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ASSESSMENT REPORT – 2017 DRILL PROGRAM ON MAIN, NORTH AND SOUTH DYKES

CASE LAKE PROPERTY

Cochrane, Northeastern Ontario, Canada

NTS Sheet: 32E04SW

POWER METALS CORP.
Suite 545 – 999 Canada Place
Vancouver, British Columbia, V6C 3E1
Canada

Date: February 20, 2019

Prepared By:
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1.0 SUMMARY

J-J Minerals of Sudbury, Ontario, Canada was contracted by Power Metals Corp. ("Power Metals") of Vancouver, British Columbia, Canada to supervise a 5405.08 m drill program on the Main, North and South Dykes and a prospecting program on the Case Lake Property, Cochrane, northeastern Ontario and to recommend a future exploration program.

Case Lake Property is located in Steele and Case townships, near Cochrane, NE Ontario close to the Ontario-Quebec border. It is located within Larder Lake Mining Division and NTS sheet: 32E04SW. It is located 80 km east of Cochrane, 100 km north of Kirkland Lake and 120 km NE of Timmins. Power Metals has 100% ownership of 450 cell claims (9463.3 ha). Power Metals has optioned 25 cell claims from Ed Shynkorenko's group (529.1 ha).

The Case Lake pegmatite swarm occurs along a subprovincial boundary between the metasedimentary Opatica Subprovince to the north and greenstone Abitibi Subprovince to the south. The Opatica Subprovince consists of the granitic Case Batholith, and the Abitibi Subprovince consists of the Scapa metasedimentary rocks (metagraywacke and garnet schist) and the Steele volcanic rocks (amphibolite) in the Case Lake area. The Case Batholith is an extensive 50 by 85 km ovoid granitic complex. The Case Batholith is a weakly foliated biotite granodiorite to quartz monzonite which is characterized by biotite-rich orbicules that range in diameter from 1 to 7 cm.

The Case Lake pegmatite swarm consists of five dykes:

1. North Dyke – 12 m thick and > 100 m strike length
2. Main Dyke (also known as Central Dyke) – 35 m thick and > 600 m strike length
3. South Dyke – 10 m thick and > 250 m strike length
4. East Dyke – 19 m wide and > 1200 m strike length
5. Northeast Dyke – 10 m wide and > 75 m length

The North, Main and South dykes are hosted by a tonalite laccolith offshoots from the Case Batholith and they strike at 60 to 70° and dip 40 to 60°. The East and Northeast Dykes are hosted by fine-grained biotite-garnet metasedimentary rocks. The North, East and Main Dykes have spodumene-rich zones (muscovite-K-feldspar-quartz-green spodumene-albite) and albitic aplite border zones. The South Dyke dominantly consists of wall zone pegmatite (quartz-feldspar-muscovite). The Northeast Dyke consists of white coarse-grained K-feldspar, quartz, spodumene and muscovite. The quartz core of the Northeast dyke contains up to 40% spodumene megacrysts with cross sections up to 14 cm across.

In 2001, Platinova A/S completed detailed geological mapping of North, Main and South Dykes. Main and North Dykes are zoned with aplitic albite border zones and spodumene-bearing intermediate zones and a quartz core. At that time, the surface outcrops for South and East Dykes lacked spodumene-bearing pegmatite zones. Platinova also completed sampling of 6 channels totaling 113.1 m on North, Main and South Dykes. Assay highlights from Platinova's channel sampling include Main Dyke SC-3, sample 23549, 2.73 % Li_2O, 186 ppm Cs, 1,330 ppm Rb, >100 ppm Be and 489 ppm Ta. August to September 2001, Platinova A/S completed 7 drill holes totaling 508.76 m on the Case property. These holes were drilled on 5 sections across Main and North Case Pegmatite Dykes. Assay highlights from DDH-2 include: from 39.0 to 40.0 m, interval 1.0 m with 1.52 % Li_2O, 62 ppm Ta, > 100 ppm Be from the inner intermediate zone.

Drilling on the Main, North and South Dykes at Case Lake spanning 95 days commenced August 18, 2017. The purpose of the drill program was to extend the lithium mineralization in the Main and North Dykes along strike and down dip. The drill program intersected numerous wide, high-grade lithium intervals.

The drill program was completed on November 20, 2017. A total of 50 diamond drill holes were completed comprising of 5405.08 m. Power Metals' 2017 drill program extended the Main Dyke spodumene pegmatite zone 250 m to the west of the historic drill holes. Drilling has also shown the Main Dyke Zone is typically 32-35 m wide close to surface and consists of multiple spodumene pegmatite dykes. Significant intervals for the Main Dyke include:

- PWM-17-08 from 20 to 46 m with 1.94 % Li_2O and 323.75 ppm Ta over 26 m
- PWM-17-10 from 35 to 50.06 m with 1.74 % Li_2O and 245.96 ppm Ta over 15.06 m
- PWM-17-34 from 8 to 25 m with 1.81 % Li_2O and 136.1 ppm Ta over 17 m
- PWM-17-40 from 18 to 36m with 2.07 % Li_2O and 213.96 ppm Ta over 18m

Power Metals' exploration team also discovered two new spodumene pegmatite dykes located between the Main Dyke and the South Dyke. The dykes have similar mineralogy to the Main Dyke with aplite border

zone, spodumene granite and quartz + spodumene core zone. The first new dyke was intersected in holes PWM-17-42 and PWM-17-43 with locally up to 30% spodumene. The exploration team then targeted the new dyke to intersect it again in holes PWM-17-44 and PWM-17-49. A review of the 3D model indicated that this new dyke was also intersected it at the bottom of holes PWM-17-40 and PWM-17-41. This new dyke is located 20-40 m down hole from the Main Dyke and 35-40 m vertical depth from the surface The second new spodumene pegmatite dyke was intersected in holes PWM-17-42 and PWM-17-49. It is located 50 m down hole from the Main Dyke and 50-80 m vertical depth from surface. Notably, the second new dyke is highly fractionated as evidenced by its high Cs_2O contents which correspond to the presence of pollucite. Both new dykes are open in all directions. Drilling is recommended to define these new dykes.

As a result of drilling on the Main Dyke, Power Metals identified that the Main, North, South, East, and Northeast pegmatite dykes are not hosted by the Case Batholith as previously thought, but by a single laccolith. The Case Batholith is a 50 x 85 km ovoid granitic complex characterized by a gravity low. Power Metals has identified that the Batholith has multiple laccolith domes along its margins. The domes are visible in Google Earth images as white outcrops and are topographic highs. A total of nine domes have been identified on the Case Lake Property and are proposed to be mapped and sampled.

Prospecting identified high-grade very coarse grained spodumene mineralization at the surface at the Northeast dyke and spodumene mineralization on the East dyke. The mineralogy of the newly discovered spodumene mineralization on the Northeast dyke is similar to that in the Main Dyke with spodumene chip assay results ranging from 6.04% to 7.14% Li_2O. The east dyke, which was previously thought to be barren, was discovered to contain a mineralized zone containing up to 10% fine to coarse grained spodumene ranging in size from 0.5-6cm and grading up to 2.56 % Li_2O.

Recommendations for future drilling include a proposed 8000 m drill program to target the new spodumene pegmatite dykes located between the Main Dyke and the South Dyke. These new spodumene dykes were discovered at the end of the 2017 Main Dyke drill program. Additional proposed targets include the East Dyke, down dip extension of Main Dyke and dome targets identified during the spring mapping program.

2.0 INTRODUCTION

2.1 Introduction

In the summer of 2017, J-J Minerals of Sudbury, Ontario, Canada was contracted by Power Metals Corp. ("Power Metals") of Vancouver, British Columbia, Canada to supervise a 5405.08 m drill program on the Main, North and South Dykes and a prospecting program on the Case Lake Property, Cochrane, northeastern Ontario and to recommend a future exploration program.

Sources of information for this Report include a 43-101 Report by Selway (2017), Ministry of Northern Development and Mines ("MNDM") assessment files listed in Appendix 4, references listed in section 14, and drill core logs and assays from Power Metals' 2017 drill program. Tenure information was derived from MLAS Map Viewer website (https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/mlas-map-viewer).

2.2 Terminology

Fusion - This digestion process will melt the entire sample to produce "total digestion". This method is especially used for digestion of silicates and other resistive minerals.

ICP-MS: Inductively Coupled Plasma - Mass Spectrometer: An instrument capable of determining the concentrations of 70+ elements simultaneously by measuring the mass of ions generated by an argon gas plasma heated to 10,000°K and passing through a magnetic quadrupole to the detector. Capable of ultra low detection limits (ppb to ppt) with very wide linear ranges (up to 7 orders of magnitude) (Acme Analytical Laboratories Ltd: www.acmelab.com).

MNDM: Ministry of Northern Development and Mines which is the provincial ministry responsible for managing mining claims (Mining Lands Section) and Ontario Geological Survey.

QA/QC: Quality Assurance/ Quality Control

2.3 Units

The Metric System is the primary system of measure and length used in this Report and is generally expressed in kilometres (km), metres (m) and centimetres (cm); volume is expressed as cubic metres (m^3), mass expressed as metric tonnes (t), area as hectares (ha), and gold and silver concentrations as grams per

tonne (g/t). Conversions from the Metric System to the Imperial System are provided below and quoted where practical. Many of the geologic publications and more recent documents now use the Metric System but older documents almost exclusively refer to the Imperial System. Metals and minerals acronyms in this report conform to mineral industry accepted usage and the reader is directed to www.maden.hacettepe.edu.tr/dmmrt/index.html for a glossary.

Other abbreviations include ppb = parts per billion; ppm = parts per million; oz/t = troy ounce per short ton; Moz = million ounces; Mt = million tonne; t = tonne (1000 kilograms); SG = specific gravity; lb/t = pound/ton; and, st = short ton (2000 pounds).

Dollars are expressed in Canadian currency (CAD$) unless otherwise noted. Where quoted, Universal Transverse Mercator (UTM) coordinates are provided in the datum of Canada, NAD 83, Zone 17.

2.4 Qualified Person

The Qualified Person and author for this Report is Dr. Julie Selway, Ph.D., P.Geo., Principal Geologist for J-J Minerals, VP of Exploration for Power Metals and a geologist in good standing with the Association of Professional Geoscientists of Ontario (APGO # 0738). Dr. Selway completed a Ph.D. in rare-element pegmatites in 1999, worked as a pegmatite geoscientist for Ontario Geological Survey for 3 years (2001-2003) and has completed 4 NI 43-101 Reports on the Georgia Lake spodumene pegmatites, Ontario, Canada for Rock Tech Lithium Inc. Dr. Selway has also over 7 years of work experience completing QA/QC reviews of drill core assays for the purpose of resource estimates. Dr. Selway has co-authored over 20 NI 43-101 Technical Reports.

3.0 RELIANCE ON OTHER EXPERTS

The author of this Report relied on Power Metals' legal counsel and MLAS Map Viewer website (https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/mlas-map-viewer) for tenure information and title opinion.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

Case Lake Property is located in Steele and Case townships, near Cochrane, NE Ontario close to the Ontario-Quebec border (Figure 4-1). It is located within Larder Lake Mining Division and NTS sheet: 32E04SW. The Property is located 80 km east of Cochrane, 100 km north of Kirkland Lake and 120 km NE of Timmins. The Main Dyke is located at UTM Z17, E 578236 m, N 5431667 m, NAD 83.

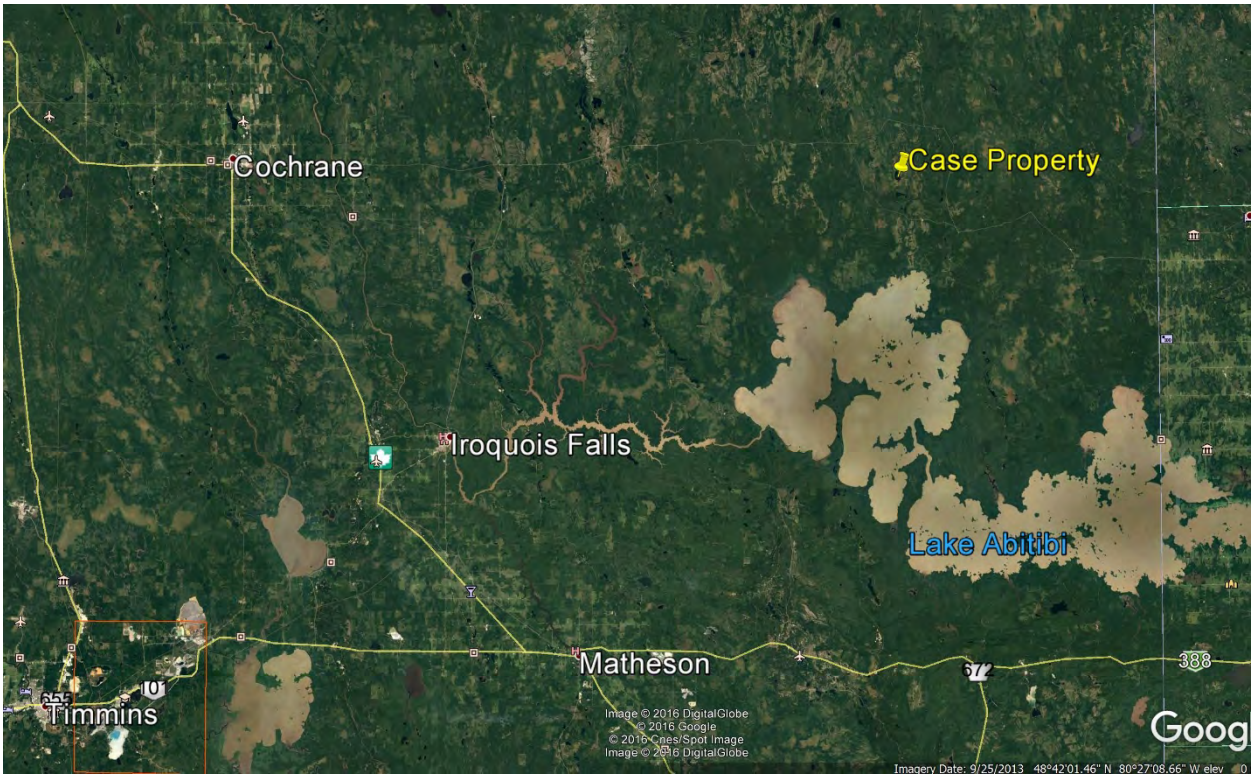


Figure 4-1 Regional location map for Case Lake Property, NE Ontario.

4.2 Description and Ownership

The Case Lake Property consists of a total of 475 cell claims for a total of 9992.4 ha and is 9.5 km x 9 km (Figure 4-2, Appendix 2). Power Metals has 100% ownership of 450 cell claims (9463.3 ha). Power Metals has optioned 25 cell claims from Ed Shynkorenko's group (529.1 ha; section 4.3).

4.3 Option Agreements

On March 31, 2016, Edward Shynkorenko, Walitta O'Reilly, Peter Hermeston, Margaret Signouin and Bernard Sigouin optioned their Case Lake Claims to Empire Exploration Pty Ltd ("Empire"), New South Wales, Australia. The legacy claims in the option agreement include: 1213780, 1214666, 1214668, 4251385 and 4249052.

On Aug. 18, 2016, Empire Exploration Pty Ltd. (Vendor) sold its option agreement on the Case Lake Property Claims to Camden Ventures Inc. ("Camden"), Toronto, Ontario (Purchaser). The Claims include: 1213780, 1214666, 1214668, 4251385 and 4249052. The terms of the agreement were:

- On Aug. 31, 2016, Camden will pay Empire $75,000 CAD as part of the purchase price
- On Oct. 15, 2016, Camden will pay Empire $75,000 CAD as part of the purchase price
- On the completion date (Dec. 31, 2016), Camden will pay Empire $75,000 CAD

The total purchase price is $225,000 CAD.

On Sept. 22, 2016, Camden Ventures Inc. (Vendor) signed an option agreement with Aldrin Resource Corp., Vancouver, British Columbia ("Aldrin") (Purchaser). The Claims in the option agreement include: 1213780, 1214666, 1214668, 4251385 and 4249052.

The terms of the option agreement are that Aldrin shall:

- pay $175,000 on the signing of the agreement
- issue 15,000,000 common shares of Aldrin within 5 days of regulatory approval of this agreement, to the Camden
- paying $75,000 on or before October 15, 2016
- paying $75,000 on or before December 31, 2016
- paying $300,000 in cash or shares, at the election of the Purchaser on or before June 8, 2018
- make such payments and incur such expenditures in Ontario
- Camden shall retain an NSR on each Property.

Aldrin can earn 100% of Case Lake by making a total of $325,000 cash payments and spending $200,000 on exploration and development over 36 months (Aldrin Resource Corp., press release dated Sept. 22, 2017). As per the option agreement between Shynkorenko's Group and Empire dated June 16, 2018, the Net Smelter Royalty (NSR) is calculated as 35% of 2% of the Net Smelter Return for products mined on the property. The Net Profit Royalty (NPR) is calculated as 35% of 3% of the Net Profits for products mined on the property.

Aldrin Resources Corp changed its name to Power Metals Corp effective December 2, 2016.

The QP has reviewed the option agreement documents and summarized them to the best of the QP's abilities. The QP is a senior geologist and relies on Power Metals' legal counsel for their opinion and interpretation of the option agreements.

To the best of the QP's knowledge there is no back-in-rights, payments or other agreements and encumbrances to which the Property is subject to. There are no environmental liabilities on the Property.

4.4 Requirements to Retain the Property and Exploration Permit

In Ontario, to retain a mining claim, companies must submit an assessment file to MNDM's Geoscience Assessment Office showing that they have spent $400/per single cell claim unit and $200 per boundary claim on exploration. Cell claim unit sizes range from 17.7 to 24 hectares. The initial mining claim is issued for a term of 2 years and then renewed every year afterwards.

Power Metals has an Exploration Permit PR-17-11098 on the Case Lake Property dated June 30, 2017. The Exploration Permit is effective for 3 years. The Exploration Permit covers all of Power Metals Case Lake Property both optioned claims and 100% owned claims at the time that it was issued. The Exploration Permit includes:

- Line cutting, where the width of the line is more than 1.5 metres.
- Mechanized drilling, where the weight of the drill is greater than 150 kg.
- Mechanized surface stripping (overburden removal), where the total combined surface area stripped is greater than 100 square metres and up to advanced exploration thresholds, within a 200-metre radius.

- Pitting and trenching (rock), where the total volume of rock is greater than 3 cubic metres and up to advanced exploration thresholds, within a 200-metre radius.

https://www.mndm.gov.on.ca/en/mines-and-minerals/mining-act/mining-act-modernization/exploration-permits

To the best of the QP's knowledge, there is no significant factors and risks that may affect access, title or the right or ability to perform work on the Property.

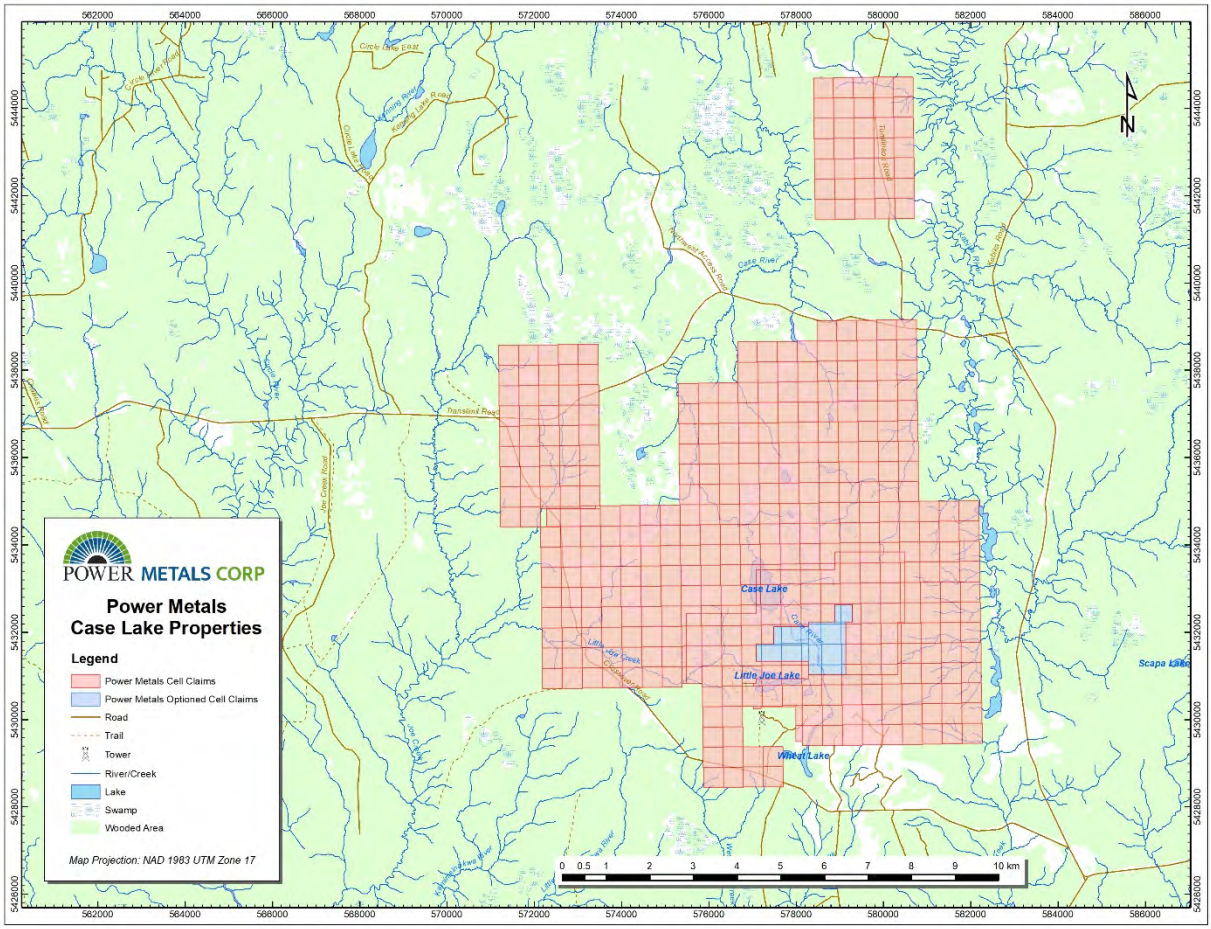


Figure 4-2 Property scale claim map for Case Lake Property. Detailed version is in Appendix 2.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

5.1 Access

The Case Property has excellent access and infrastructure (Figure 5-4). It is accessible year-round by road via the Translimit Road which connects Ontario and Quebec. The Translimit Road passes through the northeast corner of the Property and the Crossover Road passes through the easternmost claims on the Property and provides access to the southern claims (Figure 4-2).

The Property can be accessed by driving east of Cochrane on Highway 652 for 32 km. Turning onto the dirt road towards Iroquois Falls, drive a short distance and then turn left towards the Quebec border on the Translimit Road (Figure 5-1).

Figure 5-1 After turning off Highway 652, there is another intersection for the Quebec border and Iroquois Falls. Follow the sign for the Quebec border.

Drive along the Translimit Road for 33 km past the junction with Bingle Road, over a one lane bridge on Lowbush River and over a one lane bridge on Circle River. At the fork in the Translimit Road, turn right onto Crossover Road (Figure 5-2). Drive along the Crossover Road for 11 km until the intersection of the Crossover Road with the road north to the OPP tower at UTM Z17, E 577310 m, N 542872 m, NAD 83. Drive north towards the Ontario Provincial Police ("OPP") tower. The junction of road to the OPP tower and the bush trail to Case Lake is located at UTM E 577795 m, N 5429740 m. Drive along the bush trail

which passes over the South Dyke and ends at the Main Dyke. The total distance from Cochrane to the Main Dyke is about 80 km.

Figure 5-2 Intersection of Translimit Road and Crossover Road

The closest commercial airport to the Property is in Timmins (Figure 5-4). The airport in Cochrane links passengers and freight with the James Bay coastline. The airport is used by charter flights, air cargo, medevac services and MNR fire crews (Cochrane Municipal Airport website: http://town.cochrane.cycn.ca/siteengine/activepage.asp).

The closest that the Canadian National Railway is to the Case Lake Property is at Gogama 167 km south of Cochrane. The Ontario Northland Railway used to connect Toronto to Matheson to Cochrane, but the service was discontinued on Sept. 28, 2012 (Cochrane railway station website: https://en.wikipedia.org/wiki/Cochrane_railway_station). The Ontario Northland Railway still operates trains between Cochrane and Moosonee as an “essential service”.

5.2 Physiography, Vegetation and Climate

Steele Ridge (Steele metavolcanics) is a prominent ridge south of the Property (Lumbers, 1962a) (Figure 4-2). The Steele Ridge is a drainage divide as water to the north of the ridge flows to the north and water to the south of the ridge flows south to Lake Abitibi. Most of the water in the Steele township drains north into Case Lake and then continues northwards to Burntbush River. There is an Ontario Provincial Police (OPP) fire lookout tower at the highest elevation on Steele Ridge at 439 m ASL (above sea level) just 180 m south of the Property boundary. The elevation of Case Lake is 340 m ASL.

Three tonalite outcrop domes occur on the Property: on claims 4286413 and 4286410 in Case township and on claim 4286406 in Steele township (Figure 4-2). There are swampy areas around Case Lake. The Case Property is situated in a traditional boreal setting. Forest cover includes black spruce, tamarack and open bog in the wetter low-lying areas changing to jack pine, balsam fir and white birch mixture over the more elevated areas (MNDM assessment report 2.47355, 2010).

Southern parts of Steele township were historically cut for pulp and thus are covered by popular, birch and alder (Lumbers, 1962a). The rest of the area has mature growth of spruce, balsam and jack pine. In the muskegs, black spruce, tamarack and alder are common.

According to Environment Canada, the hottest month of the year in Cochrane is July with an average temperature of 24.0 °C and the coldest month is January with an average temperature of -12.1 °C (https://en.wikipedia.org/wiki/Cochrane,_Ontario). The average rainfall in September is 109.0 cm and the average snowfall in January is 71.6 cm.

Drilling can be completed year-round except for the spring snow melt in April when it is too muddy in the bush. Geological mapping can be completed May to October.

5.3 Infrastructure and Local Resources

The town of Cochrane can provide accommodations, grocery stores, hardware stores and hospital for labourers. The population of town of Cochrane is 5,340 people according to the 2011 Census (Statistics Canada, www.statcan.gc.ca). Cochrane is on Ontario Highway 11 and it has a railway station operated by Ontario Northland Railway with trips 5 days per week on the Polar Bear Express to Moosonee for tourists to look at Polar Bears in the wild (Figure 5-3). The Cochrane Polar Bear Habitat (CPBH) is the only captive bear facility in the world dedicated solely to polar bears (http://www.northeasternontario.com/partner/polar-bear-habitat/). Situated on five acres of northern Ontario terrain, visitors can walk along three large outdoor bear enclosures.

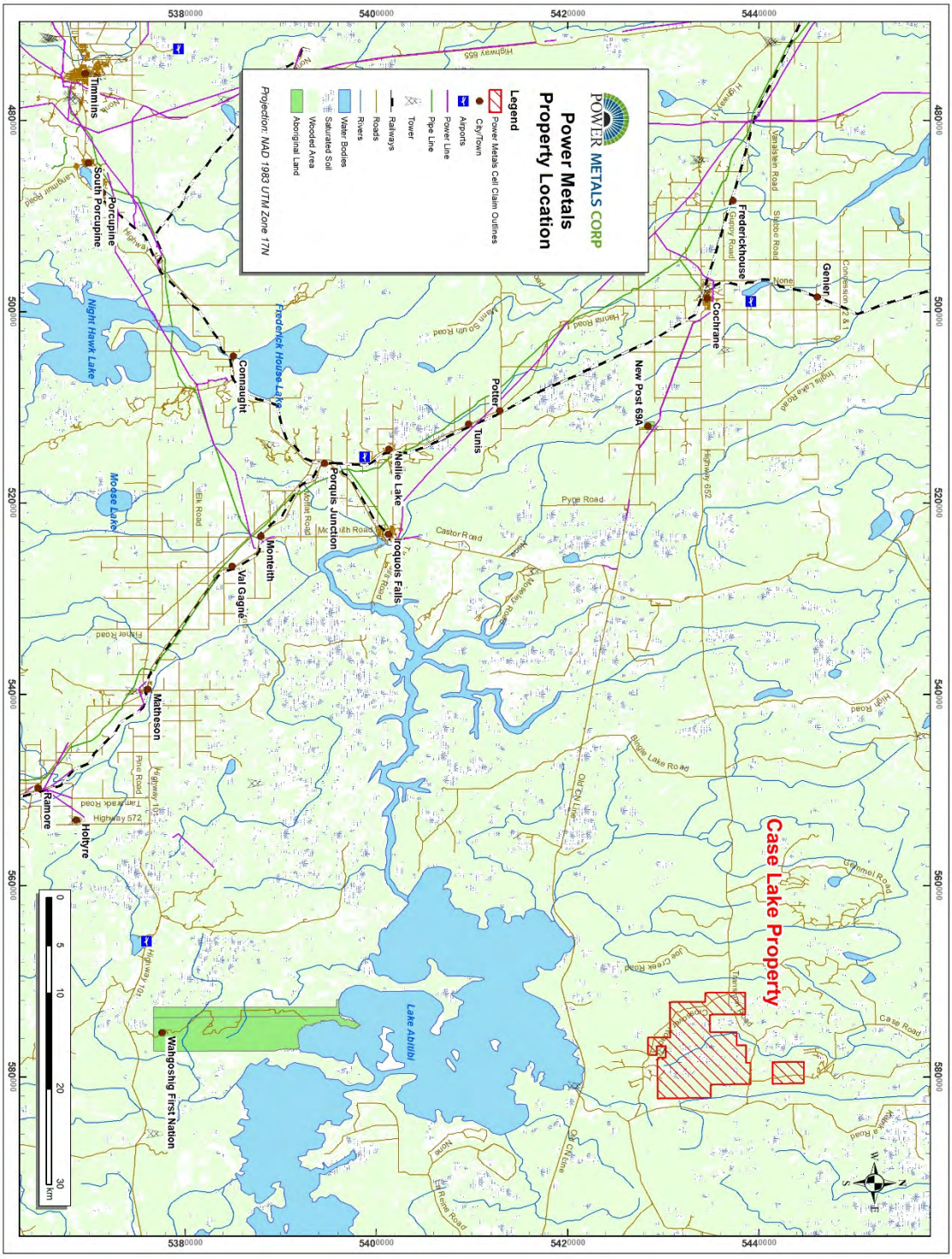
Figure 5-3 Cochrane's polar bear

Kirkland Lake and Timmins are established mining camps which can provide the skilled labour and field supplies required to run an exploration program (Figure 5-4).

Ontario Power Generation's Northeast Plant Group (NEPG) is headquartered in Timmins and has 13 hydroelectric generating stations (http://www.opg.com/communities-and-partners/host-communities/Pages/northeast.aspx). Power lines run along Highway 652 to the homes east of Cochrane and to homes on the Quebec side of the border.

Sources of water on the Property includes Little Joe Lake, Case Lake, Case River and numerous swamps. Case River flows north from Wheat Lake to Case Lake and continues northward past the northern Property boundary.

The Property's surface rights are owned by the crown and they are sufficient for future mining operations. The Case Lake Property does not a have a resource estimate and thus a discussion of potential tailings storage areas, potential waste disposal areas, heap leach pad areas and potential processing plant sites is not relevant to the Property at this time.


POWER METALS CORP
Power Metals Property Location
Legend
Power Metals Cell Claim Outlines
City/Town
Airports
Power Line
Pipe Line
Tower
Railways
Roads
Rivers
Water Bodies
Saturated Soil
Wooded Area
Aboriginal Land
Projection: NAD 1983 UTM Zone 17N
Case Lake Property
Timmins
South Porcupine
Night Hawk Lake
Frederick House Lake
Connaught
Moose Lake
Val Gagné
Monteith
Matheson
Ramore
Holtyre
Porquis Junction
Nellie Lake
Iroquois Falls
Tunis
Porter
New Post 69A
Cochrane
Fredericktouse
Genier
Lake Abitibi
Wangoshing First Nation
Highway 655
Highway 11
Highway 101
Highway 572
Highway 652
Pyge Road
Castor Road
Ridge Lake Road
Old CN Line
Case Road
Grimmel Road
Hanlan Road
Thibeau Road
Hollow Creek Road
Tamarack Road
Pine Road
Flinter Road
Langmuir Road
Thibeau Road
Old Cemetery Road
Thibeau Road
Thibeau Road
Thibeau

6.0 HISTORY

This section is derived from the Power Metals NI 43-101 Report by Selway (2017).

6.1 1959-1962, Ontario Department of Mines

In 1959, S.B. Lumbers and assistants mapped Steele, Bonis and Scapa townships to produce a bedrock geology map (M2018) and a geological report (R008) in 1962 (Lumbers, 1962 a, b). Lumbers identified the Case pegmatite dykes in lot 5, concession V, Steele township. Lumbers noted that the spodumene-bearing dykes are zoned with aplite border zone and quartz core. Lumbers measured the pegmatite dyke as 825 ft (=251.5 m) east-west along strike and a maximum width of 100 ft (=30.5 m). The spodumene crystals are up to 3 ft (=0.9 m) long and 6 inches (=15.2 cm) across in the quartz-rich patches. The spodumene content of the dyke was estimated to be 10-15 % and a grab sample assayed 0.65 %Li_2O. Columbite-tantalite, muscovite and tourmaline occur with the spodumene. Molybdenite is rare. Lumbers' map is still the most detailed bedrock map for the Steele township.

6.2 1963, Canada Department of Mines and Technical Surveys

In 1963, Canadian Johns-Manville Company carried out prospecting, minor trenching and geological mapping at 1':40'. They submitted samples from Steele Township to the Canada Department of Mines and Technical Surveys in Ottawa. A mineralogical study of 3 samples identified tantalite, microlite, beryl, spodumene and pollucite and a bulk sample contained 5.79 % Cs_2O and 0.5 % Ta (Nickel, 1963).

6.3 1968, J. Tesluk

Property owner J. Tesluk of Timmins trenched and stripped parts of the Case pegmatites in 1968 (Tesluk, 1969).

6.4 1973, L. Darby and R. Strickland

R. Strickland was the optionee and drill owner who drilled one drill hole on historic claim L299570, lot 5, concession V in Steele township (MNDM assessment report: 32E04SW0008). L. Darby was the geologist who logged the drill hole and the claim holder. The hole was drilled 101 ft (=30.8 m) deep, azimuth 195°, dip 55° on Sept. 28 to Oct. 2, 1973. The hole was collared in Case Batholith with biotite orbicules and then intersected 83 ft (=25.3 m) of spodumene-bearing pegmatite in the Main Dyke. The hole ended in quartz

aplite border zone. Dominant minerals in the pegmatite intersection are plagioclase, quartz, muscovite and spodumene.

According to MNDM assessment reports 32E04SW0003 and KL0644, pegmatite outcrop was stripped and trenched and geologically mapped between 1971 and 1975 by consultant G.R. Guillet of Gartner Lee Associates Ltd.

6.5 1973, L. Darby/Gartner Lee Associates property report

On Nov. 27, 1973 Gartner Lee Associates Limited, consulting engineering geologists, completed a report addressed to L.H. Darby, Timmins based on a site visit on Oct. 10 and 11, 1973 (Gartner Lee, 1973). They observed pegmatite dykes in 8 trenches and blast pits and a small amount of drill core. The average composition of the main pegmatite is: 15% spodumene, 30% feldspar, 45% quartz and 10% muscovite. Pure chips of very coarse-grained pale green lath-shaped spodumene from the Main Dyke contained 7.5 % Li_2O and 0.86 %Fe_2O_3. The aplite contained trace fine-grained orange garnet. Dr. S.B. Lumbers, Curator of Geology of the Royal Ontario Museum examined the biotite orbicules in the Case Batholith under a microscope and revealed a concentric arrangement of biotite, K-feldspar and quartz.

Gartner Lee Associates recommend deep drilling to 200 and 500 ft (=61.0 and 152.4 m) on the Main Dyke to determine its vertical extent and surface trenching to expose more pegmatite dykes. Both exploration activities should increase the potential tonnage on the property.

6.6 1974 to 1976, L. Darby/ Dex Ltd

Dex Ltd. carried out additional power stripping, blast-hole drilling and geological mapping of the South Dyke and trenching (assessment report KL0668). Dex Ltd. was a private company that L. Darby was the president of.

6.7 1980, L. Darby/Dex Ltd.

According to MNDM assessment report 32E04SW0003, Dex Ltd. stripped an area of pegmatite to the east and south and drilled one hole 216 ft (=65. 8 ft) in length in 1980. There is no drill log in assessments and the hole length was determined from claim abstracts. Dex Ltd. allowed the claims to lapse in 1987.

6.8 1991, J.G. Burns

J.G. Burns conducted a work program in 1991 that consisted of (MNDM assessment report 32E04SW0003):

- Line cutting with line spacing of 100 m over the property and 25 m spacing over the pegmatite outcrops with 20 m station intervals for all lines
- 1:2500 scale and 1:500 scale geological maps of the North, Main and South pegmatite dykes
- Magnetometer survey and VLF survey
- Assays of 15 grab samples of spodumene-bearing pegmatite from trenches, 10 pairs of muscovite and feldspar samples from trenches, and 16 samples of granite and metasedimentary host rock.

J.G. Burns noted that the largest pegmatite dyke is 420 m long by 30 m wide and the three pegmatite dykes strike at about 60° NE (Table 6-1). In the coarse-grained intermediate zones, the spodumene concentrations range up to 15-20%. Spodumene crystals are normally stubby and have an average length of 3-7 cm. In the very coarse-grained core margin zone, the spodumene concentrations are lower, but the crystals maybe as long as 50 cm with a 5-7 cm diameter. In the quartz core, the spodumene crystals are up to 90 cm in length.

Table 6-1 Case pegmatite dyke dimensions according to MNDM assessment report 32E04SW0003

Dyke	Max Length in Outcrop (m)	Max Thickness in Outcrop (m)	Distance Between Dykes (m)
North	100	15	20
Main	420	30	100
South	140	10	

J.G. Burns' magnetometer survey showed that the magnetic signature across the Case Property is low and featureless and there is no correlation with mapped pegmatite contacts. A linear magnetic feature with a relief of 400 to 500 nT, a strike of east southeast may represent a diabase dyke however the strike does not match that of dyke sets in the region. The VLF survey was abandoned after the completion of two lines.

J.G. Burns collected 15 grab samples from the pits which had been blasted by previous claim holders and assayed for Li, Ta, Cs and Y (Figure 6-4). Ten samples were collected from Main Dyke, 2 samples from North Dyke and 3 samples from the South Dyke (Table 6-2). The best assay was from Main Dyke inner intermediate zone sample T-4B with 2.58% Li_2O, 318 ppm Ta and 225 ppm Cs. One sample of a pure single

spodumene crystal was assayed for Li with 3.55 %Li which equals 7.64 % Li_2O. The assay results indicate that the North and Main Dykes are richer in lithium than the South Dyke.

Table 6-2 Grab samples assays from in trenches (MNDM assessment report 32E04SW0003)

Sample Number	Dyke Name	Pegmatite Zone	Li (%)	Li_2O (%)	Ta (ppm)	Cs (ppm)
T-1A	Main Dyke	inner intermediate zone	0.28	0.60	172	106.5
T-1B	Main Dyke	quartz core	0.89	1.92	120	250
T-1C	Main Dyke	inner intermediate zone	1.11	**2.39**	434	102
T-2	Main Dyke	inner intermediate zone	0.65	1.40	244	249
T-3	Main Dyke	inner intermediate zone	0.73	1.57	36	72
T-4A	Main Dyke	inner intermediate zone	0.6	1.29	24	73.5
T-4B	Main Dyke	inner intermediate zone	1.2	**2.58**	318	225
T-4C	Main Dyke	inner intermediate zone	0.64	1.38	126	179.5
T-5	Main Dyke	quartz core	0.68	1.46	46	652
T-6	North Dyke	inner intermediate zone	0.43	0.93	638	264
T-7	Main Dyke	inner intermediate zone	0.68	1.46	52	133.5
T-8	North Dyke	quartz core	0.12	0.26	174	364
T-9	South Dyke	wall zone	0.11	0.24	40	223
T-10	South Dyke	wall zone	0.05	0.11	26	89.5
T-11	South Dyke	wall zone	0.01	0.02	36	94

6.9 1996-1998, G. O'Reilly

A composite sample was taken from the Main Dyke in July 1996 by G. O'Reilly (MNDM assessment report 32E04SW2001). The sample consisted of muscovite, spodumene, K-feldspar and greisen like material.

On Oct. 2, 1997, Dr. F.W. Breaks of the Ontario Geological Survey visited the property. Breaks sampled K-feldspar and primary muscovite from the trenches on the North, Main and South Dykes as in Burns (1991). Breaks interpreted the K-feldspar and muscovite assays as an increasing evolution trend from South Dyke to Main Dyke to North Dyke for Cs in K-feldspar and Ta in muscovite. Electron microprobe work identified Ta-rich minerals tapiolite and microlite. The results of Breaks site visit lead to the following recommendation: prospect the poorly exposed ground to the north of the North Dyke for additional pegmatites.

In April to May 1998, G. O'Reilly prospected ground north of the North Dyke, but only found granodiorite in outcrop. Stripping the area to the north of the North Dyke also didn't uncover any more pegmatite. Six

areas of outcrop were sampled within the North Dyke. The east trench sample # 13 (T-6 of Burns, 1991) contained 1790 ppm Cs while the west trench sample #11 (T-8 of Burns, 1991) contained 880 ppm Ta.

6.10 1999, JD Horne & Associates Ltd

In September 1999, Joseph Horne of Cardinal Exploration Services completed 4500 m^2 mechanical stripping and selected power washing on the North, Main and South Dykes (MNDM assessment report 32E04SW2002). The stripping resulted in revisions of the size of each dyke (Table 6-3).

Table 6-3 Case pegmatite dyke dimensions according to MNDM assessment report 32E04SW0002

Dyke	Max Length in Outcrop (m)	Max Thickness in Outcrop (m)	Distance Between Dykes (m)
North	100	12	20
Main	350	35	100
South	250	10	

A field grid was cut which comprised of an east-west baseline (1.375 km) and 14 north-south cross lines (10.126 km) on 100 m centers. Picketed stations were established on 25 m centers along the baseline and all of the cross lines. The Property was previously surveyed in 1970's and 8 of the 9 original survey pins were located in the field and used as field control.

J. Horne identified an unusual-looking northwest-southeast trending mafic intrusive in a rescue trench north of the North Dyke (area C). It likely corresponds to the magnetitic high previously noted by Burns (1991) (MNDM assessment report 32E04SW0003).

J. Horne also identified two old drill collars on the Main Dyke: one is Darby's 1973 drill collar and the other must be Dex Ltd's 1980 drill collar.

J. Horne spent 10 days prospecting and mapping the entire field grid around the Case pegmatites and collected 17 grab samples including pegmatite, metasediments, and quartz veins.

In October 1999, J. Horne conducted 2 days of regional prospecting to the northeast and the northwest of the known Case pegmatite dykes (Figure 6-3). A total of 15 grab samples were collected of granodiorite, metasediments and pegmatite rocks. This regional prospecting lead to the discovery of the Northeast dyke

10 m wide by 75 m along strike with very coarse-grained spodumene. Assay of in situ sample 20365 resulted in > 500 ppm Li and > 100 ppm Ta at 579046 E and 5432147 N.

In November 1999, J. Horne collected two plugger hole sample series normal to the strike across the North Dyke (Figure 6-4). Section 1 had 12 samples collected 11.7 m across the North Dyke at 0.5 m centers starting at the south contact (samples 3439-3450 inclusive). The best lithium assay was sample 3441 with 2.29 %Li_2O and 160 ppm Ta. Sample 3442 has 2.16 % Li_2O and 425 ppm Ta. This indicates that the spodumene-rich zone in the North Dyke is also rich in Ta. The purpose of Section 2 was to identify any geochemical alteration halo around the pegmatite. Section 2 had 7 vertical holes drilled (samples 20377-30383 inclusive). The first hole was drilled in the North Dyke at its north contact and the remaining 6 samples were collected from the granodiorite host rock north of the contact at distances of 0.5, 1.5, 5, 10, 20, 35 m from the contact. The North Dyke exhibits a lithium lithogeochemical halo between 10 and 20 m.

A total of 8.864 km of high density, total field magnetic and gradient data was completed on the grid. The pegmatite -granodiorite contrast was not significant enough to adequately define the dykes contacts. The northwest trending mafic intrusive (located north of the North Dyke) was prominent and could be traced further along strike.

6.11 2001, Platinova A/S – North, Main and South Dykes

Platinova A/S optioned the Case property in mid-2001 and conducted geological mapping, channel sampling and drilling (MNDM assessment report: 32E04SW2003).

Platinova completed geological mapping at 1:200 scale on a 10 m grid. Based on surface exposures and drilling, Platinova estimated the dyke dimensions (Table 6-4). Platinova's detailed geological mapping divided the Case pegmatite dykes into pegmatites zones (Table 6-5). Main and North Dykes are zoned with aplitic albite border zones and spodumene-bearing intermediate zones and a quartz core. The surface outcrops for South and East Dykes lack spodumene-bearing pegmatite zones.

Table 6-4 Case pegmatite dyke dimensions according to Platinova, 2001

Pegmatite Dyke	Length (m)	Max Thickness (m)	North Contact Dip (deg)	South Contact Dip (deg)
North Dyke	120	8	50 to 75N	40 to 65 N
Main Dyke	300	33	45 to 60 N	45 to 75 N
South Dyke	240	14	85N?	85 N?

Table 6-5 Case pegmatite zonation according to Platinova, 2001. Zones 1 to 8 occur in Main and North Dykes. Zone 8 occurs in South and East Dykes.

Pegmatite Zone	Name of Pegmatite Zone	Mineralogy of Pegmatite Zone
1,7	albitic aplitic border zone	muscovite-garnet-quartz-albite
2,6	outer intermediate zone	muscovite-albite-spodumene-quartz-K-feldspar
3,5	inner intermediate zone	muscovite-spodumene-quartz-K-feldspar
4	quartz core	very coarse quartz-rich with coarse K-feldspar and spodumene
8	muscovite-quartz-K-feldspar zone	muscovite-quartz-K-feldspar, no spodumene, possible beryl
9	aplite dykes	muscovite-quartz-albite aplite
10	spodumene lenses	fine-grained spodumene-rich lenses

Platinova did some grab sampling of the trench rubble of the Main and North Dyke to test for tantalum mineralization (Figure 6-4). An assay highlight is surface chip sample 27043 from the inner intermediate zone of the North Dyke with > 4000 ppm Ta.

Platinova also completed sampling of 6 channels totaling 113.1 m on North, Main and South Dykes. Two channels were cut on North Dyke, 3 on Main Dyke and 1 on the South Dyke (Figure 6-1). Channels on the North and Main Dykes were 30 m apart and samples were 1 m long. Assay highlights from Platinova's channel sampling include:

- North Dyke, SC-1, sample 23503, 2.38 % Li_2O
- Main Dyke SC-3, sample 23549, 2.73 % Li_2O, 186 ppm Cs, 1,330 ppm Rb, >100 ppm Be and 489 ppm Ta.

