas		51.7		7.69	37.8	26.5	4.9	4.7	14.4	2.1	13.3		1.8		
OREAS 101b (4 Acid) Cert		48		8.1	40	27	5.4	5.2	15	2.08	13.9		1.96		
OREAS 101b (4 Acid) Meas		46.3		7.10	34.8	25.1	4.7	4.4	13.0	1.9	13.1		1.8		
OREAS 101b (4 Acid) Cert		48		8.1	40	27	5.4	5.2	15	2.08	13.9		1.96		
OREAS 101b (4 Acid) Meas		44.2		7.05	35.5	24.8	4.3	4.8	13.9	2.0	13.3		1.8		
OREAS 101b (4 Acid) Cert		48		8.1	40	27	5.4	5.2	15	2.08	13.9		1.96		
OREAS 101b (4 Acid) Meas		44.4		6.98	35.1	24.3	4.2	4.8	13.6	1.9	12.8		1.8		
OREAS 101b (4 Acid) Cert		48		8.1	40	27	5.4	5.2	15	2.08	13.9		1.96		
OREAS 101b (4 Acid) Meas		51.6		7.15	39.0	25.0	4.6	4.9	13.8	1.9	12.7		1.7		
OREAS 101b (4 Acid) Cert		48		8.1	40	27	5.4	5.2	15	2.08	13.9		1.96		
OREAS 101b (4 Acid) Meas															
OREAS 101b (4 Acid) Cert															
OREAS 98 (4															

Analyte Symbol	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Lower Limit	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Method Code	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
Acid) Meas															
OREAS 98 (4 Acid) Cert															
OREAS 98 (4 Acid) Meas															
OREAS 98 (4 Acid) Cert															
OREAS 98 (4 Acid) Meas															
OREAS 98 (4 Acid) Cert															
OREAS 98 (4 Acid) Meas															
OREAS 98 (4 Acid) Cert															
OREAS 98 (4 Acid) Meas															
OREAS 98 (4 Acid) Cert															
OREAS 98 (4 Acid) Meas															
OREAS 98 (4 Acid) Cert															
OREAS 98 (4 Acid) Meas															
OREAS 98 (4 Acid) Cert															
OREAS 98 (4 Acid) Meas															
OREAS 98 (4 Acid) Cert															
OREAS 98 (4 Acid) Meas															
OREAS 98 (4 Acid) Cert															
NCS DC86318 Meas															
NCS DC86318 Cert															
USZ 25-2006 Meas															
USZ 25-2006 Cert															
DNC-1a Meas															
DNC-1a 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															

Analyte Symbol	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Lower Limit	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Method Code	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
OREAS 13b (4-Acid) Cert															
OREAS 13b (4-Acid) Meas															
OREAS 13b (4-Acid) Cert															
BCR-2 Meas															
BCR-2 Cert															
USZ 42-2006 Meas															
USZ 42-2006 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															
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															
OREAS 903 (4 Acid) Meas															
OREAS 903 (4 Acid) Cert															
OREAS 904 (4 Acid) Meas															
OREAS 904 (4 Acid) Cert															
OREAS 904 (4 Acid) Meas															
OREAS 904 (4 Acid) Cert															
SBC-1 Meas															
SBC-1 Cert															
SBC-1 Meas															
SBC-1 Cert															
SBC-1 Meas															
SBC-1 Cert															
OREAS 45d (4-Acid) Meas															
OREAS 45d (4-Acid) Cert															

Analyte Symbol	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Lower Limit	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Method Code	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
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															
OREAS 45d (4-Acid) Meas															
OREAS 45d (4-Acid) Cert															
REE-1 Meas															
REE-1 Cert															
CDN-PGMS-27 Meas															
CDN-PGMS-27 Cert															
OREAS 96 (4 Acid) Meas															
OREAS 96 (4 Acid) Cert															
OREAS 96 (4 Acid) Meas															
OREAS 96 (4 Acid) Cert															
OREAS 96 (4 Acid) Meas															
OREAS 96 (4 Acid) Cert															
OREAS 96 (4 Acid) Meas															
OREAS 96 (4 Acid) Cert															
OREAS 96 (4 Acid) Meas															
OREAS 96 (4 Acid) Cert															
OREAS 96 (4 Acid) Meas															
OREAS 96 (4 Acid) Cert															
OREAS 96 (4 Acid) Meas															
OREAS 96 (4 Acid) Cert															
OREAS 96 (4 Acid) Meas															
OREAS 96 (4 Acid) Cert															
OREAS 923 (4 Acid) Meas															
OREAS 923 (4 Acid) Cert															

Analyte Symbol	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Lower Limit	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Method Code	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
OREAS 923 (4 Acid) Meas															
OREAS 923 (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 77b (4 Acid) Meas															
Oreas 77b (4 Acid) Cert															
Oreas 77b (4 Acid) Meas															
Oreas 77b (4 Acid) Cert															
Oreas 72b (4 Acid) Meas							0.4								
Oreas 72b (4 Acid) Cert							0.440								
Oreas 72b (4 Acid) Meas							0.4								
Oreas 72b (4 Acid) Cert							0.440								
Oreas 72b (4 Acid) Meas							0.4								
Oreas 72b (4 Acid) Cert							0.440								
Oreas 72b (4 Acid) Meas							0.4								
Oreas 72b (4 Acid) Cert							0.440								
Oreas 72b (4 Acid) Meas							0.4								
Oreas 72b (4 Acid) Cert							0.440								
Oreas 72b (4 Acid) Meas							0.4								
Oreas 72b (4 Acid) Cert							0.440								
Oreas 72b (4 Acid) Meas															
Oreas 72b (4 Acid) Cert															
OREAS 238 (Fire Assay) Meas															
OREAS 238 (Fire Assay) Cert															
W-2b Meas															
W-2b Cert															

Analyte Symbol	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Lower Limit	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Method Code	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
Oreas E1336 (Fire Assay) Meas															
Oreas E1336 (Fire Assay) Cert															
OREAS 681 (4 Acid) Meas		4.5		1.27	3.6	3.3	0.6	0.6	1.8	0.2	1.8		0.2		
OREAS 681 (4 Acid) Cert		4.82		1.37	4.06	3.40	0.580	0.690	1.97	0.280	1.77		0.270		
OREAS 681 (4 Acid) Meas		4.8		1.27	3.5	3.2	0.5	0.6	1.7	0.2	1.8		0.3		
OREAS 681 (4 Acid) Cert		4.82		1.37	4.06	3.40	0.580	0.690	1.97	0.280	1.77		0.270		
OREAS 681 (4 Acid) Meas		4.6		1.23	3.7	3.1	0.5	0.6	1.8	0.3	1.7		0.2		
OREAS 681 (4 Acid) Cert		4.82		1.37	4.06	3.40	0.580	0.690	1.97	0.280	1.77		0.270		
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 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 681 (4 Acid) Meas															
OREAS 681 (4 Acid) Cert															
OREAS 247 (4 Acid) Meas		5.4		0.97	4.2	3.3	0.6	0.6	1.9	0.3	2.0		0.3		
OREAS 247 (4 Acid) Cert		5.50		0.960	42.3	2.73	0.530	0.540	1.49	0.230	1.54		0.240		
OREAS 247 (4 Acid) Meas															
OREAS 247 (4 Acid) Cert															
OREAS 247 (4 Acid) Meas															
OREAS 247 (4 Acid) Cert															
OREAS 247 (4 Acid) Meas															