August to September 2001, Platinova A/S completed 7 drill holes totaling 508.76 m on the Case property to investigate the Ta/Nb contents of the pegmatite dykes (Table 6-6) (Figure 6-1 and Figure 6-4). These holes were drilled on 5 sections across Main and North Case Pegmatite Dykes on claim 1213780.

The plan map shows that the North and Main Dykes have been drilled for about 200 m along strike and that there is an additional 100 m of the Main Dyke that is exposed on surface which has not yet been drill tested. Also, the surface mapping appears to indicate that the Main Dyke is actually 2 parallel dykes, not just one dyke.

Plan map and cross sections for the historic drill holes are given in Figure 6-1 and Figure 6-2. The dykes dip to the north and flatten out at depth.

Table 6-6 Drill collar locations for Platinova's 2001 drill program.

Drill hole number	Easting (m)	Northing (m)	Azimuth	Dip	Total Length (m)
DDH-1	578217	5431685	151	-45	45.1
DDH-2	578198	5431718	148	-47	79.57
DDH-3	578221	5431734	148	-45	70.27
DDH-4	578171	5431702	148	-46	73.27
DDH-5	578145	5431686	148	-46	76.57
DDH-6	578089	5431664	148	-45	79.27
DDH-7	578160	5431720	148	-65	84.71
				total	**508.76**

All of the drill core samples were analyzed for Ta and Nb, but only DDH-2 was analyzed for Li, Rb. Cs and Be. Assay highlights include:

- sample 27194, from 39.0 to 40.0 m, interval 1.0 m with 1.52 % Li_2O, 62 ppm Ta, > 100 ppm Be from the inner intermediate zone
- sample 27200, from 45.0 to 46.0 m, interval 1.0 m with 1.36 % Li_2O, 53 ppm Ta, > 100 ppm Be from the inner intermediate zone

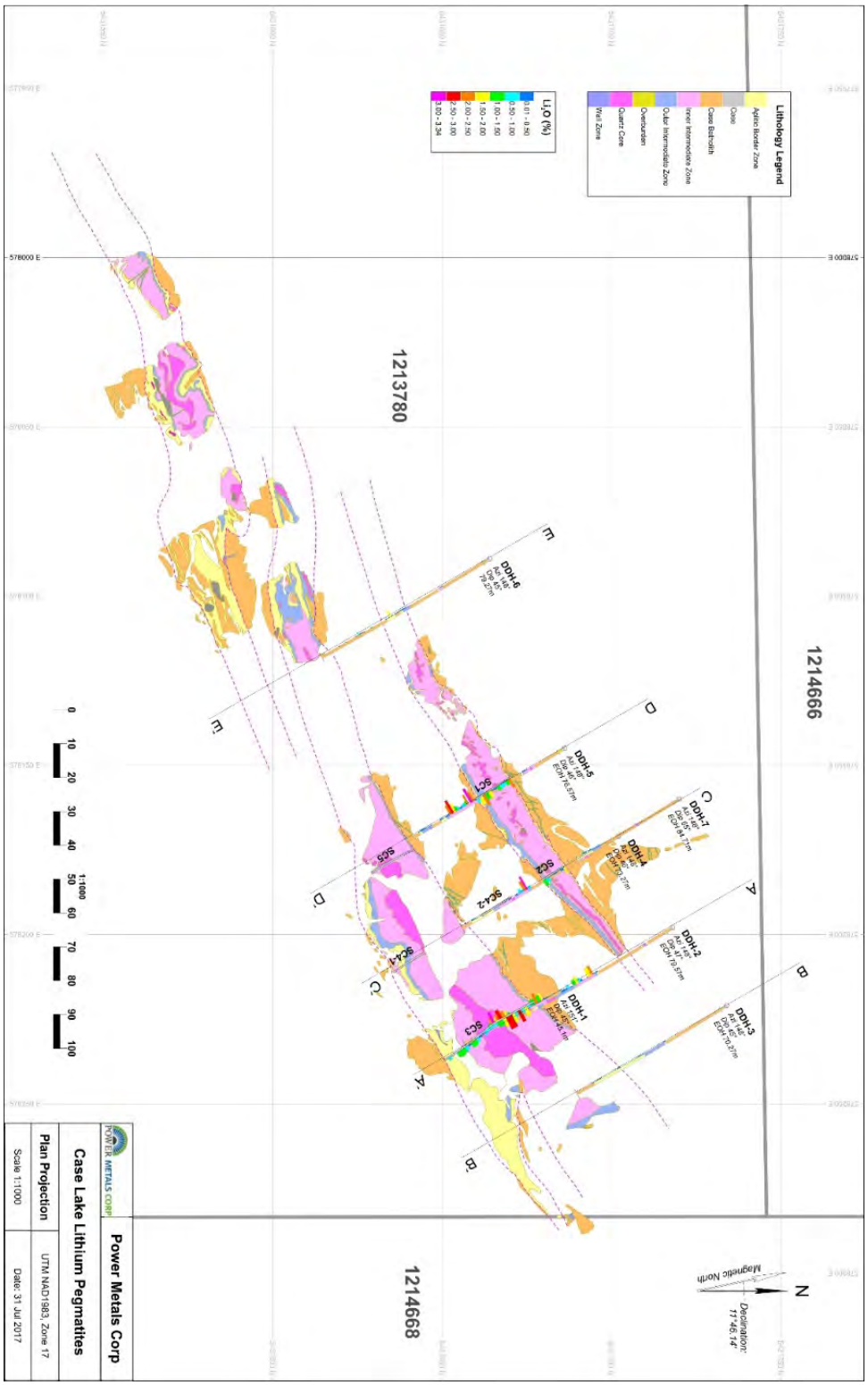


Figure 6-1 Drill plan and channel sample map for Case North, Main and South Dykes.

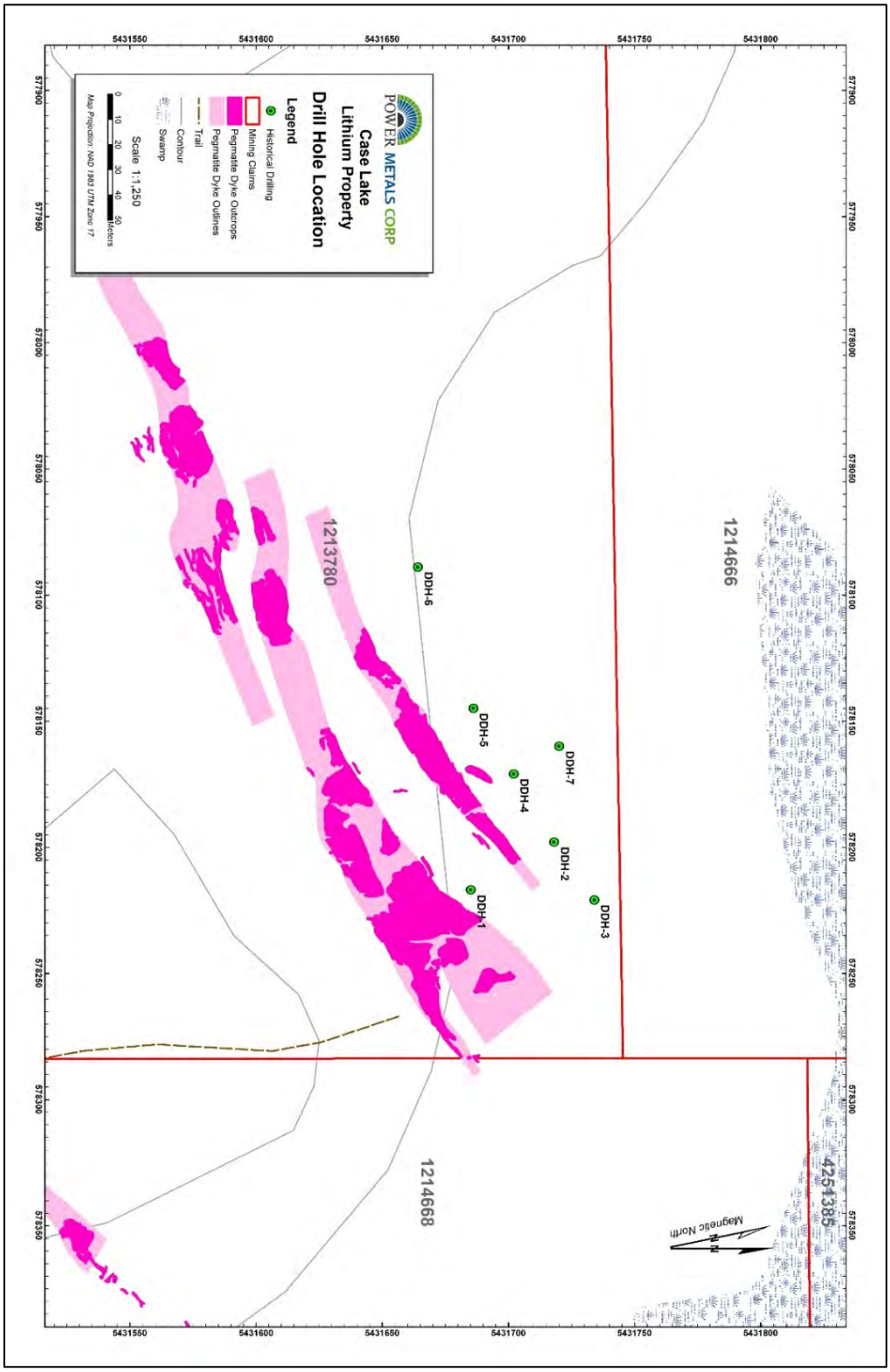


Figure 6-2 Drill collar location map for Platinova's 2001 drill holes.

6.12 2001, Navigator Exploration Corp – East Dyke

Navigator Exploration Corp. conducted exploration to assess the tantalum potential of the East Dyke (MNDM assessment report 32E04SW2004). In June 2001, seven grab samples were collected and analyzed for Nb and Ta, and the pegmatite was prospected. In August 2001, a channel was cut 16.6 m long from wall to wall across the western part of East Dyke and analyzed for Nb and Ta and multi-elements as 1 m samples. Feldspar and mica pairs from 4 channel samples were analyzed for multi-elements.

Navigator concluded that the tantalum levels in the grab and channels samples were low and the trace element content of the feldspar and mica pairs were also unencouraging. The East Dyke is less evolved than the other Case pegmatite Dykes and thus likely has no potential for economic amounts of tantalum.

6.13 2001, E. Ludwig – Northeast Dyke

E. Ludwig held the Steele township property which was located directly east of the Case Pegmatite North and Main Dykes held by Platinova A/S at the same time (MNDM assessment report 32E04SW2006). A total of 5 grab samples were collected in June 2001. Prospecting identified numerous old trenches with about 5% spodumene and traces of columbite and molybdenite located in the area of the Northeast Dyke. The spodumene crystals were up to 6 cm long and 1 cm wide. No assays were completed on the samples.

6.14 2010, Fieldex Exploration Inc.

In March 2010, Fieldex Exploration Inc ("Fieldex") announced that it had entered an option agreement with Mantis Minerals Corp to acquire up to 60% of the Case pegmatite Property (Fieldex press release dated March 10, 2010).

In September 2010, Fieldex Exploration Inc. resampled Platinova's 7 drill holes on the North and Main Dykes (Fieldex press release dated Sept. 13, 2010). The assay highlights include:

- DDH-1 from 23.80 to 33.00 m with 1.98 % Li_2O over 9.20 m
- DDH-4 from 43.32 to 47.72 m with 1.49 % Li_2O over 4.40 m
- DDH-5 from 43.00 to 57.07 m with 1.35 % Li_2O over 14.07 m

6.15 2010, P. Hermeston – East Dyke

Navigator Exploration allowed their claims on the East Dyke to lapse and the area was staked by P. Hermeston late summer of 2009 (MNDM assessment report 2.45523). In April and May 2010, P. Hermeston with the assistance of E. Shynkorenko established a field grid system and conducted a Beep Mat survey over the known outcrops and adjacent areas of East Dyke. Navigator concluded that the East Dyke was not economic for tantalum, so P. Hermeston explored it for rubidium and muscovite.

Study Area A was over East Dyke outcrops and immediate adjacent areas. A base line was cut with two tie lines (a total of 2.65 km), and 100 m interval grid system with station locations every 50 m located by handheld GPS. Study Area B covers a dyklet with a 50 m interval grid was used with stations at every 25 m.

The Beep Mat survey identified several locations of higher quality conductivity: 7 areas in Study Area A and 3 areas in Study Area B. Higher magnetic values may be the result of mafic intrusives.

6.16 2010, P. Hermeston – Northeast Dyke

On August 24, 2010 P. Hermeston staked claim 4249052 northeast of Case pegmatites (MNDM assessment report 2.47355). On August 25, 2010, P. Hermeston and E. Shynkorenko conducted prospecting on the Northeast Dyke, collected 4 grab samples and 2 soil samples.

The Northeast Dyke is hosted by fine-grained biotite-garnet metasediments. The Northeast Dyke is exposed in two areas and appear to dip shallowly and trend northeast-southwest direction. The southern exposed area is averaging 10 m wide and an estimated 75 m in length. The northern exposed area averages 20 m in width and 48 m in length. Descriptions and assays of the 4 grab samples is given in Table 6-7.

Table 6-7 Hermeston's 2010 grab sampling of Northeast Dyke, NAD 83.

Station number	Easting (m)	Northing (m)	Description	Li (ppm)	Ta (ppm)
Stn. ST-001	578,789	5,432,297	vein of K-feldspar, quartz, mica	19	0.005
Stn. ST-002	579,135	5,432,590	vein of K-feldspar, quartz, mica	3	0.005
Stn. ST-003	579,051	5,432,289	vein of K-feldspar, quartz, mica; 1 m wide with NE-SW trend; southern exposed portion	93	0.005

Stn. ST-004	579,076	5,432,366	peg dyke of K-feldspar, quartz, mica, green spodumene crystal; 0.5 to 1.0 m wide with NE-SW trend, northern exposed portion	35	0.010

6.17 2010-2011, P. Hermeston – South Dyke

Prospecting, mapping and sampling was conducted on the South Dyke by P. Hermeston with the assistance of E. Shynkorenko on Oct. 26, 2010 and July 21, 2011 (MNDM assessment report 2.49595). Claim 1214668 was staked by P. Hermeston on Aug. 25, 2009 which includes the eastern part of the South Dyke and most of the East Dyke.

On Oct. 26, 2010, two rock samples were collected from the eastern part of the South Dyke (Figure 6-4). One of the samples was a muscovite sample taken from the midsection of the exposed dyke to evaluate the lithium and gallium content in the mica. The other sample was a pegmatite sample with a few small (2 cm) greenish-blue beryl crystals from a ~1975 trench. On July 21, 2011, two more rock samples were collected: one from a water filled trench and the other from the mid-section of the exposed dyke.

The grab sample assays are given in Table 6-8. The muscovite sample had higher Rb and Ga contents than the pegmatite samples, but still not significant. Overall, the Li and Ta contents of the pegmatite samples are insignificant, as the South Dyke does not contain spodumene.

Table 6-8 Hermeston's 2010-2011 grab sampling of South Dyke, NAD 83

Sample Number	Easting (m)	Northing (m)	Description	Li (ppm)	Ta (ppm)	Ga (ppm)	Rb (ppm)	Cs (ppm)
STSD-01	578,377	5,431,547	muscovite	172.5	0.06	10.15	329	15.85
STSD-02	578,393	5,431,564	pegmatite with a few greenish-blue beryl	191	0.01	2.08	96.3	22.1
STSD-03	578,386	5,431,561	pegmatite	101	0.005	1.45	57.2	6.73
STSD-04	578,381	5,431,551	pegmatite	3.7	0.005	0.62	30.7	1.81

6.18 2012, P. Hermeston – Little Joe Lake

On May 12, 2012, P. Hermeston prospected the area south of the South Dyke and north of Little Joe Lake in search of parallel pegmatite dykes (MNDM assessment report 2.52017). One rock grab sample (mainly feldspar and minor quartz and mica) and 3 soil-humus samples were collected (Figure 6-3). The majority of the dry-land area north of Little Joe Lake is covered with a thick overburden consisting of deep humus bog overlaying coarse sand. The rare-element content of the samples was insignificant, but two soil samples had elevated Cu-Ni contents (Table 6-9). P. Hermeston recommended that the area be prospected for Cu-Ni occurrences similar to that south of Little Joe Lake.

Table 6-9 Hermeston's 2012 samples for Little Joe Lake area, NAD 83

Sample Number	Easting (m)	Northing (m)	Sample Type	Li (ppm)	Ta (ppm)	Cu (ppm)	Ni (ppm)
ST-01-12	578,000	5,431,060	soil-humus	N.A.	N.A.	N.A.	N.A.
ST-02-12	578,168	5,431,303	soil-humus	1.4	0.005	71.4	32.1
ST-03-12	578,168	5,431,303	rock (float)	3.8	0.005	0.6	0.4
ST-04-12	578,305	5,431,181	soil-humus	1.4	0.01	36.5	19.9

6.19 2014, E. Shynkorenko/P. Hermeston – Northeast Dyke

On May 30 and 31, 2014, E. Shynkorenko and P. Hermeston conducted prospecting, grab sampling and mapping on the Northeast Dyke in claim 4249052 (MNDM assessment report 2.55141). This work was a follow up of prospecting that they conducted in 2010. Two samples were collected to define the silica, feldspar and rare-element potential for the property (Figure 6-3). They noted that deep moss-covered areas lacking tree cover inferred that extensions of the dykes might trend NE-SW. Two pegmatite samples were collected, and the description and assays are given in Table 6-7. The elevated Li assay for sample NED-01-14 suggests the presence of lithium mica.

Table 6-10 Shynkorenko's 2014 grab sampling of Northeast Dyke, NAD 83

Sample	Easting (m)	Northing (m)	Li (ppm)	Ta (ppm)	Location	Description
NED-01-14	579,098	5,432,355	> 10,000	57.4	outcrop - north exposure	pegmatite - quartz, feldspar
NED-02-14	579,138	5,462,283	58	< 0.5	float - south exposure	mainly quartz and feldspar, some hornblende

6.20 Caracle Creek – resampling program

Platinova's 7 drill holes which intersected Main and North Dykes were relogged and resampled by Caracle Creek International Consulting Inc. ("Caracle Creek") in January 2017 (MNDM assessment report 2.58102). As expected, the spodumene-rich pegmatite zones had high grade lithium assays. Case pegmatite assays had 45 assays out of a total of 234 drill core assays with > 0.43 % of Li_2O cut off which represents 19 % of the total assays Some of the assay highlights on the Main Dyke spodumene zone include:

- DDH-1 from 22.70 to 33.00 m with 1.98% Li_2O and 130.88 ppm Ta over 10.30 m
- DDH-5 from 46.57 to 56.00 m with 1.37% Li_2O over 10.30 m
- DDH-5 from 45.00 to 45.95 m with 3.24 % Li_2O over 0.95 m

6.21 Summary of exploration history

A summary of the historic exploration work on the Case Lake Property is given in Table 6-11. Historical grab sample locations are plotted in Figure 6-3 and Figure 6-4.

Table 6-11 Summary of historic exploration work on the Case Lake Property

Assessment Report Number	Year of Report	Year of Work	Company	Type of Work	Description of Work
KL2653	1969	1969	J. Tesluk	trenching, stripping	trenching and stripping of Case pegmatites
32E04SW0008	1973	1973	R. Strickland/L. Darby	drilling	one drill hole 101 ft, collared in Case Batholith, intersected 83 ft of spodumene-bearing pegmatite
Gartner Lee Associates report	1973	1973	L. Darby	geological	property visit, assays of pure mineral chips

Assessment Report Number	Year of Report	Year of Work	Company	Type of Work	Description of Work
KL0644	1974	1974	L. Darby	geological	trenching, stripping, geological mapping, 1 drill hole 101 ft
KL0668	1976	1976	L. Darby/ Dex Ltd	geological	stripping, blast-hole drilling, geological mapping of South Dyke, trenching
32E04SW0003	1991	1991	J.G. Burns	geology and geophysics	line cutting, grab samples of North, Main and South Dykes, magnetometer survey, VLF survey, geology map of North, Main and South Dykes
32E04SW2001	1998	1996-1998	G. O'Reilly	prospecting, grab sampling	prospecting for new pegmatites, stripping, grab sampling
32E04SW2002	1999	1999	J. Horne	mapping, stripping, plugger holes, geophysics	4500 m^2 of stripping, discovery of NE Dyke, 2 plugger holes on North Dyke, total magnetic and gradient surveys
32E04SW2003	2002	2001	Platinova A/S	drilling, channel sampling, detailed geological mapping	7 drill holes totaling 508.76 m, 6 channel samples, detailed geological map of North, Main and South Dykes
32E04SW2004	2002	2001	Navigator Exploration Corp	grab and channel sampling	7 grab samples, 16.6 m long channel on East Dyke
32E04SW2006	2003	2001	E. Ludwig	prospecting and grab samples	5 grab samples with 5% spodumene, near NE Dyke
2.45523	2010	2010	P. Hermeston	line cutting, geophysics	Beep Mat survey over the East Dyke
2.47355	2011	2010	P. Hermeston	sampling, mapping	prospecting, 4 grab samples from NE Dyke
2.49595	2011	2010/2011	P. Hermeston	grab sampling	4 grab samples from South Dyke
2.52017	2012	2012	P.Hermeston	grab sampling	1 grab sample, 3 soil-humus samples from Little Joe Lake
2.55141	2014	2014	E. Shynkorenko	grab sampling	2 grab samples from NE Dyke
2.58102	2017	2017	Caracle Creek	Sampling	Resampling and relogging of historic drill holes

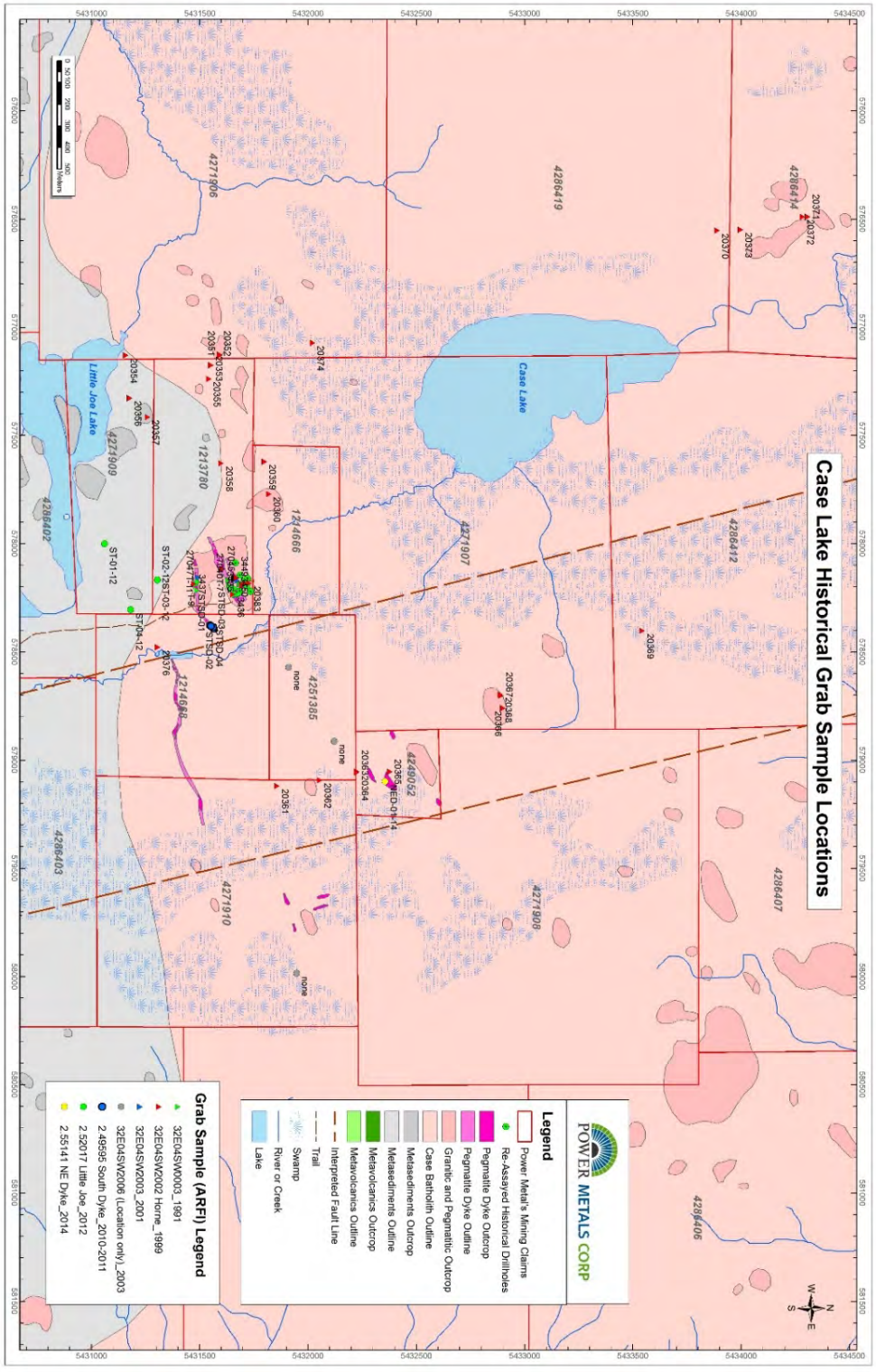


Figure 6-3 Map of regional historical grab samples at Case Lake.

Figure 6-4 Map of historical grab samples on North, Main and South Dykes.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Case Lake pegmatite swarm occurs along a subprovincial boundary between the metasedimentary Opatica Subprovince to the north and greenstone Abitibi Subprovince to the south (Figure 7-1) (Breaks et al., 2006). The Opatica Subprovince consists of the granitic Case Batholith, and the Abitibi Subprovince consists of the Scapa metasedimentary rocks (metagraywacke and garnet schist) and the Steele volcanic rocks (amphibolite) in the Case Lake area (Lumbers, 1962, M2018) (Figure 7-2).

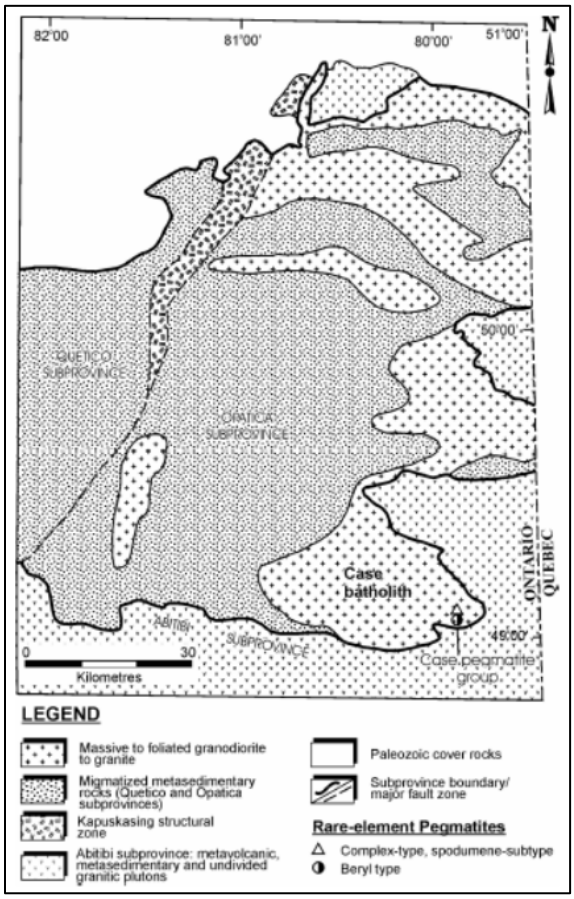


Figure 7-1 Regional geology map (from Breaks et., 2006, OFR 6195).

7.2 Local Geology

The Case Lake pegmatite swarm is hosted by the Case Batholith which is an extensive 50 by 85 km ovoid granitic complex that is part of the Optica Subprovince (Jackson and Fyon, 1991) (Figure 7-1 and Figure 7-2). The Case Batholith is a weakly foliated biotite granodiorite to quartz monzonite which is characterized by biotite-rich orbicules that range in diameter from 1 to 7 cm (Breaks et al., 2006, OFR6195) (Figure 7-3). The Case Batholith is mainly quartz monzonite, but near its contacts, *i.e.*, on the Case Lake Property, it grades into granodiorite (Lumbers, 1962a). The main components in the granodiorite are quartz (20%), feldspar (70%) and biotite (10%) (MNDM assessment report: 32E04SW2002).

The Scapa Metasediments are mostly metamorphosed greywacke and garnet schist and dip moderately-steeply southward at 60 to 70° (MNDM assessment report: 32E04SW2002). The metasediments are bedded with individual beds ranging from 1-2 cm in thickness. The metasediments are fine-grained and schistose. The major minerals are quartz, feldspar and biotite with minor garnet and staurolite. Staurolite is easily identified on weathered surface as 2 cm diameter knobs.

The Steele volcanics form a narrow lenticular belt composed of amphibolite with some interbedded metasediment and metamorphosed rocks (Lumbers, 1962a). Some of the amphibolites are schistose and contain garnet, but most are poorly foliated and exhibit relict volcanic structures (i.e., amygdaloidal, pillowed, massive, diabasic and porphyritic textures). The amphibolites are metamorphosed mafic volcanic rocks.

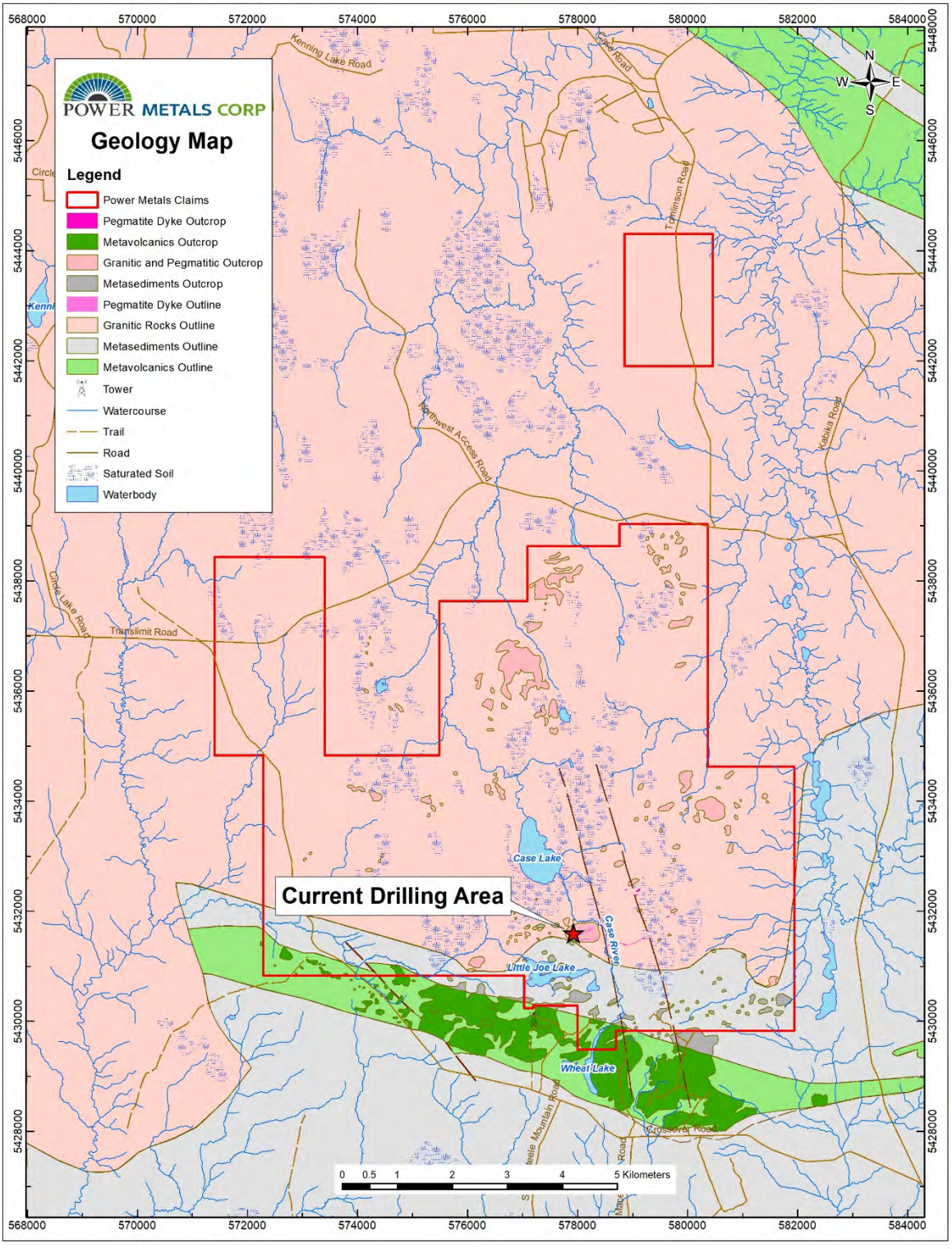


Figure 7-2 Local geology of Case Lake Property.

Figure 7-3 Orbicular Case Batholith host rocks adjacent to Case North pegmatite dyke (Breaks et al., 2006, OFR 6195).

7.3 Property Geology

Case Lake pegmatite swarm consists of five dykes exposed on surface (Breaks et al., 2006, OFR6195; MNDM assessment reports: 32E04SW2002, 2000; 32E04SW2003, 2001; 32E04SW2004, 2001; 2.47355, 2011) (Figure 7-4):

1. North Dyke – 12 m thick and > 100 m strike length
2. Main Dyke (also known as Central Dyke) – 35 m thick and > 600 m strike length
3. South Dyke – 10 m thick and > 250 m strike length
4. East Dyke – 19 m wide and > 1200 m strike length
5. Northeast Dyke – 10 m wide and > 75 m length

Figure 7-4 View of Main Dyke looking north at North Dyke (Breaks et al., 2006, OFR 6195).

The North, Main and South dykes are hosted by a tonalite laccolith offshoot from the Case Batholith and they strike at 60 to 70° and dip 40 to 60°. The East and Northeast Dykes are hosted by fine-grained biotite-garnet metasedimentary rocks. While Figure 7-5 shows the East Dyke being hosted by the Case Batholith, mapping by Navigator Exploration Corp. in 2001 (MNDM assessment report 32E04SW2004) indicates that the East Dyke is in contact with metasedimentary rocks, but more geological mapping is required to fine-tune the Case Batholith and metasedimentary boundary around the East Dyke. The East Dyke is steeply dipping and has a E-W strike. Geological mapping by Hermeston (MNDM assessment report 2.47355, 2010) indicates that the Northeast Dyke is hosted by metasediments, but additional geological mapping is required to confirm the host rock. The Northeast Dyke consists of white coarse-grained K-feldspar, quartz, spodumene and muscovite. The quartz core of the Northeast dyke contains up to 40% spodumene megacrysts with cross sections up to 14 cm across.

Both the North and Main Dykes have spodumene-rich zones (muscovite-K-feldspar-quartz-green spodumene-albite) and albitic aplite border zones (Breaks et al., 2006, OFR6195). The East Dyke consists

mostly of grey, very coarse-grained K-feldspar, quartz and minor muscovite, quartz pods and aplite bands with green spodumene bearing pods. The South Dyke dominantly consists of wall zone pegmatite (quartz-feldspar-muscovite) and is unmineralized (MNDM assessment report: 32E04SW2004, 2001).

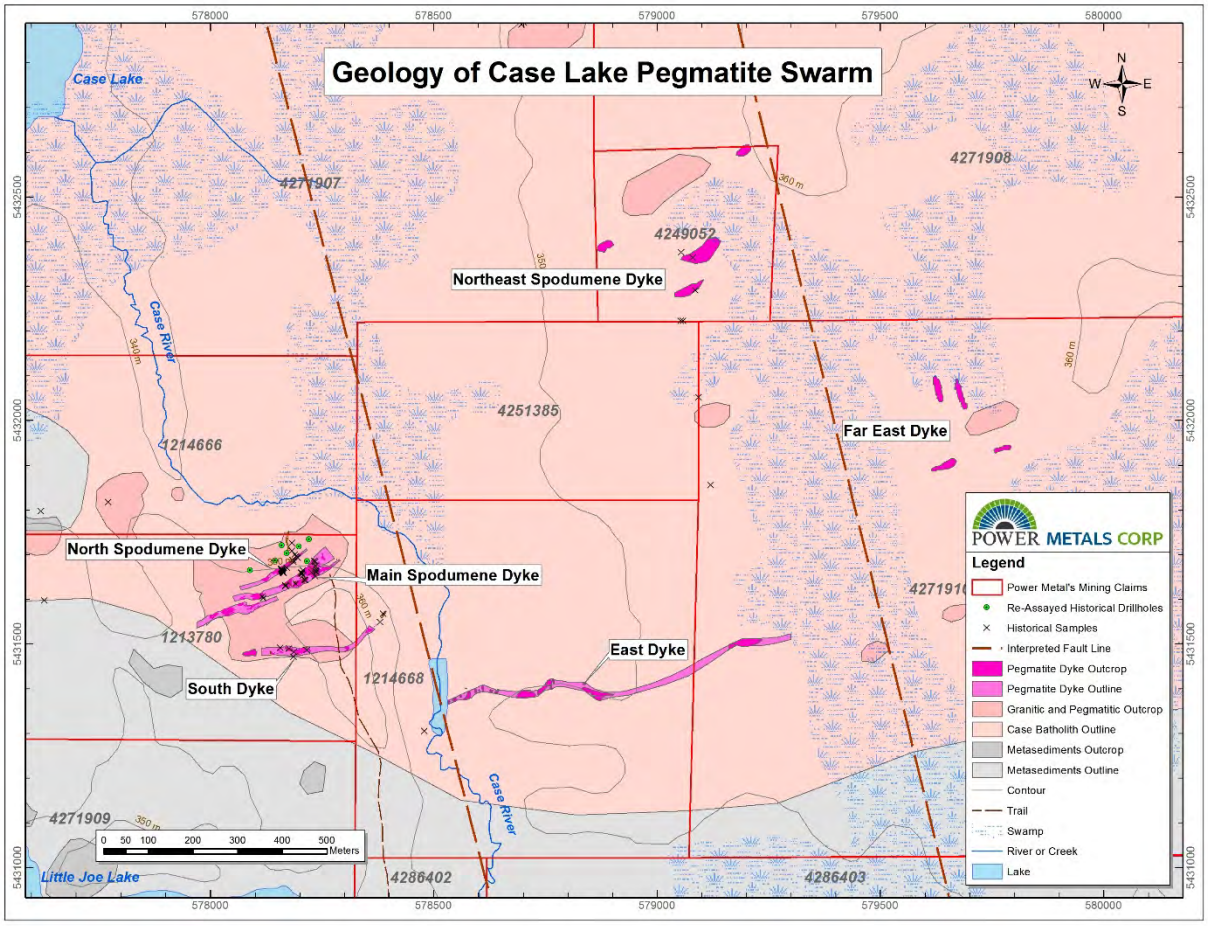


Figure 7-5 Geology map of Case Lake pegmatite swarm with legacy claim boundaries.

Previously, it was believed that the Case Lake pegmatites were hosted by the tonalite/granodiorite Case Lake Batholith. Current drilling by Power Metals exploration team of the North, Main and South Dykes indicates that the spodumene pegmatite dykes are hosted by a dome-shaped laccolith rather than a batholith. A laccolith is a dome-shaped igneous body with a flat bottom which is an offshoot of a batholith. The Case Lake Batholith is a 50 x 85 km ovoid granitic complex characterized by a gravity low. Power Metals has identified that it has multiple domes along its margins. The Company has revised its exploration model to target the domes that potentially host spodumene pegmatite dykes.

Multiple domes have been identified on the Case Lake Property (Figure 7-6). Each one of these domes has the potential to host spodumene pegmatites similar to the North and Main Dykes currently being drilled. Prospecting on the domes is recommended in search of spodumene pegmatites dykes.

Three large domes have been identified in the northern part of the Case Lake Property south of the Translimit Road. One day of prospecting on one of the domes in the north identified multiple pegmatite veins and patches in the granodiorite dome. One large dome has been identified in the eastern part of the Case Lake Property and was mapped as pegmatite and aplite in monzonite by the Ontario Department of Mines in Lumbers' 1962 map (M2018). Lumber 1962 map also identifies numerous pegmatite outcrops on the Case Lake Property that have no historic exploration work on them.

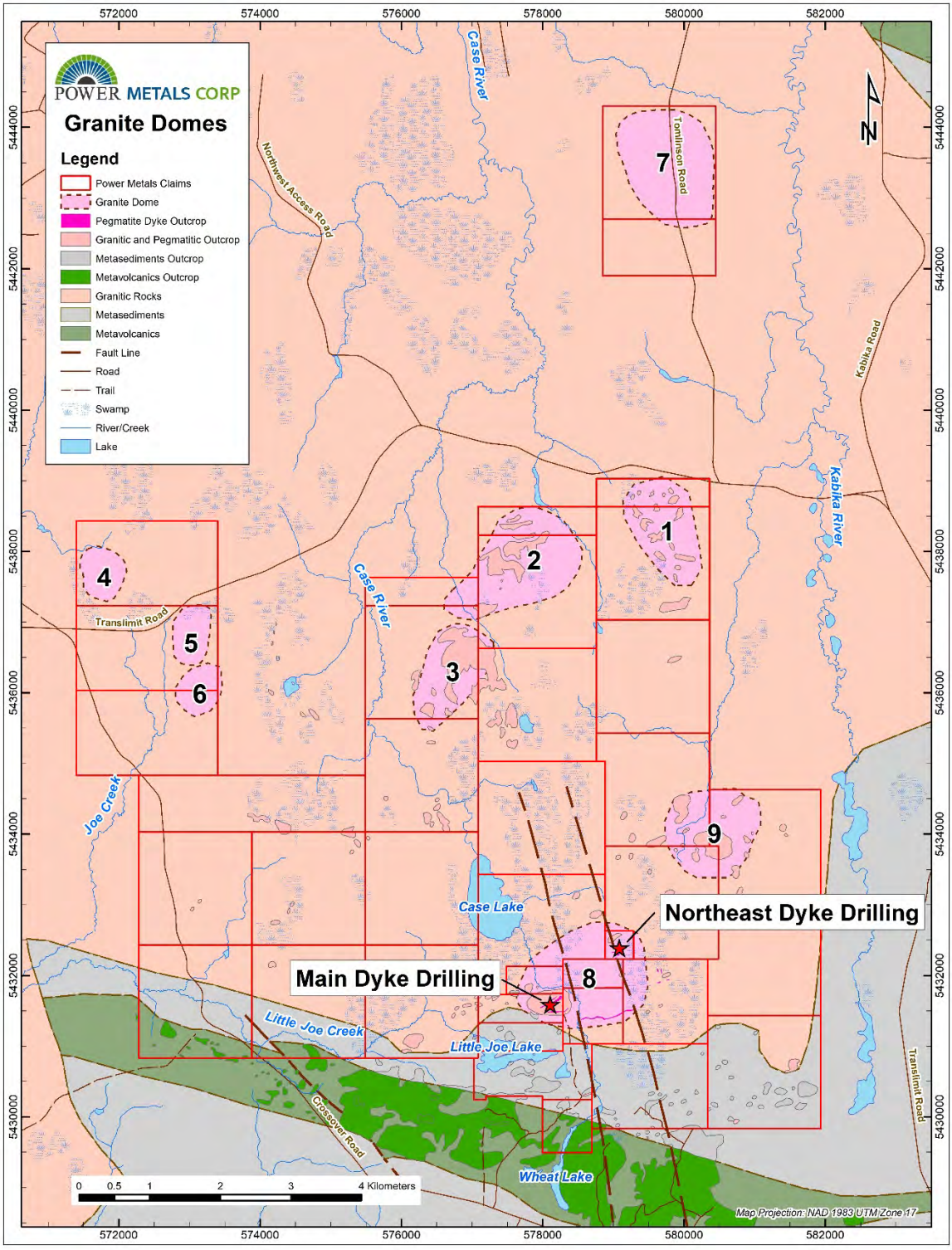


Figure 7-6 Map of 9 domes identified on Case Lake Property.

7.4 Mineralization

The spodumene in the North Dyke is very coarse-grained with blades up to 5 by 70 cm. The spodumene in the Main Dyke is abundant, very coarse-grained and green to white in colour (Figure 7-7 and Figure 7-8) (Breaks et al., 2006, OFR6195).

Platinova's mapping in 2001 divided the Main and North Dykes into 4 pegmatite zones (MNDM assessment report: 32E04SW2003, 2001) (Figure 7-9). The albitic aplite border zone (1, 7) does not contain spodumene. In the Main Dyke, the outer intermediate zone (2, 6) has about 10% greenish-grey spodumene. The inner intermediate zones (3, 5) contains spodumene which is often 2-4 cm across and 20 cm to 3.9 m long in the upper part of the zone. The spodumene is mostly greenish-grey, but may also be brownish or pink-coloured. The lower part of the zone contains 20% spodumene that is typically 10-49 cm long and 1-4 cm across. The quartz core zone (4) contains up to 15% greenish grey spodumene. The spodumene crystals are coarser than in the inner intermediate zone.

In the North Dyke, the outer intermediate zone (2, 6) contains 20% spodumene that is 2 to 10 cm long with a yellowish hue in the lower part of the zone (MNDM assessment report: 32E04SW2003, 2001). The outer intermediate zone contains up to 25% spodumene that is up to 8 cm long and often 3-4 cm long with a yellowish-green colour in the upper part of the zone. The inner intermediate zone (3, 5) contains 15% pale green spodumene that is often 15 cm long and may be up to 1.2 m long in the lower part of the zone. The inner intermediate zone contains 20% spodumene that is often 60 cm long and 3-5 cm across in the upper part of the zone. The quartz core (4) contains very little spodumene.

Horne's sampling in 1999 located the Northeast Dyke and noted that it hosted very coarse-grained spodumene and a grab sample contained > 500 ppm Li and > 100 ppm Ta (MNDM assessment report: 32E04SW2002, 2000). During prospecting, Power Metals' exploration team peeled back thick moss to discover abundant coarse-grained spodumene crystals on the south outcrop of the Northeast Dyke whereas the one previous historic grab sample had no spodumene. The spodumene crystals ranges from 3 to 13 cm long and up to 2 to 3 cm wide. The spodumene ranges from 2-10% and locally up to 20% of the pegmatite dyke. One green spodumene crystal was 32 cm long by 2 cm wide. The mineralogy of the south outcrop is similar to that in the Main Dyke. The pegmatite consists of white coarse-grained K-feldspar, quartz, spodumene and muscovite. The quartz core of the pegmatite dyke contains up to 40% spodumene megacrysts with cross sections up to 14 cm across. It is recommended that follow up drilling of this dyke be completed.

Figure 7-7 Spodumene megacrysts, quartz and white K-feldspar from Main Dyke (Breaks et al., 2006, OFR 6195). Rusty pock marks in the spodumene represent weathered sphalerite.