Analyte Symbol	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Lower Limit	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Method Code	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
OREAS 247 (4 Acid) Cert															
OREAS 147 (4 Acid) Meas		48.8		10.3	27.3	8.6	2.3		2.4	0.3	1.5		0.2		
OREAS 147 (4 Acid) Cert		48.7		10.4	24.2	9.20	2.35		3.00	0.270	1.46		0.200		
OREAS 147 (4 Acid) Meas															
OREAS 147 (4 Acid) Cert															
OREAS 147 (4 Acid) Meas															
OREAS 147 (4 Acid) Cert															
OREAS 147 (4 Acid) Meas															
OREAS 147 (4 Acid) Cert															
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		3.9		1.60	4.6	3.7	0.7	0.8	2.2	0.3	2.2		0.3		
Oreas 521 (4 Acid) Cert		4.2		1.64	4.0	3.5	0.6	0.7	2.1	0.3	2.1		0.3		
Oreas 521 (4 Acid) Meas		4.5		1.62	3.9	3.5	0.6	0.7	2.0	0.3	2.2		0.3		
Oreas 521 (4 Acid) Cert		4.2		1.64	4.0	3.5	0.6	0.7	2.1	0.3	2.1		0.3		
Oreas 521 (4 Acid) Meas															
Oreas 521 (4 Acid) Cert															
Oreas 521 (4 Acid) Meas															
Oreas 521 (4 Acid) Cert															
OREAS 70b (4 Acid) Meas															
OREAS 70b (4 Acid) Cert															
OREAS 70b (4 Acid) Meas															
OREAS 70b (4 Acid) Cert															
OREAS 70b (4 Acid) Meas															
OREAS 70b (4 Acid) Cert															
OREAS 70b (4 Acid) Meas															
OREAS 70b (4 Acid) Cert															

Analyte Symbol	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Lower Limit	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Method Code	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
OREAS 620 (4 Acid) Meas							0.6				0.8		0.1		
OREAS 620 (4 Acid) Cert							0.6				0.7		0.1		
OREAS 620 (4 Acid) Meas							0.6				0.8		0.1		
OREAS 620 (4 Acid) Cert							0.6				0.7		0.1		
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															
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															
OREAS 753 (4 Acid) Meas						0.1		< 0.1	< 0.1						
OREAS 753 (4 Acid) Cert						0.15		0.017	0.048						
OREAS 753 (4 Acid) Meas						0.1		< 0.1	< 0.1						
OREAS 753 (4 Acid) Cert						0.15		0.017	0.048						
OREAS 753 (4 Acid) Meas						0.2		< 0.1	< 0.1						
OREAS 753 (4 Acid) Cert						0.15		0.017	0.048						
OREAS 753 (4 Acid) Meas															
OREAS 753 (4 Acid) Cert															
DMMAS 125 Meas	< 5		1.3									0.8		0.08	
DMMAS 125 Cert	6.62		1.41									0.972		0.155	
E5830162 Orig															
E5830162 Dup															
E5830168 Orig		47.7		14.1	40.2	35.3	6.8	5.3	12.8	1.8	11.2		1.4		
E5830168 Dup		45.4		13.9	40.1	34.3	6.6	5.2	12.7	1.8	11.2		1.3		
E5830170 Orig															
E5830170 Dup															

Analyte Symbol	Nd	Sm	Sm	Eu	Gd	Dy	Tb	Ho	Er	Tm	Yb	Yb	Lu	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Lower Limit	5	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.05	
Method Code	INAA	TD-MS	INAA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	INAA	TD-MS	INAA	INAA
E5830171 Orig															
E5830171 Dup															
E5830172 Orig															
E5830172 Dup															
E5830164 Orig															
E5830164 Dup															
E5830159 Orig															
E5830159 Split PREP DUP															
Method Blank															
Method Blank															
Method Blank															
Method Blank															
Method Blank	< 5		< 0.1									< 0.2		< 0.05	30.0
Method Blank															
Method Blank															
Method Blank		< 0.1		< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1		
Method Blank															
Method Blank															
Method Blank		< 0.1		< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1		
Method Blank															
Method Blank															
Method Blank															
Method Blank															
Method Blank															
Method Blank		< 0.1		< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1		
Method Blank		< 0.1		< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1		
Method Blank		< 0.1		< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1		
Method Blank															
Method Blank		< 0.1		< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1		
Method Blank															
Method Blank															
Method Blank															
Method Blank		< 0.1		< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1		
Method Blank															
Method Blank		< 0.1		< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1		
Method Blank															
Method Blank															
Method Blank															
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APPENDIX III

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 105µm	$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.

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

Soils, Stream and Lake Bottom Sediments, and Heavy Minerals

Code S1	Drying (60ºC) and sieving (-177 µm) save all portions	$4.25
Code S1 DIS	Drying (60ºC) and sieving (-177 µm), discard oversize	$3.75
Code S1-230	Drying (60ºC) and sieving (-63 µm), save oversize	$5.75
Code S1-230 DIS	Drying (60ºC) 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 (40ºC) & 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


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 Ag or Cu add-on, for each additional, add	50	0.02 - 1,000 ppb	$15.00 $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**

	ICP-OES	ICP-MS		ICP-OES + ICP-MS	
Package	**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 - 5000 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 pm
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 pm
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

APPENDIX IV

Statement of Expenditures
and
Expenditures per Claim
(Table 3)

Appendix IV

STATEMENT of EXPENDITURES

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

Labour:

Preparation, field work, travel	
Labour	$ 23,100.00
Prepare maps etc.	
Drafting & digitizing	$ 1,309.00
Report Writing	
Report Writing	$ 3,850.00

Associated Costs:

Meals & Groceries	$ 1,399.36
Field Supplies	$ 122.00
Ground Transportation (1180km x $0.55/km)	$ 649.00
Camp Rental	$ 1,800.00
Generator Gas	$ 442.48
House Rental	$ 2,671.00
Helicopter	$ 15,300.00

Analytical Costs:

Act Labs (107 rock-grab samples)	$ 5,786.47
TOTAL EXPENDITURES	**$ 56,354.31**

Table 3	Expenditures per Cell	
Cell No.	Rock Grab Samples Collected per Cell	Expenditure per Cell
107360	3	$ 1,580.00
137279	3	$ 1,580.00
137281	8	$ 4,213.00
144956	5	$ 2,633.00
191480	28	$ 14,746.00
210273	29	$ 15,276.00
247664	11	$ 5,793.00
286799	14	$ 7,373.00
336081	2	$ 1,053.00
344760	4	$ 2,107.00
Total	**107**	**$ 56,354.00**

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APPENDIX V

List of Mining Cell-Claims (Table 4)

McKellar List of Mining Cells-Claims Table 4					
TENURE_NUM	PROPERTY	TITLE_TY_1	ISSUE_DATE	ANNIVERSARY	HOLDER
103937	McKellar	Boundary Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
105388	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
107360	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
120568	McKellar	Boundary Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
120569	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
137279	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
137280	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
137281	McKellar	Boundary Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
137300	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
144956	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
153200	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
165657	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
173559	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
174502	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
183264	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
183265	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
191480	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
210273	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
218624	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
226584	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
238716	McKellar	Boundary Cell Mining Claim	2020-04-26	2022-06-07	(100) Power Metal Resources Canada Inc.
238717	McKellar	Boundary Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
238735	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
247664	McKellar	Boundary Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
257653	McKellar	Single Cell Mining Claim	2018-04-10	2021-12-20	(100) Power Metal Resources Canada Inc.
261773	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
261774	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
284581	McKellar	Boundary Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
286799	McKellar	Boundary Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
287718	McKellar	Single Cell Mining Claim	2018-04-10	2021-12-20	(100) Power Metal Resources Canada Inc.
305362	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
307511	McKellar	Boundary Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
307512	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
314222	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
314223	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
336081	McKellar	Single Cell Mining Claim	2018-04-10	2021-12-20	(100) Power Metal Resources Canada Inc.
344760	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
344761	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
344782	McKellar	Single Cell Mining Claim	2018-04-10	2022-06-07	(100) Power Metal Resources Canada Inc.
575305	McKellar	Single Cell Mining Claim	2020-02-04	2022-02-04	(100) Power Metal Resources Canada Inc.
575306	McKellar	Single Cell Mining Claim	2020-02-04	2022-02-04	(100) Power Metal Resources Canada Inc.
575307	McKellar	Single Cell Mining Claim	2020-02-04	2022-02-04	(100) Power Metal Resources Canada Inc.
575308	McKellar	Single Cell Mining Claim	2020-02-04	2022-02-04	(100) Power Metal Resources Canada Inc.
575309	McKellar	Single Cell Mining Claim	2020-02-04	2022-02-04	(100) Power Metal Resources Canada Inc.
575372	McKellar	Single Cell Mining Claim	2020-02-05	2022-02-05	(100) Power Metal Resources Canada Inc.
575373	McKellar	Single Cell Mining Claim	2020-02-05	2022-02-05	(100) Power Metal Resources Canada Inc.
575374	McKellar	Single Cell Mining Claim	2020-02-05	2022-02-05	(100) Power Metal Resources Canada Inc.
575375	McKellar	Single Cell Mining Claim	2020-02-05	2022-02-05	(100) Power Metal Resources Canada Inc.
575376	McKellar	Single Cell Mining Claim	2020-02-05	2022-02-05	(100) Power Metal Resources Canada Inc.
575381	McKellar	Single Cell Mining Claim	2020-02-05	2022-02-05	(100) Power Metal Resources Canada Inc.
575382	McKellar	Single Cell Mining Claim	2020-02-05	2022-02-05	(100) Power Metal Resources Canada Inc.
575383	McKellar	Single Cell Mining Claim	2020-02-05	2022-02-05	(100) Power Metal Resources Canada Inc.
585714	McKellar	Single Cell Mining Claim	2020-04-26	2022-04-26	(100) Power Metal Resources Canada Inc.
585715	McKellar	Single Cell Mining Claim	2020-04-26	2022-04-26	(100) Power Metal Resources Canada Inc.
585716	McKellar	Single Cell Mining Claim	2020-04-26	2022-04-26	(100) Power Metal Resources Canada Inc.
585717	McKellar	Single Cell Mining Claim	2020-04-26	2022-04-26	(100) Power Metal Resources Canada Inc.
585718	McKellar	Single Cell Mining Claim	2020-04-26	2022-04-26	(100) Power Metal Resources Canada Inc.
585719	McKellar	Single Cell Mining Claim	2020-04-26	2022-04-26	(100) Power Metal Resources Canada Inc.