Tantalum mineralization is abundant in the Main Dyke and the North Dyke and is hosted within spodumene-rich pegmatite zone and albite-rich pegmatite zone (Figure 7-8). This expands the mineralization within the Case pegmatites to include both the spodumene-rich pegmatite zones with Li and Ta mineralization and the albite-rich pegmatite zones with Ta mineralization. Breaks et al. (2006) study of Case Lake pegmatite dykes showed that the Ta content increases from the South Dyke to the Main Dyke to the North Dyke with increasing fractionation (OFR 6195). Breaks et al. (2006) completed electron microprobe analyses of the Nb-Ta-oxide minerals and identified that most of the Nb-Ta-oxide minerals in the South Dyke are ferrocolumbite. Most of the Nb-Ta-oxide minerals in the Main and North Dykes are manganocolumbite and manganotantalite. Microlite occurs as an infilling between abundant spodumene blades in the North Dyke.

Figure 7-8 Black manganocolumbite-manganotantalite in spodumene-rich zone of the Main Dyke (Breaks et al., 2006, OFR 6195).

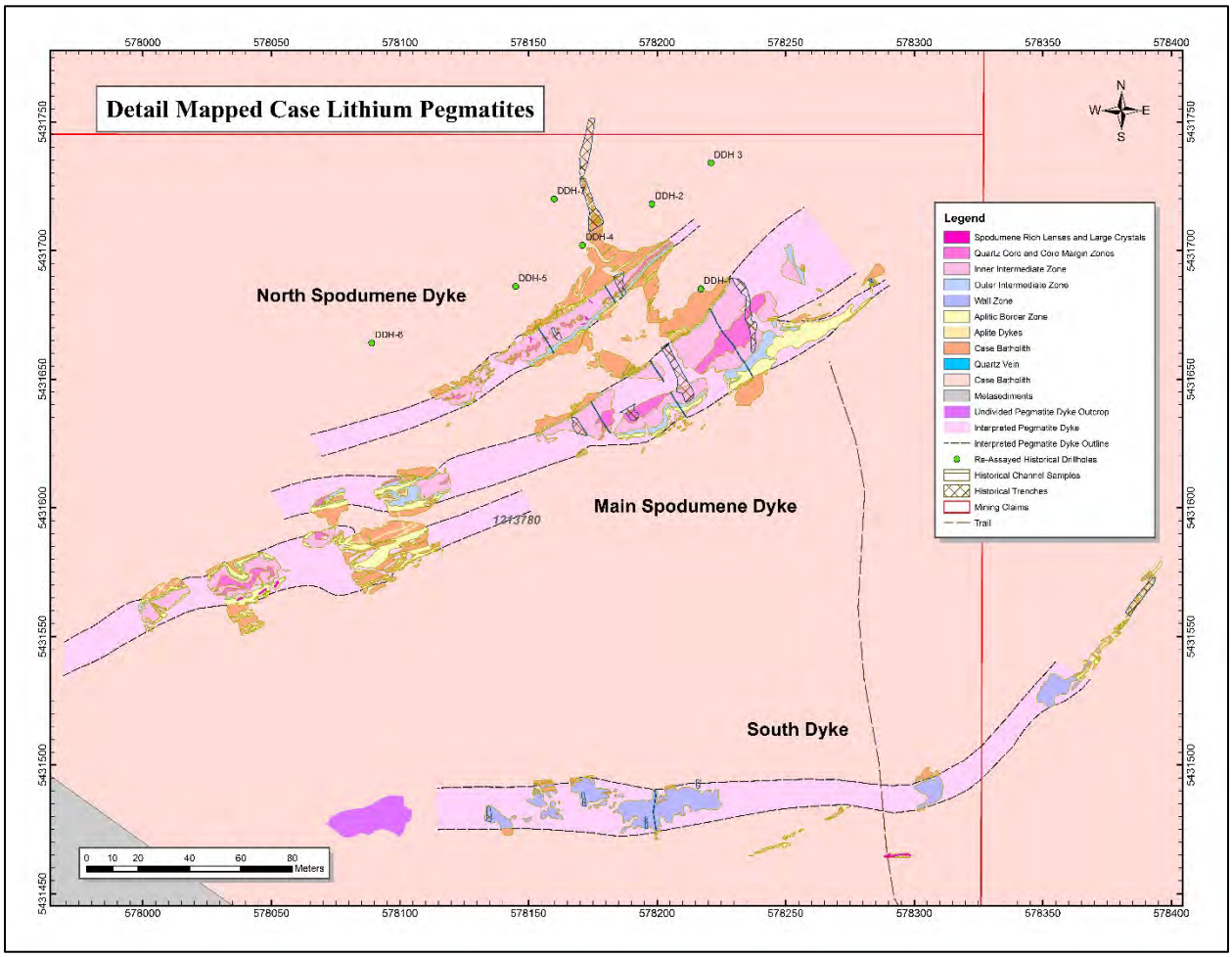


Figure 7-9 Detailed geology map of the North, Main and South Dykes (from Platinova, 2001, MNDM assessment report: 32E04SW2003).

8.0 DEPOSIT TYPES

8.1 Rare-element pegmatites of Superior Province

Rare-element pegmatites may host several economic commodities, such as tantalum (Ta-oxide minerals), tin (cassiterite), lithium (ceramic-grade spodumene and petalite), rubidium (lepidolite and K-feldspar), and cesium (pollucite) collectively known as rare elements, and ceramic-grade feldspar and quartz (Selway *et al*., 2005). Two families of rare-element pegmatites are common in the Superior Province, Canada: Li-Cs-Ta enriched ("LCT") and Nb-Y-F enriched ("NYF"). LCT pegmatites are associated with S-type, peraluminous (Al-rich), quartz-rich granites. S-type granites crystallize from a magma produced by partial melting of preexisting sedimentary source rock. They are characterized by the presence of biotite and

muscovite, and the absence of hornblende. NYF pegmatites are enriched in rare earth elements ("REE"), U, and Th in addition to Nb, Y, F, and are associated with A-type, subaluminous to metaluminous (Al-poor), quartz-poor granites or syenites (Černý, 1991a).

Rare-element pegmatites derived from a fertile granite intrusion are typically distributed over a 10 to 20 km^2 area within 10 km of the fertile granite (Breaks and Tindle, 1997). A fertile granite is the parental granite to rare-element pegmatite dykes. The granitic melt first crystallizes several different granitic units (e.g., biotite granite to two mica granite to muscovite granite), due to an evolving melt composition, within a single parental fertile granite pluton. The residual melt enriched in incompatible elements (e.g., Rb, Cs, Nb, Ta, Sn) and volatiles (e.g., H_2O, Li, F, BO_3, and PO_4) from such a pluton can then migrate into the host rock and crystallize pegmatite dykes (Figure 8-1). Volatiles promote the crystallization of a few large crystals from a melt and increase the ability of the melt to travel greater distances. This results in pegmatite dykes with coarse-grained crystals occurring in country rocks considerable distances from their parent granite intrusions.

There are several geological features that are common in rare-element pegmatites of the Superior province of Ontario (Breaks and Tindle, 2001; Breaks et al., 2003) and Manitoba (Černý et al., 1981; Černý et al., 1998) (Selway *et al.*, 2005):

1. *Subprovincial Boundaries:* The pegmatites tend to occur along subprovincial boundaries.
2. *Metasedimentary-Dominant Subprovince:* Most pegmatites in the Superior province occur along subprovince boundaries, except for those that occur within the metasedimentary Quetico subprovince.
3. *Greenschist to Amphibolite Metamorphic Grade:* Pegmatites are absent in the granulite terranes.
4. *Fertile Parent Granite:* Most pegmatites in the Superior province are genetically derived from a fertile parent granite.
5. *Host Rocks:* Highly fractionated spodumene- and petalite-subtype pegmatites are commonly hosted by mafic metavolcanic rocks (amphibolite) in contact with a fertile granite intrusion along subprovincial boundaries. Pegmatites within the Quetico subprovince are hosted by metasedimentary rocks or their fertile granitic parents.
6. *Metasomatized Host Rocks:* Biotite and tourmaline are common minerals, and holmquistite is a minor phase in metasomatic aureoles in mafic metavolcanic host rocks to spodumene- and petalite-subtype pegmatites. Tourmaline, muscovite, and biotite are common, and holmquistite is rare in metasomatic aureoles in metasedimentary rocks.

7. *Li Minerals:* Most of the complex-type pegmatites of the Superior province contain spodumene and/or petalite as the dominant Li mineral, except for a few pegmatites which have lepidolite as the dominant Li mineral.
8. *Cs Minerals:* Cesium-rich minerals only occur in the most extremely fractionated pegmatites.
9. *Ta-Sn Minerals:* Most pegmatites in the Superior province contain ferrocolumbite and manganocolumbite as the dominant Nb-Ta-bearing minerals. Some pegmatites contain manganotantalite or wodginite as the dominant Ta-oxide mineral. Tantalum-bearing cassiterite is relatively rare in pegmatites of the Superior province.
10. *Pegmatite Zone Hosting Ta Mineralization:* Fine-grained Ta-oxides (e.g., manganotantalite, wodginite, and microlite) commonly occur in the aplite, albitized K-feldspar, mica-rich, and spodumene core zones in pegmatites in the Superior province.

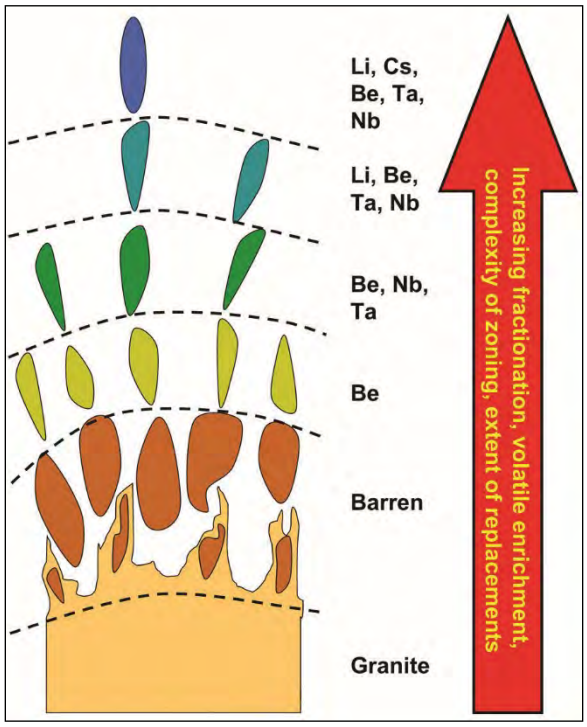


Figure 8-1 Chemical evolution of lithium-rich pegmatites with distance from the granitic source (London, 2008).

8.2 Case Lake pegmatites

The Case Lake pegmatites occur on the subprovincial boundary between the Opatica metasedimentary Subprovince and the Abitibi greenstone Subprovince (Figure 7-1) (Breaks et al., 2006). The Case Lake pegmatites are hosted by laccolith domes which are derived from the Case Lake Batholith. North, Main and Northeast Dykes are classified as spodumene-subtype pegmatites, as the dominate lithium mineral is spodumene. South and East Dykes are classified as beryl-type pegmatite, as only sparse spodumene has been identified within these dykes and beryl is the most fractionated mineral present. The pegmatite dykes increase in fractionation from the South to Main to North Dykes.

9.0 EXPLORATION

9.1 2017 Drilling – Main, North and South Dykes

9.1.1 Drilling Operations

The fall drill program at Case Lake spanned the period of August 18, 2017 to November 20, 2017. A total of 50 NQ holes with a combined meterage of 5405.08 m were drilled by Jacobs and Samuel Drilling (Figure 9-1). The holes were collared into cell claims 236534, 220042, 142528, 207953, 135786, and 158106 targeting the Main, North and South Dykes. Table 9-1 gives the meters drilled for each cell claim.

The purpose of the drilling was to determine the quality and continuity of the Li and Ta mineralization of the main dyke on the Case Lake property. Drilling intersected abundant high-grade mineralization on the known Main dyke as well as two other high grade spodumene pegmatites at depth.

Logging and spotting holes were performed by Power Metals' Geologists Jesse Koroscil and Alan Rich. All drill holes were sampled and surveyed. A reflex down-hole survey was performed at approximately 50 m intervals starting at around 20m depth in all holes. The drill casing was left in all but one drill-hole. Trimble DGPS coordinates of all collar locations were recorded at the end of the drill program. The drilling information is summarized in Table 9-2 and complete core logs are located in Appendix 6.

Figure 9-1 Drilling hole PWM-17-14

A plan view map of the drill hole locations is given in Figure 9-2. Cross sections are given in Appendix 5, drill core logs are given in Appendix 6, and assay certificates are presented in Appendix 7. Selected high-grade assays are shown in Table 9-3.

Table 9-1 Meters drilled per cell claim

Drill hole number	135786	236534	142528	220042	207953	311826	158106	total (m)
PWM-17-01		155						155
PWM-17-02		185						185
PWM-17-03		209.33						209.33
PWM-17-04				37	103.09			140.09
PWM-17-05				74	66.92			140.92
PWM-17-06			41	51	47.87			139.87

Drill hole number	135786	236534	142528	220042	207953	311826	158106	total (m)
PWM-17-07			63	77				140
PWM-17-08					80			80
PWM-17-09					95			95
PWM-17-10					101			101
PWM-17-11			7	49	36			92
PWM-17-12			66			60	116	242
PWM-17-13			15			50		65
PWM-17-14		120			40.87			160.87
PWM-17-15		92			30			122
PWM-17-16		131						131
PWM-17-17		137						137
PWM-17-18		77						77
PWM-17-19		110						110
PWM-17-20		86						86
PWM-17-21		77						77
PWM-17-22		107						107
PWM-17-23		92						92
PWM-17-24		116						116
PWM-17-25		134						134
PWM-17-26		62						62
PWM-17-27		68						68
PWM-17-28		86						86
PWM-17-29		74						74
PWM-17-30		110						110
PWM-17-31		153						153
PWM-17-32		155						155
PWM-17-33					71			71
PWM-17-34					65			65
PWM-17-35					80			80
PWM-17-36		55			49			104
PWM-17-37	41	90						131
PWM-17-38		110						110
PWM-17-39	43	97						140
PWM-17-40					76			76
PWM-17-41				32	72			104
PWM-17-42					101			101
PWM-17-43					74		27	101
PWM-17-44					45		26	71
PWM-17-45					74			74
PWM-17-46					65			65
PWM-17-47		15			50			65

Drill hole number	135786	236534	142528	220042	207953	311826	158106	total (m)
PWM-17-48		65						65
PWM-17-49							68	68
PWM-17-50					71			71
total meterage	84	2968.33	192	320	1493.75	110	237	**5405.08**

Table 9-2 Drill hole collars, UTM Zone 17, NAD 83, DGPS survey.

Drill hole number	Cell claim number	Easting (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Length (m)	Start date	End date	Casing	Samples assayed
PWM-17-01	236534	578021.95	5431601.75	345.23	150	-40	155	18/08/2017	20/08/2017	Left	116
PWM-17-02	236534	578002.51	5431634.37	345.72	150	-46	185	20/08/2017	22/08/2017	Left	49
PWM-17-03	236534	577982.45	5431669.40	344.86	150	-40	209.33	23/08/2017	25/08/2017	Pulled	40
PWM-17-04	220042	578118.14	5431733.96	341.23	148	-45	140.09	26/08/2017	27/08/2017	Left	34
PWM-17-05	220042	578118.15	5431734.18	341.21	148	-70	140.92	27/08/2017	29/09/2017	Left	9
PWM-17-06	142528	578166.50	5431769.83	340.78	148	-44	139.87	30/08/2017	31/08/2017	Left	18
PWM-17-07	142528	578166.21	5431770.25	340.95	148	-62	140	01/09/2017	02/09/2017	Left	8
PWM-17-08	207953	578207.83	5431700.33	345.71	147	-46	80	02/09/2017	03/09/2017	Left	44
PWM-17-09	207953	578207.36	5431700.99	345.69	147	-80	95	04/09/2017	05/09/2017	Left	44
PWM-17-10	207953	578151.80	5431676.76	346.16	144	-40	101	05/09/2017	06/09/2017	Left	64
PWM-17-11	142528	578248.21	5431749.70	342.69	147	-41	92	06/09/2017	07/09/2017	Left	16
PWM-17-12	142528	578252.98	5431796.93	340.97	146	-45	242	07/09/2017	09/09/2017	Left	10
PWM-17-13	142528	578276.69	5431761.51	341.83	145	-44	65	15/09/2017	16/09/2017	Left	10
PWM-17-14	236534	578078.20	5431621.84	345.10	150	-43	160.87	16/09/2017	20/09/2017	Left	106
PWM-17-15	236534	578086.97	5431612.27	345.95	149	-42	122	21/09/2017	22/10/2017	Left	75
PWM-17-16	236534	578033.19	5431580.13	346.11	146	-43	131	24/09/2017	27/09/2017	Left	83
PWM-17-17	236534	577997.70	5431570.05	347.22	149	-40	137	27/09/2017	29/09/2017	Left	91
PWM-17-18	236534	577984.70	5431597.58	346.56	149	-42	77	29/09/2017	30/09/2017	Left	26
PWM-17-19	236534	577967.78	5431625.03	346.60	148	-40	110	01/10/2017	02/10/2017	Left	23
PWM-17-20	236534	577971.68	5431549.14	346.21	143	-42	86	04/10/2017	05/10/2017	Left	50
PWM-17-21	236534	577948.78	5431578.00	345.59	147	-42	77	05/10/2017	06/10/2017	Left	23
PWM-17-22	236534	577930.00	5431602.51	345.02	139	-45	107	07/10/2017	09/10/2017	Left	33
PWM-17-23	236534	577925.51	5431564.89	343.66	144	-44	92	09/10/2017	10/11/2017	Left	32
PWM-17-24	236534	577905.39	5431591.29	343.55	143	-43	116	10/10/2017	12/10/2017	Left	28
PWM-17-25	236534	577892.87	5431619.60	343.51	148	-43	134	12/10/2017	14/10/2017	Left	29
PWM-17-26	236534	577940.78	5431544.09	344.43	148	-45	62	14/10/2017	16/10/2017	Left	20
PWM-17-27	236534	577919.66	5431526.52	343.83	149	-44	68	14/10/2017	15/10/2017	Left	14
PWM-17-28	236534	577903.68	5431553.09	343.54	147	-40	86	17/10/2017	18/10/2017	Left	43

Drill hole number	Cell claim number	Easting (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Length (m)	Start date	End date	Casing	Samples assayed
PWM-17-29	236534	577876.72	5431538.83	343.65	150	-45	74	16/10/2017	18/11/2017	Left	11
PWM-17-30	236534	577848.36	5431593.32	343.72	146	-48	110	18/10/2017	19/10/2017	Left	13
PWM-17-31	236534	577892.56	5431685.13	342.97	143	-44	153	22/10/2017	23/10/2017	Left	9
PWM-17-32	236534	577846.50	5431665.96	343.19	146	-46	155	23/10/2017	25/10/2017	Left	9
PWM-17-33	207953	578197.54	5431660.87	350.46	148	-42	71	25/10/2017	27/10/2017	Left	45
PWM-17-34	207953	578170.15	5431647.10	349.72	148	-45	65	27/10/2017	28/10/2017	Left	46
PWM-17-35	207953	578126.92	5431659.07	346.38	149	-45	80	28/10/2017	29/10/2017	Left	38
PWM-17-36	236534	578100.35	5431699.34	343.35	149	-49	104	29/10/2017	30/10/2017	Left	28
PWM-17-37	135786	578076.38	5431737.93	340.73	149	-42	131	30/10/2017	02/11/2017	Left	34
PWM-17-38	236534	578064.89	5431701.65	342.47	148	-48	110	02/11/2017	03/11/2017	Left	29
PWM-17-39	135786	578042.80	5431739.04	340.71	149	-40	140	04/11/2017	07/11/2017	Left	16
PWM-17-40	207953	578227.40	5431700.22	346.24	147	-42	76	07/11/2017	09/11/2017	Left	45
PWM-17-41	220042	578208.82	5431733.53	342.67	146	-42	104	10/11/2017	11/11/2017	Left	40
PWM-17-42	207953	578243.12	5431709.19	345.94	142	-42	101	11/11/2017	14/11/2017	Left	49
PWM-17-43	207953	578243.18	5431708.93	346.02	120	-46	101	12/11/2017	14/11/2017	Left	54
PWM-17-44	207953	578266.02	5431681.04	348.61	150	-45	71	14/11/2017	15/11/2017	Left	22
PWM-17-45	207953	578208.58	5431674.61	349.31	146	-40	74	15/11/2017	16/11/2017	Left	42
PWM-17-46	207953	578142.24	5431631.83	348.20	149	-46	65	16/11/2017	17/11/2017	Left	26
PWM-17-47	236534	578113.36	5431622.22	346.78	145	-42	65	16/11/2017	18/11/2017	Left	29
PWM-17-48	236534	578059.66	5431593.27	346.05	150	-45	65	18/11/2017	19/11/2017	Left	15
PWM-17-49	158106	578292.80	5431636.20	350.81	149	-42	68	19/11/2017	19/11/2017	Left	20
PWM-17-50	207953	578178.72	5431658.56	349.62	146	-41	71	20/11/2017	20/11/2017	Left	35

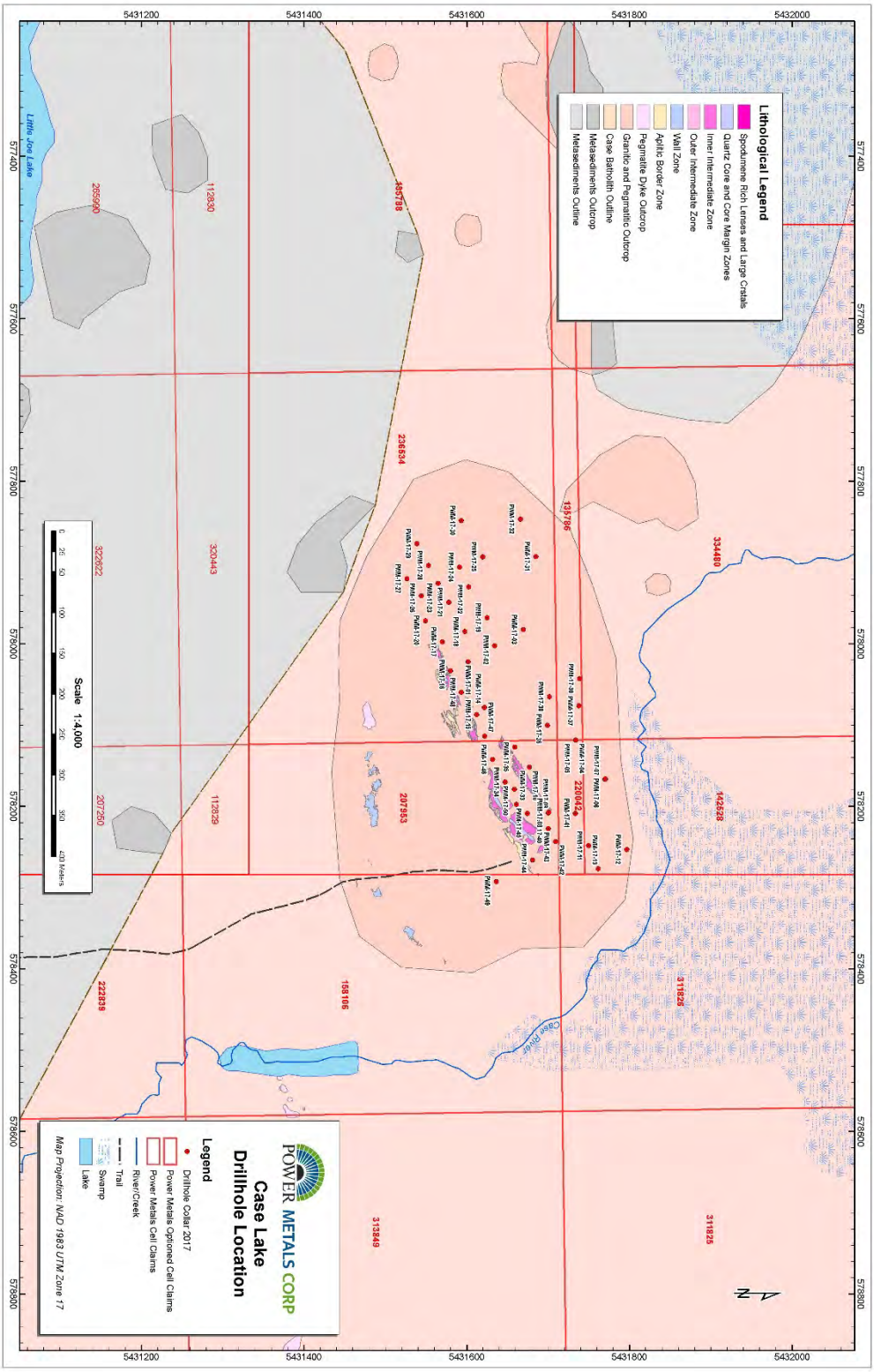


Figure 9-2 Plan view map of 2017 Fall drilling program overlain on regional geology

9.1.2 Sampling Methodology

The drill core was sampled so that 1 m of the tonalite host rock was sampled followed by 1 m long samples of the pegmatite dyke and 1 m of the tonalite host rock. The sampling followed lithology boundaries so that only one lithology unit is within a sample, except for the < 20 cm pegmatite veins in tonalite which were merged into one sample. The drill core samples were delivered to Actlabs preparation lab in Timmins by Power Metals' geologists. The core was crushed and pulverized in Timmins and then shipped to Actlabs analytical lab in Ancaster which has ISO 17025 certification. Every 20 samples included one external quartz blank, one external lithium standard and one core duplicate. The ore grade Li_2O% was prepared by sodium peroxide fusion with analysis by ICP-OES with a detection limit of 0.01 % Li_2O.

A total of 2132 samples including QC samples were submitted to Actlabs for analysis by J-J Minerals which includes 15 prospecting samples and 2117 samples from the drill program. The details of the drill program samples are: 1800 unique drill core samples, 105 blanks, 64 Oreas 147 standards, 43 Oreas 148 standards and 105 core duplicates. Of the unique drill core samples: 1793 were properly described in the drill core logs, but 7 drill core samples are missing sample intervals in the drill core logs. The 7 drill core samples with missing sample intervals have no lithium and tantalum mineralization in their assays. 15 prospecting grab samples were also taken; 8 from the East Dyke and 7 from the Northeast dyke.

9.1.3 Drilling Results

Several positive results came from the 2017 fall drilling program. Power Metals' 2017 drill program intersected high-grade Li mineralization on the Main Dyke and extended the Main Dyke spodumene pegmatite zone 250 m to the west of the historic drill holes; the main dyke is still open at depth. Drilling has also shown the Main Dyke Zone is typically 32-35 m wide close to surface and consists of multiple spodumene pegmatite dykes (see Appendix 5 for cross sections).

Some of the Main Dyke assay highlights include:

- PWM-17-08 from 20 to 46 m with 1.94 % Li_2O and 323.75 ppm Ta over 26 m
- PWM-17-10 from 35 to 50.06 m with 1.74 % Li_2O and 245.96 ppm Ta over 15.06 m
- PWM-17-34 from 8 to 25 m with 1.81 % Li_2O and 136.1 ppm Ta over 17 m
- PWM-17-40 from 18 to 36m with 2.07 % Li_2O and 213.96 ppm Ta over 18m

Furthermore, a new deposit model for the Case Lake pegmatite swarm was developed. Previously, it was believed that the Case Lake pegmatites were hosted by the tonalite/granodiorite Case Lake Batholith. Current drilling by Power Metals exploration team of the North, Main and South Dykes indicates that the spodumene pegmatite dykes are hosted by a dome-shaped laccolith rather than a batholith (Figure 7-6). A laccolith is a dome-shaped igneous body with a flat bottom which is an offshoot of a batholith. The Case Lake Batholith is a 50 x 85 km ovoid granitic complex characterized by a gravity low. Power Metals has identified that it has multiple domes along its margins. The Company has revised its exploration model to target the domes that potentially host spodumene pegmatite dykes.

Power Metals' exploration team discovered two new spodumene pegmatite dykes located between the Main Dyke and the South Dyke. The first new dyke was intersected in holes PWM-17-42 and PWM-17-43 which locally contain up to 30% spodumene. The new dyke was again intersected it again in holes PWM-17-44 and PWM-17-49. A review of the 3D model indicates that it was also intersected at the bottom of holes PWM-17-40 and PWM-17-41. This new dyke is located 20-40 m down hole from the Main Dyke and 35-40 m vertical depth from the surface. This dyke has similar mineralogy to the Main Dyke with aplite border zone, spodumene granite and quartz + spodumene core zone. The second new spodumene pegmatite dyke was intersected in holes PWM-17-42 and PWM-17-49. This dyke is highly fractionated as evidenced by its high Cs_2O contents which correspond to the presence of pollucite. It is located 50 m down hole from the Main Dyke and 50-80 m vertical depth from surface. Both new dykes are open in all directions.

Assay highlights from the new spodumene bearing pegmatites include

- PWM-17-49: 1.61 % Li2O and 143.8 ppm Ta over 3.0 m
- PWM-17-49: 2.13 % Li2O and 265.0 ppm Ta over 1.0 m
- PWM-17-49: 1.1 % Cs_2O over 1.0m
- PWM-17-49: 2.9 % Cs_2O over 1.0m

Additional assay highlights from 2017 drill program are given in *Table 9-3*.

Table 9-3 Lithium and Ta assay highlights

Drill Hole No.	From (m)	To (m)	Interval (m)	Li_2O (%)	Ta (ppm)
PWM-17-01	21.95	22.9	0.95	2.52	89.4
PWM-17-01	25.5	26.5	1	2.5	154
PWM-17-01	44	44.7	0.7	2.27	242
PWM-17-01	47	47.8	0.8	1.06	119
PWM-17-04	105.82	107	1.18	1.97	211

Drill Hole No.		From (m)	To (m)	Interval (m)	Li_2O (%)	Ta (ppm)
PWM-17-08		20	46	26	1.94	323.75
PWM-17-08	including	21	23	2	2.8	39.05
PWM-17-08	and	26	27	1	1.83	738
PWM-17-08	and	39	40	1	2.5	1770
PWM-17-08	and	41	42	1	3.29	73.7
PWM-17-09		29	45	16	1.23	148.4
PWM-17-09	including	30	33	3	2.73	34.37
PWM-17-09	and	33	40	7	1.09	274.14
PWM-17-09	and	38	39	1	2.73	98.3
PWM-17-10		6.26	7	0.74	0.94	39.4
PWM-17-10		35	50.06	15.06	1.74	245.96
PWM-17-10	including	35	36	1	3.07	28.2
PWM-17-10	and	38	39	1	3.11	158
PWM-17-10	and	44	46	2	2.41	711.5
PWM-17-10		55	58	3	1.39	147.77
PWM-17-10		74.72	75.61	0.89	0.92	324
PWM-17-02		60.6	63.5	2.9	0.82	86.48
PWM-17-02		78	79	1	0.6	26.2
PWM-17-03		98.47	98.8	0.33	1.08	162
PWM-17-14		30.55	31.05	0.5	0.93	72.7
PWM-17-14		32.5	33	0.5	0.63	59.8
PWM-17-15		20.2	21.2	1	0.57	108
PWM-17-15		30.1	32.3	2.2	0.65	56.7
PWM-17-16		2	9	7	1.12	119.03
PWM-17-16	including	7	9	2	2.09	115.8
PWM-17-16		27	29	2	0.74	36.55
PWM-17-16		36.8	38.13	1.33	0.72	61.08
PWM-17-17		7.15	12	4.85	1.54	53.16
PWM-17-17		10	11	1	2.05	33
PWM-17-17		28.05	30	1.95	2.39	92.59
PWM-17-18		36	41	5	0.93	58.96
PWM-17-18	including	36	37	1	2.18	51.9
PWM-17-18		54.21	55.12	0.91	1.47	95.1
PWM-17-19		61.67	62.81	1.14	2.56	47.5
PWM-17-20		18	19	1	1.27	93.7
PWM-17-21		38	39	1	0.63	69.6
PWM-17-21		45	46	1	1.3	98.7
PWM-17-22		58	62	4	1.54	35.85
PWM-17-22	including	59	61	2	2.4	35.45
PWM-17-22		71	72.85	1.85	2.08	187.92

Drill Hole No.		From (m)	To (m)	Interval (m)	Li_2O (%)	Ta (ppm)
PWM-17-22	including	71	72	1	2.95	255
PWM-17-23		29.9	32	2.1	0.88	59.51
PWM-17-24		57.5	61.5	4	0.74	57.85
PWM-17-33		5	11	6	2.19	195.27
PWM-17-33	including	5	7	2	3.02	93.3
PWM-17-33		22	33	11	2.11	259.31
PWM-17-33	including	27	29	2	2.48	554
PWM-17-33	including	28	32	4	2.84	213.75
PWM-17-34		8	25	17	1.81	136.1
PWM-17-34	including	15	17	2	2.42	113.55
PWM-17-34	including	18	22	4	1.93	264.25
PWM-17-34	including	22	23	1	2.59	37.5
PWM-17-34		29	32	3	1.79	61.3
PWM-17-34	including	30	32	2	2.16	78
PWM-17-34		48.05	48.83	0.78	0.52	14.7
PWM-17-34		53.98	55	1.02	1.2	29.8
PWM-17-35		5.7	9	3.3	1.35	88.49
PWM-17-35	including	5.7	7	1.3	2.46	27.7
PWM-17-35		31	39	8	1.17	165.34
PWM-17-35	including	31	35	4	1.75	71.1
PWM-17-35	including	33	34	1	2.26	118
PWM-17-35		42	43	1	0.63	34.9
PWM-17-36		61	64	3	1.02	207.33
PWM-17-36	including	62	63	1	2.04	371
PWM-17-36		80	81	1	0.51	38.3
PWM-17-37		109	110	1	1.31	24.7
PWM-17-37		115	116	1	0.85	117
PWM-17-38		96	97.1	1.1	2.19	108
PWM-17-39		129.33	130.5	1.18	0.98	64.2
PWM-17-40		18	36	18	2.07	213.96
PWM-17-40	including	20	23	3	2.43	323.33
PWM-17-40	including	25	27	2	1.41	663.5
PWM-17-40	including	27	34	7	2.81	143.33
PWM-17-40		67	68	1	0.76	30.5
PWM-17-42		65	68	3	0.99	88.33
PWM-17-42		90.66	93	2.34	0.04	343.89
PWM-17-43		67.65	68.8	1.15	0.85	94.1
PWM-17-44		9	11	2	0.6	38.7
PWM-17-44		54.58	61	6.42	1.11	73
PWM-17-44	including	57	58	1	1.94	1.9

Drill Hole No.		From (m)	To (m)	Interval (m)	Li_2O (%)	Ta (ppm)
PWM-17-45		8	14	6	1.67	127.7
PWM-17-45	including	8	10	2	2.05	91.05
PWM-17-45		23	31	8	1.58	233.68
PWM-17-45	including	25	29	4	1.99	287.5
PWM-17-45	including	25	26	1	1.94	735
PWM-17-46		8	14	6	1.79	186.45
PWM-17-47		9	13	4	1.05	105.25
PWM-17-49		31.45	34.45	3	1.61	143.8
PWM-17-49	including	32.45	33.45	1	2.13	265
PWM-17-49		60	61	1	0.62	98.7
PWM-17-50		12	18	6	1.31	106.62
PWM-17-50		31	42	11	1.48	179.35
PWM-17-50	including	38	41	3	2.26	279.33

9.2 2017 Prospecting and grab sampling

Prospecting was completed on the Case Lake property between September 4 and October 21, 2017. The work was performed on claims 108029, 138539, 142510, 156103, 158106, 166565, 182708, 186076, 189471, 237587, 265967, 281365, 285282, 285283, 303078, 311825, 313849 and 334480 by Power Metals' Geologists Jesse Koroscil and Alan Rich. Cell claims 285282, 108029, 182708, 189471, 285283, and 237587 are on Dome 7 along Tomlinson Road. Cell claims 303078 and 265967 are on Dome 1 along Translimit Road. Cell claims 158106, 313849 and 186076 are along the East Dyke. Cell claim 334480 is northwest of Main Dyke. Cell claims 166565, 2811365, 156103, 311825, 142510, and 138539 are from the Northeast Dyke area. The prospecting was done to explore for previously undiscovered pegmatites at surface. 40 stations have UTM coordinates and outcrop descriptions, but samples were not collected and submitted for assay as they were not mineralized. The purpose of these stations was to describe the lithology of the outcrops for mapping. 15 samples were collected and assayed. Appendix 8 shows the daily log of activities, GPS tracks and sample maps.

The prospecting covered 4 areas: Dome 1, Dome 7, East Dyke and North East Dykes (Figure 7-6). Based on preliminary prospecting, Dome 1 and Dome 7 are located on the north side of the Case Lake Property and are dominantly composed of fine to medium grained red to pink granitoid with minor unmineralized pegmatite present.

High-grade spodumene was discovered in the East Dyke pegmatite on the east side of Case River, 450 m southeast from the Main dyke (Figure 9-3). Spodumene makes up to 10% of the occurrence and is fine- to coarse-grained, 0.5 to 6 cm long. Historic work on the East Dyke suggested that spodumene was not present on this pegmatite dyke. The East Dyke has a known strike length of 750 m and has a similar mineralogy to the Main Dyke.

Large spodumene megacrysts (up to 32 cm long) were discovered on the Northeast Dyke which is located 900 m northeast along strike of the North and Main Dykes and is within the same tonalite dome as the North and Main Dykes. Since the Northeast, North and the Main Dykes are along the same strike and within the same dome indicates that they were emplaced along the same deep-seated structure. The Northeast Dyke has a pair of parallel pegmatite dykes: north and south outcrops similar to the North and Main Dykes.

A total of 15 prospecting samples (see Appendix 8, Figure 14-2, Figure 14-3, Table 9-4) were collected and assayed by ActLabs in Ancaster, Ontario. Appendix 9 contains the assay certificates that include the analytical results for the grab samples. The highest grade Li_2O assay (7.14 wt%) came from sample 529459 which is a chip sample of coarse grained spodumene from the Northeast Dyke.

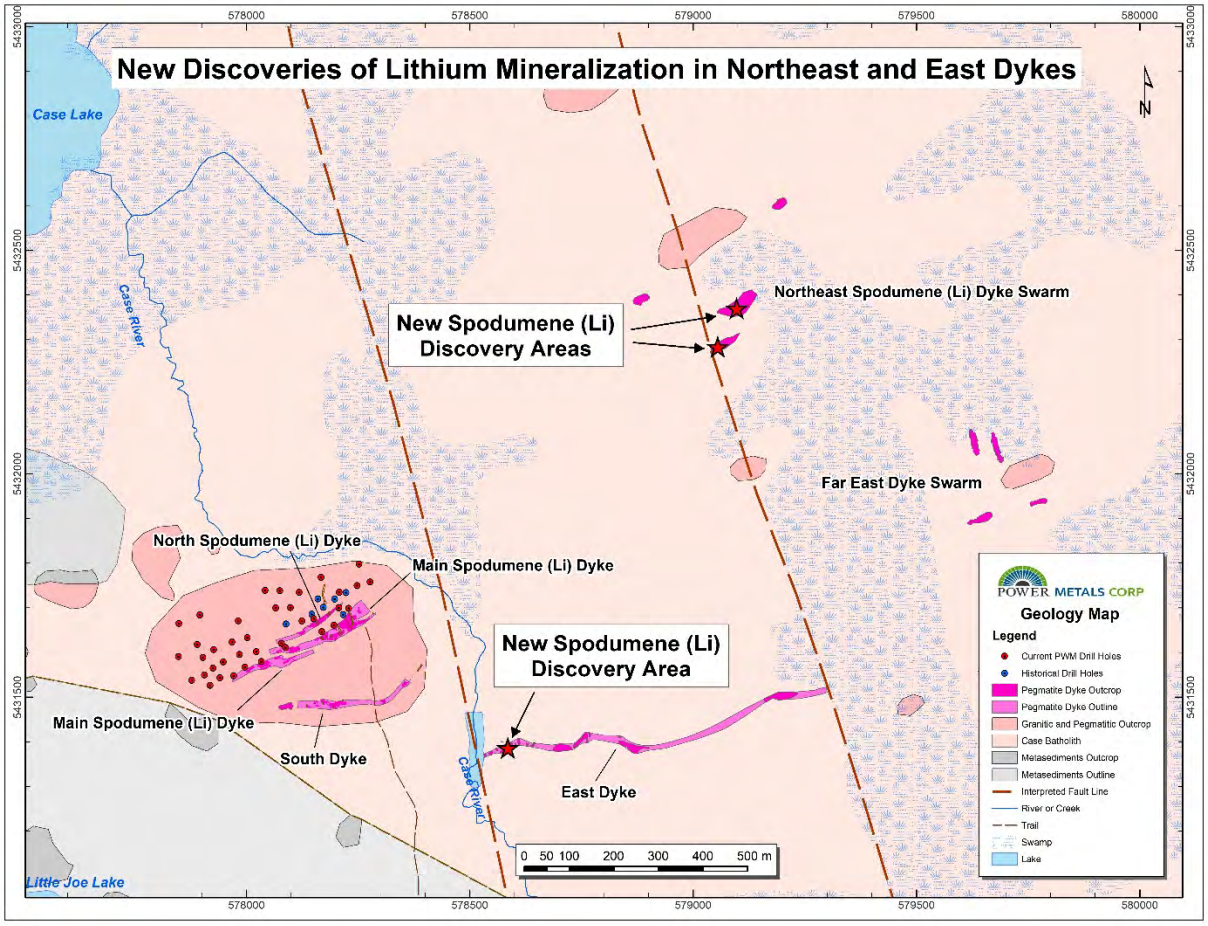


Figure 9-3 New spodumene discoveries at East Dyke and Northeast dyke.

Table 9-4 Case Lake 2017 Fall prospecting assay highlights

Sample number	Station number	Easting	Northing	Rock type	Description	Li_2O (%)	Ta (ppm)
529451	JK-17-21	578595	5431395	PEG	Sample of spd bearing kspar-quartz-musc rich peg. Fg-cg spd is patchy and easiest to observe under a moss matt that I pulled back. Spd ranges from 0.5-4cm, 10% locally.	1.03	181
529459	JK-17-43	579053	5432292	Spod	Chip sample of spd crystals from NE dyke	7.14	28.4
529460	JK-17-45	579104	5432372	Spod	Chip sample of spd crystals from a small 60-80cm peg dyke within tonalite. Green spd megacryst is about 30cm long by 8-10cm wide from NE dyke	6.75	69.6
529461	JK-17-53	579065	5432293	PEG	Chip sample of spd crystals from quartz core of NE dyke. spd megacrysts are up to 14cm in diameter with very large blocky pinkish kspar nearby. Spd makes up to 40% of exposed quartz pod	6.79	14.8
529463	JK-17-52	579055	5432295	PEG	Chip sample of spd rich peg from NE dyke	6.04	103

10.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

10.1 Sample Security

Drill core is brought from the collar location to the core shack where it enters the possession of Power Metals' Geologists. The core is logged and sampled (see section 11.1). Core samples sent for assay are placed in sealed bags and are kept in the possession of Power Metals' geologist until they are dropped off at ActLabs in Timmins.

10.2 Sample Preparation

A total of 2117 samples for the drill program were submitted to Actlabs for analysis by Power Metals which includes 1800 drill core samples and 317 QC samples: 105 blanks, 64 Oreas 147, 43 Oreas 148 and 105 core duplicates. Every 20 samples contained one blank and one Li standard, alternating OREAS 147 and OREAS 148. Core duplicates were analyzed every 20 samples. The blank was ½ inch mesh coarse silica purchased from Analytical Solutions Ltd., Toronto, Ontario (Figure 10-1). The blanks are silica-rich with typically about 97% SiO_2.

Figure 10-1 Quartz blank

Actlabs' Quality System is accredited to international quality standards through the International Organization for Standardization /International Electrotechnical Commission (ISO/IEC) 17025 (ISO/IEC 17025 includes ISO 9001 and ISO 9002 specifications) with CAN-P-1578 (Forensics), CAN-P-1579 (Mineral Analysis) and CAN-P-1585 (Environmental) for specific registered tests by the Standards Council of Canada ("SCC"). The accreditation program includes ongoing audits which verify the QA system and all applicable registered test methods. ISO 17025 is the main standard used by testing and calibration laboratories. Actlabs' analytical lab in Ancaster has ISO 17025 certification.

10.3 Sample Analyses

The core was crushed and pulverized in Timmins and then shipped to Actlabs analytical lab in Ancaster which has ISO 17025 certification.

The samples were prepared using RX1 analytical code. RX1 is dry, crush entire sample to 90% -10 mesh, riffle split (up to 5 kg) and pulverize with hardened steel (250 g sample to 95% -150 mesh) (includes cleaner sand).

The ore grade Li_2O% was analyzed by FUS-Na2O2 (8-peroxide ICP-Li) analytical code which is sodium peroxide fusion with analysis by ICP-OES with a detection limit of 0.01 % Li_2O. Fusion is a "total" digestion of the silicate sample and is the superior method to use for pegmatite analyses.

The major element oxides and trace elements including Rb, Cs, Nb, Ta and Be was analyzed by FUS-ICP and FUS-MS (4Litho-Pegmatite Special) analytical codes. This is lithium metaborate tetraborate fusion with analysis by ICP and ICPMS.

The specific gravity was determined for every 10th sample by RX17-GP analytical code which is a measurement on the pulp by a gas pycnometer.

Actlabs inserted internal standards, blanks, pulp duplicates and preparation duplicates within each sample batch as part of their own internal monitoring of quality control. The internal Li standards were inserted one for every 10 samples and the internal blanks were inserted one for every 20 samples. Actlabs used the following lithium standards: NCS DC86303 with a certified value of 0.460 %Li_2O, NCS DC86304 with a certified value of 2.29 %Li_2O and NCS DC86314 with a certified value of 3.89 %Li_2O. The pulp duplicates were inserted one for every approximately 10 samples. The preparation duplicates were inserted one for every 50 samples.

In the QP's opinion the sample preparation, security and analytical procedure was adequate and to industry standard for the drill program.

11.0 DATA VERIFICATION

As part of the Data Verification process, a comparison was made between the end of hole meterage in the drill hole log – header and lithology tables and the core photos. Where there were discrepancies, the core photos were the meterage used in the database. Core photos were reviewed for selected high grade lithium assays to make sure that the high-grade lithium samples contained spodumene in drill core. Total number of assays received for each job was compared with drill hole samples + QC samples tables. Seven samples from the end of drill hole PWM-17-12 had assays, but no hole to and from information: 529445, 529446, 529447, 529448, 529449, 548051 and 548052. The core photos for this hole are missing for 174 to 242m. Lithology descriptions go up to 242 m EOH. Power Metals geologists are in the process of looking for the sample tag books for these samples to recover the interval information. Luckily, there is no lithium mineralization in these seven samples.

11.1 Quality Control

Every 20 samples included one external quartz blank, one external lithium standard (OREAS 147 and 148) and one core duplicate.

11.1.1 Blanks and Standards

A total of 105 quartz chips were submitted with the drill core as blanks. The pass/fail criteria for the blanks is 3 times the detection limit which is 0.01 * 3 = 0.03 % Li_2O. All of the blanks passed except for two samples which is a failure rate of 1.9 % which is considered to be acceptable (Figure 11-1). Sample 549850, PWM-17-44 was a failed blank with 0.15 % Li_2O due to contamination from the high-grade lithium samples which followed it. Sample 546650, PWM-17-02 has 0.09 % Li_2O and 69.25 % SiO_2 which indicates that is mixed up with drill core. There are no standards or blanks near it to and no mineralized drill core samples on it, so it has no effect on the quality of the mineralized samples.

A total of 64 Oreas 147 standards were submitted in the sample stream. The certified value of Oreas 147 is 0.49 % Li_2O with a standard deviation of 0.02 % Li_2O. The pass/fail criteria for the standards are ± 3 standard deviation of the certified value for the standard. All of the Oreas 147 standards passed within ± 2 standard deviation except for one sample which passed within ± 3 standard deviation (Figure 11-2). There were no failed standards. Sample 546890 is a passed standard, but the SiO_2 value is too high (94.07 %). The standards were bias high, as the majority of the assays were greater than the certified value.

A total of 43 Oreas 148 standards were submitted in the sample stream. The certified value of Oreas 148 is 1.03 % Li_2O with a standard deviation of 0.023 % Li_2O. All of the Oreas 148 standards passed within ± 2 standard deviation except for one sample which passed within ± 3 standard deviation (Figure 11-3). There were no failed standards. The standards were bias high, as the majority of the assays were greater than the certified value.

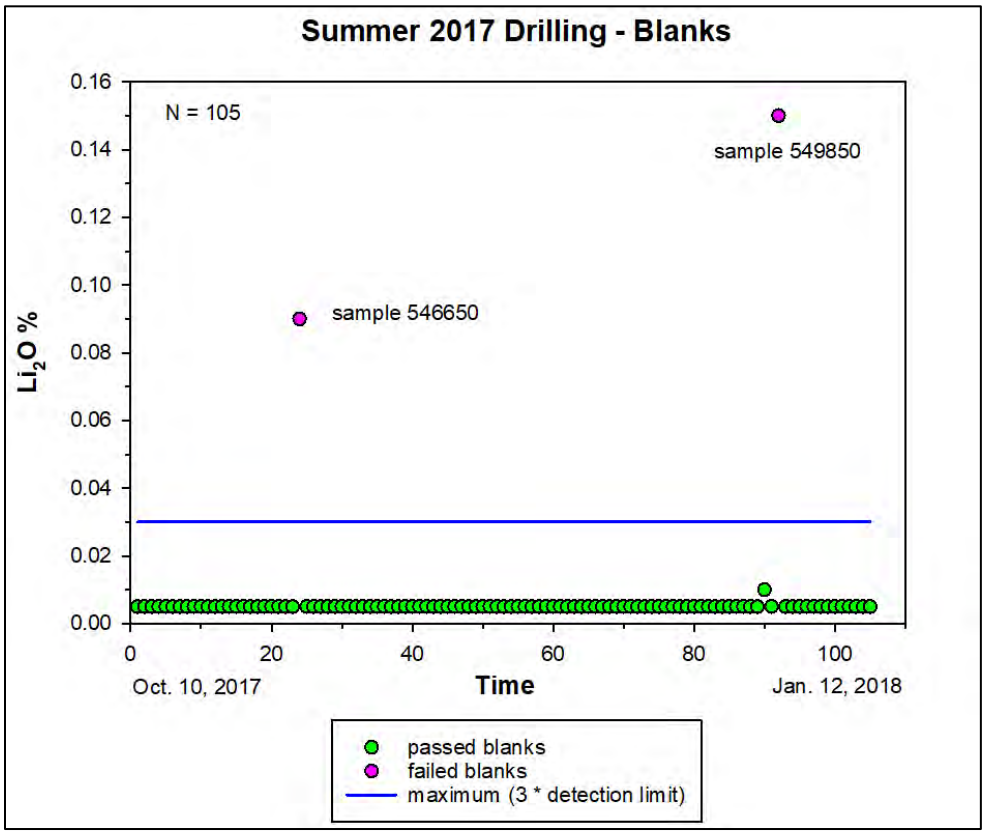


Figure 11-1 Control chart for quartz blanks for summer 2017 drill program.

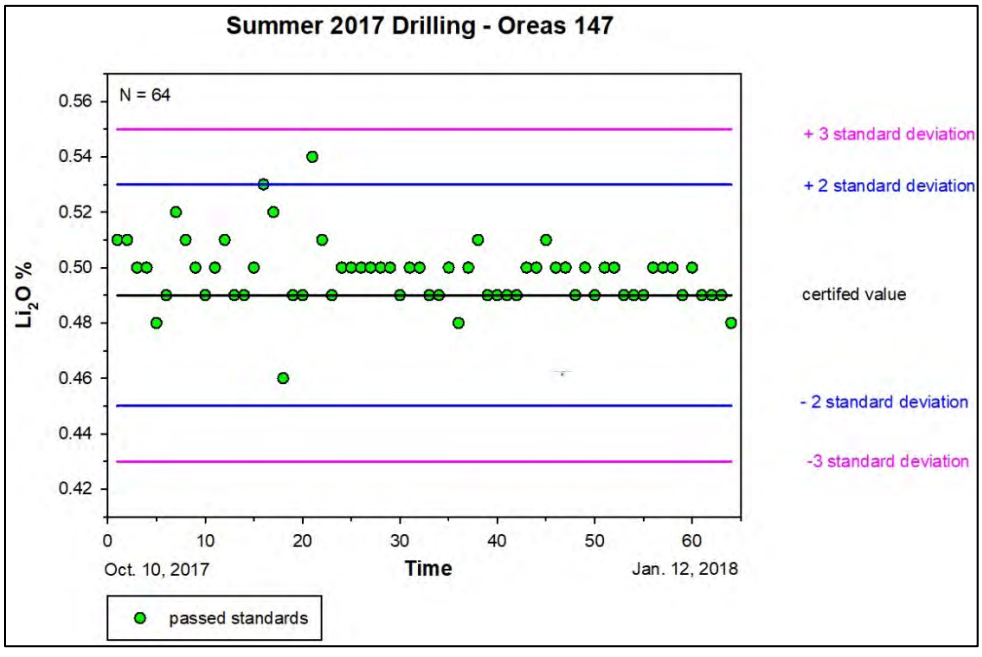


Figure 11-2 Control chart for standard Oreas 147 for summer 2017 drill program.

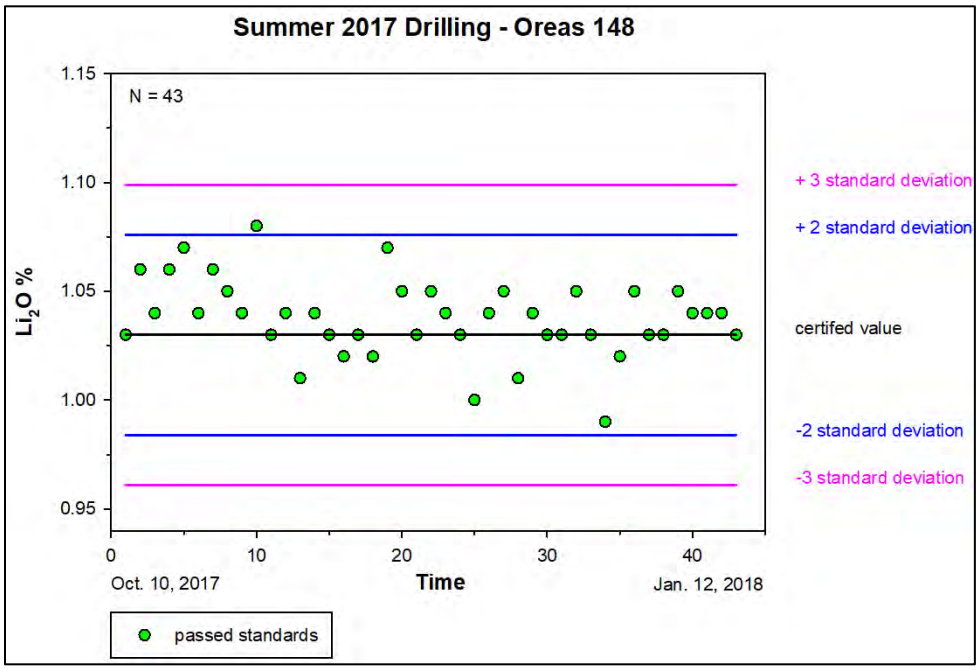


Figure 11-3 Control chart for standard Oreas 148 for summer 2017 drill program.

11.1.2 Core Duplicates

A total of 105 pairs of core duplicates were inserted in the sample stream once in every 20 samples. Ideally, the core duplicates should plot along a 1:1 regression line in a plot of primary vs secondary analyses. Ideally, the core duplicates should have low values of pair absolute difference, although the pair absolute difference increases with the lithium grade. In the All of the core duplicates passed as they plot along a regression line of y = (0.882x) + 0.115 with an R^2 = 0.962, except for one sample. Sample 548974 from drill hole PWM-17-34 which had 1.94 % Li_2O in the original sample and 3.42 % Li_2O in the duplicate sample. A review of the drill core photo indicates that this sample contains very coarse-grained spodumene and that the difference between the two samples is likely due to the grain size of the spodumene rather than analytical error. Sample 549854 from drill hole PWM-17-44 is similar with 1.94 % Li_2O in the original sample and 1.20 % Li_2O in the duplicate due to very coarse-grained spodumene in the interval.

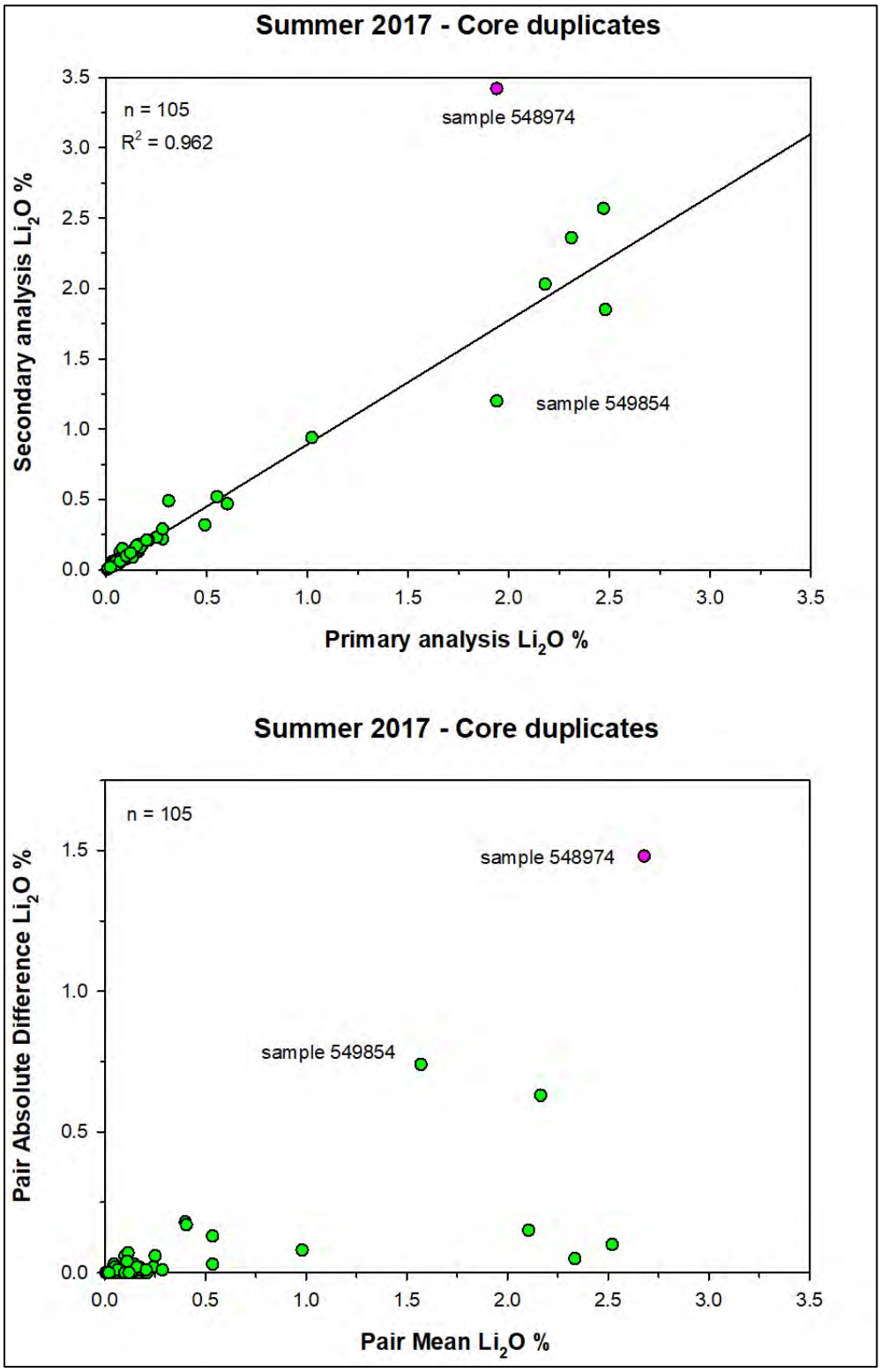


Figure 11-4 Control charts for the core duplicates from summer 2017 drill program.

12.0 INTERPRETATION AND CONCLUSIONS

Case Lake Property is located in Steele and Case townships, near Cochrane, NE Ontario close to the Ontario-Quebec border. It is located within Larder Lake Mining Division and NTS sheet: 32E04SW. It is located 80 km east of Cochrane, 100 km north of Kirkland Lake and 120 km NE of Timmins Power Metals has complete ownership of 450 cell claims (9463.3 ha). Power Metals has optioned 25 cell claims from Ed Shynkorenko's group (529.1 ha).

The Case Lake pegmatite swarm occurs along a subprovincial boundary between the metasedimentary Opatica Subprovince to the north and greenstone Abitibi Subprovince to the south. The Opatica Subprovince consists of the granitic Case Batholith, and the Abitibi Subprovince consists of the Scapa metasedimentary rocks (metagraywacke and garnet schist) and the Steele volcanic rocks (amphibolite) in the Case Lake area. The Case Batholith is an extensive 50 by 85 km ovoid granitic complex. The Case Batholith is a weakly foliated biotite granodiorite to quartz monzonite which is characterized by biotite-rich orbicules that range in diameter from 1 to 7 cm.

The Case Lake pegmatite swarm consists of five dykes:

1. North Dyke – 12 m thick and > 100 m strike length
2. Main Dyke (also known as Central Dyke) – 35 m thick and > 600 m strike length
3. South Dyke – 10 m thick and > 250 m strike length
4. East Dyke – 19 m wide and > 1200 m strike length
5. Northeast Dyke – 10 m wide and > 75 m length

The North, Main and South dykes are hosted by a tonalite laccolith offshoot from the Case Batholith and they strike at 60 to 70° and dip 40 to 60°. The East and Northeast Dykes are hosted by fine-grained biotite-garnet metasedimentary rocks. The North, East and Main Dykes have spodumene-rich zones (muscovite-K-feldspar-quartz-green spodumene-albite) and albitic aplite border zones. Spodumene is absent in the beryl-type South Dyke. The Northeast Dyke consists of white coarse-grained K-feldspar, quartz, spodumene and muscovite. The quartz core of the Northeast dyke contains up to 40% spodumene megacrysts with cross sections up to 14 cm across.

Power Metals identified that the Main, North, South, East, and Northeast pegmatite dykes are not hosted by the Case Batholith as previously thought, but by a single laccolith. The Case Batholith is a 50 x 85 km ovoid granitic complex characterized by a gravity low. Power Metals has identified that the Batholith has multiple domes along its margins. The domes are visible in Google Earth images as white outcrops and are

topographic highs. These domes may be associated with the spodumene mineralization. Power metals will be testing this hypothesis with planned and future drill programs.

The drill program was completed on November 20, 2017. A total of 50 diamond drill holes comprising 5405.08 m (see appendix 5 for drill cross sections). Drilling successfully intersected numerous wide high-grade lithium intervals. Power Metals' 2017 drill program has extended the Main Dyke spodumene pegmatite zone 250 m to the west of the historic drill holes. Drilling has also shown the Main Dyke Zone is typically 32-35 m wide close to surface and consists of multiple spodumene pegmatite dykes.

Significant intervals for the Main Dyke include:

- PWM-17-08 from 20 to 46 m with 1.94 % Li_2O and 323.75 ppm Ta over 26 m
- PWM-17-10 from 35 to 50.06 m with 1.74 % Li_2O and 245.96 ppm Ta over 15.06 m
- PWM-17-34 from 8 to 25 m with 1.81 % Li_2O and 136.1 ppm Ta over 17 m
- PWM-17-40 from 18-36m with 2.07 % Li_2O and 213.96 ppm Ta over 18m

Power Metals' exploration team discovered two new spodumene pegmatite dykes located between the Main Dyke and the South Dyke. The dykes have similar mineralogy to the Main Dyke with aplite border zone, spodumene granite and quartz + spodumene core zone. The first new dyke was intersected in 6 drill holes and is located 20-40 m down hole from the Main Dyke and 35-40 m vertical depth from the surface. The second new spodumene pegmatite dyke was intersected in 2 drill holes and notably is highly fractionated as evidenced by its high Cs_2O contents which correspond to the presence of pollucite. It is located 50 m down hole from the Main Dyke and 50-80 m vertical depth from surface. Both new dykes are open in all directions.

Assay highlights from the new spodumene bearing pegmatites include

- PWM-17-49: 1.61 % Li2O and 143.8 ppm Ta over 3.0 m
- PWM-17-49: 2.13 % Li2O and 265.0 ppm Ta over 1.0 m
- PWM-17-49: 1.1 % Cs_2O over 1.0m
- PWM-17-49: 2.9 % Cs_2O over 1.0m

13.0 RECOMMENDATIONS

Power Metals proposes the following future exploration

- A drill program on the Northeast Dyke, which is located 900 m along strike from the North and Main Dykes. The Northeast Dyke shares a tonalite dome with the North and Main Dykes. Prospecting in

Fall 2017 lead to the discovery of a pegmatite that contains up to 40% spodumene that is open in all directions at surface at this new location.

- Further drilling targeting the new spodumene pegmatite dykes located between the Main Dyke and the South Dyke which were discovered at the end of the 2017 Main Dyke drill program.

- Prospecting and sampling of 9 identified tonalite domes including traverses along GPS grid lines within each dome to map the lithology and collect grab samples to evaluate the lithium content of the tonalite/granodiorite and pegmatite dykes. Discovered mineralized pegmatite dykes will be stripped, trenched and power washed to expand their exposure. Spodumene-bearing pegmatite dykes will be channel sampled and assayed. Each dome will be evaluated as a potential drill target.

14.0 REFERENCES

Breaks, F.W., Selway, J.B. and Tindle, A.G. (2003): Fertile and peraluminous granites and related rare-element mineralization in pegmatites, Superior Province, Northwest and Northeast Ontario: Opoeration Treasure Hunt; Ontario Geological Survey, Open File Report 6099, 179 p.

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Nickel, E.H. (1963): A mineralogical investigation of pegmatite samples from Steele Township, Ontario, submitted by Canadian Johns-Manville Company Limited; Kirkland Lake Resident Geologist office, NTS: 32E/4, Canada Department of Mines and Technical Surveys, Mines Branch Report IR 63-34, 8p.

Selway, J.B., Breaks, F.W., and Tindle, A.G. (2005): A review of rare-element (Li-Cs-Ta) pegmatite exploration techniques for the Superior Province, Canada and large worldwide Tantalum deposits, Exploration and Mining Geology, v. 14, p. 1-30.

Selway, J. (2017): NI 43-101 Technical Report, Case Lake Property, Cochrane, Northeastern Ontario, Canada, prepared for Power Metals Corp., dated July 14, 2017.

Appendix 1 – Certificate of Qualifications

Julie Selway
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Telephone: 705-690-7996
Email: jselway@eastlink.ca

CERTIFICATE OF QUALIFIED PERSON

I, Julie Selway, do hereby certify that:

1. I am employed as VP of Exploration for Power Metals Corp, Vancouver, British Columbia and Principal Geologist for geological consulting firm J-J Minerals, Sudbury, Ontario.
2. I am the Qualified Person for this Report entitled "Assessment Report – 2017 Drill Program on Main, North and South Dykes, Case Lake Property, Cochrane, Northeastern Ontario, Canada, NTS Sheet: 32E04SW" dated Feb. 20, 2019 and prepared for Power Metals Corp.
3. I hold the following academic qualifications: B.Sc. (Hons) Geology (1991) Saint Mary's University; M.Sc. Geology (1993) Lakehead University; Ph.D. Mineralogy (1999) University of Manitoba.
4. I am a member of the Association of Professional Geoscientists of Ontario (Member #0738). I am a member in good standing of the Mineralogical Association of Canada, Geological Association of Canada and Mineralogical Society of America.
5. I completed a Ph.D. on LCT granitic pegmatites in 1999 at the University of Manitoba. I worked for the Ontario Geological Survey as a pegmatite geoscientist 2001-2003. I supervised the prospecting and drill program at Case Lake in 2017.
6. I visited Case Lake pegmatites in 2001 and 2002 while working as a pegmatite geoscientist for the Ontario Geological Survey and co-authored two Open File Reports on the Property (Breaks et al., 2003 and 2006). I also visited the Case Lake Property in 2017 and 2018 while working for Power Metals.
7. As of the date of this certificate, to the best of my knowledge, information and belief, the report contains all scientific and technical information that is required to be disclosed to make this report not misleading.

Dated this 20th Day February 2019

Julie Selway

Julie Selway, Ph.D., P.Geo.
VP Exploration, Power Metals Corp.

PROFESSIONAL GEOSCIENTIST
JULIE B. SELWAY
PRACTISING MEMBER
0738
ONTARIO

Appendix 2 – Summary of Cell Claims for Case Lake Property

Table 14-1. Cell claims 100% owned by Power Metals Corp.

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4271906	STEELE	123871	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271906	STEELE	310596	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271906	STEELE	265991	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271906	STEELE	255140	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271906	STEELE	208007	Single Cell Mining Claim	2019-04-19	$ 400.00
4271906	STEELE	208006	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271906	STEELE	199984	Single Cell Mining Claim	2019-04-19	$ 400.00
4271906	STEELE	199983	Single Cell Mining Claim	2019-04-19	$ 400.00
4271906	STEELE	199982	Single Cell Mining Claim	2019-04-19	$ 400.00
4271906	STEELE	199247	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271906	STEELE	168376	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271906	STEELE	155348	Single Cell Mining Claim	2019-04-19	$ 400.00
4271906	STEELE	155347	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271906	STEELE	141261	Single Cell Mining Claim	2019-04-19	$ 400.00
4271906	STEELE	141260	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271906	STEELE	135825	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	103796	Single Cell Mining Claim	2019-04-19	$ 400.00
4271907	STEELE	272387	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	235188	Single Cell Mining Claim	2019-04-19	$ 400.00
4271907	STEELE	235187	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	217167	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	217166	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	217165	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	217164	Single Cell Mining Claim	2019-04-19	$ 400.00
4271907	STEELE	217163	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	187359	Single Cell Mining Claim	2019-04-19	$ 400.00
4271907	STEELE	168375	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	151752	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	151751	Single Cell Mining Claim	2019-04-19	$ 400.00
4271907	STEELE	151750	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	135339	Single Cell Mining Claim	2019-04-19	$ 400.00
4271907	STEELE	135338	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271907	STEELE	123870	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271908	STEELE	110495	Boundary Cell Mining Claim	2019-04-19	$ 200.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4271908	STEELE	343116	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271908	STEELE	267707	Single Cell Mining Claim	2019-04-19	$ 400.00
4271908	STEELE	267706	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271908	STEELE	246032	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271908	STEELE	237078	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271908	STEELE	237077	Single Cell Mining Claim	2019-04-19	$ 400.00
4271908	STEELE	237076	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271908	STEELE	208428	Single Cell Mining Claim	2019-04-19	$ 400.00
4271908	STEELE	201084	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271908	STEELE	201083	Single Cell Mining Claim	2019-04-19	$ 400.00
4271908	STEELE	180964	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271908	STEELE	156476	Single Cell Mining Claim	2019-04-19	$ 400.00
4271908	STEELE	149511	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271908	STEELE	142345	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271908	STEELE	133568	Single Cell Mining Claim	2019-04-19	$ 400.00
4271908	STEELE	110496	Single Cell Mining Claim	2019-04-19	$ 400.00
4271909	STEELE	112829	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271909	STEELE	322622	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271909	STEELE	320443	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271909	STEELE	265990	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271909	STEELE	207250	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271909	STEELE	112830	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271910	STEELE	106851	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271910	STEELE	340339	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271910	STEELE	281365	Single Cell Mining Claim	2019-04-19	$ 400.00
4271910	STEELE	246033	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271910	STEELE	186076	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271910	STEELE	186075	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271910	STEELE	178786	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4271910	STEELE	166565	Single Cell Mining Claim	2019-04-19	$ 400.00
4271910	STEELE	122049	Boundary Cell Mining Claim	2019-04-19	$ 200.00
4276457	STEELE	100307	Single Cell Mining Claim	2019-09-25	$ 400.00
4276457	STEELE	229605	Boundary Cell Mining Claim	2019-09-25	$ 200.00
4276457	STEELE	222848	Single Cell Mining Claim	2019-09-25	$ 400.00
4276457	STEELE	210789	Single Cell Mining Claim	2019-09-25	$ 400.00
4276457	STEELE	144808	Boundary Cell Mining Claim	2019-09-25	$ 200.00
4276457	STEELE	127619	Single Cell Mining Claim	2019-09-25	$ 400.00
4284339	CASE,PLINY,STEELE	315495	Boundary Cell Mining Claim	2019-03-03	$ 200.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4284339	STEELE	315494	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	STEELE	308265	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	STEELE	211038	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	STEELE	192258	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	STEELE	174801	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	STEELE	174800	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	STEELE	128719	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	PLINY,STEELE	308788	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	CASE,STEELE	315493	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	CASE,STEELE	308264	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	CASE,STEELE	288055	Boundary Cell Mining Claim	2019-03-03	$ 200.00
4284339	CASE,STEELE	240909	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	CASE,STEELE	240908	Single Cell Mining Claim	2019-03-03	$ 400.00
4284339	CASE,STEELE	140246	Boundary Cell Mining Claim	2019-03-03	$ 200.00
4284339	CASE,STEELE	109449	Single Cell Mining Claim	2019-03-03	$ 400.00
4284340	CASE	104175	Single Cell Mining Claim	2019-03-03	$ 400.00
4284340	CASE	340807	Single Cell Mining Claim	2019-03-03	$ 400.00
4284340	CASE	252324	Single Cell Mining Claim	2019-03-03	$ 400.00
4284340	CASE	233154	Single Cell Mining Claim	2019-03-03	$ 400.00
4284340	CASE	215115	Single Cell Mining Claim	2019-03-03	$ 400.00
4284340	CASE	197168	Single Cell Mining Claim	2019-03-03	$ 400.00
4284340	CASE	185021	Single Cell Mining Claim	2019-03-03	$ 400.00
4284340	CASE	180723	Single Cell Mining Claim	2019-03-03	$ 400.00
4284341	CASE	135522	Single Cell Mining Claim	2019-03-03	$ 400.00
4284341	CASE	291367	Single Cell Mining Claim	2019-03-03	$ 400.00
4284341	CASE	291366	Single Cell Mining Claim	2019-03-03	$ 400.00
4284341	CASE	283311	Single Cell Mining Claim	2019-03-03	$ 400.00
4284341	CASE	236159	Single Cell Mining Claim	2019-03-03	$ 400.00
4284342	CASE	108685	Single Cell Mining Claim	2019-03-03	$ 400.00
4284342	CASE	333660	Single Cell Mining Claim	2019-03-03	$ 400.00
4284342	CASE	333659	Single Cell Mining Claim	2019-03-03	$ 400.00
4284342	CASE	303078	Single Cell Mining Claim	2019-03-03	$ 400.00
4284342	CASE	289596	Single Cell Mining Claim	2019-03-03	$ 400.00
4284342	CASE	265967	Single Cell Mining Claim	2019-03-03	$ 400.00
4284342	CASE	205769	Single Cell Mining Claim	2019-03-03	$ 400.00
4284342	CASE	151104	Single Cell Mining Claim	2019-03-03	$ 400.00
4284342	CASE	150310	Single Cell Mining Claim	2019-03-03	$ 400.00
4285158	CASE	108066	Single Cell Mining Claim	2019-11-02	$ 400.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4285158	CASE	312253	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	305507	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	293346	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	219397	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	219396	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	219395	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	201662	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	201661	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	189511	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	189510	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	189509	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	143524	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	143523	Single Cell Mining Claim	2019-11-02	$ 400.00
4285158	CASE	125528	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	126777	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	345026	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	345025	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	345024	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	313530	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	313529	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	306801	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	304102	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	304101	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	291469	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	227498	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	190797	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	188111	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	181343	Single Cell Mining Claim	2019-11-02	$ 400.00
4285159	CASE	138824	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE,STEELE	236758	Boundary Cell Mining Claim	2019-11-02	$ 200.00
4285160	CASE,STEELE	188113	Boundary Cell Mining Claim	2019-11-02	$ 200.00
4285160	CASE,PLINY,STEELE	236762	Boundary Cell Mining Claim	2019-11-02	$ 200.00
4285160	CASE,PLINY	235911	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE,PLINY	181344	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE	342358	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE	291470	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE	283923	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE	283922	Single Cell Mining Claim	2019-11-02	$ 400.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4285160	CASE	283921	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE	254894	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE	236761	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE	236760	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE	236759	Single Cell Mining Claim	2019-11-02	$ 400.00
4285160	CASE	188112	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	108028	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	305463	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	292795	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	285283	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	285282	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	285281	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	256242	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	237587	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	201626	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	189472	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	189471	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	189470	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	182709	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	182708	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	182707	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	142981	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	142980	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	142979	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	137475	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	125494	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	125493	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	125492	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	108031	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	108030	Single Cell Mining Claim	2019-11-02	$ 400.00
4285161	CASE	108029	Single Cell Mining Claim	2019-11-02	$ 400.00
4285162	CASE	107342	Single Cell Mining Claim	2019-11-02	$ 400.00
4285162	CASE	314187	Single Cell Mining Claim	2019-11-02	$ 400.00
4285162	CASE	286773	Single Cell Mining Claim	2019-11-02	$ 400.00
4285162	CASE	210245	Single Cell Mining Claim	2019-11-02	$ 400.00
4285162	CASE	210244	Single Cell Mining Claim	2019-11-02	$ 400.00
4285162	CASE	203605	Single Cell Mining Claim	2019-11-02	$ 400.00
4285162	CASE	144927	Single Cell Mining Claim	2019-11-02	$ 400.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4285162	CASE	144926	Single Cell Mining Claim	2019-11-02	$ 400.00
4285162	CASE	139480	Single Cell Mining Claim	2019-11-02	$ 400.00
4285162	CASE	139479	Single Cell Mining Claim	2019-11-02	$ 400.00
4286402	STEELE	104662	Single Cell Mining Claim	2019-02-23	$ 400.00
4286402	STEELE	278379	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286402	STEELE	265849	Single Cell Mining Claim	2019-02-23	$ 400.00
4286402	STEELE	265848	Single Cell Mining Claim	2019-02-23	$ 400.00
4286402	STEELE	265847	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286402	STEELE	253797	Single Cell Mining Claim	2019-02-23	$ 400.00
4286402	STEELE	245796	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286402	STEELE	206587	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286402	STEELE	198589	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286402	STEELE	112674	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286402	STEELE	112673	Single Cell Mining Claim	2019-02-23	$ 400.00
4286402	STEELE	112672	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286403	STEELE	338794	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286403	STEELE	297776	Single Cell Mining Claim	2019-02-23	$ 400.00
4286403	STEELE	268338	Single Cell Mining Claim	2019-02-23	$ 400.00
4286403	STEELE	260966	Single Cell Mining Claim	2019-02-23	$ 400.00
4286403	STEELE	260965	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286403	STEELE	243837	Single Cell Mining Claim	2019-02-23	$ 400.00
4286403	STEELE	231124	Single Cell Mining Claim	2019-02-23	$ 400.00
4286403	STEELE	193281	Single Cell Mining Claim	2019-02-23	$ 400.00
4286403	STEELE	177787	Single Cell Mining Claim	2019-02-23	$ 400.00
4286403	STEELE	164377	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286403	STEELE	158277	Single Cell Mining Claim	2019-02-23	$ 400.00
4286403	STEELE	104663	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	SCAPA,STEELE	170653	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	322707	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	311246	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	304468	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	274636	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	274635	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	208635	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	208633	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	200620	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	170652	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	169358	Single Cell Mining Claim	2019-02-23	$ 400.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4286404	STEELE	156004	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	151221	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286404	STEELE	141910	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	136448	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	113179	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	STEELE	112918	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	SCAPA,STEELE	320537	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	SCAPA,STEELE	304467	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	SCAPA,STEELE	208636	Single Cell Mining Claim	2019-02-23	$ 400.00
4286404	SCAPA,STEELE	208634	Single Cell Mining Claim	2019-02-23	$ 400.00
4286405	SCAPA,STEELE	268576	Single Cell Mining Claim	2019-02-23	$ 400.00
4286405	STEELE	320536	Single Cell Mining Claim	2019-02-23	$ 400.00
4286405	STEELE	309088	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286405	STEELE	303193	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286405	STEELE	273341	Single Cell Mining Claim	2019-02-23	$ 400.00
4286405	STEELE	261799	Single Cell Mining Claim	2019-02-23	$ 400.00
4286405	STEELE	236440	Single Cell Mining Claim	2019-02-23	$ 400.00
4286405	STEELE	207356	Single Cell Mining Claim	2019-02-23	$ 400.00
4286405	STEELE	175081	Single Cell Mining Claim	2019-02-23	$ 400.00
4286405	STEELE	112917	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286405	STEELE	112916	Single Cell Mining Claim	2019-02-23	$ 400.00
4286405	STEELE	112915	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286405	SCAPA,STEELE	273342	Single Cell Mining Claim	2019-02-23	$ 400.00
4286405	SCAPA,STEELE	273340	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	ABBOTSFORD,CASE,SCAPA,STEELE	315772	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	STEELE	337205	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	STEELE	328493	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	STEELE	309087	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286406	STEELE	309074	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	STEELE	268559	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	STEELE	268557	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286406	STEELE	249823	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	STEELE	241748	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	STEELE	241747	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	STEELE	175060	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286406	STEELE	111030	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	SCAPA,STEELE	268558	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	SCAPA,STEELE	268556	Single Cell Mining Claim	2019-02-23	$ 400.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4286406	SCAPA,STEELE	194575	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	CASE,STEELE	315773	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	CASE,STEELE	193637	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	CASE,STEELE	175059	Single Cell Mining Claim	2019-02-23	$ 400.00
4286406	CASE,STEELE	146458	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	CASE	154594	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	STEELE	334032	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286407	STEELE	239335	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286407	STEELE	236522	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	STEELE	189924	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	STEELE	135778	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	STEELE	112996	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286407	CASE,STEELE	303798	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	CASE,STEELE	169966	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	CASE,STEELE	105497	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	CASE	192073	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	CASE	192074	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	CASE	229304	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	CASE	239334	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	CASE	296521	Single Cell Mining Claim	2019-02-23	$ 400.00
4286407	CASE	336269	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	104954	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	128581	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	128582	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	140061	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	140062	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	162531	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	162532	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	162533	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	221351	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	229303	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	241479	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	241480	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	241481	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	248811	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	248812	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	287909	Single Cell Mining Claim	2019-02-23	$ 400.00
4286408	CASE	296520	Single Cell Mining Claim	2019-02-23	$ 400.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4286408	CASE	308650	Single Cell Mining Claim	2019-02-23	$ 400.00
4286409	CASE	150311	Single Cell Mining Claim	2019-02-23	$ 400.00
4286409	CASE	180721	Single Cell Mining Claim	2019-02-23	$ 400.00
4286409	CASE	186278	Single Cell Mining Claim	2019-02-23	$ 400.00
4286409	CASE	198436	Single Cell Mining Claim	2019-02-23	$ 400.00
4286409	CASE	265110	Single Cell Mining Claim	2019-02-23	$ 400.00
4286409	CASE	282783	Single Cell Mining Claim	2019-02-23	$ 400.00
4286409	CASE	301659	Single Cell Mining Claim	2019-02-23	$ 400.00
4286409	CASE	301660	Single Cell Mining Claim	2019-02-23	$ 400.00
4286409	CASE	319586	Single Cell Mining Claim	2019-02-23	$ 400.00
4286409	CASE	320192	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	107603	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	135523	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	141559	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	141560	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	166383	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	180722	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	180724	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	187485	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	235308	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	283312	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	291368	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	303490	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	320191	Single Cell Mining Claim	2019-02-23	$ 400.00
4286410	CASE	320193	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	136548	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	170438	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	172572	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	201233	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	209255	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	220799	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	267996	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	281127	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	281128	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	285211	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	324056	Single Cell Mining Claim	2019-02-23	$ 400.00
4286411	CASE	344874	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	STEELE	344875	Boundary Cell Mining Claim	2019-02-23	$ 200.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4286412	STEELE	322453	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	STEELE	305953	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	STEELE	293318	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286412	STEELE	285213	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	STEELE	256066	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286412	STEELE	227202	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	STEELE	189925	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286412	STEELE	172573	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	STEELE	153803	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286412	STEELE	137385	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	STEELE	125917	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	STEELE	125916	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	CASE,STEELE	322452	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	CASE,STEELE	285212	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	CASE,STEELE	153802	Single Cell Mining Claim	2019-02-23	$ 400.00
4286412	CASE,STEELE	125915	Single Cell Mining Claim	2019-02-23	$ 400.00
4286413	CASE	119422	Single Cell Mining Claim	2019-02-23	$ 400.00
4286413	CASE	121832	Single Cell Mining Claim	2019-02-23	$ 400.00
4286413	CASE	185336	Single Cell Mining Claim	2019-02-23	$ 400.00
4286413	CASE	251976	Single Cell Mining Claim	2019-02-23	$ 400.00
4286413	CASE	281129	Single Cell Mining Claim	2019-02-23	$ 400.00
4286413	CASE	289216	Single Cell Mining Claim	2019-02-23	$ 400.00
4286413	CASE	289217	Single Cell Mining Claim	2019-02-23	$ 400.00
4286413	CASE	328395	Single Cell Mining Claim	2019-02-23	$ 400.00
4286413	CASE	340808	Single Cell Mining Claim	2019-02-23	$ 400.00
4286414	STEELE	329821	Single Cell Mining Claim	2019-02-23	$ 400.00
4286414	STEELE	317108	Single Cell Mining Claim	2019-02-23	$ 400.00
4286414	CASE	201301	Single Cell Mining Claim	2019-02-23	$ 400.00
4286414	CASE	275294	Single Cell Mining Claim	2019-02-23	$ 400.00
4286414	CASE	334545	Single Cell Mining Claim	2019-02-23	$ 400.00
4286414	CASE,STEELE	113360	Single Cell Mining Claim	2019-02-23	$ 400.00
4286414	CASE,STEELE	256470	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	104000	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	339016	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	339015	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286415	STEELE	317424	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	317423	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	300798	Single Cell Mining Claim	2019-02-23	$ 400.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4286415	STEELE	299253	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	280558	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	269681	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	244707	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	232472	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	184740	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	179135	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	177963	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	177962	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286415	STEELE	165943	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286415	STEELE	165942	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	132742	Single Cell Mining Claim	2019-02-23	$ 400.00
4286415	STEELE	120756	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286415	STEELE	120755	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	PLINY,STEELE	104001	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	STEELE	340120	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	STEELE	269682	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	STEELE	260329	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	STEELE	232473	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	STEELE	184650	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	STEELE	165716	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	STEELE	120633	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	STEELE	119262	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	PLINY,STEELE	119261	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	PLINY,STEELE	165717	Single Cell Mining Claim	2019-02-23	$ 400.00
4286416	PLINY,STEELE	184649	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	PLINY,STEELE	156643	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	PLINY,STEELE	255930	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	PLINY,STEELE	334515	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	STEELE	113329	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	STEELE	192282	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	STEELE	192283	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	STEELE	201274	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	STEELE	204450	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	STEELE	237895	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	STEELE	237896	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	STEELE	257319	Single Cell Mining Claim	2019-02-23	$ 400.00
4286417	STEELE	305085	Single Cell Mining Claim	2019-02-23	$ 400.00

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
4286418	STEELE	145119	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	159221	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	173711	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	173712	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	204451	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	211745	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	248450	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	248451	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	260455	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	307718	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	314457	Single Cell Mining Claim	2019-02-23	$ 400.00
4286418	STEELE	327125	Single Cell Mining Claim	2019-02-23	$ 400.00
4286419	STEELE	161877	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286419	STEELE	161878	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286419	STEELE	177051	Single Cell Mining Claim	2019-02-23	$ 400.00
4286419	STEELE	243084	Single Cell Mining Claim	2019-02-23	$ 400.00
4286419	STEELE	243085	Single Cell Mining Claim	2019-02-23	$ 400.00
4286419	STEELE	251119	Single Cell Mining Claim	2019-02-23	$ 400.00
4286419	STEELE	251120	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286419	STEELE	251121	Boundary Cell Mining Claim	2019-02-23	$ 200.00
4286419	STEELE	339212	Single Cell Mining Claim	2019-02-23	$ 400.00
4286419	STEELE	339213	Single Cell Mining Claim	2019-02-23	$ 400.00
	STEELE	525431	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525432	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525433	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525434	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525435	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525436	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525437	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525438	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525439	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525440	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525441	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525442	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525443	Single Cell Mining Claim	2020-07-21	$ 400.00
	STEELE	525444	Single Cell Mining Claim	2020-07-21	$ 400.00
					$ 162,800

Table 14-2. Ed Shynkorenko's Group Optioned Claims

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Work Required
1213780	STEELE	135786	Boundary Cell Mining Claim	2022-08-19	$200.00
1213780	STEELE	323306	Boundary Cell Mining Claim	2022-08-19	$200.00
1213780	STEELE	310557	Boundary Cell Mining Claim	2022-08-19	$200.00
1213780	STEELE	236534	Boundary Cell Mining Claim	2022-08-19	$200.00
1213780	STEELE	220042	Boundary Cell Mining Claim	2022-08-19	$200.00
1213780	STEELE	207953	Boundary Cell Mining Claim	2022-08-19	$200.00
1213780	STEELE	135788	Boundary Cell Mining Claim	2022-08-19	$200.00
1213780	STEELE	135787	Boundary Cell Mining Claim	2022-08-19	$200.00
1214666	STEELE	142528	Boundary Cell Mining Claim	2022-05-20	$200.00
1214666	STEELE	334480	Boundary Cell Mining Claim	2022-05-20	$200.00
1214666	STEELE	156614	Boundary Cell Mining Claim	2022-05-20	$200.00
1214668	STEELE	156103	Boundary Cell Mining Claim	2019-09-04	$200.00
1214668	STEELE	313864	Boundary Cell Mining Claim	2019-08-26	$200.00
1214668	STEELE	313849	Single Cell Mining Claim	2019-08-26	$400.00
1214668	STEELE	311826	Boundary Cell Mining Claim	2019-09-04	$200.00
1214668	STEELE	311825	Single Cell Mining Claim	2019-09-04	$400.00
1214668	STEELE	277258	Boundary Cell Mining Claim	2019-08-26	$200.00
1214668	STEELE	247331	Boundary Cell Mining Claim	2019-08-26	$200.00
1214668	STEELE	222839	Boundary Cell Mining Claim	2019-08-26	$200.00
1214668	STEELE	158106	Boundary Cell Mining Claim	2019-08-26	$200.00
4249052	STEELE	138539	Boundary Cell Mining Claim	2019-08-26	$200.00
4249052	STEELE	222740	Boundary Cell Mining Claim	2019-08-26	$200.00
4251385	STEELE	142510	Boundary Cell Mining Claim	2019-09-04	$200.00
4251385	STEELE	274724	Boundary Cell Mining Claim	2019-09-04	$200.00
4251385	STEELE	209241	Boundary Cell Mining Claim	2019-09-04	$200.00
					$5,400.00

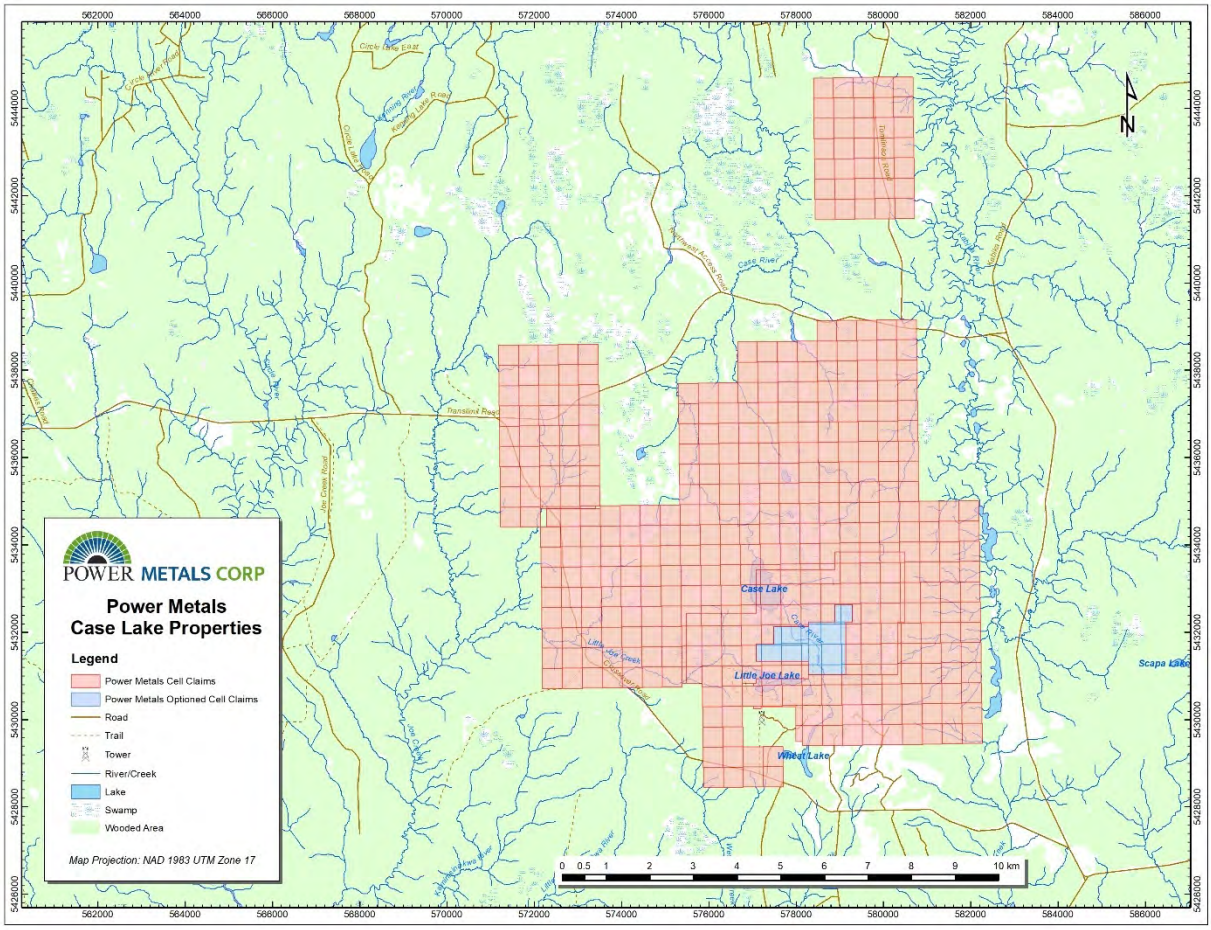

Figure 14-1 Case Lake Property Cell Claim map

Power Metals
Case Lake Properties

Legend

- Power Metals Cell Claims
- Power Metals Optioned Cell Claims
- Road
- Trail
- Tower
- River/Creek
- Lake
- Swamp
- Wooded Area

Map Projection: NAD 1983 UTM Zone 17

POWER METALS CORP

Kenning Lake
Kenning River
Kenning Lake Road
Circle Lake East
Pine Ridge Road
Northwest Access Road
Case River
Tomtinnon River
Knoke Road
Kaplika River
Circle Lake Road
Joe Creek
Little Joe Creek
Case Lake
Little Joe Lake
Wheat Lake
Crossover Road
South Skale Mountain Road
Kaminiskotawa River
Tomtinnon Road

0 250 500 1,000 1,500 2,000 2,500 3,000 3,500 4,000 4,500 5,000 Meters

Appendix 3 – Li standards OREAS 147 and OREAS 148 Certificate of Analysis

ORE RESEARCH & EXPLORATION P/L ABN 28 006 859 856
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CERTIFICATE OF ANALYSIS FOR

Pegmatitic Li-Nb-Sn ORE

CERTIFIED REFERENCE MATERIAL

OREAS 147

Summary Statistics for Key Analytes.