APPENDIX VI

Daily Logs

(Table 5)

	Daily Log McKellar Project May - November 2022							
Date	**B. Maclachlan days**	**Activities**		**C. Robertson days**	**Activities**		**D. Rubiolo days**	**Activities**
May-13-2022	1	Prepare maps and gear for camp		1	Prepare maps and gear for camp			
May-14-2022	1	Flew to property and prospecting at the diatreme		1	Flew to property and prospecting at the diatreme			
May-15-2023	1	Prospecting southeast of camp		1	Prospecting southeast of camp			
May-16-2023	1	Prospecting southeast of camp		1	Prospecting southeast of camp			
May-17-2024	1	Prospecting southeast of camp		1	Prospecting southeast of camp			
May-18-2024	1	Prospecting southwest and northwest of camp		1	Prospecting southwest and northwest of camp			
May-19-2025	1	Prospected southwest of camp		1	Prospected southwest of camp			
May-20-2025	1	Rain day, entered data		1	Rain day, entered data			
May-21-2026	1	Prospected southwest of camp		1	Prospected southwest of camp			
May-22-2026	1	Prospected north of camp		1	Prospected north of camp			
May-23-2026	1	Prospected west of camp		1	Prospected west of camp			
May-24-2026	1	Paced up camp, flew camp out		1	Paced up camp, flew camp out			
May-25-2026	1	Prepare samples, report writing		1	Prepare samples, report writing			
May-26-2026				1	Report writing			
September-04-2022	1	Prospecting in the diatreme area		1	Prospecting in the diatreme area			
September-05-2022	1	Prospecting in the diatreme area		1	Prospecting in the diatreme area			
November-13-2022	1	Collect samples for thin section at the diatreme					1	Collect samples for thin section at the diatreme
Total Days	**16**			**16**			**1**	

APPENDIX VII

POI

(Table 6)