Constituent	Certified Value	1SD	95% Confidence Limits		95% Tolerance Limits	
			Low	High	Low	High
Peroxide Fusion ICP						
Li, Lithium (wt.%)	0.227	0.011	0.221	0.232	0.221	0.233
Li_2O, Lithium oxide (wt.%)	0.488	0.023	0.477	0.500	0.476	0.501
Nb, Niobium (wt.%)	0.115	0.007	0.111	0.118	0.111	0.119
Sn, Tin (ppm)	699	37	676	723	659	739

Note: intervals may appear asymmetric due to rounding.

Table 1. Certified Values, SDs, 95% Confidence and Tolerance Limits for OREAS 147.

Constituent	Certified Value	1SD	95% Confidence Limits		95% Tolerance Limits	
			Low	High	Low	High
4-Acid Digestion						
Al, Aluminium (wt.%)	4.90	0.187	4.81	5.00	4.79	5.02
As, Arsenic (ppm)	36.0	2.72	34.8	37.1	33.8	38.2
Ba, Barium (ppm)	1936	86	1896	1976	1890	1981
Be, Beryllium (ppm)	31.2	2.33	30.2	32.3	29.8	32.7
Bi, Bismuth (ppm)	12.5	1.05	12.0	13.0	12.1	12.9
Ca, Calcium (wt.%)	1.09	0.050	1.06	1.11	1.06	1.11
Ce, Cerium (ppm)	1106	90	1037	1176	1070	1143
Co, Cobalt (ppm)	6.90	0.393	6.71	7.09	6.69	7.11
Cr, Chromium (ppm)	57	8	53	61	54	59
Cs, Cesium (ppm)	238	12	231	244	231	244
Cu, Copper (ppm)	298	15	292	305	291	306
Dy, Dysprosium (ppm)	9.20	1.10	7.99	10.42	8.65	9.76
Er, Erbium (ppm)	3.00	0.38	2.58	3.43	2.81	3.20
Eu, Europium (ppm)	10.4	0.80	9.6	11.3	9.9	11.0
Fe, Iron (wt.%)	3.23	0.122	3.18	3.29	3.18	3.29
Ga, Gallium (ppm)	22.6	3.6	20.4	24.8	21.8	23.4
Gd, Gadolinium (ppm)	24.2	3.6	20.2	28.3	23.2	25.3
Ge, Germanium (ppm)	0.75	0.15	0.58	0.92	0.65	0.84
Hf, Hafnium (ppm)	2.99	0.32	2.84	3.14	2.82	3.16
In, Indium (ppm)	2.61	0.162	2.52	2.71	2.48	2.75
K, Potassium (wt.%)	1.60	0.053	1.58	1.62	1.56	1.63
La, Lanthanum (ppm)	663	47	641	685	644	682
Li, Lithium (wt.%)	0.226	0.012	0.221	0.232	0.221	0.231
Li_2O, Lithium oxide (wt.%)	0.487	0.026	0.475	0.499	0.476	0.498
Lu, Lutetium (ppm)	0.20	0.009	0.19	0.21	0.19	0.21
Mg, Magnesium (wt.%)	0.535	0.022	0.525	0.546	0.520	0.551
Mn, Manganese (wt.%)	0.039	0.002	0.038	0.040	0.038	0.040
Mo, Molybdenum (ppm)	7.99	0.296	7.87	8.11	7.68	8.30
Na, Sodium (wt.%)	0.948	0.043	0.925	0.972	0.925	0.972
Nb, Niobium (wt.%)	0.111	0.008	0.105	0.117	0.107	0.115
Ni, Nickel (ppm)	21.2	1.49	20.6	21.8	20.3	22.1
P, Phosphorus (wt.%)	0.155	0.009	0.151	0.160	0.151	0.160
Pb, Lead (ppm)	27.8	2.02	26.7	28.8	26.7	28.8
Pr, Praseodymium (ppm)	121	3	120	122	116	126
Rb, Rubidium (ppm)	1162	63	1128	1196	1129	1195
S, Sulphur (wt.%)	0.030	0.003	0.028	0.031	0.027	0.032
Sb, Antimony (ppm)	10.6	0.68	10.2	10.9	10.0	11.1
Sc, Scandium (ppm)	10.7	0.75	10.3	11.1	10.3	11.1
Sm, Samarium (ppm)	48.7	1.48	47.1	50.4	46.5	51.0
Sr, Strontium (ppm)	299	12	293	305	292	306
Ta, Tantalum (ppm)	17.8	2.3	16.3	19.3	17.1	18.5

Note: intervals may appear asymmetric due to rounding

Table 1 continued.

Constituent	Certified Value	1SD	95% Confidence Limits		95% Tolerance Limits	
			Low	High	Low	High
4-Acid Digestion continued						
Tb, Terbium (ppm)	2.35	0.205	2.15	2.54	2.25	2.44
Th, Thorium (ppm)	93	5.5	91	96	91	96
Ti, Titanium (wt.%)	0.470	0.022	0.460	0.480	0.458	0.482
Tl, Thallium (ppm)	10.8	0.67	10.4	11.1	10.4	11.1
Tm, Thulium (ppm)	0.27	0.04	0.22	0.31	IND	IND
U, Uranium (ppm)	15.8	0.60	15.6	16.1	15.4	16.3
V, Vanadium (ppm)	60	2.5	59	62	59	62
Y, Yttrium (ppm)	26.3	1.46	25.6	27.0	25.6	27.1
Yb, Ytterbium (ppm)	1.46	0.123	1.36	1.55	1.35	1.56
Zn, Zinc (ppm)	138	5	136	141	134	143
Zr, Zirconium (ppm)	105	7	102	109	101	110
Peroxide Fusion ICP						
Al, Aluminium (wt.%)	5.04	0.111	4.98	5.09	4.93	5.14
As, Arsenic (ppm)	35.9	3.37	33.4	38.5	32.4	39.5
Ba, Barium (ppm)	1956	106	1891	2020	1904	2007
Be, Beryllium (ppm)	36.1	4.8	32.9	39.4	33.8	38.5
Bi, Bismuth (ppm)	12.6	1.00	11.7	13.5	11.8	13.4
Ca, Calcium (wt.%)	1.12	0.053	1.10	1.14	1.07	1.16
Ce, Cerium (ppm)	1198	73	1142	1253	1164	1231
Cr, Chromium (ppm)	68	7	63	74	63	74
Cs, Cesium (ppm)	234	11	226	242	227	241
Cu, Copper (ppm)	300	16	289	311	286	314
Dy, Dysprosium (ppm)	8.52	0.657	8.07	8.97	8.13	8.91
Er, Erbium (ppm)	2.79	0.276	2.60	2.98	2.58	3.00
Eu, Europium (ppm)	10.2	0.59	9.8	10.6	9.7	10.7
Fe, Iron (wt.%)	3.27	0.085	3.23	3.31	3.20	3.33
Ga, Gallium (ppm)	22.1	1.92	19.8	24.3	20.9	23.3
Gd, Gadolinium (ppm)	21.8	0.86	21.2	22.5	20.7	23.0
Hf, Hafnium (ppm)	5.45	0.84	4.54	6.35	IND	IND
Ho, Holmium (ppm)	1.33	0.18	1.20	1.46	1.29	1.38
In, Indium (ppm)	2.85	0.183	2.71	2.99	2.64	3.06
K, Potassium (wt.%)	1.64	0.059	1.62	1.66	1.58	1.70
La, Lanthanum (ppm)	698	27	676	720	684	712
Li, Lithium (wt.%)	0.227	0.011	0.221	0.232	0.221	0.233
Li_2O, Lithium oxide (wt.%)	0.488	0.023	0.477	0.500	0.476	0.501
Mg, Magnesium (wt.%)	0.549	0.024	0.538	0.560	0.537	0.561
Mn, Manganese (wt.%)	0.039	0.001	0.039	0.040	0.038	0.041
Mo, Molybdenum (ppm)	9.60	1.47	8.48	10.72	IND	IND
Nb, Niobium (wt.%)	0.115	0.007	0.111	0.118	0.111	0.119
Nd, Neodymium (ppm)	379	19	365	393	367	390

Note: intervals may appear asymmetric due to rounding.

Table 1 continued.

Constituent	Certified Value	1SD	95% Confidence Limits		95% Tolerance Limits	
			Low	High	Low	High
Peroxide Fusion ICP continued						
P, Phosphorus (wt.%)	0.156	0.009	0.151	0.160	0.150	0.161
Pr, Praseodymium (ppm)	122	3	120	123	119	124
Rb, Rubidium (ppm)	1184	94	1109	1260	1152	1216
Sb, Antimony (ppm)	10.5	0.86	9.9	11.1	9.4	11.6
Si, Silicon (wt.%)	35.58	0.779	35.01	36.15	34.76	36.40
Sm, Samarium (ppm)	47.9	3.42	45.3	50.5	46.3	49.6
Sn, Tin (ppm)	699	37	676	723	659	739
Sr, Strontium (ppm)	302	15	293	312	290	315
Ta, Tantalum (ppm)	17.8	1.9	15.3	20.3	16.6	19.0
Tb, Terbium (ppm)	2.30	0.32	2.07	2.53	2.20	2.40
Th, Thorium (ppm)	95	3.4	93	98	92	99
Ti, Titanium (wt.%)	0.483	0.018	0.475	0.490	0.467	0.498
Tl, Thallium (ppm)	10.8	0.82	10.1	11.5	10.3	11.3
Tm, Thulium (ppm)	0.33	0.06	0.30	0.37	0.30	0.37
V, Vanadium (ppm)	64	4.0	61	67	59	68
Y, Yttrium (ppm)	27.6	1.17	26.6	28.5	26.8	28.4
Yb, Ytterbium (ppm)	1.63	0.18	1.56	1.70	IND	IND
Zn, Zinc (ppm)	142	12	135	150	133	152
Zr, Zirconium (ppm)	194	29	166	222	183	205
Borate Fusion XRF						
Al_2O_3, Aluminium(III) oxide (wt.%)	9.48	0.078	9.44	9.52	9.44	9.52
BaO, Barium oxide (ppm)	2180	40	2166	2194	2108	2252
CaO, Calcium oxide (wt.%)	1.56	0.014	1.55	1.57	1.55	1.57
Fe_2O_3, Iron(III) oxide (wt.%)	4.67	0.055	4.64	4.70	4.64	4.70
K_2O, Potassium oxide (wt.%)	1.97	0.020	1.96	1.98	1.96	1.99
MgO, Magnesium oxide (wt.%)	0.945	0.018	0.937	0.954	0.932	0.958
MnO, Manganese oxide (wt.%)	0.051	0.001	0.050	0.051	0.048	0.053
Na_2O, Sodium oxide (wt.%)	1.31	0.029	1.29	1.32	1.29	1.33
Nb_2O_5, Niobium(V) oxide (wt.%)	0.169	0.005	0.165	0.172	0.163	0.174
P_2O_5, Phosphorus(V) oxide (wt.%)	0.368	0.008	0.364	0.372	0.361	0.375
SiO_2, Silicon dioxide (wt.%)	76.34	0.491	76.11	76.57	76.10	76.57
Sn, Tin (ppm)	764	47	740	788	728	799
SO_3, Sulphur trioxide (wt.%)	0.067	0.004	0.064	0.069	0.064	0.069
SrO, Strontium oxide (ppm)	332	35	305	358	IND	IND
TiO_2, Titanium dioxide (wt.%)	0.808	0.010	0.804	0.813	0.797	0.820
Thermogravimetry						
LOI^{1000}, Loss on ignition @1000°C (wt.%)	0.919	0.048	0.893	0.946	0.874	0.964

Note: intervals may appear asymmetric due to rounding.

INTRODUCTION

OREAS reference materials are intended to provide a low cost method of evaluating and improving the quality of analysis of geological samples. To the geologist they provide a means of implementing quality control in analytical data sets generated in exploration from the grass roots level through to prospect evaluation, and in grade control at mining operations. To the analyst they provide an effective means of calibrating analytical equipment, assessing new techniques and routinely monitoring in-house procedures.

SOURCE MATERIALS

Certified Reference Material OREAS 147 has been prepared from spodumene $LiAl(Si_2O_5)$-rich pegmatite ore blended with granodiorite and with minor additions of Sn oxide ore and Nb concentrate. The pegmatite was sourced from stockpile grab samples from the Greenbushes Mine owned by Talison Lithium Ltd located just south of the town of Greenbushes in the south-western corner of Western Australia. The barren I-type hornblende-bearing granodiorite was sourced from the Late Devonian Lysterfield granodiorite complex located in eastern Melbourne, Australia. The Sn lateritic ore material was sourced from the Doradilla Project located in north central NSW and the Nb concentrate was sourced from Anglo American Brasil Catalão's niobium mine in Goiás, Brazil. The Nb concentrate was produced from niobium-rich ore developed in the saprolite zone over alkaline-carbonatite complexes.

COMMINUTION AND HOMOGENISATION PROCEDURES

The material constituting OREAS 147 was prepared in the following manner:

- Drying to constant mass at 105°C;
- Milling of Li and Nb ores to 100% minus 30 microns;
- Milling of Sn ore and granodiorite to 98% minus 75 microns;
- Preliminary homogenisation and check assaying of source materials;
- Final homogenisation by blending the source materials in specific ratios to achieve target grades;
- Packaging in 10g units in laminated foil pouches.

ANALYTICAL PROGRAM

Twenty two commercial analytical laboratories participated in the program to certify the analytes reported in Table 1. The following methods were employed:

- Four acid digestion for full ICP-OES and ICP-MS elemental suites (up to 22 laboratories depending on the element) except for one laboratory who used an AAS finish for Li only;
- Peroxide fusion for full ICP-OES and ICP-MS elemental suites (up to 21 laboratories depending on the element);
- Lithium borate fusion with XRF finish for whole rock package including Nb and Ta (up to 22 laboratories depending on the element);
- Thermogravimetry for LOI at 1000° C; (9 laboratories used a conventional muffle furnace and 6 laboratories used a thermogravimetric analyser).

For the round robin program ten test units were taken at predetermined intervals during the bagging stage, immediately following homogenisation and are considered representative of the entire batch. The six samples received by each laboratory were obtained by taking two 20g scoop splits from each of three separate 300g test units. This format enabled nested ANOVA treatment of the results to evaluate homogeneity, i.e. to ascertain whether between-unit variance is greater than within-unit variance. Table 1 presents the 114 certified values together with their associated 1SD's, 95% confidence and tolerance limits and Table 2 below shows 59 indicative values. Table 3 provides performance gate intervals for the certified values based on their associated pooled standard deviations. Tabulated results of all elements together with analytical method codes, uncorrected means, medians, standard deviations, relative standard deviations and per cent deviation of lab means from the corrected mean of means (PDM^3) are presented in the detailed certification data for this CRM (**OREAS 147 DataPack.xlsx**).

Table 2. Indicative Values for OREAS 147.

Constituent	Unit	Value	Constituent	Unit	Value	Constituent	Unit	Value
4-Acid Digestion								
Ag	ppm	*0.706*	Ho	ppm	*1.26*	Se	ppm	*2.46*
Au	ppm	*0.172*	Ir	ppm	*0.010*	Si	wt.%	*34.39*
B	ppm	*2.68*	Nd	ppm	*386*	Sn	ppm	*503*
Cd	ppm	*0.46*	Pt	ppm	*0.024*	Te	ppm	*0.077*
Hg	ppm	*0.042*	Re	ppm	*< 0.002*	W	ppm	*4.88*
Peroxide Fusion ICP								
Ag	ppm	*3.00*	Lu	ppm	*0.22*	Sc	ppm	*9.82*
B	ppm	*29.2*	Ni	ppm	*23.2*	Se	ppm	*< 20*
Cd	ppm	*< 10*	Pb	ppm	*30.0*	Te	ppm	*< 1*
Co	ppm	*7.39*	Re	ppm	*< 0.1*	U	ppm	*16.4*
Ge	ppm	*3.20*	S	wt.%	*0.024*	W	ppm	*6.46*
Borate Fusion XRF								
As	ppm	*52*	Gd_2O_3	ppm	*< 100*	Sm_2O_3	ppm	*< 100*
Bi	ppm	*< 100*	HfO_2	ppm	*< 100*	Ta_2O_5	ppm	*< 24*
CeO_2	ppm	*1417*	La_2O_3	ppm	*761*	ThO_2	ppm	*< 100*
Cl	ppm	*106*	Mo	ppm	*< 10*	U_3O_8	ppm	*15.0*
Co	ppm	*47.3*	Nd_2O_3	ppm	*583*	V_2O_5	ppm	*128*
Cr_2O_3	ppm	*104*	Ni	ppm	*38.6*	W	ppm	*19.2*
Cu	ppm	*291*	Pb	ppm	*36.1*	Y_2O_3	ppm	*150*
Dy_2O_3	ppm	*< 100*	Pr_6O_{11}	ppm	*483*	Yb_2O_3	ppm	*< 100*
Er_2O_3	ppm	*< 100*	Rb	ppm	*1219*	Zn	ppm	*139*
Ga_2O_3	ppm	*41.7*	Sb	ppm	*< 50*			

Note: the number of significant figures reported is not a reflection of the level of certainty of stated values. They are instead an artefact of ORE's in-house CRM-specific LIMS.

STATISTICAL ANALYSIS

Certified Values, Confidence Limits, Standard Deviations and Tolerance Limits (Table 1) have been determined for each analyte following removal of individual, laboratory dataset (batch) and 3SD outliers (single iteration). For individual outliers within a laboratory

batch the z-score test is used in combination with a second method that determines the per cent deviation of the individual value from the batch median. Outliers in general are selected on the basis of z-scores > 2.5 and with per cent deviations (i) > 3 and (ii) more than three times the average absolute per cent deviation for the batch. In certain instances statistician's prerogative has been employed in discriminating outliers. Each laboratory data set mean is tested for outlying status based on z-score discrimination and rejected if > 2.5. After individual and laboratory data set (batch) outliers have been eliminated a non-iterative 3 standard deviation filter is applied, with those values lying outside this window also relegated to outlying status. The Certified Values are the means of accepted laboratory means after outlier filtering.

The 95% Confidence Limits are inversely proportional to the number of participating laboratories and inter-laboratory agreement. It is a measure of the reliability of the certified value. A 95% confidence interval indicates a 95% probability that the true value of the analyte under consideration lies between the upper and lower limits. *95% Confidence Limits should not be used as control limits for laboratory performance.*

Standard Deviation values (1SDs) are reported in Table 1 and provide an indication of a level of performance that might reasonably be expected from a laboratory being monitored by this CRM in a QA/QC program. The SD's take into account errors attributable to measurement uncertainty and CRM variability. For an effective CRM the contribution of the latter should be negligible in comparison to measurement errors. The SD values thus include all sources of measurement uncertainty: between-lab variance, within-run variance (precision errors) and CRM variability. OREAS prepared reference materials have a level of homogeneity such that the observed variance from repeated analysis has its origin almost exclusively in the analytical process rather than the reference material itself.

The SD for each analyte's certified value is calculated from the same filtered data set used to determine the certified value, i.e. after removal of any individual, lab dataset (batch) and 3SD outliers (single iteration). These outliers can only be removed after the absolute homogeneity of the CRM has been independently established, i.e. the outliers must be confidently deemed to be analytical rather than arising from inhomogeneity of the CRM. **The standard deviation is then calculated for each analyte from the pooled accepted analyses generated from the certification program.**

In the application of SD's in monitoring performance it is important to note that not all laboratories function at the same level of proficiency and that different methods in use at a particular laboratory have differing levels of precision. Each laboratory has its own inherent SD (for a specific concentration level and analyte-method pair) based on the analytical process and this SD is not directly related to the round robin program.

The majority of data generated in the round robin program was produced by a selection of world class laboratories. The SD's thus generated are more constrained than those that would be produced across a randomly selected group of laboratories. To produce more generally achievable SD's the 'pooled' SD's provided in this report include inter-lab bias. This 'one size fits all' approach may require revision at the discretion of the QC manager concerned following careful scrutiny of QC control charts.

Table 3 shows **Performance Gates** calculated for two and three standard deviations. As a guide these intervals may be regarded as warning or rejection for multiple 2SD outliers, or rejection for individual 3SD outliers in QC monitoring, although their precise application should be at the discretion of the QC manager concerned. A second method utilises a 5% window calculated directly from the certified value. Standard deviation is also shown in

relative percent for one, two and three relative standard deviations (1RSD, 2RSD and 3RSD) to facilitate an appreciation of the magnitude of these numbers and a comparison with the 5% window. Caution should be exercised when concentration levels approach lower limits of detection of the analytical methods employed as performance gates calculated from standard deviations tend to be excessively wide whereas those determined by the 5% method are too narrow.

Tolerance Limits (ISO Guide 3207) were determined using an analysis of precision errors method and are considered a conservative estimate of true homogeneity. The meaning of tolerance limits may be illustrated for tin (Sn) by fusion XRF, where 99% of the time (1-α=0.99) at least 95% of subsamples (ρ=0.95) will have concentrations lying between 728 and 799 ppm. Put more precisely, this means that if the same number of subsamples were taken and analysed in the same manner repeatedly, 99% of the tolerance intervals so constructed would cover at least 95% of the total population, and 1% of the tolerance intervals would cover less than 95% of the total population (ISO Guide 35). *Please note that tolerance limits pertain to the homogeneity of the CRM only and should not be used as control limits for laboratory performance.*

The homogeneity of OREAS 147 has also been evaluated in a **nested ANOVA** of the round robin program. Each of the twenty four round robin laboratories received six samples per CRM and these samples were made up of paired samples from three different, non-adjacent sampling intervals. The purpose of the ANOVA evaluation is to test that no statistically significant difference exists in the variance between-units to that of the variance within-units. This allows an assessment of homogeneity across the entire prepared batch of OREAS 147. The test was performed using the following parameters:

- Null Hypothesis, H_0: Between-unit variance is no greater than within-unit variance (reject H_0 if p-value < 0.05);
- Alternative Hypothesis, H_1: Between-unit variance is greater than within-unit variance.

P-values are a measure of probability where values less than 0.05 indicate a greater than 95% probability that the observed differences in within-unit and between-unit variances are real. The datasets were filtered for both individual and laboratory data set (batch) outliers prior to the calculation of *p*-values. This process derived no significant *p*-values across the entire 114 certified values except for indium (In) by Peroxide Fusion ICP. This isolated case is most likely due to random statistical probability as there is no other supporting evidence to suspect greater between-unit variance compared with within-unit variance. The null hypothesis is therefore retained.

It is important to note that ANOVA is not an absolute measure of homogeneity. Rather, it establishes whether or not the analytes are distributed in a similar manner throughout the packaging run of OREAS 147 and whether the variance between two subsamples from the same unit is statistically distinguishable to the variance from two subsamples taken from any two separate units. A reference material therefore, can possess poor absolute homogeneity yet still pass a relative homogeneity test if the within-unit heterogeneity is large and similar across all units.

Based on the statistical analysis of the results of the inter-laboratory certification program it can be concluded that OREAS 147 is fit-for-purpose as a certified reference material (see ‘Intended Use’ below).

Table 3. Pooled-Lab Performance Gates for OREAS 147.

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
4-Acid Digestion											
Al, wt.%	4.90	0.187	4.53	5.28	4.34	5.46	3.81%	7.62%	11.42%	4.66	5.15
As, ppm	36.0	2.72	30.5	41.4	27.8	44.1	7.55%	15.10%	22.65%	34.2	37.8
Ba, ppm	1936	86	1764	2107	1678	2193	4.43%	8.87%	13.30%	1839	2032
Be, ppm	31.2	2.33	26.6	35.9	24.2	38.2	7.45%	14.90%	22.35%	29.7	32.8
Bi, ppm	12.5	1.05	10.4	14.6	9.4	15.6	8.39%	16.78%	25.17%	11.9	13.1
Ca, wt.%	1.09	0.050	0.99	1.19	0.93	1.24	4.64%	9.28%	13.92%	1.03	1.14
Ce, ppm	1106	90	926	1287	836	1377	8.16%	16.32%	24.47%	1051	1162
Co, ppm	6.90	0.393	6.12	7.69	5.72	8.08	5.70%	11.40%	17.10%	6.56	7.25
Cr, ppm	57	8	41	73	32	81	14.27%	28.55%	42.82%	54	60
Cs, ppm	238	12	214	261	202	273	5.05%	10.10%	15.15%	226	249
Cu, ppm	298	15	269	327	255	342	4.86%	9.72%	14.58%	283	313
Dy, ppm	9.20	1.10	7.00	11.41	5.90	12.51	11.95%	23.91%	35.86%	8.74	9.67
Er, ppm	3.00	0.38	2.24	3.77	1.86	4.15	12.73%	25.46%	38.19%	2.85	3.15
Eu, ppm	10.4	0.80	8.8	12.1	8.0	12.9	7.67%	15.33%	23.00%	9.9	11.0
Fe, wt.%	3.23	0.122	2.99	3.48	2.87	3.60	3.77%	7.55%	11.32%	3.07	3.39
Ga, ppm	22.6	3.6	15.4	29.9	11.7	33.5	16.05%	32.10%	48.15%	21.5	23.7
Gd, ppm	24.2	3.6	17.0	31.5	13.4	35.1	14.91%	29.82%	44.73%	23.0	25.5
Ge, ppm	0.75	0.15	0.45	1.05	0.30	1.20	19.93%	39.86%	59.78%	0.71	0.79
Hf, ppm	2.99	0.32	2.36	3.63	2.04	3.94	10.62%	21.24%	31.85%	2.84	3.14
In, ppm	2.61	0.162	2.29	2.94	2.13	3.10	6.21%	12.43%	18.64%	2.48	2.74
K, wt.%	1.60	0.053	1.49	1.70	1.44	1.76	3.28%	6.57%	9.85%	1.52	1.68
La, ppm	663	47	568	758	520	805	7.16%	14.33%	21.49%	630	696
Li, wt.%	0.226	0.012	0.202	0.251	0.190	0.263	5.37%	10.75%	16.12%	0.215	0.238
Li_2O, wt.%	0.49	0.03	0.43	0.54	0.41	0.57	5.37%	10.75%	16.12%	0.463	0.512
Lu, ppm	0.20	0.009	0.18	0.22	0.17	0.23	4.71%	9.42%	14.13%	0.19	0.21
Mg, wt.%	0.535	0.022	0.491	0.580	0.469	0.602	4.13%	8.26%	12.39%	0.509	0.562
Mn, wt.%	0.039	0.002	0.035	0.044	0.033	0.046	5.63%	11.25%	16.88%	0.037	0.041
Mo, ppm	7.99	0.296	7.40	8.58	7.10	8.87	3.70%	7.40%	11.10%	7.59	8.39
Na, wt.%	0.948	0.043	0.862	1.035	0.819	1.078	4.55%	9.10%	13.66%	0.901	0.996
Nb, wt.%	0.111	0.008	0.095	0.127	0.087	0.136	7.31%	14.62%	21.94%	0.106	0.117
Ni, ppm	21.2	1.49	18.2	24.2	16.7	25.6	7.03%	14.07%	21.10%	20.1	22.2
P, wt.%	0.155	0.009	0.137	0.173	0.128	0.182	5.78%	11.55%	17.33%	0.147	0.163
Pb, ppm	27.8	2.02	23.7	31.8	21.7	33.8	7.29%	14.58%	21.88%	26.4	29.1
Pr, ppm	121	3	116	126	113	129	2.14%	4.28%	6.43%	115	127
Rb, ppm	1162	63	1035	1289	972	1352	5.46%	10.92%	16.38%	1104	1220
S, wt.%	0.030	0.003	0.024	0.035	0.021	0.038	9.91%	19.82%	29.73%	0.028	0.031
Sb, ppm	10.6	0.68	9.2	11.9	8.5	12.6	6.41%	12.82%	19.23%	10.0	11.1
Sc, ppm	10.7	0.75	9.1	12.2	8.4	12.9	7.07%	14.15%	21.22%	10.1	11.2
Sm, ppm	48.7	1.48	45.8	51.7	44.3	53.2	3.05%	6.09%	9.14%	46.3	51.2
Sr, ppm	299	12	274	324	262	336	4.15%	8.30%	12.45%	284	314
Ta, ppm	17.8	2.3	13.1	22.5	10.8	24.8	13.09%	26.17%	39.26%	16.9	18.7
Tb, ppm	2.35	0.205	1.93	2.76	1.73	2.96	8.75%	17.51%	26.26%	2.23	2.46

Note: intervals may appear asymmetric due to rounding.

Table 3 continued.

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
4-Acid Digestion continued											
Th, ppm	93	5.5	82	104	77	110	5.89%	11.79%	17.68%	89	98
Ti, wt.%	0.470	0.022	0.426	0.513	0.405	0.535	4.63%	9.26%	13.88%	0.446	0.493
Tl, ppm	10.8	0.67	9.4	12.1	8.8	12.8	6.26%	12.52%	18.78%	10.2	11.3
Tm, ppm	0.27	0.04	0.19	0.34	0.16	0.37	13.79%	27.59%	41.38%	0.25	0.28
U, ppm	15.8	0.60	14.7	17.0	14.1	17.6	3.76%	7.51%	11.27%	15.1	16.6
V, ppm	60	2.5	55	66	53	68	4.20%	8.41%	12.61%	57	64
Y, ppm	26.3	1.46	23.4	29.2	21.9	30.7	5.54%	11.07%	16.61%	25.0	27.6
Yb, ppm	1.46	0.123	1.21	1.70	1.09	1.83	8.47%	16.95%	25.42%	1.38	1.53
Zn, ppm	138	5	129	148	124	153	3.39%	6.77%	10.16%	132	145
Zr, ppm	105	7	92	118	86	125	6.26%	12.52%	18.78%	100	111
Peroxide Fusion ICP											
Al, wt.%	5.04	0.111	4.81	5.26	4.70	5.37	2.20%	4.40%	6.59%	4.78	5.29
As, ppm	35.9	3.37	29.2	42.7	25.8	46.0	9.37%	18.73%	28.10%	34.1	37.7
Ba, ppm	1956	106	1744	2167	1639	2273	5.40%	10.81%	16.21%	1858	2053
Be, ppm	36.1	4.8	26.5	45.8	21.7	50.6	13.31%	26.63%	39.94%	34.3	37.9
Bi, ppm	12.6	1.00	10.6	14.6	9.6	15.6	7.92%	15.84%	23.76%	11.9	13.2
Ca, wt.%	1.12	0.053	1.01	1.22	0.96	1.28	4.72%	9.44%	14.15%	1.06	1.17
Ce, ppm	1198	73	1051	1344	978	1417	6.11%	12.22%	18.33%	1138	1257
Cr, ppm	68	7	54	83	47	90	10.37%	20.73%	31.10%	65	72
Cs, ppm	234	11	211	257	200	269	4.88%	9.76%	14.65%	223	246
Cu, ppm	300	16	268	332	252	348	5.32%	10.65%	15.97%	285	315
Dy, ppm	8.52	0.657	7.21	9.83	6.55	10.49	7.71%	15.42%	23.13%	8.09	8.95
Er, ppm	2.79	0.276	2.24	3.35	1.96	3.62	9.89%	19.78%	29.67%	2.65	2.93
Eu, ppm	10.2	0.59	9.0	11.4	8.4	12.0	5.82%	11.64%	17.46%	9.7	10.7
Fe, wt.%	3.27	0.085	3.10	3.44	3.01	3.52	2.60%	5.20%	7.81%	3.10	3.43
Ga, ppm	22.1	1.92	18.2	25.9	16.3	27.8	8.72%	17.44%	26.16%	20.9	23.2
Gd, ppm	21.8	0.86	20.1	23.6	19.2	24.4	3.95%	7.91%	11.86%	20.7	22.9
Hf, ppm	5.45	0.84	3.77	7.12	2.94	7.96	15.37%	30.73%	46.10%	5.17	5.72
Ho, ppm	1.33	0.18	0.97	1.69	0.79	1.87	13.45%	26.91%	40.36%	1.27	1.40
In, ppm	2.85	0.183	2.48	3.22	2.30	3.40	6.43%	12.85%	19.28%	2.71	2.99
K, wt.%	1.64	0.059	1.52	1.76	1.46	1.82	3.59%	7.18%	10.77%	1.56	1.72
La, ppm	698	27	645	752	618	779	3.83%	7.66%	11.49%	663	733
Li, wt.%	0.227	0.011	0.206	0.248	0.195	0.259	4.69%	9.37%	14.06%	0.215	0.238
Li_2O, wt.%	0.49	0.02	0.44	0.53	0.42	0.56	4.69%	9.37%	14.06%	0.464	0.513
Mg, wt.%	0.549	0.024	0.502	0.596	0.478	0.620	4.29%	8.57%	12.86%	0.522	0.576
Mn, wt.%	0.039	0.001	0.037	0.041	0.036	0.042	2.77%	5.53%	8.30%	0.037	0.041
Mo, ppm	9.60	1.47	6.67	12.54	5.20	14.00	15.28%	30.56%	45.84%	9.12	10.08
Nb, wt.%	0.115	0.007	0.101	0.128	0.094	0.135	5.93%	11.85%	17.78%	0.109	0.120
Nd, ppm	379	19	341	416	322	435	4.98%	9.96%	14.94%	360	398
P, wt.%	0.156	0.009	0.137	0.174	0.128	0.183	5.79%	11.59%	17.38%	0.148	0.163
Pr, ppm	122	3	116	127	114	130	2.19%	4.37%	6.56%	116	128
Rb, ppm	1184	94	996	1372	902	1466	7.94%	15.88%	23.82%	1125	1243
Sb, ppm	10.5	0.86	8.8	12.2	7.9	13.1	8.21%	16.43%	24.64%	10.0	11.0

Note: intervals may appear asymmetric due to rounding.

Table 3 continued.

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
Peroxide Fusion ICP continued											
Si, wt.%	35.58	0.779	34.02	37.14	33.25	37.92	2.19%	4.38%	6.57%	33.80	37.36
Sm, ppm	47.9	3.42	41.1	54.8	37.7	58.2	7.15%	14.29%	21.44%	45.5	50.3
Sn, ppm	699	37	626	773	589	810	5.28%	10.55%	15.83%	664	734
Sr, ppm	302	15	273	332	259	346	4.82%	9.65%	14.47%	287	318
Ta, ppm	17.8	1.9	14.0	21.7	12.1	23.6	10.78%	21.57%	32.35%	16.9	18.7
Tb, ppm	2.30	0.32	1.65	2.95	1.33	3.27	14.10%	28.19%	42.29%	2.19	2.42
Th, ppm	95	3.4	89	102	85	106	3.54%	7.07%	10.61%	91	100
Ti, wt.%	0.483	0.018	0.446	0.519	0.428	0.537	3.79%	7.57%	11.36%	0.459	0.507
Tl, ppm	10.8	0.82	9.2	12.4	8.3	13.3	7.59%	15.18%	22.77%	10.3	11.3
Tm, ppm	0.33	0.06	0.22	0.44	0.16	0.50	17.15%	34.30%	51.44%	0.31	0.35
V, ppm	64	4.0	56	72	52	76	6.26%	12.52%	18.78%	61	67
Y, ppm	27.6	1.17	25.2	29.9	24.1	31.1	4.23%	8.47%	12.70%	26.2	28.9
Yb, ppm	1.63	0.18	1.26	2.00	1.08	2.18	11.31%	22.62%	33.93%	1.55	1.71
Zn, ppm	142	12	119	166	107	177	8.26%	16.52%	24.78%	135	149
Zr, ppm	194	29	136	252	107	281	14.92%	29.84%	44.75%	184	204
Borate Fusion XRF											
Al_2O_3, wt.%	9.48	0.078	9.32	9.63	9.24	9.71	0.82%	1.64%	2.46%	9.00	9.95
BaO, ppm	2180	40	2100	2259	2061	2299	1.82%	3.65%	5.47%	2071	2289
CaO, wt.%	1.56	0.014	1.53	1.59	1.52	1.60	0.91%	1.81%	2.72%	1.48	1.64
Fe_2O_3, wt.%	4.67	0.055	4.56	4.78	4.50	4.83	1.17%	2.35%	3.52%	4.43	4.90
K_2O, wt.%	1.97	0.020	1.93	2.01	1.91	2.03	1.01%	2.02%	3.04%	1.87	2.07
MgO, wt.%	0.945	0.018	0.908	0.982	0.890	1.000	1.94%	3.89%	5.83%	0.898	0.993
MnO, wt.%	0.051	0.001	0.048	0.053	0.047	0.054	2.02%	4.04%	6.05%	0.048	0.053
Na_2O, wt.%	1.31	0.029	1.25	1.37	1.22	1.40	2.23%	4.46%	6.68%	1.24	1.37
Nb_2O_5, wt.%	0.169	0.005	0.159	0.179	0.154	0.183	2.94%	5.88%	8.81%	0.160	0.177
P_2O_5, wt.%	0.368	0.008	0.352	0.384	0.344	0.392	2.18%	4.37%	6.55%	0.350	0.386
SiO_2, wt.%	76.34	0.491	75.36	77.32	74.86	77.81	0.64%	1.29%	1.93%	72.52	80.15
Sn, ppm	764	47	670	858	623	904	6.15%	12.29%	18.44%	725	802
SO_3, wt.%	0.067	0.004	0.058	0.075	0.054	0.079	6.36%	12.72%	19.07%	0.063	0.070
SrO, ppm	332	35	263	401	228	435	10.41%	20.81%	31.22%	315	348
TiO_2, wt.%	0.808	0.010	0.789	0.828	0.779	0.837	1.20%	2.40%	3.59%	0.768	0.849
Zr, ppm	200	35	130	271	95	306	17.56%	35.13%	52.69%	190	210
Thermogravimetry											
LOI^{1000}, wt.%	0.919	0.048	0.823	1.016	0.774	1.064	5.25%	10.50%	15.74%	0.873	0.965

Note: intervals may appear asymmetric due to rounding.

PARTICIPATING LABORATORIES

1. Actlabs, Ancaster, Ontario, Canada
2. ALS, Brisbane, QLD, Australia
3. ALS, Lima, Peru
4. ALS, Loughrea, Galway, Ireland

5. ALS, Perth, WA, Australia
6. ALS, Vancouver, BC, Canada
7. Bureau Veritas Commodities Canada Ltd, Vancouver, BC, Canada
8. Bureau Veritas Geoanalytical, Adelaide, SA, Australia
9. Bureau Veritas Geoanalytical, Perth, WA, Australia
10. Intertek Genalysis, Perth, WA, Australia
11. Intertek Testing Services Philippines, Cupang, Muntinlupa, Philippines
12. MinAnalytical Services, Perth, WA, Australia
13. Nagrom, Perth, WA, Australia
14. PT Geoservices Ltd, Cikarang, Jakarta Raya, Indonesia
15. SGS Australia Mineral Services, Perth, WA, Australia
16. SGS Canada Inc., Vancouver, BC, Canada
17. SGS del Peru, Lima, Peru
18. SGS Geosol Laboratorios Ltda, Vespasiano, Minas Gerais, Brazil
19. SGS Lakefield Research Ltd, Lakefield, Ontario, Canada
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22. Zarazma Mineral Studies Company, Tehran, Iran

PREPARER AND SUPPLIER

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It is packaged in 10g units in robust single-use laminated foil pouches.

INTENDED USE

OREAS 147 is intended for the following uses:

- for the monitoring of laboratory performance in the analysis of analytes reported in Table 1 in geological samples;
- for the verification of analytical methods for analytes reported in Table 1;
- for the calibration of instruments used in the determination of the concentration of analytes reported in Table 1.

STABILITY AND STORAGE INSTRUCTIONS

OREAS 149 has been prepared from spodumene $LiAl(Si_2O_5)$-rich pegmatite ore with minor additions of Sn oxide ore and Nb concentrate. It contains very little reactive sulphide and in its unopened state and under normal conditions of storage it has a shelf life beyond ten

years. Its stability will be monitored at regular intervals and purchasers notified if any changes are observed.

INSTRUCTIONS FOR CORRECT USE

The certified values determined by 4-acid digestion and peroxide fusion ICP refer to the concentration levels in the packaged state. There is no need for drying prior to weighing and analysis.

In contrast the certified values determined by borate fusion XRF and for LOI at 1000° C are on a dry basis. This requires the removal of hygroscopic moisture by drying in air to constant mass at 105° C. If the reference material is not dried prior to analysis, the certified values should be corrected to the moisture-bearing basis.

HANDLING INSTRUCTIONS

Fine powders pose a risk to eyes and lungs and therefore standard precautions such as the use of safety glasses and dust masks are advised.

TRACEABILITY

The analytical samples were selected in a manner to represent the entire batch of prepared CRM. This ‘representivity’ was maintained in each submitted laboratory sample batch and ensures the user that the data is traceable from sample selection through to the analytical results that underlie the consensus values. Each analytical data set has been validated by its assayer through the inclusion of internal reference materials and QC checks during analysis.

The laboratories were chosen on the basis of their competence (from past performance in inter-laboratory programs) for a particular analytical method, analyte or analyte suite, and sample matrix. Most of these laboratories have and maintain ISO 17025 accreditation. The certified values presented in this report are calculated from the means of accepted data following robust statistical treatment as detailed in this report.

LEGAL NOTICE

Ore Research & Exploration Pty Ltd has prepared and statistically evaluated the property values of this reference material to the best of its ability. The Purchaser by receipt hereof releases and indemnifies Ore Research & Exploration Pty Ltd from and against all liability and costs arising from the use of this material and information.

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ORE Pty Ltd is accredited to ISO 9001:2015 by Lloyd's Register Quality Assurance Ltd for its quality management system including development, manufacturing, certification and supply of CRMs.

CERTIFYING OFFICER

Craig Hamlyn (B.Sc. Hons - Geology), Technical Manager - ORE P/L

REFERENCES

ISO Guide 30 (1992), Terms and definitions used in connection with reference materials.
ISO Guide 31 (2000), Reference materials – Contents of certificates and labels.
ISO Guide 3207 (1975), Statistical interpretation of data - Determination of a statistical tolerance interval.
ISO Guide 35 (2006), Certification of reference materials - General and statistical principals.

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CERTIFICATE OF ANALYSIS FOR

Pegmatitic Li-Nb-Sn ORE

CERTIFIED REFERENCE MATERIAL

OREAS 148

Summary Statistics for Key Analytes.

Constituent	Certified Value	1SD	95% Confidence Limits		95% Tolerance Limits	
			Low	High	Low	High
Peroxide Fusion ICP						
Li, Lithium (wt.%)	0.476	0.011	0.472	0.481	0.462	0.491
Li_2O, Lithium oxide (wt.%)	1.03	0.023	1.02	1.04	0.996	1.06
Nb, Niobium (wt.%)	0.168	0.011	0.161	0.174	0.162	0.174
Sn, Tin (ppm)	1157	80	1108	1206	1100	1215

Note: intervals may appear asymmetric due to rounding.

Table 1. Certified Values, SDs, 95% Confidence and Tolerance Limits for OREAS 148.

Constituent	Certified Value	1SD	95% Confidence Limits		95% Tolerance Limits	
			Low	High	Low	High
4-Acid Digestion						
Al, Aluminium (wt.%)	5.27	0.170	5.18	5.35	5.15	5.38
As, Arsenic (ppm)	58	3.2	56	59	55	60
Ba, Barium (ppm)	1000	36	980	1019	975	1024
Be, Beryllium (ppm)	36.2	2.53	35.1	37.3	34.8	37.7
Bi, Bismuth (ppm)	18.9	1.17	18.3	19.5	18.4	19.5
Ca, Calcium (wt.%)	0.872	0.037	0.855	0.888	0.851	0.892
Ce, Cerium (ppm)	725	64	684	766	704	747
Co, Cobalt (ppm)	6.31	0.403	6.12	6.49	6.07	6.54
Cr, Chromium (ppm)	60	9	55	64	57	62
Cs, Cesium (ppm)	314	16	306	322	307	321
Cu, Copper (ppm)	338	16	331	345	328	347
Dy, Dysprosium (ppm)	6.66	0.93	5.65	7.68	6.36	6.97
Er, Erbium (ppm)	2.20	0.26	1.92	2.48	2.05	2.34
Eu, Europium (ppm)	7.54	0.458	6.95	8.13	7.20	7.87
Fe, Iron (wt.%)	3.02	0.132	2.96	3.08	2.95	3.09
Ga, Gallium (ppm)	29.2	2.32	27.7	30.7	28.5	29.9
Gd, Gadolinium (ppm)	17.1	2.2	14.6	19.6	16.4	17.8
Ge, Germanium (ppm)	0.55	0.10	0.44	0.67	0.50	0.60
Hf, Hafnium (ppm)	2.16	0.22	2.07	2.25	1.98	2.33
Ho, Holmium (ppm)	0.84	0.09	0.72	0.97	0.76	0.93
In, Indium (ppm)	3.98	0.202	3.86	4.10	3.84	4.12
K, Potassium (wt.%)	1.47	0.041	1.45	1.49	1.43	1.51
La, Lanthanum (ppm)	446	28	432	461	429	464
Li, Lithium (wt.%)	0.465	0.009	0.461	0.470	0.454	0.477
Li_2O, Lithium oxide (wt.%)	1.00	0.020	0.993	1.01	0.978	1.03
Lu, Lutetium (ppm)	0.17	0.02	0.15	0.19	0.16	0.18
Mg, Magnesium (wt.%)	0.454	0.020	0.445	0.463	0.440	0.468
Mn, Manganese (wt.%)	0.037	0.002	0.036	0.038	0.036	0.038
Mo, Molybdenum (ppm)	8.86	0.344	8.72	9.00	8.51	9.21
Na, Sodium (wt.%)	0.860	0.039	0.839	0.881	0.841	0.879
Nb, Niobium (wt.%)	0.169	0.010	0.162	0.176	0.165	0.173
Nd, Neodymium (ppm)	267	11	253	281	254	279
Ni, Nickel (ppm)	22.2	0.98	21.8	22.6	21.4	22.9
P, Phosphorus (wt.%)	0.131	0.005	0.128	0.134	0.127	0.134
Pb, Lead (ppm)	24.9	2.20	23.9	26.0	23.7	26.2
Pr, Praseodymium (ppm)	82	2.0	80	84	79	84
Rb, Rubidium (ppm)	1324	41	1306	1341	1290	1358
Sb, Antimony (ppm)	16.2	0.78	15.9	16.5	15.6	16.8
Sc, Scandium (ppm)	8.23	0.554	7.91	8.56	7.92	8.54
Sm, Samarium (ppm)	34.2	0.94	33.4	35.0	33.0	35.4
Sr, Strontium (ppm)	204	16	197	212	199	210

Note: intervals may appear asymmetric due to rounding

Table 1 continued.

Constituent	Certified Value	1SD	95% Confidence Limits		95% Tolerance Limits	
			Low	High	Low	High
4-Acid Digestion continued						
Ta, Tantalum (ppm)	23.1	2.9	21.2	24.9	22.1	24.0
Tb, Terbium (ppm)	1.71	0.145	1.59	1.83	1.63	1.79
Th, Thorium (ppm)	48.2	3.62	46.3	50.1	46.7	49.8
Ti, Titanium (wt.%)	0.345	0.015	0.338	0.352	0.336	0.353
Tl, Thallium (ppm)	12.2	0.59	11.9	12.5	11.9	12.4
Tm, Thulium (ppm)	0.20	0.03	0.16	0.24	IND	IND
U, Uranium (ppm)	8.10	0.332	7.95	8.25	7.82	8.39
V, Vanadium (ppm)	54	3.1	53	56	52	56
W, Tungsten (ppm)	6.45	0.373	6.31	6.59	5.92	6.98
Y, Yttrium (ppm)	18.5	2.0	17.6	19.4	17.9	19.1
Yb, Ytterbium (ppm)	1.15	0.12	1.06	1.23	1.01	1.28
Zn, Zinc (ppm)	162	5	160	164	156	169
Zr, Zirconium (ppm)	79	4.8	76	81	76	81
Peroxide Fusion ICP						
Al, Aluminium (wt.%)	5.37	0.148	5.30	5.44	5.22	5.52
As, Arsenic (ppm)	59	4.0	56	62	54	64
Ba, Barium (ppm)	1009	26	991	1027	976	1042
Be, Beryllium (ppm)	38.8	2.00	37.5	40.0	37.0	40.6
Bi, Bismuth (ppm)	19.3	1.31	18.3	20.2	18.3	20.2
Ca, Calcium (wt.%)	0.903	0.048	0.881	0.925	0.866	0.940
Ce, Cerium (ppm)	795	53	754	836	758	832
Cr, Chromium (ppm)	69	5.8	64	74	64	73
Cs, Cesium (ppm)	311	13	303	320	299	324
Cu, Copper (ppm)	351	35	328	373	334	367
Dy, Dysprosium (ppm)	6.06	0.492	5.70	6.41	5.74	6.37
Er, Erbium (ppm)	2.00	0.121	1.96	2.04	1.82	2.18
Eu, Europium (ppm)	7.22	0.425	6.93	7.52	6.82	7.62
Fe, Iron (wt.%)	3.06	0.083	3.02	3.09	2.98	3.13
Ga, Gallium (ppm)	29.2	1.50	27.9	30.6	26.7	31.8
Gd, Gadolinium (ppm)	15.8	1.34	14.9	16.6	15.0	16.6
Hf, Hafnium (ppm)	4.15	0.53	3.74	4.55	IND	IND
Ho, Holmium (ppm)	0.94	0.12	0.84	1.04	0.86	1.03
In, Indium (ppm)	4.22	0.299	3.96	4.47	3.81	4.62
K, Potassium (wt.%)	1.50	0.050	1.48	1.53	1.47	1.54
La, Lanthanum (ppm)	478	15	466	489	459	496
Li, Lithium (wt.%)	0.476	0.011	0.472	0.481	0.462	0.491
Li_2O, Lithium oxide (wt.%)	1.03	0.023	1.02	1.04	0.996	1.06
Mg, Magnesium (wt.%)	0.469	0.016	0.462	0.475	0.453	0.484
Mn, Manganese (wt.%)	0.038	0.002	0.037	0.039	0.036	0.040
Mo, Molybdenum (ppm)	10.1	0.59	9.7	10.5	IND	IND
Nb, Niobium (wt.%)	0.168	0.011	0.161	0.174	0.162	0.174
Nd, Neodymium (ppm)	260	12	251	268	248	271

Note: intervals may appear asymmetric due to rounding

Table 1 continued.

Constituent	Certified Value	1SD	95% Confidence Limits		95% Tolerance Limits	
			Low	High	Low	High
Peroxide Fusion ICP continued						
P, Phosphorus (wt.%)	0.129	0.008	0.125	0.133	0.122	0.137
Pr, Praseodymium (ppm)	82	1.9	81	83	80	84
Rb, Rubidium (ppm)	1362	79	1303	1421	1321	1403
Sb, Antimony (ppm)	16.3	0.96	15.3	17.3	15.1	17.5
Sc, Scandium (ppm)	8.64	1.43	6.86	10.42	IND	IND
Si, Silicon (wt.%)	36.00	1.065	35.36	36.63	35.11	36.88
Sm, Samarium (ppm)	34.3	3.16	32.2	36.4	33.0	35.6
Sn, Tin (ppm)	1157	80	1108	1206	1100	1215
Sr, Strontium (ppm)	209	11	204	214	198	220
Tb, Terbium (ppm)	1.58	0.141	1.47	1.69	1.45	1.71
Th, Thorium (ppm)	51	2.0	49	52	49	52
Ti, Titanium (wt.%)	0.352	0.011	0.347	0.357	0.342	0.362
Tl, Thallium (ppm)	12.3	0.73	11.6	12.9	11.6	12.9
Tm, Thulium (ppm)	0.24	0.04	0.22	0.27	0.21	0.28
U, Uranium (ppm)	8.55	0.448	8.34	8.76	7.90	9.21
V, Vanadium (ppm)	56	3.1	55	58	52	60
W, Tungsten (ppm)	6.42	1.32	5.27	7.56	IND	IND
Y, Yttrium (ppm)	19.4	1.47	18.3	20.6	18.9	20.0
Yb, Ytterbium (ppm)	1.37	0.18	1.32	1.43	IND	IND
Zn, Zinc (ppm)	159	11	153	164	149	169
Zr, Zirconium (ppm)	153	25	130	177	135	172
Borate Fusion XRF						
Al_2O_3, Aluminium(III) oxide (wt.%)	10.20	0.096	10.14	10.25	10.14	10.25
BaO, Barium oxide (ppm)	1152	55	1122	1181	IND	IND
CaO, Calcium oxide (wt.%)	1.24	0.014	1.23	1.24	1.23	1.25
Fe_2O_3, Iron(III) oxide (wt.%)	4.35	0.055	4.32	4.38	4.32	4.38
K_2O, Potassium oxide (wt.%)	1.81	0.022	1.79	1.82	1.79	1.82
MgO, Magnesium oxide (wt.%)	0.797	0.015	0.790	0.804	0.785	0.809
MnO, Manganese oxide (wt.%)	0.050	0.001	0.049	0.050	0.047	0.053
Na_2O, Sodium oxide (wt.%)	1.19	0.018	1.18	1.20	1.17	1.21
Nb_2O_5, Niobium(V) oxide (wt.%)	0.245	0.009	0.240	0.250	0.239	0.251
P_2O_5, Phosphorus(V) oxide (wt.%)	0.302	0.008	0.298	0.305	0.296	0.307
SiO_2, Silicon dioxide (wt.%)	76.59	0.399	76.40	76.78	76.34	76.84
Sn, Tin (ppm)	1181	72	1140	1223	1150	1213
SO_3, Sulphur trioxide (wt.%)	0.057	0.005	0.054	0.060	0.052	0.063
SrO, Strontium oxide (ppm)	223	29	204	243	IND	IND
TiO_2, Titanium dioxide (wt.%)	0.584	0.008	0.581	0.587	0.574	0.594
Thermogravimetry						
LOI^{1000}, Loss on ignition @1000°C (wt.%)	0.887	0.060	0.852	0.922	0.861	0.914

Note: intervals may appear asymmetric due to rounding

INTRODUCTION

OREAS reference materials are intended to provide a low cost method of evaluating and improving the quality of analysis of geological samples. To the geologist they provide a means of implementing quality control in analytical data sets generated in exploration from the grass roots level through to prospect evaluation, and in grade control at mining operations. To the analyst they provide an effective means of calibrating analytical equipment, assessing new techniques and routinely monitoring in-house procedures.

SOURCE MATERIALS

Certified Reference Material OREAS 148 has been prepared from spodumene $LiAl(Si_2O_5)$-rich pegmatite ore blended with granodiorite and with minor additions of Sn oxide ore and Nb concentrate. The pegmatite was sourced from stockpile grab samples from the Greenbushes Mine owned by Talison Lithium Ltd located just south of the town of Greenbushes in the south-western corner of Western Australia. The barren I-type hornblende-bearing granodiorite was sourced from the Late Devonian Lysterfield granodiorite complex located in eastern Melbourne, Australia. The Sn lateritic ore material was sourced from the Doradilla Project located in north central NSW and the Nb concentrate was sourced from Anglo American Brasil Catalão's niobium mine in Goiás, Brazil. The Nb concentrate was produced from niobium-rich ore developed in the saprolite zone over alkaline-carbonatite complexes.

COMMINUTION AND HOMOGENISATION PROCEDURES

The material constituting OREAS 148 was prepared in the following manner:

- Drying to constant mass at 105°C;
- Milling of Li and Nb ores to 100% minus 30 microns;
- Milling of Sn ore and granodiorite to 98% minus 75 microns;
- Preliminary homogenisation and check assaying of source materials;
- Final homogenisation by blending the source materials in specific ratios to achieve target grades;
- Packaging in 10g units in laminated foil pouches.

ANALYTICAL PROGRAM

Twenty two commercial analytical laboratories participated in the program to certify the analytes reported in Table 1. The following methods were employed:

- Four acid digestion for full ICP-OES and ICP-MS elemental suites (up to 22 laboratories depending on the element) except for one laboratory who used an AAS finish for Li only;
- Peroxide fusion for full ICP-OES and ICP-MS elemental suites (up to 21 laboratories depending on the element);
- Lithium borate fusion with XRF finish for whole rock package including Nb and Ta (up to 22 laboratories depending on the element);

- Thermogravimetry for LOI at 1000° C; (9 laboratories used a conventional muffle furnace and 6 laboratories used a thermogravimetric analyser).

For the round robin program ten test units were taken at predetermined intervals during the bagging stage, immediately following homogenisation and are considered representative of the entire batch. The six samples received by each laboratory were obtained by taking two 20g scoop splits from each of three separate 300g test units. This format enabled nested ANOVA treatment of the results to evaluate homogeneity, i.e. to ascertain whether between-unit variance is greater than within-unit variance. Table 1 presents the 117 certified values together with their associated 1SD's, 95% confidence and tolerance limits and Table 2 below shows 56 indicative values. Table 3 provides performance gate intervals for the certified values based on their associated pooled standard deviations. Tabulated results of all elements together with analytical method codes, uncorrected means, medians, standard deviations, relative standard deviations and per cent deviation of lab means from the corrected mean of means (PDM[3]) are presented in the detailed certification data for this CRM (**OREAS 148 DataPack.xlsx**).

Table 2. Indicative Values for OREAS 148.

Constituent	Unit	Value	Constituent	Unit	Value	Constituent	Unit	Value
4-Acid Digestion								
Ag	ppm	*0.649*	Ir	ppm	*0.007*	Si	wt.%	*34.98*
Au	ppm	*0.098*	Pt	ppm	*0.018*	Sn	ppm	*837*
B	ppm	*3.23*	Re	ppm	*< 0.002*	Te	ppm	*0.21*
Cd	ppm	*0.48*	S	wt.%	*0.024*			
Hg	ppm	*0.030*	Se	ppm	*2.20*			
Peroxide Fusion ICP								
Ag	ppm	*5.08*	Lu	ppm	*0.17*	Se	ppm	*< 20*
B	ppm	*27.5*	Ni	ppm	*26.9*	Ta	ppm	*22.2*
Cd	ppm	*< 10*	Pb	ppm	*28.4*	Te	ppm	*< 1*
Co	ppm	*< 20*	Re	ppm	*< 0.1*			
Ge	ppm	*4.27*	S	wt.%	*0.020*			
Borate Fusion XRF								
As	ppm	*81*	Gd_2O_3	ppm	*< 100*	Sm_2O_3	ppm	*< 100*
Bi	ppm	*< 100*	HfO_2	ppm	*< 100*	Ta_2O_5	ppm	*< 100*
CeO_2	ppm	*975*	La_2O_3	ppm	*613*	ThO_2	ppm	*< 100*
Cl	ppm	*107*	Mo	ppm	*< 10*	U_3O_8	ppm	*< 100*
Co	ppm	*29.2*	Nd_2O_3	ppm	*450*	V_2O_5	ppm	*121*
Cr_2O_3	ppm	*100*	Ni	ppm	*35.2*	W	ppm	*21.7*
Cu	ppm	*326*	Pb	ppm	*43.7*	Y_2O_3	ppm	*117*
Dy_2O_3	ppm	*< 100*	Pr_6O_{11}	ppm	*400*	Yb_2O_3	ppm	*< 100*
Er_2O_3	ppm	*< 100*	Rb	ppm	*1365*	Zn	ppm	*160*
Ga_2O_3	ppm	*46.7*	Sb	ppm	*18.3*	Zr	ppm	*167*

Note: the number of significant figures reported is not a reflection of the level of certainty of stated values. They are instead an artefact of ORE's in-house CRM-specific LIMS.

STATISTICAL ANALYSIS

Certified Values, Confidence Limits, Standard Deviations and Tolerance Limits (Table 1) have been determined for each analyte following removal of individual, laboratory dataset (batch) and 3SD outliers (single iteration). For individual outliers within a laboratory batch the z-score test is used in combination with a second method that determines the per cent deviation of the individual value from the batch median. Outliers in general are selected on the basis of z-scores > 2.5 and with per cent deviations (i) > 3 and (ii) more than three times the average absolute per cent deviation for the batch. In certain instances statistician's prerogative has been employed in discriminating outliers. Each laboratory data set mean is tested for outlying status based on z-score discrimination and rejected if > 2.5. After individual and laboratory data set (batch) outliers have been eliminated a non-iterative 3 standard deviation filter is applied, with those values lying outside this window also relegated to outlying status. The Certified Values are the means of accepted laboratory means after outlier filtering.

The 95% Confidence Limits are inversely proportional to the number of participating laboratories and inter-laboratory agreement. It is a measure of the reliability of the certified value. A 95% confidence interval indicates a 95% probability that the true value of the analyte under consideration lies between the upper and lower limits. *95% Confidence Limits should not be used as control limits for laboratory performance.*

Standard Deviation values (1SDs) are reported in Table 1 and provide an indication of a level of performance that might reasonably be expected from a laboratory being monitored by this CRM in a QA/QC program. The SD's take into account errors attributable to measurement uncertainty and CRM variability. For an effective CRM the contribution of the latter should be negligible in comparison to measurement errors. The SD values thus include all sources of measurement uncertainty: between-lab variance, within-run variance (precision errors) and CRM variability. OREAS prepared reference materials have a level of homogeneity such that the observed variance from repeated analysis has its origin almost exclusively in the analytical process rather than the reference material itself.

The SD for each analyte's certified value is calculated from the same filtered data set used to determine the certified value, i.e. after removal of any individual, lab dataset (batch) and 3SD outliers (single iteration). These outliers can only be removed after the absolute homogeneity of the CRM has been independently established, i.e. the outliers must be confidently deemed to be analytical rather than arising from inhomogeneity of the CRM. **The standard deviation is then calculated for each analyte from the pooled accepted analyses generated from the certification program.**

In the application of SD's in monitoring performance it is important to note that not all laboratories function at the same level of proficiency and that different methods in use at a particular laboratory have differing levels of precision. Each laboratory has its own inherent SD (for a specific concentration level and analyte-method pair) based on the analytical process and this SD is not directly related to the round robin program.

The majority of data generated in the round robin program was produced by a selection of world class laboratories. The SD's thus generated are more constrained than those that would be produced across a randomly selected group of laboratories. To produce more generally achievable SD's the 'pooled' SD's provided in this report include inter-lab bias. This 'one size fits all' approach may require revision at the discretion of the QC manager concerned following careful scrutiny of QC control charts.

Table 3 shows **Performance Gates** calculated for two and three standard deviations. As a guide these intervals may be regarded as warning or rejection for multiple 2SD outliers, or rejection for individual 3SD outliers in QC monitoring, although their precise application should be at the discretion of the QC manager concerned. A second method utilises a 5% window calculated directly from the certified value. Standard deviation is also shown in relative percent for one, two and three relative standard deviations (1RSD, 2RSD and 3RSD) to facilitate an appreciation of the magnitude of these numbers and a comparison with the 5% window. Caution should be exercised when concentration levels approach lower limits of detection of the analytical methods employed as performance gates calculated from standard deviations tend to be excessively wide whereas those determined by the 5% method are too narrow.

Tolerance Limits (ISO Guide 3207) were determined using an analysis of precision errors method and are considered a conservative estimate of true homogeneity. The meaning of tolerance limits may be illustrated for tin (Sn) by fusion XRF, where 99% of the time (1-α=0.99) at least 95% of subsamples (ρ=0.95) will have concentrations lying between 1150 and 1213 ppm. Put more precisely, this means that if the same number of subsamples were taken and analysed in the same manner repeatedly, 99% of the tolerance intervals so constructed would cover at least 95% of the total population, and 1% of the tolerance intervals would cover less than 95% of the total population (ISO Guide 35). *Please note that tolerance limits pertain to the homogeneity of the CRM only and should not be used as control limits for laboratory performance.*

The homogeneity of OREAS 148 has also been evaluated in a **nested ANOVA** of the round robin program. Each of the twenty four round robin laboratories received six samples per CRM and these samples were made up of paired samples from three different, non-adjacent sampling intervals. The purpose of the ANOVA evaluation is to test that no statistically significant difference exists in the variance between-units to that of the variance within-units. This allows an assessment of homogeneity across the entire prepared batch of OREAS 148. The test was performed using the following parameters:

- Null Hypothesis, H_0: Between-unit variance is no greater than within-unit variance (reject H_0 if *p*-value < 0.05);
- Alternative Hypothesis, H_1: Between-unit variance is greater than within-unit variance.

P-values are a measure of probability where values less than 0.05 indicate a greater than 95% probability that the observed differences in within-unit and between-unit variances are real. The datasets were filtered for both individual and laboratory data set (batch) outliers prior to the calculation of *p*-values. This process derived no significant *p*-values across the entire 113 certified values except for neodymium (Nd) by 4-acid digest. This isolated case is most likely due to random statistical probability as there is no other supporting evidence to suspect greater between-unit variance compared with within-unit variance. The null hypothesis is therefore retained.

It is important to note that ANOVA is not an absolute measure of homogeneity. Rather, it establishes whether or not the analytes are distributed in a similar manner throughout the packaging run of OREAS 148 and whether the variance between two subsamples from the same unit is statistically distinguishable to the variance from two subsamples taken from any two separate units. A reference material therefore, can possess poor absolute homogeneity yet still pass a relative homogeneity test if the within-unit heterogeneity is large and similar across all units.

Based on the statistical analysis of the results of the inter-laboratory certification program it can be concluded that OREAS 148 is fit-for-purpose as a certified reference material (see 'Intended Use' below).

Table 3. Pooled-Lab Performance Gates for OREAS 148.

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
4-Acid Digestion											
Al, wt.%	5.27	0.170	4.93	5.61	4.76	5.78	3.23%	6.47%	9.70%	5.00	5.53
As, ppm	58	3.2	51	64	48	67	5.60%	11.20%	16.80%	55	60
Ba, ppm	1000	36	927	1072	891	1109	3.64%	7.27%	10.91%	950	1050
Be, ppm	36.2	2.53	31.2	41.3	28.6	43.8	6.98%	13.97%	20.95%	34.4	38.0
Bi, ppm	18.9	1.17	16.6	21.3	15.4	22.4	6.21%	12.41%	18.62%	18.0	19.9
Ca, wt.%	0.872	0.037	0.798	0.945	0.761	0.982	4.23%	8.47%	12.70%	0.828	0.915
Ce, ppm	725	64	597	853	534	917	8.81%	17.63%	26.44%	689	762
Co, ppm	6.31	0.403	5.50	7.11	5.10	7.51	6.39%	12.79%	19.18%	5.99	6.62
Cr, ppm	60	9	42	77	34	85	14.41%	28.82%	43.23%	57	63
Cs, ppm	314	16	283	345	267	361	5.01%	10.01%	15.02%	298	330
Cu, ppm	338	16	305	370	289	386	4.78%	9.55%	14.33%	321	355
Dy, ppm	6.66	0.93	4.81	8.52	3.88	9.44	13.91%	27.82%	41.73%	6.33	7.00
Er, ppm	2.20	0.26	1.68	2.72	1.42	2.98	11.78%	23.57%	35.35%	2.09	2.31
Eu, ppm	7.54	0.458	6.62	8.46	6.17	8.91	6.07%	12.15%	18.22%	7.16	7.92
Fe, wt.%	3.02	0.132	2.76	3.29	2.63	3.42	4.37%	8.74%	13.10%	2.87	3.17
Ga, ppm	29.2	2.32	24.6	33.8	22.2	36.2	7.95%	15.90%	23.85%	27.7	30.7
Gd, ppm	17.1	2.2	12.6	21.5	10.4	23.8	13.08%	26.16%	39.24%	16.2	17.9
Ge, ppm	0.55	0.10	0.35	0.76	0.25	0.86	18.51%	37.02%	55.53%	0.53	0.58
Hf, ppm	2.16	0.22	1.72	2.59	1.51	2.81	10.08%	20.16%	30.24%	2.05	2.27
Ho, ppm	0.84	0.09	0.65	1.03	0.56	1.13	11.25%	22.50%	33.75%	0.80	0.89
In, ppm	3.98	0.202	3.57	4.38	3.37	4.58	5.08%	10.15%	15.23%	3.78	4.18
K, wt.%	1.47	0.041	1.39	1.55	1.35	1.60	2.82%	5.64%	8.46%	1.40	1.54
La, ppm	446	28	390	503	362	531	6.31%	12.62%	18.94%	424	469
Li, wt.%	0.465	0.009	0.447	0.484	0.438	0.493	1.96%	3.93%	5.89%	0.442	0.489
Li_2O, wt.%	1.00	0.020	0.963	1.04	0.943	1.06	1.96%	3.93%	5.89%	0.952	1.05
Lu, ppm	0.17	0.02	0.12	0.22	0.10	0.24	14.47%	28.93%	43.40%	0.16	0.18
Mg, wt.%	0.454	0.020	0.414	0.493	0.395	0.513	4.35%	8.70%	13.05%	0.431	0.477
Mn, wt.%	0.037	0.002	0.034	0.041	0.032	0.042	4.77%	9.54%	14.30%	0.035	0.039
Mo, ppm	8.86	0.344	8.17	9.55	7.83	9.89	3.88%	7.77%	11.65%	8.42	9.30
Na, wt.%	0.860	0.039	0.783	0.937	0.744	0.976	4.49%	8.98%	13.47%	0.817	0.903
Nb, wt.%	0.169	0.010	0.150	0.188	0.140	0.198	5.72%	11.45%	17.17%	0.160	0.177
Nd, ppm	267	11	244	289	233	300	4.19%	8.37%	12.56%	253	280
Ni, ppm	22.2	0.98	20.2	24.1	19.2	25.1	4.42%	8.85%	13.27%	21.1	23.3
P, wt.%	0.131	0.005	0.120	0.141	0.115	0.146	4.00%	7.99%	11.99%	0.124	0.137
Pb, ppm	24.9	2.20	20.5	29.3	18.3	31.5	8.85%	17.70%	26.54%	23.7	26.2
Pr, ppm	82	2.0	78	86	76	88	2.39%	4.79%	7.18%	78	86
Rb, ppm	1324	41	1242	1405	1202	1446	3.08%	6.16%	9.24%	1258	1390
Sb, ppm	16.2	0.78	14.6	17.8	13.9	18.5	4.81%	9.61%	14.42%	15.4	17.0
Sc, ppm	8.23	0.554	7.13	9.34	6.57	9.90	6.73%	13.46%	20.19%	7.82	8.65

Note: intervals may appear asymmetric due to rounding.

Table 3 continued.

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
4-Acid Digestion continued											
Sm, ppm	34.2	0.94	32.3	36.1	31.4	37.0	2.75%	5.51%	8.26%	32.5	35.9
Sr, ppm	204	16	173	236	158	251	7.62%	15.25%	22.87%	194	215
Ta, ppm	23.1	2.9	17.3	28.9	14.4	31.8	12.52%	25.04%	37.57%	21.9	24.2
Tb, ppm	1.71	0.145	1.42	2.00	1.28	2.14	8.47%	16.93%	25.40%	1.62	1.80
Th, ppm	48.2	3.62	41.0	55.5	37.4	59.1	7.51%	15.03%	22.54%	45.8	50.6
Ti, wt.%	0.345	0.015	0.314	0.376	0.299	0.391	4.47%	8.94%	13.41%	0.328	0.362
Tl, ppm	12.2	0.59	11.0	13.4	10.4	13.9	4.84%	9.67%	14.51%	11.6	12.8
Tm, ppm	0.20	0.03	0.14	0.26	0.11	0.29	14.91%	29.83%	44.74%	0.19	0.21
U, ppm	8.10	0.332	7.44	8.77	7.10	9.10	4.10%	8.20%	12.30%	7.70	8.51
V, ppm	54	3.1	48	61	45	64	5.72%	11.45%	17.17%	52	57
W, ppm	6.45	0.373	5.70	7.20	5.33	7.57	5.79%	11.58%	17.36%	6.13	6.77
Y, ppm	18.5	2.0	14.5	22.5	12.6	24.4	10.71%	21.41%	32.12%	17.6	19.4
Yb, ppm	1.15	0.12	0.91	1.38	0.79	1.50	10.30%	20.60%	30.90%	1.09	1.20
Zn, ppm	162	5	151	173	146	178	3.34%	6.68%	10.03%	154	170
Zr, ppm	79	4.8	69	88	64	93	6.07%	12.14%	18.21%	75	82
Peroxide Fusion ICP											
Al, wt.%	5.37	0.148	5.07	5.66	4.92	5.81	2.77%	5.53%	8.30%	5.10	5.64
As, ppm	59	4.0	51	67	47	71	6.75%	13.51%	20.26%	56	62
Ba, ppm	1009	26	956	1062	930	1088	2.62%	5.24%	7.86%	959	1060
Be, ppm	38.8	2.00	34.8	42.8	32.8	44.8	5.15%	10.30%	15.45%	36.8	40.7
Bi, ppm	19.3	1.31	16.6	21.9	15.3	23.2	6.81%	13.63%	20.44%	18.3	20.2
Ca, wt.%	0.903	0.048	0.807	0.999	0.758	1.048	5.34%	10.68%	16.01%	0.858	0.948
Ce, ppm	795	53	689	901	636	955	6.68%	13.36%	20.03%	755	835
Cr, ppm	69	5.8	57	80	51	86	8.38%	16.76%	25.13%	65	72
Cs, ppm	311	13	286	337	273	350	4.11%	8.22%	12.32%	296	327
Cu, ppm	351	35	280	421	245	456	10.05%	20.10%	30.15%	333	368
Dy, ppm	6.06	0.492	5.07	7.04	4.58	7.53	8.12%	16.25%	24.37%	5.75	6.36
Er, ppm	2.00	0.121	1.76	2.24	1.63	2.36	6.07%	12.13%	18.20%	1.90	2.10
Eu, ppm	7.22	0.425	6.37	8.07	5.95	8.50	5.88%	11.77%	17.65%	6.86	7.58
Fe, wt.%	3.06	0.083	2.89	3.22	2.81	3.30	2.71%	5.42%	8.13%	2.90	3.21
Ga, ppm	29.2	1.50	26.2	32.3	24.7	33.8	5.14%	10.29%	15.43%	27.8	30.7
Gd, ppm	15.8	1.34	13.1	18.5	11.8	19.8	8.48%	16.96%	25.43%	15.0	16.6
Hf, ppm	4.15	0.53	3.09	5.20	2.56	5.73	12.77%	25.54%	38.31%	3.94	4.35
Ho, ppm	0.94	0.12	0.69	1.19	0.57	1.31	13.11%	26.22%	39.33%	0.89	0.99
In, ppm	4.22	0.299	3.62	4.81	3.32	5.11	7.08%	14.17%	21.25%	4.00	4.43
K, wt.%	1.50	0.050	1.40	1.60	1.35	1.65	3.30%	6.61%	9.91%	1.43	1.58
La, ppm	478	15	448	507	434	521	3.05%	6.10%	9.15%	454	501
Li, wt.%	0.476	0.011	0.455	0.498	0.444	0.509	2.26%	4.52%	6.78%	0.453	0.500
Li_2O, wt.%	1.03	0.023	0.980	1.07	0.956	1.10	2.26%	4.52%	6.78%	0.975	1.08
Mg, wt.%	0.469	0.016	0.436	0.501	0.420	0.518	3.48%	6.96%	10.44%	0.445	0.492
Mn, wt.%	0.038	0.002	0.034	0.041	0.032	0.043	4.80%	9.60%	14.41%	0.036	0.040
Mo, ppm	10.1	0.59	8.9	11.2	8.3	11.8	5.82%	11.63%	17.45%	9.6	10.6
Nb, wt.%	0.168	0.011	0.145	0.191	0.134	0.202	6.76%	13.52%	20.28%	0.160	0.176

Note: intervals may appear asymmetric due to rounding.

Table 3 continued.

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
Peroxide Fusion ICP continued											
Nd, ppm	260	12	236	284	224	296	4.64%	9.28%	13.93%	247	273
P, wt.%	0.129	0.008	0.114	0.145	0.106	0.153	6.08%	12.15%	18.23%	0.123	0.136
Pr, ppm	82	1.9	78	86	76	88	2.36%	4.72%	7.08%	78	86
Rb, ppm	1362	79	1204	1520	1125	1599	5.80%	11.61%	17.41%	1294	1430
Sb, ppm	16.3	0.96	14.4	18.2	13.5	19.2	5.86%	11.72%	17.57%	15.5	17.1
Sc, ppm	8.64	1.43	5.79	11.49	4.36	12.92	16.51%	33.03%	49.54%	8.21	9.07
Si, wt.%	36.00	1.065	33.87	38.13	32.80	39.19	2.96%	5.91%	8.87%	34.20	37.80
Sm, ppm	34.3	3.16	28.0	40.6	24.8	43.8	9.20%	18.40%	27.60%	32.6	36.0
Sn, ppm	1157	80	997	1317	917	1397	6.92%	13.84%	20.76%	1099	1215
Sr, ppm	209	11	186	232	174	243	5.49%	10.99%	16.48%	198	219
Tb, ppm	1.58	0.141	1.30	1.86	1.16	2.01	8.92%	17.85%	26.77%	1.50	1.66
Th, ppm	51	2.0	47	55	44	57	4.01%	8.02%	12.03%	48	53
Ti, wt.%	0.352	0.011	0.329	0.375	0.318	0.386	3.24%	6.47%	9.71%	0.335	0.370
Tl, ppm	12.3	0.73	10.8	13.7	10.1	14.4	5.96%	11.92%	17.88%	11.6	12.9
Tm, ppm	0.24	0.04	0.17	0.31	0.13	0.35	14.89%	29.78%	44.66%	0.23	0.25
U, ppm	8.55	0.448	7.66	9.45	7.21	9.90	5.24%	10.48%	15.72%	8.13	8.98
V, ppm	56	3.1	50	62	47	66	5.42%	10.84%	16.25%	54	59
W, ppm	6.42	1.32	3.78	9.05	2.47	10.37	20.53%	41.06%	61.59%	6.10	6.74
Y, ppm	19.4	1.47	16.5	22.4	15.0	23.8	7.55%	15.10%	22.64%	18.5	20.4
Yb, ppm	1.37	0.18	1.00	1.74	0.82	1.93	13.45%	26.91%	40.36%	1.30	1.44
Zn, ppm	159	11	137	181	126	192	6.94%	13.88%	20.83%	151	167
Zr, ppm	153	25	104	203	79	227	16.12%	32.24%	48.36%	146	161
Borate Fusion XRF											
Al_2O_3, wt.%	10.20	0.096	10.00	10.39	9.91	10.48	0.94%	1.88%	2.82%	9.69	10.71
BaO, ppm	1152	55	1041	1262	986	1317	4.79%	9.57%	14.36%	1094	1209
CaO, wt.%	1.24	0.014	1.21	1.26	1.19	1.28	1.11%	2.23%	3.34%	1.17	1.30
Fe_2O_3, wt.%	4.35	0.055	4.24	4.46	4.19	4.51	1.26%	2.52%	3.77%	4.13	4.57
K_2O, wt.%	1.81	0.022	1.76	1.85	1.74	1.87	1.21%	2.42%	3.64%	1.72	1.90
MgO, wt.%	0.797	0.015	0.768	0.826	0.754	0.841	1.83%	3.66%	5.49%	0.757	0.837
MnO, wt.%	0.050	0.001	0.048	0.052	0.047	0.053	1.94%	3.88%	5.82%	0.047	0.052
Na_2O, wt.%	1.19	0.018	1.15	1.22	1.14	1.24	1.49%	2.98%	4.47%	1.13	1.25
Nb_2O_5, wt.%	0.245	0.009	0.228	0.262	0.219	0.271	3.53%	7.06%	10.59%	0.233	0.257
P_2O_5, wt.%	0.302	0.008	0.286	0.317	0.278	0.325	2.58%	5.16%	7.74%	0.286	0.317
SiO_2, wt.%	76.59	0.399	75.79	77.38	75.39	77.78	0.52%	1.04%	1.56%	72.76	80.42
Sn, ppm	1181	72	1038	1325	966	1396	6.06%	12.12%	18.19%	1122	1240
SO_3, wt.%	0.057	0.005	0.048	0.067	0.043	0.072	8.43%	16.86%	25.29%	0.054	0.060
SrO, ppm	223	29	166	280	137	309	12.81%	25.63%	38.44%	212	234
TiO_2, wt.%	0.584	0.008	0.569	0.599	0.561	0.607	1.31%	2.61%	3.92%	0.555	0.613
Thermogravimetry											
LOI^{1000}, wt.%	0.887	0.060	0.767	1.007	0.707	1.067	6.77%	13.53%	20.30%	0.843	0.932

Note: intervals may appear asymmetric due to rounding.

PARTICIPATING LABORATORIES

1. Actlabs, Ancaster, Ontario, Canada
2. ALS, Brisbane, QLD, Australia
3. ALS, Lima, Peru
4. ALS, Loughrea, Galway, Ireland
5. ALS, Perth, WA, Australia
6. ALS, Vancouver, BC, Canada
7. Bureau Veritas Commodities Canada Ltd, Vancouver, BC, Canada
8. Bureau Veritas Geoanalytical, Adelaide, SA, Australia
9. Bureau Veritas Geoanalytical, Perth, WA, Australia
10. Intertek Genalysis, Perth, WA, Australia
11. Intertek Testing Services Philippines, Cupang, Muntinlupa, Philippines
12. MinAnalytical Services, Perth, WA, Australia
13. Nagrom, Perth, WA, Australia
14. PT Geoservices Ltd, Cikarang, Jakarta Raya, Indonesia
15. SGS Australia Mineral Services, Perth, WA, Australia
16. SGS Canada Inc., Vancouver, BC, Canada
17. SGS del Peru, Lima, Peru
18. SGS Geosol Laboratorios Ltda, Vespasiano, Minas Gerais, Brazil
19. SGS Lakefield Research Ltd, Lakefield, Ontario, Canada
20. UIS Analytical Services, Centurion , South Africa
21. Zarazma Mahan Company, Mahan, Kerrman, Iran
22. Zarazma Mineral Studies Company, Tehran, Iran

PREPARER AND SUPPLIER

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It is packaged in 10g units in robust single-use laminated foil pouches.

INTENDED USE

OREAS 148 is intended for the following uses:

- for the monitoring of laboratory performance in the analysis of analytes reported in Table 1 in geological samples;
- for the verification of analytical methods for analytes reported in Table 1;
- for the calibration of instruments used in the determination of the concentration of analytes reported in Table 1.

STABILITY AND STORAGE INSTRUCTIONS

OREAS 149 has been prepared from spodumene $LiAl(Si_2O_5)$-rich pegmatite ore with minor additions of Sn oxide ore and Nb concentrate. It contains very little reactive sulphide and in its unopened state and under normal conditions of storage it has a shelf life beyond ten years. Its stability will be monitored at regular intervals and purchasers notified if any changes are observed.

INSTRUCTIONS FOR CORRECT USE

The certified values determined by 4-acid digestion and peroxide fusion ICP refer to the concentration levels in the packaged state. There is no need for drying prior to weighing and analysis.

In contrast the certified values determined by borate fusion XRF and for LOI at 1000° C are on a dry basis. This requires the removal of hygroscopic moisture by drying in air to constant mass at 105° C. If the reference material is not dried prior to analysis, the certified values should be corrected to the moisture-bearing basis.

HANDLING INSTRUCTIONS

Fine powders pose a risk to eyes and lungs and therefore standard precautions such as the use of safety glasses and dust masks are advised.

TRACEABILITY

The analytical samples were selected in a manner to represent the entire batch of prepared CRM. This ‘representivity’ was maintained in each submitted laboratory sample batch and ensures the user that the data is traceable from sample selection through to the analytical results that underlie the consensus values. Each analytical data set has been validated by its assayer through the inclusion of internal reference materials and QC checks during analysis. The laboratories were chosen on the basis of their competence (from past performance in inter-laboratory programs) for a particular analytical method, analyte or analyte suite, and sample matrix. Most of these laboratories have and maintain ISO 17025 accreditation. The certified values presented in this report are calculated from the means of accepted data following robust statistical treatment as detailed in this report.

LEGAL NOTICE

Ore Research & Exploration Pty Ltd has prepared and statistically evaluated the property values of this reference material to the best of its ability. The Purchaser by receipt hereof releases and indemnifies Ore Research & Exploration Pty Ltd from and against all liability and costs arising from the use of this material and information.

QMS ACCREDITED

ORE Pty Ltd is accredited to ISO 9001:2015 by Lloyd's Register Quality Assurance Ltd for its quality management system including development, manufacturing, certification and supply of CRMs.

CERTIFYING OFFICER

Craig Hamlyn (B.Sc. Hons - Geology), Technical Manager - ORE P/L

REFERENCES

ISO Guide 30 (1992), Terms and definitions used in connection with reference materials.
ISO Guide 31 (2000), Reference materials – Contents of certificates and labels.
ISO Guide 3207 (1975), Statistical interpretation of data - Determination of a statistical tolerance interval.
ISO Guide 35 (2006), Certification of reference materials - General and statistical principals.

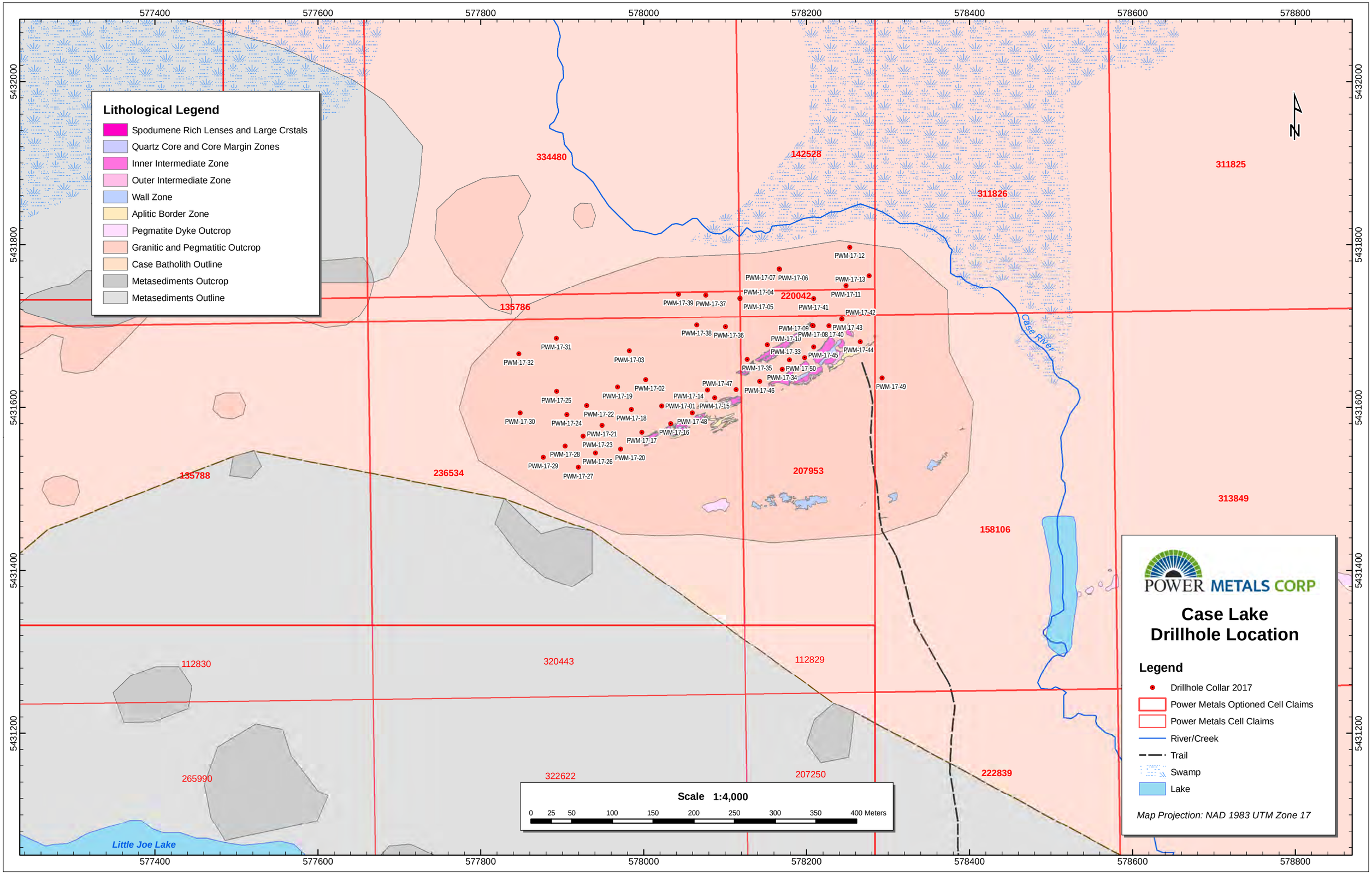
Appendix 4 – Assessment files used in this report

Table 14-3 Assessment reports used in this report.