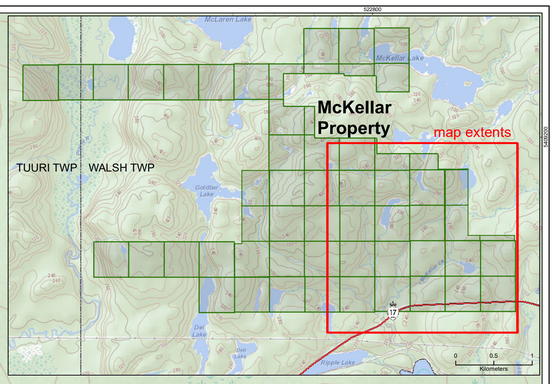
McKellar Property Point of Interest Table 6							
POI_#	Date	UTM Zone	Easting	Northing	Elevation	Description	Photo(s)
7	14-May-22	NAD 83 Zone16	521356	5407123	209	Rusty outcrop with yellow weathering product adjacent to highway, ~280 degrees dipping 80 deg. N, sulphides visible, glacial striae at 040 degrees. Photos W.	yes
8	16-May-22	NAD 83 Zone16	521670	5408740		E-W trail with ~5m long N-S trench along it, another trench 10-20m further east.	
9	16-May-22	NAD 83 Zone16	521819	5408686	297	Fine-grained syenite dyke in outcrop, moderately magnetic with trace pyrite specks. Rep taken.	
10	16-May-22	NAD 83 Zone16	521833	5408686	297	220-degree foliation with steep NW dip in outcrop in stream, some glassy white quartz veining intruding.	
11	16-May-22	NAD 83 Zone16	522008	5408636	279	Blasted trench or shaft about 10m long, 2-3m wide, at least 2-3m deep, filled with water. North wall is amygdaloidal mafic volcanics, thin unit of light grey-green, medium-grained intermediate intrusive exposed about 1m south of the face, with more MV on the south side of the trench. Dump pile immediately south of trench. Photos E and N.	yes
12	16-May-22	NAD 83 Zone16	521926	5408655	297	~100 degree-trending pit, 5-6m long, flagged sample of rusty outcrop at west end reading "MC13."	
13	16-May-22	NAD 83 Zone16	521853	5408690	296	Weakly silicified intermediate intrusive outcrop (dioritic to granodioritic), somewhat porphyritic-looking with abundant feldspar phenocrysts, minor 1mm potassic / epidote stringers at 150 degrees, weak gneissic banding at 070 degrees.	
14	16-May-22	NAD 83 Zone16	521691	5408767	297	Old picket reading "L14E, 9100N" on west shore of Cascade Lake (lake where current camp is located).	
15	17-May-22	NAD 83 Zone16	522211.5	5408635	270	Apparent contact between quartz veining and rusty mafic volcanics to S, trends 075 degrees with subvertical dip. Vein is at least 1.8m wide Remobilized chert? Might be intruding contact between volcanics and biotitic metaseds to N. Photo NNW.	yes
16	17-May-22	NAD 83 Zone16	522000	5408680	295	Rusty, silicified mafic volcanic in outcrop, minor potassic stringers.	
17	17-May-22	NAD 83 Zone16	521973	5408726	301	Weakly to moderately sheared intermediate volcanics, 080 degree strike with subvertical dip.	
18	18-May-22	NAD 83 Zone16	521620	5408741	313	Small pit at base of south-facing hill, regolith exposed for a few meters along east-facing wall of pit. Photo W.	yes
19	18-May-22	NAD 83 Zone16	521602	5408732	301	Sugary quartz in rusty outcrop.	
20	18-May-22	NAD 83 Zone16	521617	5408730	300	Sheared, rusty seds in outcrop on S side of narrow valley across from pit corresponding to sample B416241. Abundant 1-2mm rounded 'nodules', somewhat wavy shear trending about 100 degrees with subvertical dip. Magnetite-chert iron formation in outcrop about 1-2m to N. Rep taken of seds.	
21	18-May-22	NAD 83 Zone16	521516	5408792	309	Roughly E-W-trending ridge of magnetic gabbro or possibly pyroxenite, doesn't look like diabase, intruded by very fine-grained syenitic dyke with blebs of quartz seemingly sub-parallel to the mafics. Photo SE.	yes