Assessment Report Number	Year of Report	Year of Work	Company	Type of Work	Description of Work
KL2653	1969	1969	J. Tesluk	trenching, stripping	trenching and stripping of Case pegmatites
32E04SW0008	1973	1973	R. Strickland/L. Darby	drilling	one drill hole 101 ft, collared in Case Batholith, intersected 83 ft of spodumene-bearing pegmatite
Gartner Lee Associates report	1973	1973	L. Darby	geological	property visit, assays of pure mineral chips
KL0644	1974	1974	L. Darby	geological	trenching, stripping, geological mapping, 1 drill hole 101 ft
KL0668	1976	1976	L. Darby/ Dex Ltd	geological	stripping, blast-hole drilling, geological mapping of South Dyke, trenching
32E04SW0003	1991	1991	J.G. Burns	geology and geophysics	line cutting, grab samples of North, Main and South Dykes, magnetometer survey, VLF survey, geology map of North, Main and South Dykes
32E04SW2001	1998	1996-1998	G. O'Reilly	prospecting, grab sampling	prospecting for new pegmatites, stripping, grab sampling
32E04SW2002	1999	1999	J. Horne	mapping, stripping, plugger holes, geophysics	4500 m^2 of stripping, discovery of NE Dyke, 2 plugger holes on North Dyke, total magnetic and gradient surveys
32E04SW2003	2002	2001	Platinova A/S	drilling, channel sampling, detailed geological mapping	7 drill holes totaling 508.76 m, 6 channel samples, detailed geological map of North, Main and South Dykes
32E04SW2004	2002	2001	Navigator Exploration Corp	grab and channel sampling	7 grab samples, 16.6 m long channel on East Dyke
32E04SW2006	2003	2001	E. Ludwig	prospecting and grab samples	5 grab samples with 5% spodumene, near NE Dyke
2.45523	2010	2010	P. Hermeston	line cutting, geophysics	Beep Mat survey over the East Dyke
2.47355	2011	2010	P. Hermeston	sampling, mapping	prospecting, 4 grab samples from NE Dyke
2.49595	2011	2010/2011	P. Hermeston	grab sampling	4 grab samples from South Dyke

Assessment Report Number	Year of Report	Year of Work	Company	Type of Work	Description of Work
2.52017	2012	2012	P.Hermeston	grab sampling	1 grab sample, 3 soil-humus samples from Little Joe Lake
2.55141	2014	2014	E. Shynkorenko	grab sampling	2 grab samples from NE Dyke
2.58102	2017	2017	Caracle Creek	Sampling	Resampling and relogging of historic drill holes

Appendix 5 – Drill core cross sections


577400
577600
577800
578000
578200
578400
578600
578800
5432000
5431800
5431600
5431400
5431200
Lithological Legend
Spodumene Rich Lenses and Large Crstals
Quartz Core and Core Margin Zones
Inner Intermediate Zone
Outer Intermediate Zone
Wall Zone
Aplitic Border Zone
Pegmatite Dyke Outcrop
Granitic and Pegmatitic Outcrop
Case Batholith Outline
Metasediments Outcrop
Metasediments Outline
N
334480
142528
311825
311826
135786
220042
135788
236534
207953
313849
158106
112830
320443
112829
265990
322622
207250
222839
PWM-17-12
PWM-17-07
PWM-17-06
PWM-17-13
PWM-17-04
PWM-17-11
PWM-17-39
PWM-17-37
PWM-17-05
PWM-17-41
PWM-17-42
PWM-17-38
PWM-17-36
PWM-17-09
PWM-17-43
PWM-17-08
PWM-17-40
PWM-17-31
PWM-17-10
PWM-17-32
PWM-17-03
PWM-17-33
PWM-17-45
PWM-17-44
PWM-17-35
PWM-17-50
PWM-17-34
PWM-17-49
PWM-17-47
PWM-17-02
PWM-17-46
PWM-17-19
PWM-17-14
PWM-17-25
PWM-17-01
PWM-17-15
PWM-17-22
PWM-17-18
PWM-17-30
PWM-17-48
PWM-17-24
PWM-17-16
PWM-17-21
PWM-17-17
PWM-17-23
PWM-17-28
PWM-17-20
PWM-17-26
PWM-17-29
PWM-17-27
Case River
Little Joe Lake
Scale 1:4,000
0 25 50 100 150 200 250 300 350 400 Meters
POWER METALS CORP
Case Lake
Drillhole Location
Legend
Drillhole Collar 2017
Power Metals Optioned Cell Claims
Power Metals Cell Claims
River/Creek
Trail
Swamp
Lake
Map Projection: NAD 1983 UTM Zone 17

156614

334480

142528

311826

135787

135786

220042

135788

236534

207953

158106

Ture North

Magnetic Declination
11.75°W

Magnetic North

Case Lake Lithologic Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Legend Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80 90 100 110

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

Plan Projection	UTM NAD1983, Zone 17
Scale 1:1000	Date: 16 Nov 2018

330°N

A'

A

5431800 N
5431750 N
5431700 N
5431650 N
5431600 N
5431550 N
5431500 N

350 Elev
300 Elev
250 Elev
200 Elev
150 Elev

PWM-17-12
PWM-17-13
PWM-17-13
PWM-17-12

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: A - A'
Map Projection: UTM 1983 Zone 17N	16 November 2018

330°N

B'

B

5431800 N

5431750 N

5431700 N

5431650 N

5431600 N

5431550 N

5431500 N

350 Elev

300 Elev

250 Elev

200 Elev

150 Elev

PWM-17-11

PWM-17-43

PWM-17-11

PWM-17-43

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: B - B'
Map Projection: UTM 1983 Zone 17N	16 November 2018

330°N

C'

C

5431800 N

5431750 N

5431700 N

5431650 N

5431600 N

5431550 N

5431500 N

350 Elev

300 Elev

250 Elev

200 Elev

150 Elev

PWM-17-41

DDH-3

PWM-17-40

PWM-17-42

PWM-17-44

PWM-17-49

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: C - C'
Map Projection: UTM 1983 Zone 17N	16 November 2018

330°N

D'

D

5431800 N | 5431750 N | 5431700 N | 5431650 N | 5431600 N | 5431550 N | 5431500 N

350 Elev | 300 Elev | 250 Elev | 200 Elev | 150 Elev

PWM-17-06
PWM-17-07
PWM-17-08
PWM-17-09
DDH-1
DDH-2
PWM-17-45
SC3

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: D - D'
Map Projection: UTM 1983 Zone 17N	16 November 2018

330°N

E'

E

5431800 N | 5431750 N | 5431700 N | 5431650 N | 5431600 N | 5431550 N | 5431500 N

350 Elev

300 Elev

250 Elev

200 Elev

150 Elev

DDH-7

DDH-4

SC2

SC2

SC4-2

PWM-17-50

PWM-17-33

SC4-2

SC4-1

SC4-1

DDH-4

PWM-17-50

PWM-17-33

DDH-7

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: E - E'
Map Projection: UTM 1983 Zone 17N	16 November 2018

330°N

F'

F

5431800 N | 5431750 N | 5431700 N | 5431650 N | 5431600 N | 5431550 N | 5431500 N

350 Elev | 300 Elev | 250 Elev | 200 Elev | 150 Elev

PWM-17-05

DDH-5

PWM-17-10

SC1

PWM-17-34

SC5

PWM-17-34

DDH-5

PWM-17-10

PWM-17-04

PWM-17-05

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

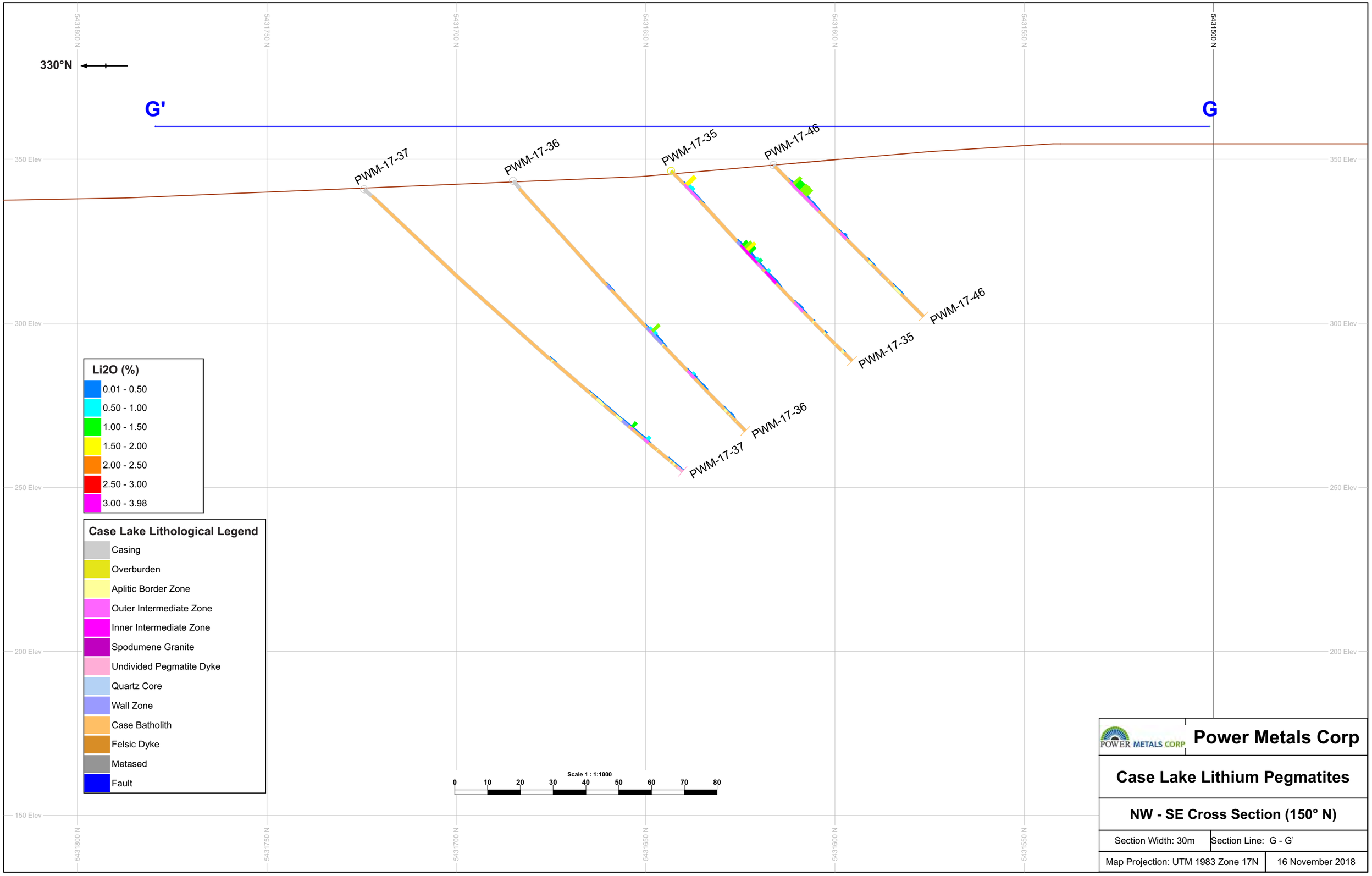
POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: F - F'
Map Projection: UTM 1983 Zone 17N	16 November 2018


330°N
G'
G
5431800 N
5431750 N
5431700 N
5431650 N
5431600 N
5431550 N
5431500 N
350 Elev
300 Elev
250 Elev
200 Elev
150 Elev
PWM-17-37
PWM-17-36
PWM-17-35
PWM-17-46
Li2O (%)
0.01 - 0.50
0.50 - 1.00
1.00 - 1.50
1.50 - 2.00
2.00 - 2.50
2.50 - 3.00
3.00 - 3.98
Case Lake Lithological Legend
Casing
Overburden
Aplitic Border Zone
Outer Intermediate Zone
Inner Intermediate Zone
Spodumene Granite
Undivided Pegmatite Dyke
Quartz Core
Wall Zone
Case Batholith
Felsic Dyke
Metased
Fault
Scale 1 : 1:1000
0 10 20 30 40 50 60 70 80
POWER METALS CORP
Power Metals Corp
Case Lake Lithium Pegmatites
NW - SE Cross Section (150° N)
Section Width: 30m
Section Line: G - G'
Map Projection: UTM 1983 Zone 17N
16 November 2018

330°N

H'

H

5431800 N
5431750 N
5431700 N
5431650 N
5431600 N
5431550 N
5431500 N

350 Elev
300 Elev
250 Elev
200 Elev
150 Elev

PWM-17-39
PWM-17-38
DDH-6
PWM-17-47
SC6
SC6

PWM-17-47
DDH-6
PWM-17-38
PWM-17-39

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: H - H'
Map Projection: UTM 1983 Zone 17N	16 November 2018

330°N

I'

I

5431800 N
5431750 N
5431700 N
5431650 N
5431600 N
5431550 N
5431500 N

350 Elev
300 Elev
250 Elev
200 Elev
150 Elev

PWM-17-14
PWM-17-15
PWM-17-15
PWM-17-14

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: I - I'
Map Projection: UTM 1983 Zone 17N	16 November 2018

330°N

J'

J

5431800 N

5431750 N

5431700 N

5431650 N

5431600 N

5431550 N

5431500 N

350 Elev

300 Elev

250 Elev

200 Elev

150 Elev

PWM-17-48

PWM-17-48

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: J - J'
Map Projection: UTM 1983 Zone 17N	16 November 2018

330°N

K'

K

5431800 N | 5431750 N | 5431700 N | 5431650 N | 5431600 N | 5431550 N | 5431500 N

350 Elev

300 Elev

250 Elev

200 Elev

150 Elev

PWM-17-03

PWM-17-02

PWM-17-01

PWM-17-16

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: K - K'
Map Projection: UTM 1983 Zone 17N	16 November 2018

330°N

L'

L

5431800 N

5431750 N

5431700 N

5431650 N

5431600 N

5431550 N

5431500 N

350 Elev

300 Elev

250 Elev

200 Elev

150 Elev

PWM-17-19

PWM-17-18

PWM-17-17

PWM-17-18

PWM-17-19

PWM-17-17

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

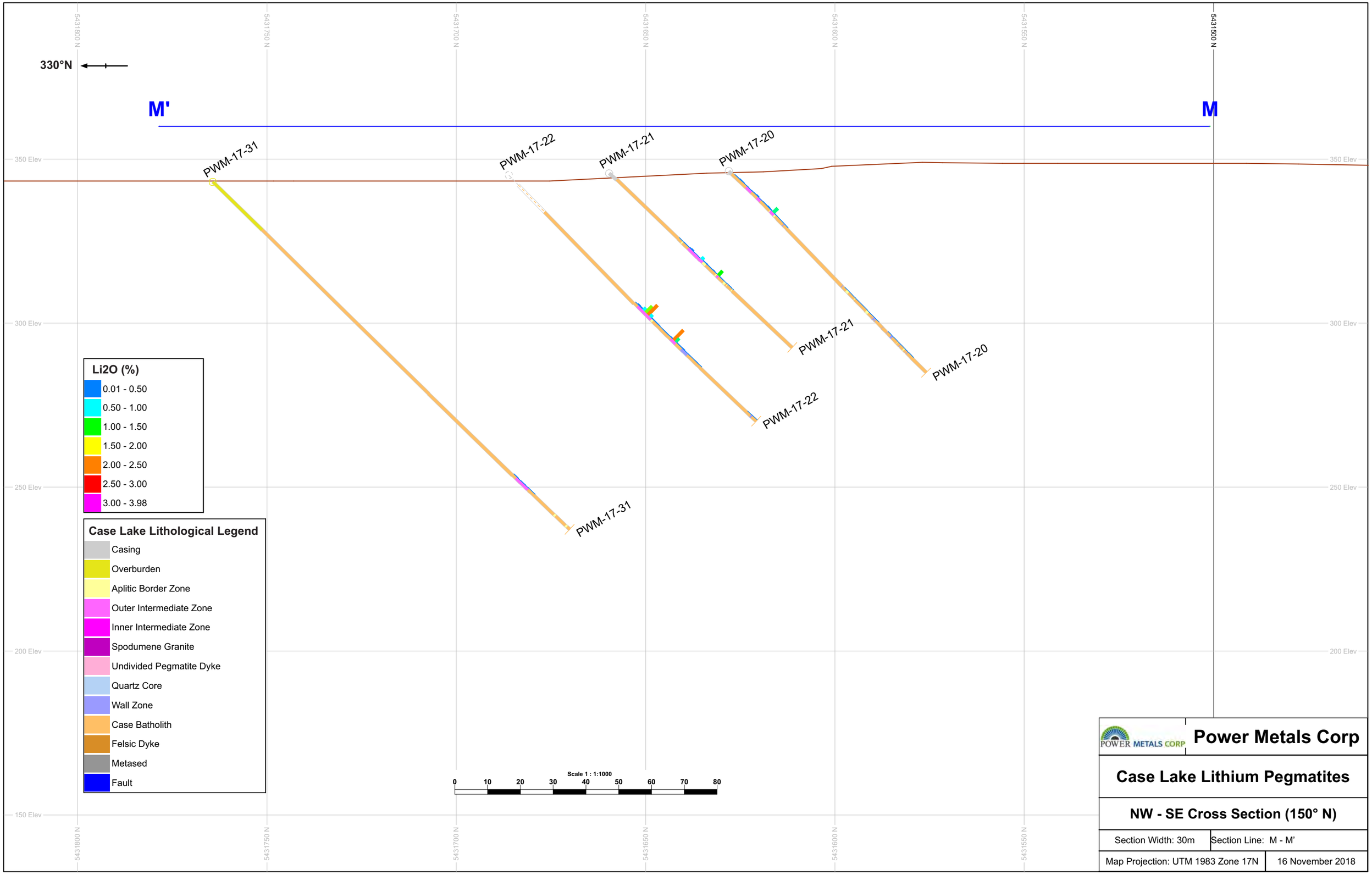
POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: L - L'
Map Projection: UTM 1983 Zone 17N	16 November 2018


330°N
M'
M
5431800 N
5431750 N
5431700 N
5431650 N
5431600 N
5431550 N
5431500 N
350 Elev
300 Elev
250 Elev
200 Elev
150 Elev
PWM-17-31
PWM-17-22
PWM-17-21
PWM-17-20
Li2O (%)
0.01 - 0.50
0.50 - 1.00
1.00 - 1.50
1.50 - 2.00
2.00 - 2.50
2.50 - 3.00
3.00 - 3.98
Case Lake Lithological Legend
Casing
Overburden
Aplitic Border Zone
Outer Intermediate Zone
Inner Intermediate Zone
Spodumene Granite
Undivided Pegmatite Dyke
Quartz Core
Wall Zone
Case Batholith
Felsic Dyke
Metased
Fault
Scale 1 : 1:1000
0 10 20 30 40 50 60 70 80
POWER METALS CORP
Power Metals Corp
Case Lake Lithium Pegmatites
NW - SE Cross Section (150° N)
Section Width: 30m
Section Line: M - M'
Map Projection: UTM 1983 Zone 17N
16 November 2018

330°N

N'

N

5431800 N | 5431750 N | 5431700 N | 5431650 N | 5431600 N | 5431550 N | 5431500 N

350 Elev | 300 Elev | 250 Elev | 200 Elev | 150 Elev

PWM-17-25
PWM-17-22
PWM-17-23
PWM-17-26

PWM-17-26
PWM-17-22
PWM-17-23
PWM-17-24
PWM-17-25

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

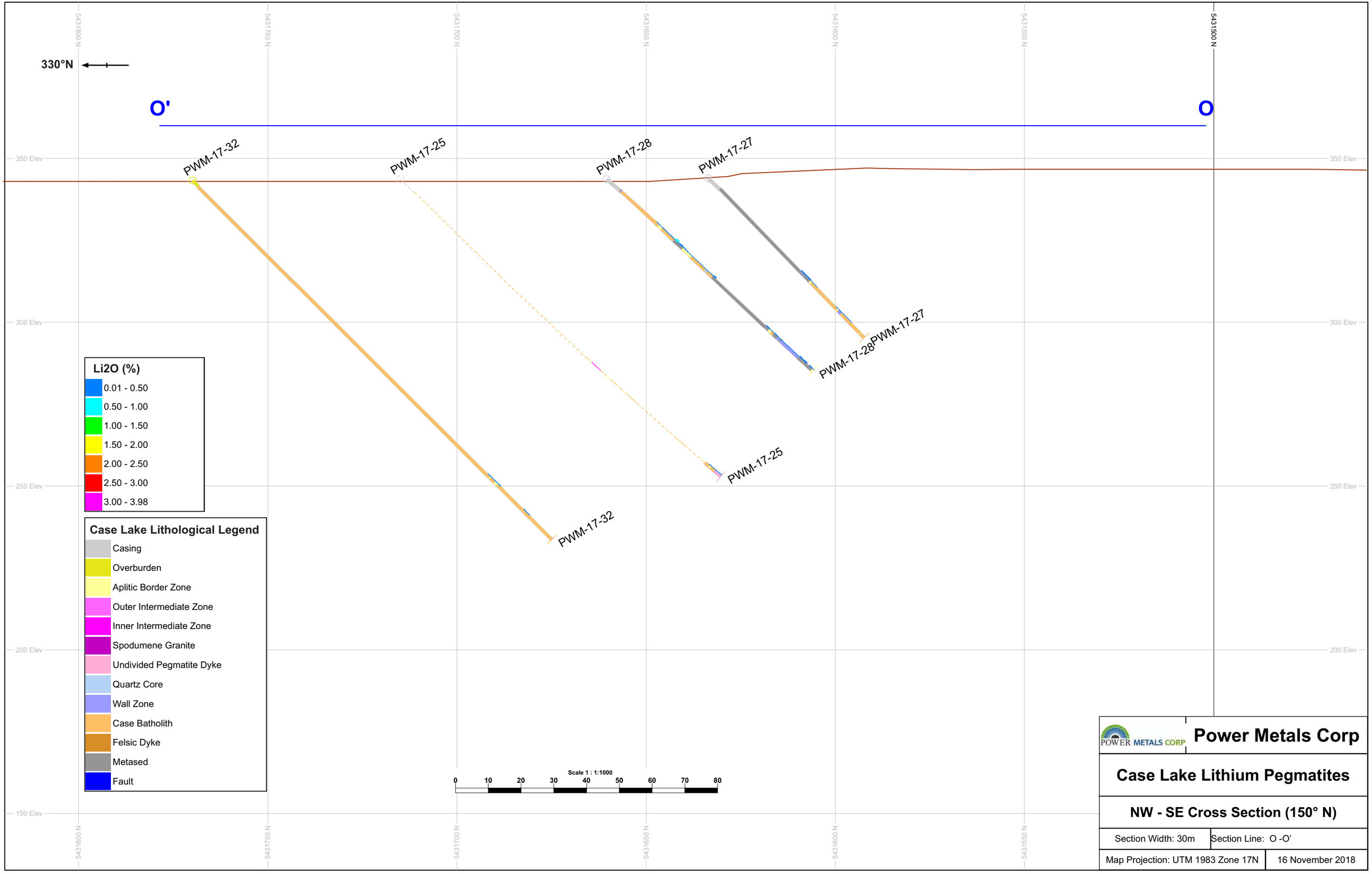
POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: N - N'
Map Projection: UTM 1983 Zone 17N	16 November 2018


330°N
O'
O
PWM-17-32
PWM-17-25
PWM-17-28
PWM-17-27
PWM-17-28
PWM-17-27
PWM-17-25
PWM-17-32
5431800 N
5431750 N
5431700 N
5431650 N
5431600 N
5431550 N
5431500 N
350 Elev
300 Elev
250 Elev
200 Elev
150 Elev
Li2O (%)
0.01 - 0.50
0.50 - 1.00
1.00 - 1.50
1.50 - 2.00
2.00 - 2.50
2.50 - 3.00
3.00 - 3.98
Case Lake Lithological Legend
Casing
Overburden
Aplitic Border Zone
Outer Intermediate Zone
Inner Intermediate Zone
Spodumene Granite
Undivided Pegmatite Dyke
Quartz Core
Wall Zone
Case Batholith
Felsic Dyke
Metased
Fault
Scale 1 : 1:1000
0 10 20 30 40 50 60 70 80
POWER METALS CORP
Power Metals Corp
Case Lake Lithium Pegmatites
NW - SE Cross Section (150° N)
Section Width: 30m
Section Line: O -O'
Map Projection: UTM 1983 Zone 17N
16 November 2018

330°N

P'

P

5431800 N

5431750 N

5431700 N

5431650 N

5431600 N

5431550 N

5431500 N

350 Elev

300 Elev

250 Elev

200 Elev

150 Elev

PWM-17-30

PWM-17-29

PWM-17-29

PWM-17-30

Li2O (%)

- 0.01 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.98

Case Lake Lithological Legend

- Casing
- Overburden
- Aplitic Border Zone
- Outer Intermediate Zone
- Inner Intermediate Zone
- Spodumene Granite
- Undivided Pegmatite Dyke
- Quartz Core
- Wall Zone
- Case Batholith
- Felsic Dyke
- Metased
- Fault

Scale 1 : 1:1000

0 10 20 30 40 50 60 70 80

POWER METALS CORP

Power Metals Corp

Case Lake Lithium Pegmatites

NW - SE Cross Section (150° N)

Section Width: 30m	Section Line: P - P'
Map Projection: UTM 1983 Zone 17N	16 November 2018

Appendix 6 – Drill core logs

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578021.95	**Drill Hole Type**	DDH	**Casing Rod Length**	3	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431601.75	**Core Size**	NQ	**C. Rod Sticking Out**	0.3	**Cell Claim No.**	236534	**Hole Start Date**	18/08/2017
Elevation	345.23	**Hole Test**	Reflex	**Overburden**	5.2	**Legacy Claim No.**	1213780	**Hole Complete Date**	20/08/2017
Azimuth	150	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-40	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	155	**Hole Making Water**	No					**Logging Compelete**	24/08/2017
Comments									

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	150	-40	Collar		Yes
20	153	-43.7	Reflex	5595	Yes
71	155.8	-43.1	Reflex	5602	Yes
122	156.5	-42.3	Reflex	5600	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	5.50	**Casing** Overburden
5.50	21.95	**Case Batholith** Tonalite, granodiorite-quartz monzonite, black and white mg massive to weakly foliated obicular tonalite. Very few 1-2cm biotite "balls" stretched out and elongated. Subunit - 7.94-8.1 white aplitic quartz vein.
21.95	29.41	**Pegmatite,** Pegmatite,mixed pegmatite unit likely representing fg sodic aplitic border phase (1) and the outer intermediate phase (2). 21.95-22.2m Upper fg albite aplitic border phase with patchy reddish hue due to fg diss orange garnets. 22.2-25m outer intermediate phase (6) with textures ranging from aplitic-granitic-minor narrow greenish muscovite-kspar with minor quartz peg patches. 22.47-22.86, 25.75-26.5 unit (10) pale green fg spodumene rich patches patches bordered by cg-peg albite green musc. The zones from 25.75m to 26.5m and 22.47m to 22.86m is "Spodumene Granite." Contacts between all units are irregular. 28.1-28.2m unit (3) Spodumene-albite-quartz minor kspar. Bottom 1m of interval dominated by mottled red sodic aplite, garnets look pale orange with redder inner cores.
29.41	40.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, salt and pepper massive to weakly foliated obicular tonalite. Biotite balls measure from 1-3cm in elongate stretched direction. Subunits - 35.08-35.17, 37.7-37.83, 39.23-39.4 - beige with greenish red hue quartz-albite-biotite pegmatite veins. Small amount of Diss fg garnets throughout. No spodumene observed
40.30	40.66	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.beige with greenish hue inhomogeneous pegmatite dyke. Very small aplitic margins with spodumene-albite-minor quartz peg at center.
40.66	44.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, massive to weakly fol obicular tonalite. 2 white cg albite quartz minor fg biotite
44.00	45.15	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,very cg pegmatite spodumene min dyke with large section of aplite toward lower contact. Unit 4 - 44.0-44.65m massive quartz-spodumene-kspar, spodumene makes up about 50% of interval. Unit 7 (44.65-45.15) white with pinkish hue, sodic aplite dyke. Garnets are fg, orange and patchy with localized weak banding.

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
45.15	47.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered obicular tonalite, no sphalerite observed. no veining.
47.00	47.80	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.varied textured pegmatite dyke ranging from aplite to cg granitic, spodumene hosting patches. 5cm of sodic white aplite at both lower and upper contacts, showing fine laminated orange garnets near lower contact. 47.1-47.25, 47.39-47.6m granite textured albite-spodumene-quartz-muscovite, spodumene goes from cg to very cg.
47.80	56.20	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg obicular tonalite with biotite "balls" ranging in size from 0.5-3cm in size and oval shaped. several aplitic and variable textured veins cutting through tonalite at high angle TCA (60-78). 51.46-51.60, 54.04-54.28 veriable textured small dykes/veins. Largely sodic aplite with orange fg garnets, laminated or banded locally. Middle of veins often cg albite-kspar and lesser glassy quartz. 54.09-54.28 hosts 15% fg light green spodumene.
56.20	56.95	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.highly nonhomogeneous with small 15cm brownish glassy quartz rich -kspar-albite-spodumene pegmatite in center. Margins are largely sodic aplite with scattered broken quartz rich pseudo veins. Aplite contains fg orange garnets forming local weak laminations and bands often proximal to contacts with other phases and tonalite.
56.95	72.17	**Case Batholith** Tonalite, granodiorite-quartz monzonite, similar to previous description for obicular tonalite with weak intensity of veining. No mineralization observed. Subunits - 64.1-64.25 vein dominated by cg white kspar with lesser glassy quartz with a very little amount of fg biotite. No spodumene observed in vein.
72.17	72.47	**Aplitic Border Zone** Aplitic border phase of pegmatite,vein/dyke is dominated by sodic aplite unit with weak localized laminated and diss orange garnets. Fg plag (albite) present throughout aplite. Several large kspar and brownish glassy quartz blebbs throughout center of vein surrounded by fg sugary albite. No spodumene observed.
72.47	79.33	**Case Batholith** Tonalite, granodiorite-quartz monzonite, black and white, massive, mg obicular tonalite. Little veining. No mineralization observed.

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
79.33	80.90	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,mixed pegmatite aplite dykes. Generally, Pegmatite local to upper contact and aplite to lower although mixed. Pegmaitet is cg muscovite>kspar>quartz lacking spodumene. Aplite is fg sugary textured with quartz blebs and whispy bands, local laminations of orange vfg <1mm garnets. Subunit - 79.75-80.2m obicular tonalite
80.90	86.05	**Case Batholith** Tonalite, granodiorite-quartz monzonite, same as previous description for onicular tonalite. Very few quartz rich veins cut unti <3cm.
86.05	89.70	**Pegmatite,** Pegmatite,mixed tonalite- pegmatite unit, peg and aplite veins are nonhomogeneous. Tonalite has patchy pistacio colored alteration, strongest at 86m surounding albite rich pegmatite. Pegmatites range from quartz-muscovite-kspar, lacking spodumene, to pinkish white aplite with reddish garnet locally forming thin laminations near lower contacts with tonalite. Unit is
89.70	100.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, black and white semi massive-weakly foliated obicular tonalite. Nonmineralized. Several kspar quartz biotite veins and one pinkish aplite vein cut unit at high angle to core axis (70-85 TCA). None of the veins show spodumene mineralization and no oxides observed.
100.40	100.80	**Aplitic Border Zone** Aplitic border phase of pegmatite,beige sugary textured sodic aplite dyke with reddish hue. Small broken quartz vein at center of aplite. Garnets are very fg, pale orange, some zoned with reddish core, weakly banded at same angle as contacts to tonalite (70 TCA)
100.80	109.10	**Case Batholith** Tonalite, granodiorite-quartz monzonite, same description as previously given for obicular tonalite. 102-103 faint pistacio alt to feldspars, almost looks weakly bleached. Localized fracturing at 102.7 seems to be area of most intense alt. couple small mixed aplite-weakly peg veins 2cm, and 15cm. Nonmineralized
109.10	109.75	**Aplitic Border Zone** Aplitic border phase of pegmatite,white sodic aplite dyke, low amount of disseminated fg <1mm orange garnets. Small greenish patch due to increased occurance of fg greenish muscovite. No spodumene or tantalum observed
109.75	111.70	**Case Batholith**

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Tonalite, granodiorite-quartz monzonite, salt and pepper unaltered fairly massive and homogenous obicular tonalite
111.70	116.00	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.closely spaced series of dykes ranging from sodic aplite to quartz kspar muscovite pegmatite with few small localized green musc rich pods. Some of the felspar looks like microcline. Subunits - 112.2-113.3, 113.82-115.1 - obicular tonalite
116.00	119.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered and nonmineralized obicular tonalite.
119.00	119.90	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.white sodic aplite dyke with patchy pinkish hue dominates with lesser peg patches. Very small amount of diss fg orange garnets. Few localized fg green mica rich - albite pods. Strong presnece of quartz and cg biotite near contacts. No spodumene observed
119.90	122.62	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered obicular tonalite. No mineralization observed.
122.62	124.70	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,very cg pegmaite, smokey massive quartz-K-feldspar-greenish muscovite. Unit is slightly variable with minor sodic aplite at upper and lower contact with random narrow granitic patches. Light but strong purplish smears on some of the cleavage/fracture planes. Upper sharp contact at 65 TCA, lower contact at 85 TCA.
124.70	129.45	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered obicular tonalite. White sodic aplite 7cm vein with small amount of diss fg garnets at 128m, 129m.
129.45	132.70	**Aplitic Border Zone** Aplitic border phase of pegmatite,white sodic aplite with diss and localized concentrations of reddish fg garnet, lacks laminations. Localized patches of light green muscovite albite minor quartz pods. Texture varies with a few small granitic patches throughout. Few megacrystic white kspar with lesser amount of spodumene and cg musc.

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***
132.70	134.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered nonmineralized tonalite
134.80	138.25	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.variable textured pegmatite dyke, ranges from sodic aplite near contacts to pegmatitic with white/pale green kspar megacrysts with very cg muscovite and smokey glassy quartz.
138.25	155.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, EOH. Massive mg salt and pepper obicular tonalite. Nonmineralized with one small quartz vein (3cm).

PWM-17-01

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
21.00	21.95	0.95	546501	0.12	153	36.1	0.6	4
21.95	22.90	0.95	546502	2.52	281	45.1	89.4	59
22.90	23.90	1.00	546503	0.11	798	89.7	29.6	54
23.90	24.50	0.60	546504	0.17	1010	130	51.5	78
24.50	25.50	1.00	546505	0.06	289	41.2	88.1	60
25.50	26.50	1.00	546506	2.5	1040	109	154	94
26.50	27.50	1.00	546507	0.24	688	113	70.3	51
27.50	28.50	1.00	546508	0.28	272	39	56.2	46
28.50	29.42	0.92	546509	0.06	81	23	41	36
29.42	30.50	1.08	546511	0.13	141	50.7	0.4	3
38.20	39.20	1.00	546512	0.08	67	10.3	0.3	3
39.20	40.20	1.00	546513	0.08	249	26.9	11.6	17
40.20	40.70	0.50	546514	0.05	968	48.5	21.5	42
40.70	41.20	0.50	546516	0.09	402	36.9	4.5	13
41.20	42.00	0.80	546517	0.11	78	12	0.3	3
42.00	43.00	1.00	546518	0.12	49	9	0.3	3
43.00	44.00	1.00	546519	0.14	163	59.4	0.9	4
44.00	44.70	0.70	546521	2.27	735	181	242	99
44.70	45.40	0.70	546522	0.1	291	85	56.3	41
45.40	46.00	0.60	546523	0.21	485	175	3.2	8
46.00	47.00	1.00	546524	0.2	405	168	1.2	5
47.00	47.80	0.80	546525	1.06	759	199	119	46
47.80	48.50	0.70	546526	0.16	299	99	0.9	4
48.50	49.00	0.50	546527	0.18	437	79.4	8.7	19
49.00	50.00	1.00	546528	0.17	169	33.7	1.3	5
50.00	51.00	1.00	546529	0.13	134	16.8	1.9	6

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
51.00	52.00	1.00	546531	0.12	174	25.9	8.5	21
52.00	53.00	1.00	546532	0.14	239	37.3	7.3	11
53.00	54.00	1.00	546533	0.17	190	34.1	1	5
54.00	54.50	0.50	546534	0.31	569	90.5	25.9	26
54.50	55.50	1.00	546536	0.16	183	29	2.7	8
55.50	56.20	0.70	546537	0.14	339	94.8	6.2	25
56.20	56.95	0.75	546538	0.09	632	204	56.4	41
56.95	58.00	1.05	546539	0.13	301	94.2	2.3	4
58.00	59.00	1.00	546541	0.1	182	16	3.6	12
59.00	60.50	1.50	546542	0.09	67	9.3	0.5	4
60.50	62.00	1.50	546543	0.08	168	20.2	2.4	9
62.00	63.00	1.00	546544	0.07	86	13.3	1.2	4
63.00	64.00	1.00	546545	0.1	202	34.7	12.8	48
64.00	64.50	0.50	546546	0.06	417	37.9	3.6	11
64.50	65.50	1.00	546547	0.07	114	22.3	1.3	5
65.50	67.00	1.50	546548	0.06	69	11.8	2.3	4
67.00	68.50	1.50	546549	0.06	54	7.2	0.4	3
68.50	70.00	1.50	546551	0.06	69	13.3	0.7	3
70.00	71.00	1.00	546552	0.06	120	22	1.9	4
71.00	72.00	1.00	546553	0.07	275	33	3	9
72.00	72.50	0.50	546554	0.06	625	34.3	12.6	32
72.50	73.50	1.00	546556	0.07	163	18.4	3.3	6
78.00	79.00	1.00	546557	0.08	203	36.7	4.6	5
79.00	80.00	1.00	546558	0.07	568	38.5	8.7	24
80.00	81.00	1.00	546559	0.05	856	36.3	17.5	31
81.00	82.00	1.00	546561	0.08	134	24.4	7.1	8

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Length* (m)	*Sample No.*	*Li2O* (%)	*Rb* (ppm)	*Cs* (ppm)	*Ta* (ppm)	*Nb* (ppm)
82.00	83.50	1.50	546562	0.07	110	15.6	1.9	5
83.50	84.50	1.00	546563	0.09	101	19.3	0.5	3
84.50	85.50	1.00	546564	0.06	206	24.8	3.9	5
85.50	86.50	1.00	546565	0.03	373	22	9.1	13
86.50	87.50	1.00	546566	0.07	595	59	10.2	15
87.50	88.50	1.00	546567	0.07	501	45.5	12.1	20
88.50	89.00	0.50	546568	0.1	1080	71.3	19.7	25
89.00	89.70	0.70	546569	0.06	3	0.25	0.1	0.5
89.70	90.70	1.00	546571	0.09	99	11.8	2.1	5
90.70	92.00	1.30	546572	0.08	62	11.5	1.3	3
92.00	93.00	1.00	546573	0.08	63	11.2	0.6	2
93.00	94.00	1.00	546574	0.09	63	11.6	0.4	3
94.00	95.00	1.00	546576	0.12	615	106	14.9	31
95.00	96.00	1.00	546577	0.11	522	135	16	14
96.00	97.00	1.00	546578	0.12	112	21.4	0.7	3
97.00	98.00	1.00	546579	0.12	154	26.6	1.2	4
98.00	98.70	0.70	546581	0.1	566	41	10.8	26
98.70	99.70	1.00	546582	0.11	93	16.4	0.6	4
99.70	100.40	0.70	546583	0.11	190	33	1.2	5
100.40	100.80	0.40	546584	0.04	153	20.1	35.5	43
100.80	101.80	1.00	546585	0.09	122	27.2	1	4
101.80	102.80	1.00	546586	0.09	201	31.4	3.2	6
102.80	103.80	1.00	546587	0.06	180	13.5	4.8	9
103.80	104.80	1.00	546588	0.06	140	14.1	1.6	7
104.80	105.00	0.20	546589	0.06	464	33.7	8.7	31

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Length* (m)	*Sample No.*	*Li2O* (%)	*Rb* (ppm)	*Cs* (ppm)	*Ta* (ppm)	*Nb* (ppm)
105.00	106.00	1.00	546591	0.08	117	26.7	0.6	4
106.00	107.00	1.00	546592	0.08	73	16.4	0.5	3
107.00	108.00	1.00	546593	0.09	70	15.6	0.6	4
108.00	109.00	1.00	546594	0.08	446	38.7	5.4	14
109.00	110.00	1.00	546596	0.08	273	24.6	21.9	38
110.00	111.00	1.00	546597	0.22	280	55.9	2	8
111.00	111.70	0.70	546598	0.12	171	31.4	0.4	3
111.70	112.20	0.50	546599	0.11	1140	65.8	25.1	62
112.20	113.20	1.00	546601	0.15	289	150	0.8	6
113.20	113.85	0.65	546602	0.09	610	182	31.3	37
113.85	115.00	1.15	546603	0.15	251	145	1.1	4
115.00	116.00	1.00	546604	0.08	335	111	46.7	58
116.00	117.00	1.00	546605	0.13	223	87.1	2.1	6
117.00	118.00	1.00	546606	0.19	746	382	11.3	15
118.00	118.90	0.90	546607	0.14	289	88.1	0.8	4
118.90	119.90	1.00	546608	0.04	330	25.9	47.2	51
119.90	120.90	1.00	546609	0.1	128	17.5	0.9	4
120.90	121.90	1.00	546611	0.08	70	10.7	0.4	4
121.90	122.55	0.65	546612	0.08	198	27.1	2.4	6
122.55	123.50	0.95	546613	0.03	1680	121	9.4	11
123.50	124.20	0.70	546614	0.03	1420	85.9	101	67
124.20	124.70	0.50	546616	0.03	755	67.1	83.1	60
124.70	125.70	1.00	546617	0.09	182	32.8	0.8	4
125.70	127.00	1.30	546618	0.07	92	14.6	1	4
127.00	127.90	0.90	546619	0.08	168	24.3	1	4
127.90	128.65	0.75	546621	0.09	626	66.3	12.3	16

Drillhole Number: **PWM-17-01** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
128.65	129.45	0.80	546622	0.08	322	41.5	2.5	6
129.45	130.00	0.55	546623	0.02	112	11.4	63.3	56
130.00	131.00	1.00	546624	0.03	478	29.2	44.3	63
131.00	132.00	1.00	546625	0.04	1720	89.7	49.7	69
132.00	132.70	0.70	546626	0.03	259	19.6	42.1	55
132.70	133.70	1.00	546627	0.11	172	29.4	0.6	5
133.70	134.50	0.80	546628	0.08	163	22.1	3.5	5
134.50	135.50	1.00	546629	0.06	897	64.3	25	46
135.50	135.90	0.40	546631	0.07	247	32.1	2	6
135.90	136.90	1.00	546632	0.05	1240	61.1	19.7	48
136.90	137.75	0.85	546633	0.03	1400	112	59.5	77
137.75	138.25	0.50	546634	0.03	988	41.6	18.1	56
138.25	139.25	1.00	546636	0.07	60	8.8	0.3	4

PWM-17-01

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-02** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578002.51	**Drill Hole Type**	DDH	**Casing Rod Length**	4.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431634.37	**Core Size**	NQ	**C. Rod Sticking Out**	0.27	**Cell Claim No.**	236534	**Hole Start Date**	20/08/2017
Elevation	345.72	**Hole Test**	Reflex	**Overburden**	3.13	**Legacy Claim No.**	1213780	**Hole Complete Date**	22/08/2017
Azimuth	150	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-46	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	185	**Hole Making Water**	No					**Logging Compelete**	02/09/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	150	-46	Collar		Yes
20	151	-44.3	Reflex	5618	Yes
70	153.9	-43.1	Reflex	5593	Yes
122	156.5	-42	Reflex	5595	Yes
173	157.4	-40.8	Reflex	5600	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-02** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	3.40	**Casing** Overburden, rubbled tonalite
3.40	50.31	**Case Batholith** Tonalite, granodiorite-quartz monzonite, beige / salt and pepper tonalite-granodiorite, semi massive to weak patchy fol. Nonmineralized. Very little veining or fracturing. Subunit-39.47-39.8m sodic aplite vein, fg orange diss garnets with minor smokey quartz blebs and blueish green soft fg silicate (trace amount)
50.31	53.16	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,fg-mg, bright strong green musc quartz albite dyke, looks granitic. No mineralization
53.16	54.50	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.sodic aplite with diss orange fg garnets, small granitic and albite-musc-minor quartz pegmatitic patches. No spodumene obserbved.
54.50	54.94	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,quartz kspar peg, very cg. No mineralization observed
54.94	58.22	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.patchy variable textured dyke ranging from granitic to fg peg with whisps of aplite throughout and at the contacts with host tonalite. cg granitic texture- albite-quartz-green musc +- localized finer grained spodumene. One small localized 8cm pale green fg spodumene rich lense near lower contact with tonalite. Overall unit seems to lack any considerable amount of obvious spodumene. Garnets are often diss throughout all units in variable amounts.
58.22	60.60	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered mg semi massive obicular tonalite, no oxides observed.
60.60	63.54	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,mixed unit of sodic garnet rich reddish aplite and very cr pegmatitic quartz> spoudmene> white kspar>musc. Pale light green subhedral to euhedral Spodumene ranges from 1cm - 6cm. This unit makes up about 50% of interval and is about 20-35% spodumene. Aplite at margins, contacts are at high angle to core axis 80TCA

Drillhole Number: **PWM-17-02** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
63.54	70.25	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive salt and pepper mg tonalite. Very few biotite orbicules. Subunit - 67.78-67.88m 10cm vein of kspar-quartz-aplite, no spodumene observed
70.25	70.67	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.2 small dykes/veins of mixed aplite and finer grained quartz-white feldspar peg. Aplite shows fine red laminated garnets at lower contact with obicular tonalite
70.67	73.43	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive salt and petter mg tonalite, Very few biotite orbicules. Subunit: 71.93-72.03m, Quartz + K-spar aplite, no spodumene observed
73.43	73.70	**Aplitic Border Zone** Aplitic border phase of pegmatite,Very coarse to medium grained quartz feldspar muscovite garnet unit. Garnets banded and irregular texture
73.70	78.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive salt and pepper medium grained tonalite. Rare deformed biotite orbicules. Subunit from 76.9 to 77m of quartz-albite-muscovite-garnet.
78.00	78.60	**Aplitic Border Zone** Aplitic border phase of pegmatite, Very coarse to medium grained quartz-fledspar-muscovite-garnet zone. Garnet are irregularly spaced except at bottom contact where they banded. Possible spodumene mineralization from 78.11 to 78.28.
78.60	86.78	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Slightly foliated tonalite with rare deformed biotite orbicules. Several thin sub units of quartz-feldspar-muscovite-garnet, with the largest being from: 80.87m to 80.95m and 85.85m to 86.09m.
86.78	87.26	**Aplitic Border Zone** Aplitic border phase of pegmatite,Quartz-felspar-garnet-muscovite with the garnets having banded structures.
87.26	101.53	**Case Batholith**

Drillhole Number: **PWM-17-02** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Tonalite, granodiorite-quartz monzonite, Slightly foliated tonalite with rare biotite orbicules. Several pegmatitc and aplitic units occur from: 87.53 to 87.72, 88.08 to 88.22, 88.6 to 88.84, 92.7 to 92.7, 93.56 to 93.65, 94.78 to 94.89, these subunits contain coarse grained to medium grained quartz-feldspar-muscovite-garnet with no spodumene observed.
101.53	102.00	**Aplitic Border Zone** Aplitic border phase of pegmatite,Quartz-feldspar-garnet-muscovite unit, with the garnet having a wavy and banded appearance at the lower contact.
102.00	110.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper tonalite with a weak foliation and rare elongated biotite orbicules
110.90	111.93	**Aplitic Border Zone** Aplitic border phase of pegmatite,Quartz-feldspar-muscovite-garnet unit, garnets have banded appearance.
111.93	118.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper tonalite with a weak foliation and rare slightly elongated biotite orbicules. Subunits of coarse grained quartz-feldspar muscovite from 113.37 to 113.47, 114.68 to 114.79, 116 to 116.35.
118.80	119.25	**Aplitic Border Zone** Aplitic border phase of pegmatite,Quartz-feldspar-muscovite-garnet zone, lower contact show a slightly banded appearance.
119.25	120.15	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper tonalite, similar to above units.
120.15	120.65	**Aplitic Border Zone** Aplitic border phase of pegmatite,Quartz-feldspar-muscovite-garnet zone, banding observed in garnets and muscovite.
120.65	126.11	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper tonalite. Few elongated biotite orbicules. Several quartz-feldspar-muscovite-garnet subunits from: 120.93 to 121.02, 121.4 to 121.7, 124.92 to 125.03 and 125.55 to 125.7.
126.11	126.55	**Aplitic Border Zone**

Drillhole Number: **PWM-17-02** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Aplitic border phase of pegmatite,Medium grained quartz-feldspar- muscovite-garnet unit. Weakly laminated appearance to the garnets.
126.55	137.89	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper weakly foliated tonalite. Few deformed biotite oribules observed. Subunits of quartz-feldspar-muscovite-garnet from: 128.2 to 128.42 and 129.98 to 130.13.
137.89	138.09	**Aplitic Border Zone** Aplitic border phase of pegmatite,Very coarse grained upper contact, lower contact is fine grained with garnets having a banded appearance.
138.09	144.22	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite, similar to above units. Aplitic units from 139.16m to 139.37m, 139.75m to 140.3m, 141.55m to 141.94m, 143.28m to 143.48m; these aplite units have generally inhomogeneous textures with banding of garnets near the lower contacts.
144.22	144.70	**Aplitic Border Zone** Aplitic border phase of pegmatite,Medium to fine grained garnet rich with banded structures.
144.70	145.04	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated salt and pepper tonalite.
145.04	145.35	**Aplitic Border Zone** Aplitic border phase of pegmatite,Medium to fine grained with a inhomogeneous texture. Garnet rich.
145.35	146.12	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated salt and pepper tonalite.
146.12	147.14	**Aplitic Border Zone** Aplitic border phase of pegmatite,Medium to fine grained quartz-feldspar-muscovite-garnet unit. Wavy garnet bands near lower contact.
147.14	163.93	**Case Batholith**