POI_#	Date	UTM Zone	Easting	Northing	Elevation	Description	Photo(s)
22	19-May-22	NAD 83 Zone16	521503	5408598	284	Sheared, silicified, fine-grained, dark grey sediments, a bit loose but might be more or less in place, if so strikes about 070 degrees with subvertical dip. Could be considerable sphalerite.	
23	19-May-22	NAD 83 Zone16	521568	5408641	300	Rusty zone on other side of cliff from samples A371261-A371264. Weak shearing at 240 degrees dipping 70 deg NW. Also some fractures at 295 degrees dipping 70 deg NE and some fractures dipping 25 degrees to SE (striking NE).	
24	19-May-22	NAD 83 Zone16	521552	5408628	308	3m long N-S blasted pit on SSW-facing cliff. Appears to be rusty metaseds. Photos W.	yes
25	19-May-22	NAD 83 Zone16	521566	5408649	308	Weakly silicified mafic tuff (?) with minor pyrite, locally somewhat gneissic.	
26	21-May-22	NAD 83 Zone16	521502	5408569	291	Rusty shear at 080 degrees with subvertical dip, lineations in shear plane plunge 50 degrees to the east. Photo S.	yes
27	21-May-22	NAD 83 Zone16	521184	5408418	291	Moderately sheared, weakly silicified seds (?), possible greywacke, minor pyrite. Shear strikes 088 degrees with subvertical dip.	
28	21-May-22	NAD 83 Zone16	521175	5408400	295	Alvey Occurrence trench / pit, exposed ~2m across strike, strongly silicified, sheared argillite with 10% stringer to disseminated pyrite, strikes 075-080 degrees with subvertical dip. Photo SW.	yes
29	21-May-22	NAD 83 Zone16	521160	5408385	286	Alvey Occurrence pit at base of hill, filled with water. Strongly sheared, strongly silicified argillite with 2-3% stringer to disseminated pyrite. Photo WNW.	yes
30	21-May-22	NAD 83 Zone16	521009	5408133	282	N/S glacial striae in outcrop in N/S stream.	
31	21-May-22	NAD 83 Zone16	521120	5408299	288	Small rotting man-made wooden structure, might be a table or bench of some kind. Photo E.	yes
32	23-May-22	NAD 83 Zone16	521122	5408789	361	Contact between intermediate volcanic and garnet-biotite-hornblende schist, sheared at 060 degrees with subvertical to steep dip SE. IV seems to 'flow' around a section of the garnet schist. Photo NE.	yes
33	23-May-22	NAD 83 Zone16	521034	5408826	354	Foliation at 090 degrees with subvertical dip in siliceous intermediate volcanics.	
34	23-May-22	NAD 83 Zone16	520713	5408987	352	Claim post, south-facing tag has claim number 4261175 for post #1, east-facing tag has claim number 4261176 for post #4.	
35	23-May-22	NAD 83 Zone16	520694	5409014	378	Wall of chert on north side of west-northwest-trending valley. Photo N.	yes
36	23-May-22	NAD 83 Zone16	521370	5408948	328	Claim post, claim number 4258084 post #1.	
44	04-Sep-22	NAD 83 Zone16	521095	5407256	222	Vertical drillhole with loose tin cap. Diatreme outcrop a few meters to N. Photos NNE.	yes
45	04-Sep-22	NAD 83 Zone16	521122	5407277	233	Historical flagged sample.	

APPENDIX VIII

Map Sheets

N



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120568
WALSH TWP
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173559
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120569
261773
WALSH TWP
137281
286799
307512
165657
261774
WALSH TWP

McKellar Creek
McKellar Creek
McKellar Creek

Legend

- First Class Metals mining claims
- Grab sample location
- Points of interest
- <all other values>

Traverses

- 2022-05-14 traverses
- 2022-05-16 traverses
- 2022-05-17 traverses
- 2022-05-18 traverses
- 2022-05-19 traverses
- 2022-05-21 traverses
- 2022-05-22 traverses
- 2022-05-23 traverses
- 2022-09-04 traverses
- 2022-09-05 traverses
- 2022-11-13 traverses
- Highway 17
- Tertiary and resource roads

Topographic base source:
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First Class Metals Ltd.

McKellar Property
Prospecting and Grab Sampling

Date: Dec, 2022 | File: mckellar_2022_prospecting-a
By: EGS | Projection: NAD 1983 UTM Zone 16N

0 200 400
Meters