Drillhole Number: **PWM-17-02** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Tonalite, granodiorite-quartz monzonite, Salt and pepper weakly foliated tonalite. Rare elongated biotite orbicules. Aplitic zones that commonly have banded garnet bands from: 148.3m to 148.39m, 139.82m to 149.01m, 153.14m to 153.28m, 153.37m to 153.44m, 155.5m to 155.81m, 158.51m to 158.96m, 161.36m to 161.54m, 162.19m to 162.36.
163.93	165.05	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Very coarse grained quartz-feldspar-muscovite unit with a 1cm band of garnet at the lower contact.
165.05	165.51	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper tonalite. Thin, 1mm, grey veins running parallel to core axis.
165.51	166.05	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Coarse grained quartz-fledspar-muscovite-garnet unit.
166.05	166.95	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper tonalite. Similar to above units.
166.95	168.80	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Coarse to very coarse grained quartz-feldspar-muscovite-garnet unit. The muscovite has a golden yellow color. Banded garnets occur towards the upper and lower contacts.
168.80	185.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper orbicular tonalite. Biotite orbicules occur sporatically and are elongated with ratios from 2:1 to 4:1. Weak foliation defined by muscovite grains, generally sub-parallel to core axis. Quartz rich zone from 176.3m-176.7m with a 2mm blob of sulfides.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-02** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
38.00	39.00	1.00	546637	0.08	52	22.1	5.6	5
39.00	40.00	1.00	546638	0.08	262	53.3	21	13
40.00	41.00	1.00	546639	0.08	51	10.8	0.6	4
48.00	49.00	1.00	546641	0.05	138	21.1	2.4	7
49.00	50.00	1.00	546642	0.08	109	24.9	1.3	5
50.00	51.00	1.00	546643	0.14	810	71.4	12.3	37
51.00	52.00	1.00	546644	0.17	979	93.9	10.4	52
52.00	53.00	1.00	546645	0.2	1120	130	21.1	74
53.00	54.00	1.00	546646	0.11	673	108	42.3	51
54.00	55.00	1.00	546647	0.09	1070	96.6	30	24
55.00	56.00	1.00	546648	0.11	586	68.1	27.6	37
56.00	57.00	1.00	546649	0.24	557	67.1	15.8	30
57.00	57.75	0.75	546651	0.25	727	112	35	52
57.75	58.25	0.50	546652	0.29	783	130	42.4	61
58.25	59.00	0.75	546653	0.15	146	46.8	0.4	4
59.00	60.00	1.00	546654	0.16	79	21.6	1	4
60.00	60.60	0.60	546656	0.25	708	170	6.1	13
60.60	61.50	0.90	546657	1.01	707	92.8	110	51
61.50	62.50	1.00	546658	0.16	113	22.4	37.8	26
62.50	63.50	1.00	546659	1.32	214	50	114	57
63.50	64.50	1.00	546661	0.14	175	69.6	2.1	7
64.50	66.00	1.50	546662	0.13	130	26.5	5.9	10
77.00	78.00	1.00	546663	0.21	324	88.6	2.7	11
78.00	79.00	1.00	546664	0.6	409	106	26.2	33
79.00	80.00	1.00	546665	0.17	201	49	3.4	11
109.00	110.00	1.00	546666	0.06	39	5.5	0.4	3

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-02** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
110.00	110.90	0.90	546667	0.07	125	13.4	0.9	5
110.90	111.93	1.03	546668	0.03	995	29.3	22.7	59
111.93	113.00	1.07	529401	0.09	123	15.8	1.5	5
117.00	118.00	1.00	546669	0.09	178	25.8	3.9	8
118.00	119.00	1.00	546671	0.05	241	18.7	7.8	15
119.00	120.00	1.00	546672	0.03	495	34.5	12.1	25
120.00	121.00	1.00	546673	0.04	656	48.3	18.6	33
121.00	122.00	1.00	546674	0.12	294	30.1	3.7	10
125.03	126.00	0.97	546676	0.13	386	71.3	10.3	14
126.00	127.00	1.00	546677	0.13	500	110	19.7	30
127.00	128.00	1.00	546678	0.48	68	17.5	0.5	3
139.75	140.30	0.55	529402	0.09	915	48	16.8	61
144.22	144.70	0.48	529403	0.06	293	19.9	32.6	61
146.12	147.14	1.02	529404	0.06	864	130	30	53
158.51	158.96	0.45	529405	0.03	1610	84.6	39.3	49
163.00	163.93	0.93	529406	0.07	279	32.9	2.8	6
163.93	165.05	1.12	529407	0.05	1410	96	42.2	53
165.05	165.51	0.46	529408	0.1	360	24.3	11.8	32
165.51	166.05	0.54	529409	0.04	1090	49.4	22.3	52
166.05	166.95	0.90	529411	0.07	220	27.6	1.2	5
166.95	168.00	1.05	529412	0.06	1130	62.5	40.4	90
168.00	168.80	0.80	529413	0.03	775	33.8	36.7	62
168.80	170.00	1.20	529414	0.07	117	17.2	0.6	3

PWM-17-02

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577982.45	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431669.4	**Core Size**	NQ	**C. Rod Sticking Out**	0	**Cell Claim No.**	236534	**Hole Start Date**	23/08/2017
Elevation	344.86	**Hole Test**	Reflex	**Overburden**	1	**Legacy Claim No.**	1213780	**Hole Complete Date**	25/08/2017
Azimuth	150	**Hole Cement**	No	**Casing Pulled**	od stick	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-40	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	209.33	**Hole Making Water**	No					**Logging Compelete**	11/09/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments Placed 1x2 down hole to measure strike and dip along borehole

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	150	-40	Collar		Yes
23	149.2	-43.5	Reflex	5611	Yes
74	150.6	-41.3	Reflex	5600	Yes
124	150.9	-40	Reflex	5616	Yes
173	153.7	-38	Reflex	5603	Yes
212	154.3	-36.9	Reflex	5602	Yes

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.00	**Casing** Overburden
1.00	69.03	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Foliation is parallel to core axis. Biotite orbicules are common, and are elongated up to 10:1. Several thin, <1cm, light pink k-feldspar veins occur through the unit. The core is generally grey in color, except locally where k-feldspar is light pink, eg. 40.5m to 42.5m. Grey quartz vein from 13.1m to 13.3m.
69.03	69.11	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained, white quartz and feldspar dyke.
69.11	71.42	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated tonalite, with deformed orbicules.
71.42	71.54	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Medium to coarse grained white feldspar, grey quartz, and muscovite pegmatite.Homogeneous texture, except at contacts, where grain size becomes very coarse.
71.54	85.63	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated tonalite, with rare deformed oribcules of biotite.
85.63	90.49	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Inhomogeneous textured quartz-feldspar-muscovite pegmatite, ranging from very coarse to fine grained. Upper 50cm is muscovite rich, then changes into white feldspar and grey quartz as the dominant minerals. No spodumene mineralization observed. After 89 meters the pegmatite is generally fine grained, with weakly banded red garnets near the bottom contact.
90.49	94.08	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated tonalite, lacking biotite orbicules.
94.08	94.39	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white feldspar and quartz unit, with some very coarse grained muscovite, and red

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		banded garnets.
94.39	94.66	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated tonalite.
94.66	97.68	**Aplitic Border Zone** Aplitic border phase of pegmatite,Trace spodumene observed. Generally fine grained white aplitic unit with banded red garnets, and thin, <0.5cm, spodumene bands at 97.05m, and 97.39m.
97.68	98.47	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, with minor yellow muscovite alteration at top and bottom contacts.
98.47	98.80	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Banded red garnet rich aplitic unit.
98.80	99.63	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, similar to above units.
99.63	99.94	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Banded, red garnet rich aplitic unit.
99.94	102.89	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, similar to above units.
102.89	102.99	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Very coarse to fine grained, inhomogeneous unit with non banded red garnets.
102.99	103.89	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Folaited tonalite.
103.89	104.21	**Wall Zone**

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Very coarse to fine grained, quartz, feldspar, muscovite, and non-banded red garnet
104.21	105.01	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
105.01	105.17	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Generally fine grained, with red banded garnets, some coarse grained quartz.
105.17	105.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
105.30	105.41	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Very coarse grained feldspar and quartz unit, with weakly banded fine grained red garnets.
105.41	116.98	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite with several thin, 5cm-15cm, veins of aplite and pegmatite. Biotite orbicules are very rare and small compared to previous tonalite sections. Weak banding of red garnets observed in the thin aplitic layers.
116.98	118.05	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Non-homogeneous unit with sections of very coarse grained grey quartz ad white feldspar. Coarse to fine grained green and yellow muscovite occurs with a banded appearance. Fine grained red garnets are abundant, with banded structures. Numerous bands, from 3-6cm occur with irregular contacts.
118.05	144.70	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite. Biotite orbicules are very rare and elongated. This unit host several small aplitic and pegmatitic veins, with the red garnet aplitic veins being most common. The most significant veins include: 119.59m to 119.78m, 122.45m to 122.72m, 134.28m to 134.43m, and 139.14m to 139.26m. No spodumene mineralization observed.
144.70	145.56	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Feldspar-quartz-muscovite unit. No spodumene observed. Lower 20cm of unit contains fine grained and banded red garnets

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
145.56	146.03	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated grey tonalite.
146.03	146.45	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Feldspar-quartz-muscovite- banded red garnet unit.
146.45	147.97	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated tonalite.
147.97	148.13	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Coarse to fine grained aplitic unit, with the upper contact containing coarse grained quartz-feldspar-muscovite, and the lower contact rich in fine grained red garnets.
148.13	148.89	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated grey tonalite.
148.89	148.98	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,White, coarse grained, feldspar-quartz-muscovite-garnet unit.
148.98	151.73	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Altered tonalite. This unit is lighter grey, and slightly green in color. Fracturing occurs at a low angle to the core axis. Fracture surfaces appear to be filled with chlorite. Possible fault or shear zone. No spodumene mineralization observed.
151.73	152.12	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Feldspar-quartz-muscovite-red garnet unit. Bottom 2cm of unit is the same light green altered tonalite observed in the previous unit.
152.12	153.25	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated grey tonalite.
153.25	153.48	**Aplitic Border Zone**

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Aplite dykes, muscovite-quartz-albite,Feldspar-quartz-muscovite-red garnet-green apatite unit.
153.48	156.35	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite, with minor light green alteration near fracture surfaces.
156.35	156.62	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Very coarse grained feldspar-quartz-muscovite unit, with fine grained red banded garnets.
156.62	156.88	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite
156.88	156.99	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,coarse grained feldspar-quartz-muscovite.
156.99	157.31	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated grey tonalite.
157.31	157.42	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Coarse grained feldspar-quartz-muscovite, with fine grained banded red garnets.
157.42	157.58	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
157.58	157.92	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Feldspar-quartz-muscoite-red garnet unit.
157.92	159.77	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
159.77	160.15	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite, Fine grained feldspar-quartz-muscovite-garnet-apatite aplitic unit.

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
160.15	160.91	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
160.91	161.15	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Feldspar-quartz-muscovite-banded red garnet unit.
161.15	163.10	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
163.10	163.23	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Similar to above aplite, with a higher concentration of black specks of mica.
163.23	165.61	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Folaited tonalite.
165.61	165.77	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Similar to above aplite, with a 5cm very coarse grained feldspar-quartz unit.
165.77	170.34	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
170.34	170.84	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Very coarse grained upper section of white feldspar, grey quartz, and muscovite, lower section is banded red garnets and medium grained muscovite.
170.84	174.11	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
174.11	174.87	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Very coarse grained upper half of section is white feldspar, grey quartz, and black muscovite, with the lower contact being a 2-3cm zone of massive red garnets.

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
174.87	175.50	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
175.50	176.52	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Similar to above aplite, with an abundance of fine grained and banded red garnets.
176.52	176.98	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
176.98	177.08	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Very coarse grained feldspar-quartz-muscovite, with fine grained red garnets.
177.08	178.08	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Folaited tonalite.
178.08	178.26	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Feldspar-quartz-muscovite-garnet unit with a few small, <0.5cm, blebs of spodumene.
178.26	178.98	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
178.98	179.55	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Unit contains very coarse grained white feldspar, grey quartz, black muscovite, and fine grained banded red garnets.
179.55	182.20	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
182.20	182.36	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic unit similar to above, with a few very coarse grained grey quartz crystals.

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
182.36	189.26	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
189.26	189.56	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained red garnet containing unit, with some coarse grained feldspar-quartz-muscovite sections.
189.56	190.14	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
190.14	190.33	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained aplitic unit with an abundance of black fine grained mica.
190.33	192.37	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite.
192.37	193.59	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Upper and lower contacts contain fine grained red garnet, the center of the unit is very coarse grained white feldspar, grey quartz, and black to slightly yellow muscovite.
193.59	195.20	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Folaited tonalite.
195.20	195.51	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Upper half of unit is very coarse grained feldspar-quartz-muscovite, and the lower half is fine grained aplite with red garnets.
195.51	196.52	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Folaited tonalite.
196.52	196.87	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic unit with very coarse grained white feldspar, grey quartz, and black muscovite.

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
196.87	200.61	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated grey tonalite.
200.61	202.08	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Pegmatitc unit, with fine grained red garnet aplitic upper and lower contacts . Center section is very coarse grained quartz-feldspar-muscovite. No spodumene observed.
202.08	209.33	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly folaited tonalite, with rare elongated biotite orbicules, with small 1-2cm fracrues that are altered to a light green color.

PWM-17-03

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
84.63	85.63	1.00	546918	0.11	260	40.6	2.9	9
85.63	86.63	1.00	546919	0.1	1420	201	53.6	44
86.63	87.63	1.00	546921	0.05	1540	190	154	60
87.63	88.63	1.00	546922	0.05	775	104	83	44
88.63	89.63	1.00	546923	0.09	731	104	83.4	54
89.63	90.49	0.86	546924	0.06	704	73	131	60
90.49	91.49	1.00	546925	0.11	131	30.5	0.7	4
93.08	94.08	1.00	546926	0.14	238	57.4	7.3	8
94.08	95.08	1.00	546927	0.18	384	104	25.8	32
95.08	96.08	1.00	546928	0.2	911	186	17.7	30
96.08	97.00	0.92	546929	0.19	148	63.8	47.7	44
97.00	97.68	0.68	546931	0.09	41	20.9	27.8	47
97.68	98.47	0.79	546932	0.17	421	237	2	6
98.47	98.80	0.33	546933	1.08	228	207	162	53
98.80	99.63	0.83	546934	0.15	344	153	3	7
99.63	100.63	1.00	546936	0.14	264	88.6	10.4	14
116.00	116.98	0.98	546937	0.1	104	28.9	0.8	4
116.98	118.04	1.06	546938	0.07	1110	138	24.5	53
118.04	119.00	0.96	546939	0.13	165	60.4	1.9	7
144.00	144.70	0.70	546941	0.12	169	50.5	1.8	4
144.70	145.56	0.86	546942	0.07	1490	157	38.7	53
145.56	146.03	0.47	546943	0.12	279	79.6	2.3	6
146.03	146.45	0.42	546944	0.06	569	46.5	39.8	74
146.45	147.45	1.00	546945	0.12	168	36.7	2.9	5
173.14	174.11	0.97	546946	0.11	161	23.8	1.3	5
174.11	174.87	0.76	546947	0.07	1120	68.3	23.3	58

Drillhole Number: **PWM-17-03** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
174.87	175.50	0.63	546948	0.14	301	53.6	1.8	7
175.50	176.52	1.02	546949	0.05	758	39.9	27.1	65
176.52	177.52	1.00	546951	0.13	270	32.6	2.6	9
177.52	178.52	1.00	546952	0.12	233	21.8	3.7	11
178.52	179.55	1.03	546953	0.08	677	29.2	8.4	28
188.26	189.26	1.00	546954	0.07	136	25.2	1.5	6
189.26	190.33	1.07	546956	0.05	374	19.6	12	28
190.33	191.33	1.00	546957	0.07	222	17.5	3.5	7
191.33	192.37	1.04	546958	0.08	141	21.9	0.8	4
192.37	193.59	1.22	546959	0.03	792	44.1	25.5	44
193.59	194.59	1.00	546961	0.07	158	22.3	1.2	5
195.20	195.51	0.31	546962	0.11	1520	108	29	32
196.52	196.87	0.35	546963	0.04	1340	101	54.6	56
200.61	202.08	1.47	546964	0.05	1700	79.9	20.5	57

PWM-17-03

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-04** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578118.14	**Drill Hole Type**	DDH	**Casing Rod Length**	4	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431733.96	**Core Size**	NQ	**C. Rod Sticking Out**	0.2	**Cell Claim No.**	220042	**Hole Start Date**	26/08/2017
Elevation	341.23	**Hole Test**	Reflex	**Overburden**	3.3	**Legacy Claim No.**	1213780	**Hole Complete Date**	27/08/2017
Azimuth	148	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-45	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	140.09	**Hole Making Water**	No					**Logging Compelete**	11/09/2017
Comments									

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	148	-45	Collar		Yes
23	147.5	-46.2	Reflex	5694	Yes
74	149	-41.2	Reflex	5600	Yes
140	151.7	-38.8	Reflex	5605	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-04** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	3.50	**Casing** OverburdenRubbled and boulders at bedrock contact.. One Large cobble of a green fine grained garrbo.
3.50	57.32	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper weakly foliated orbicular tonalite. Biotite orbicules are few and slightly elongated, 2:1 to 4:1. Foliated is at a low angle to the core axis, 0-5 degrees.
57.32	58.82	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Coarse grained beige and grey feldsapr- yellow and green muscovite, with coarse grained quartz and quartz veining. Bottom 7cm is fine grained white coloed aplite, with medium grained orange garnets.
58.82	75.07	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular, salt and pepper tonalite. Thin biotite rich aplitic veins from 68.59m to 68.63m, and 73.43m to 73.47m.
75.07	87.86	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Inhomogeneous textured, very coarse to medium grain size. Grey to light pink colored quartz, white feldspar, and yellow muscovite zone.From 81.5m to 85m grains size is generally medium grained with a number of zones with weakly banded pink garnets. Fine to medium grained muscovite rich zones from: 77.65m to 78.5m, 85.7m to 86.3m, and 85.7m to 87.45m. No spodumene observed
87.86	95.89	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper tonalite. Core is grey in color, except for 93.07m to 94m, where it is more white, with a an abundance of 2-5mm biotite patches.
95.89	96.12	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite dyke, with coarse grained feldspar and muscovite near the upper contact.
96.12	98.49	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper, weakly foliated tonalite.
98.49	102.99	**Aplitic Border Zone**

Drillhole Number: **PWM-17-04** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Aplitic border phase of pegmatite,Upper contact over 30 cm is very coarse grained quartz-feldspar-muscovite, after which is a homogeneous coarse grained feldspar and muscovite section down to 100 meters. The bottom 1 meter is a fine grained red garnet rich section that lacks banding.
102.99	105.82	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper tonalite, massive, with rare undeformed biotite oribcules.
105.82	105.88	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained muscovite and red garnet rich unit.
105.88	107.30	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Medium grained spodumene mineralization from 105.88m to 106.6m, and very coarse grained spodumene mineralization from 106.6m to 106.8m. Upper contact contains very coarse grained muscovite and lower contact of spodumene mineralization at 106.8 meter is coarse grained and muscovite rich.
107.30	107.59	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained with several bands of fine grained muscovite and red garnets.
107.59	109.28	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Massive grey tonalite.
109.28	109.41	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Red garnet rich unit that has a 6mm band of spodumene mineralization
109.41	112.22	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite, with the biotite balls being slightly elongated.
112.22	112.37	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained aplite unit
112.37	118.72	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite, with slightly deforment biotite balls

Drillhole Number: **PWM-17-04** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
118.72	119.15	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained white aplite unit with fine grained green apatite.
119.15	125.21	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite simialr to above units.
125.21	125.48	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained aplitic unit that contains orange garnet and green apatite.
125.48	127.89	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite.
127.89	129.46	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained red garnet rich unit, with several areas where banding is present in the garnets.
129.46	130.10	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite, with deformened biotite orbicules.
130.10	130.17	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Thin fine grained aplite unit that contains red garnet and green apatite.
130.17	140.09	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper tonalite. Weakly foliated to massive,with rare deformed biotite orbicules.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-04** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
56.32	57.32	1.00	546893	0.08	162	30.5	0.7	5
57.32	58.00	0.68	546894	0.05	570	113	326	35
58.00	58.82	0.82	546896	0.04	358	55.5	81.5	18
58.82	59.82	1.00	546897	0.06	129	18	1.1	4
74.95	76.00	1.05	546878	0.12	839	120	266	97
76.00	77.00	1.00	546879	0.1	646	118	334	80
77.00	78.00	1.00	546881	0.15	941	130	67.5	49
78.00	79.00	1.00	546882	0.13	1030	127	26.9	58
79.00	80.00	1.00	546883	0.19	1080	152	40.8	36
80.00	81.00	1.00	546884	0.05	380	50.1	79.5	42
81.00	82.00	1.00	546885	0.05	836	138	558	64
82.00	83.00	1.00	546886	0.05	682	136	240	105
83.00	84.00	1.00	546887	0.05	404	57.5	366	74
84.00	85.00	1.00	546888	0.05	292	40.1	295	121
85.00	86.00	1.00	546889	0.19	1430	242	62.3	93
86.00	87.00	1.00	546891	0.28	1580	474	27.3	76
87.00	87.95	0.95	546892	0.19	1160	340	117	63
97.00	98.00	1.00	546898	0.13	55	6.5	0.6	4
98.00	98.49	0.49	546899	0.09	246	32.3	1.2	5
98.49	99.00	0.51	546901	0.24	2750	584	209	156
99.00	100.00	1.00	546902	0.13	1130	183	137	64
100.00	101.00	1.00	546903	0.19	2090	316	82	93
101.00	102.00	1.00	546904	0.16	1040	232	37.8	57
102.00	102.99	0.99	546905	0.07	189	85.4	21.5	23
102.99	104.00	1.01	546906	0.16	565	330	5.9	6
104.00	105.00	1.00	546907	0.17	102	37.6	0.7	4

Drillhole Number: **PWM-17-04** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
105.00	105.82	0.82	546908	0.22	741	513	28.2	8
105.82	107.00	1.18	546909	1.97	1640	715	211	85
107.00	108.00	1.00	546911	0.27	838	257	19.5	35
108.00	109.00	1.00	546912	0.2	126	42.5	2.8	6
109.00	110.00	1.00	546913	0.2	342	57.1	3.2	8
127.00	127.89	0.89	546914	0.15	289	57.4	2.3	5
127.89	129.46	1.57	546916	0.06	166	25.4	35.8	54
129.46	130.00	0.54	546917	0.13	427	57.9	0.7	4

PWM-17-04

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-05** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578118.15	**Drill Hole Type**	DDH	**Casing Rod Length**	3	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431734.18	**Core Size**	NQ	**C. Rod Sticking Out**	0.14	**Cell Claim No.**	220042	**Hole Start Date**	27/08/2017
Elevation	341.21	**Hole Test**	Reflex	**Overburden**	2.86	**Legacy Claim No.**	1213780	**Hole Complete Date**	29/09/2017
Azimuth	148	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-70	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	140.92	**Hole Making Water**	No					**Logging Compelete**	11/09/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	148	-70	Collar		Yes
18	146.3	-68.9	Reflex	5653	Yes
68	149	-68.9	Reflex	5539	Yes
118	149	-69	Reflex	5612	Yes
141	155	-69.4	Reflex	5635	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-05** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	3.00	**Casing** Overburden
3.00	59.17	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper orbicular tonalite. Fine to medium grained and weakly foliated. Foliated is at 40 degrees to core axis. Biotite orbicules are circular to slightly elongated. Strong foliation at 50m, possible ductile shear zone.
59.17	96.52	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Dark grey, strongly biotite altered tonalite, massive to very weakly foliated locally. Biotite orbicules arevery common, making up 20% of the core locally, and stretched from 2:1 to 4:1. Foliated of the orbicules is 40 degrees to core axis. Aplitic pink k-feldspar vein from 63.5m to 63.65m. Biotite orbicules are rare from 79m to 83m and 87.5m to 91.5m.
96.52	97.62	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Medium grained white to grey aplitic unit with thin, 2-3mm, bands of red garnet at the upper and lower contacts. Upper contacts is gradation over 5cm, and the lower contact is sharp at 60 degrees to core axis. No spodumene observed, possible very fine grained oxide mineralziation.
97.62	99.12	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite, grey in color, and unaltered compared to the previous orbicules rich tonalite unit.
99.12	99.66	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Coarse to medium grained quartz-feldspar-yellow muscovite- and banded red garnet unit. Contains small fragments of tonalite.
99.66	99.80	**Sediments** SedimentsFine grained dark grey to black thinly bedded metasediments
99.80	99.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite, similar to above unit.
99.90	99.94	**Sediments** SedimentsMetasediments

Drillhole Number: **PWM-17-05** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
99.94	100.15	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Coarse to medium grained yellow muscovite containing dyke.
100.15	100.33	**Sediments** SedimentsMetasediments
100.33	101.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, with fragments of metasediments and 10cm section of aplite at bottom contact.
101.00	102.10	**Sediments** SedimentsThinly bedded metasediments with thin,>2mm, quartz veining.
102.10	103.11	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Medium grained foliated grey tonalite.
103.11	103.29	**Sediments** SedimentsMetasediments
103.29	104.72	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated white to grey tonalite.
104.72	105.03	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Very coarse grained white feldspar-grey quartz- and yellow muscovite pegmatite. No spodumene observed.
105.03	105.76	**Sediments** SedimentsMetasediments
105.76	106.12	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Yellow muscovite altered tonalite.

Drillhole Number: **PWM-17-05** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
106.12	106.23	**Sediments** SedimentsMetasediments
106.23	106.35	**Quartz Vein** Quartz VeinGrey quartz vein with a 2cm x 1cm bleb of sulfide mineralization
106.35	106.96	**Sediments** SedimentsMetasediments
106.96	107.09	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
107.09	115.88	**Sediments** SedimentsFine grained metasediments.
115.88	116.00	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Medium to coarse grained aplite dyke with oragne garnets.
116.00	117.90	**Sediments** SedimentsFine grained metasediments.
117.90	118.20	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained aplitc dyke.
118.20	120.78	**Sediments** SedimentsMetasediments.
120.78	121.26	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained grey aplite dyke.
121.26	123.61	**Sediments**

Drillhole Number: **PWM-17-05** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		SedimentsMetasediments.
123.61	124.60	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Fine grained, grey, foliated tonalite.
124.60	131.10	**Sediments** SedimentsMetasediments.
131.10	132.00	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained pegmatite. White feldspar, grey quartz, and yellow muscovite unit. No spodumene observed. Upper and lower contacts contain fragments of metasediments.
132.00	140.92	**Sediments** SedimentsMetasediments with several thin, 1-5mm, quartz veins. Strongly foliated, with the foliation almost parallel to the core axis at 5-10 degrees.

PWM-17-05

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-05** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
95.52	96.52	1.00	546986	0.19	494	92.3	0.9	7
96.52	97.62	1.10	546987	0.005	508	34.4	8.8	27
97.62	98.62	1.00	546988	0.12	325	65.2	2.7	6
98.62	99.12	0.50	546989	0.1	248	43.3	1.9	7
99.12	99.66	0.54	546991	0.04	578	31.8	10.6	28
99.66	100.66	1.00	546992	0.18	662	129	9.1	26
130.00	131.10	1.10	546993	0.07	192	55.8	0.4	5
131.10	132.00	0.90	546994	0.02	502	25.1	21.3	47
132.00	133.00	1.00	546996	0.08	238	40.1	2.8	11

PWM-17-05

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-06** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578166.5	**Drill Hole Type**	DDH	**Casing Rod Length**	9	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431769.83	**Core Size**	NQ	**C. Rod Sticking Out**	0.15	**Cell Claim No.**	142528	**Hole Start Date**	30/08/2017
Elevation	340.78	**Hole Test**	Reflex	**Overburden**	8.85	**Legacy Claim No.**	1213780	**Hole Complete Date**	31/08/2017
Azimuth	148	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-44	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	139.87	**Hole Making Water**	No					**Logging Compelete**	11/09/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	148	-44	Collar		Yes
26	149.8	-44.4	Reflex	5609	Yes
77	152.2	-43.8	Reflex	5613	Yes
140	153.9	-42.9	Reflex	5617	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-06** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	9.00	**Casing** OverburdenRubbled tonalite/granodiorite.
9.00	24.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Massive to weakly foliated groundmass. Strong biotite alteration, with an abundance of biotite orbicules, making up 10-20% of the core. The biotite orbicules are deformed and elongated from 2:1 to 5:1. The core is very fractured, with most pieces being less than 30cm long.
24.00	40.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite. Masssive to weakly foliated tonalite, with rare biotite obicules that are thin, <1cm, and elongated. Quartz-k-feldspar vein from 24.2m to 24.42m, at a high angle to the core axis. Quartz vein from 26.65m to 26.86m, with sulfide mineralization at the upper contact.
40.00	57.50	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite, same as previous description. Heavily fracture core, with some zones of rubble. Biotite orbicules are very common and less than 5cm wide.
57.50	82.06	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite. Biotite orbicules begin to appear again around 74m, and increase in frequency toward the lower contact. Fine grained aplitic vein from 79.41m to 79,50m.
82.06	82.73	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained white aplitic unit with red garnet banding at lower contact. Several bands of very coarse grained muscovite occur in the unit.
82.73	83.46	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite, with yellow muscovite alteration at the upper and lower contacts.
83.46	85.37	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Inhomogeneous dyke with several pegmatitc zones of very coarse grained feldspar-muscovite-quartz. Yellow muscovite alteration common through section. Bottom 15cm is rich in fine grained red garnets with weak banding.

Drillhole Number: **PWM-17-06** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
85.37	87.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite, with minor yellow muscovite alteration.
87.00	89.17	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Generally fine grained white to grey aplitic unit, with some zones of coarse grained feldspar-muscovite-quartz,and rare beryl.
89.17	89.34	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Yellow muscovite altered tonalite.
89.34	89.41	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite. Similar to above unit.
89.41	90.19	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly folaited to massive tonalite, with yellow muscovite alteration at upper and lower contacts.
90.19	91.11	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine to medium grained aplitic unit, feldspar-quartz-muscovite-and rare fine grained garnets. Yellow muscovite common in unit.
91.11	118.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Wealky foliated tonalite. Several fine to medium grained white to grey aplitic veins occur from: 94.32m to 94.85m, 97.51m to 97.88m, 98.13m to 98.31m, 102.89m to 103.04m, 110.57m to 110.79m, and 117.75m to 117.87m. Lower 30cm of unit is strongly yellow muscovite altered.
118.40	120.15	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained white to grey aplitic unit with several band of fine grained red garnets. Several patches of yellow muscovite.
120.15	120.76	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Strongly yellow muscovite altered tonalite.

Drillhole Number: **PWM-17-06** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***
120.76	121.80	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained, massive and banded red garnet rich unit, with two small, <8cm, zones of strongly yellow muscovite altered tonalite.
121.80	139.87	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated to massive black and white tonalite, with a few <5cm aplitic and pegmatitc veins with no spodumene mineralization observed.

PWM-17-06

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-06** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
81.00	82.06	1.06	546965	0.26	568	128	1.9	6
82.06	82.73	0.67	546966	0.16	1530	170	65.2	115
82.73	83.46	0.73	546967	0.39	2920	611	102	97
83.46	84.46	1.00	546968	0.19	2190	478	104	90
84.46	85.37	0.91	546969	0.16	1700	270	96.8	87
85.37	86.00	0.63	546971	0.19	493	112	6.6	8
86.00	87.00	1.00	546972	0.16	308	75.1	5.8	13
87.00	88.00	1.00	546973	0.16	958	93	65.4	71
88.00	89.17	1.17	546974	0.05	290	39.5	12.8	41
89.17	90.19	1.02	546976	0.23	869	129	7.7	22
90.19	91.11	0.92	546977	0.06	346	31.1	22.7	48
91.11	92.00	0.89	546978	0.15	348	94.9	2.7	6
117.87	118.40	0.53	546979	0.16	699	132	17.5	12
118.40	119.40	1.00	546981	0.06	242	25.9	119	24
119.40	120.15	0.75	546982	0.07	211	20.5	82.4	15
120.15	120.76	0.61	546983	0.25	2610	468	149	80
120.76	121.80	1.04	546984	0.09	519	49.5	51	24
121.80	123.00	1.20	546985	0.12	618	87.3	4.8	5

PWM-17-06

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-07** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578166.21	**Drill Hole Type**	DDH	**Casing Rod Length**	9	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431770.25	**Core Size**	NQ	**C. Rod Sticking Out**	0.22	**Cell Claim No.**	142528	**Hole Start Date**	01/09/2017
Elevation	340.95	**Hole Test**	Reflex	**Overburden**	9.64	**Legacy Claim No.**	1214666	**Hole Complete Date**	02/09/2017
Azimuth	148	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-62	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	140	**Hole Making Water**	No					**Logging Compelete**	11/09/2017

Comments PWM-17-07 is collared into claim 1214666 but ends in claim 1213780.

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	148	-44	Collar		Yes
26	151.2	-66.3	Reflex	5603	Yes
76	151.2	-65.9	Reflex	5634	Yes
130	149.6	-68.4	Reflex	5603	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-07** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	9.86	**Casing** OverburdenRubble and boulders at bedrock contact.
9.86	10.15	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained red garnet rich vein, no spodumene observed, contains small fragment of tonalite.
10.15	51.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite. Dark grey and white weakly foliated tonalite. Locally the feldspars are orange and light pink. From 10m to 13m deformed biotite orbicules are very common. From 28-32 meters orbicules are more common, then become very small and rare unit 51 meters, where they start appear again. Several thin, 0.5cm-2cm, quartz and feldspar veins occur through the section.
51.00	74.78	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Biotite orbicules are elongated from 2:1 to 4:1.
74.78	75.23	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained aplitic unit. Light green and light red in color. Possible mixing zone between the tonalites.
75.23	87.56	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey colored semi massive medium grained tonalite, lacking biotite orbicules. Bottom contact with metasediments is 30 degrees to core axis.
87.56	101.53	**Sediments** SedimentsMetasediments. Strongly foliated and thinly bedded sediments. Patches of fine grained light pink garnets. Minor quartz veining throughout unit. Foliation angle varies from 50 to 70 degrees to core axis. Non mineralizated.
101.53	101.88	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Fine grained weakly foliated grey tonalite.
101.88	105.40	**Sediments** SedimentsFine grained dark grey to black metasediments.

Drillhole Number: **PWM-17-07** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
105.40	106.51	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Yellow and lime green muscovite rich pegmatite. Upper contact is sharp, planar and at 35 degrees to core axis. Lower contact is irregualr and at 90 degrees to the core axis.
106.51	107.70	**Sediments** SedimentsMetasediments.
107.70	108.06	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Simialr to above yellow muscovite pegmatite unit. Fractured toward lower contact. Lower contact is sharp and at 30 degrees to core axis.
108.06	116.23	**Sediments** SedimentsMetasediments. Strongly foliated
116.23	116.58	**Quartz Vein** Quartz VeinQuartz rich vein.
116.58	117.42	**Sediments** SedimentsMetasediments, similar to above units
117.42	117.74	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Fine grained yellow muscovite rich unit. No spodumene observed.
117.74	126.22	**Sediments** SedimentsMetasediments similar to above units.
126.22	127.12	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Yellow muscovite rich pegmatite. Similar to above pegmatites.
127.12	129.20	**Sediments**

Drillhole Number: **PWM-17-07** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		SedimentsMetasediments.
129.20	129.45	**Quartz Vein** Quartz VeinQuartz rich vein, with minor feldspar.
129.45	140.00	**Sediments** SedimentsDark grey to black metasediments. Thin quartz veining is common. Strong foliation at 40 degrees to core axis.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-07** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
104.40	105.40	1.00	546997	0.07	164	31.2	0.4	5
105.40	106.51	1.11	546998	0.005	320	11.1	63.4	84
106.51	107.70	1.19	546999	0.09	456	124	2.7	10
107.70	108.06	0.36	529416	0.01	443	20.3	48.5	65
108.06	109.00	0.94	529417	0.09	512	112	6.2	12
125.00	126.22	1.22	529418	0.09	244	78.3	0.5	5
126.22	127.12	0.90	529419	0.005	392	14.5	38.3	75
127.12	128.00	0.88	529421	0.08	249	56.9	10.2	15

PWM-17-07

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-08** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578207.83	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431700.33	**Core Size**	NQ	**C. Rod Sticking Out**	0.22	**Cell Claim No.**	207953	**Hole Start Date**	02/09/2017
Elevation	345.71	**Hole Test**	Reflex	**Overburden**	0.58	**Legacy Claim No.**	1213780	**Hole Complete Date**	03/09/2017
Azimuth	147	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-46	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	80	**Hole Making Water**	No					**Logging Compelete**	07/09/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	147	-46	Collar		Yes
20	146.7	-43.5	Reflex	5593	Yes
71	148.4	-41.7	Reflex	6522	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-08** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
0.00	18.83	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Medium grained, grey in color, orbicular tonalite. Massive to very weakly foliated texture. Biotite orbicules are common in unit, mostly circular to slightly elongated, ranging in size from 0.5cm to 5cm. Aplite unit from 4.63m to 4.72m with wavy 2-3mm bands of garnet.
18.83	52.85	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Coarse to very coarse grained unit, the major mineral componets are quartz, feldspar, spodumene, and muscovite. Very coarse grained light green spodumene grains occur from 21.28m to 23.3m and 41m to 45.8m, with spodumene crystals up to 10cm in size, and generally 2cm to 5cm. Spodumene crystals ranging from very coarse to medium grained occur throughout the unit up to 45.3m, after which spoumene becomes rare. A medium grained light colored aplite unit occurs from 48.1m to 48.67m with rare garnets. Yellow and green muscovite can be observed locally, and becomes common after 46.5m. The lower section from 49 to 52.85 is muscovite rich with grain size raning from very coarse to medium grained.
52.85	54.08	**Aplitic Border Zone** Aplitic border phase of pegmatite,Medium grained quartz feldspar unit, showing banded textures in fine grained garnets, and medium grained muscovite.
54.08	72.37	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated dark grey orbicular tonalite. Biotite orbicules are elongated from 3:1 to 10:1.
73.37	74.90	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Very coarse grained grey quartz, white feldspar, and muscovite unit. Spodumene grain at 74 meters 0.5cm x 0.5cm.
74.90	80.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Biotite orbicules are deformed and elongated from 2:1 to 7:1.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-08** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
17.00	18.00	1.00	546679	0.08	130	27.6	2.8	5
18.00	18.87	0.87	546681	0.09	166	25.5	0.8	6
18.87	20.00	1.13	546682	0.13	1230	97.5	12.2	34
20.00	21.00	1.00	546683	1.63	577	76.2	18.1	32
21.00	22.00	1.00	546684	2.55	355	62.4	21.3	21
22.00	23.00	1.00	546685	3.04	176	29.6	56.8	12
23.00	24.00	1.00	546686	1.85	1060	147	648	117
24.00	25.00	1.00	546687	1.34	778	114	399	62
25.00	26.00	1.00	546688	2.23	497	92.9	390	50
26.00	27.00	1.00	546689	1.83	977	200	738	124
27.00	28.00	1.00	546691	1.84	550	98.6	409	77
28.00	29.00	1.00	546692	1.38	918	161	246	53
29.00	30.00	1.00	546693	2.34	409	83.5	307	57
30.00	31.00	1.00	546694	2.47	167	73.6	248	54
31.00	32.00	1.00	546696	2.06	533	101	221	41
32.00	33.00	1.00	546697	1.58	1070	162	177	30
33.00	34.00	1.00	546698	0.59	1030	137	377	49
34.00	35.00	1.00	546699	0.65	1180	154	591	66
35.00	36.00	1.00	546701	1.47	1110	137	309	41
36.00	37.00	1.00	546702	0.98	696	97.6	32.6	11
37.00	38.00	1.00	546703	1.74	604	93.6	204	63
38.00	39.00	1.00	546704	2.1	535	108	286	78
39.00	40.00	1.00	546705	2.5	378	132	1770	343
40.00	41.00	1.00	546706	1.9	367	79.7	245	124
41.00	42.00	1.00	546707	3.29	213	80.4	73.7	24
42.00	43.00	1.00	546708	2.1	765	150	266	89

Drillhole Number: **PWM-17-08** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
43.00	44.00	1.00	546709	2.16	744	103	155	52
44.00	45.00	1.00	546711	2.3	445	82	83.1	28
45.00	46.00	1.00	546712	2.39	455	72.8	146	28
46.00	47.00	1.00	546713	0.13	941	97.6	49.1	26
47.00	48.00	1.00	546714	0.08	982	102	62	39
48.00	49.00	1.00	546716	0.3	733	71.5	134	67
49.00	50.00	1.00	546717	0.3	1810	164	31.9	101
50.00	51.00	1.00	546718	0.08	533	59.3	16.7	26
51.00	52.00	1.00	546719	0.18	1160	213	24.7	49
52.00	53.00	1.00	546721	0.18	1050	236	28	63
53.00	54.08	1.08	546722	0.12	448	105	80.5	75
54.08	55.00	0.92	546723	0.25	360	76	0.6	7
55.00	56.00	1.00	546724	0.17	165	40.8	0.4	5
72.00	73.00	1.00	546725	0.16	142	27	0.3	5
73.37	74.00	0.63	546727	0.02	2990	157	15.1	31
74.00	74.90	0.90	546728	0.04	1410	95.3	36.9	32
74.90	76.00	1.10	546729	0.18	244	43.2	1.7	7

PWM-17-08

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-09** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578207.36	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431700.99	**Core Size**	NQ	**C. Rod Sticking Out**	0.29	**Cell Claim No.**	207953	**Hole Start Date**	04/09/2017
Elevation	345.69	**Hole Test**	Reflex	**Overburden**	1.21	**Legacy Claim No.**	1213780	**Hole Complete Date**	05/09/2017
Azimuth	147	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-80	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	95	**Hole Making Water**	No					**Logging Compelete**	10/09/2017

Comments Same drill pad loaction as PWM-17-08, steepened dip

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	147	-80	Collar		Yes
20	145.2	-79.8	Reflex	5587	Yes
80	144.8	-80	Reflex	5593	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-09** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.50	**Casing** Overburden
1.50	26.51	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite, medium to fine grained. Massive. The black biotite oribcules are circular to weakly deformed, ranging in size from 0.5cm to 4cm. The oribcules are common before 22 meters, and are rare towards the lower contact. Aplite unit from 7.74 meters to 7.89 meters: coarse grained quartz and feldspar at upper contact. Lower contact has banded garnets, and is sharp at 35 degrees to core axis. One spodumene grain observed in aplite unit.
26.51	27.00	**Aplitic Border Zone** Aplitic border phase of pegmatite,Banded aplitic unit, upper contact at 45 degrees to core axis, lower contact at 40 degrees to core axis. Going down the core the bands consist of 9cm of fine grained garnet, 1-2cm of coarse grained muscovite, 2cm of coarse grained quartz and white feldspar, then a 10 cm aplite with red garnet, into coarse grained quartz-feldspar muscovite, followed by 4cm of fine grained red garnet containing aplite.
27.00	27.35	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, similar to above tonalite, with fine grained yellow muscovite.
27.35	27.43	**Aplitic Border Zone** Aplitic border phase of pegmatite,Thin aplitic vein with banded garnets at lower contact.
27.43	27.57	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite with fine grained yellow muscovite.
27.57	27.73	**Aplitic Border Zone** Aplitic border phase of pegmatite,Coarse to fine grained aplite with red garnets at lower contact.
27.73	48.70	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Spodumene rich pegmatite. Very coarse grained grey quartz, white feldspar, black and yellow muscovite, and light green spodumene zone. At 33 meters there is a very large spoumene crystal, parallel to the core, measuring 40cm x 2cm. The upper contact to 29.2 meters is very coarse grained quartz feldspar and muscovite. After 29.2 meters spodumene mineralization begins. Most significant spodumene mineralization is from 29.2 meters to 34.7 meters, 37.8 meters

Drillhole Number: **PWM-17-09** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		to 39.5 meters, and 42 meters to 44.7 meters, the spodumene in these zones is very coarse grained to coarse grained, and is very light green to light green in color. Areas without spodumene mineralization are finer grained and yellow muscovite rich.
48.70	53.42	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,White and grey quartz unit, the color becomes darker grey towards bottom of the unit.
53.42	58.48	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Very coarse to coarse grained feldspar, quartz, muscovite unit. Grain size decreases toward lower contact with aplite.
58.48	60.04	**Aplitic Border Zone** Aplitic border phase of pegmatite,Red fine grained garnets are common, with wavy banded structures. Mostly fine grained with some medium and coarse grained zones. Lower contact is sharp and wavy.
60.04	79.97	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, weakly foliated. Some yellow muscovite alteration from 69 to 71 meters. Quartz and k feldspar veins at: 63.56-63.65m, 65.15-65.22m, 66.74-66.79m, and 72.65-72.72m.
79.97	81.05	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,White feldspar and quartz, with green muscovite, with the lower 5cm having banded red garnets.
81.05	85.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, same as above. Lower 15cm of unit the biotite is altered to yellow muscovite.
85.90	86.63	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Very similar to above dyke with banded garnets over 5 cm at lower contact. Possible repetition of above dyke.
86.63	87.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite with yellow muscovite alteration near the upper and lower contacts.
87.90	88.56	**Aplitic Border Zone**

Drillhole Number: **PWM-17-09** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Aplitic border phase of pegmatite,Fine grained unit with banded garnets. Spodumene mineralization present at 88m, 3cm x 2cm.
88.56	95.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated Tonalite.

PWM-17-09

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-09** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
25.00	26.00	1.00	546731	0.1	126	18.9	0.8	6
26.00	26.51	0.51	546732	0.08	342	74.9	4.9	22
26.51	27.73	1.22	546733	0.08	633	104	31.3	32
27.73	29.00	1.27	546734	0.21	1260	130	23.8	59
29.00	30.00	1.00	546736	1.4	623	86.6	16.7	25
30.00	31.00	1.00	546737	2.9	252	60.2	43.1	35
31.00	32.00	1.00	546738	2.7	270	67.3	29.8	26
32.00	33.00	1.00	546739	2.6	262	82.6	30.2	33
33.00	34.00	1.00	546741	1.76	636	184	500	83
34.00	35.00	1.00	546759	1.07	1080	164	421	71
35.00	36.00	1.00	546742	0.06	1310	227	477	125
36.00	37.00	1.00	546743	0.65	640	65.7	176	176
37.00	38.00	1.00	546744	0.43	702	113	41.8	23
38.00	39.00	1.00	546745	2.73	122	45.7	98.3	19
39.00	40.00	1.00	546746	0.94	1030	134	204	127
40.00	41.00	1.00	546747	0.13	722	102	15.1	37
41.00	42.00	1.00	546748	0.13	796	106	56.8	46
42.00	43.00	1.00	546749	1.27	666	71.4	135	50
43.00	44.00	1.00	546751	0.05	721	62.1	85.5	83
44.00	45.00	1.00	546752	0.91	610	126	44.1	46
45.00	46.00	1.00	546753	0.05	327	37.2	86.2	95
46.00	47.00	1.00	546754	0.03	980	148	174	169
47.00	48.00	1.00	546756	0.03	225	30.6	722	839
48.00	49.00	1.00	546757	0.02	545	69.1	265	34
49.00	50.00	1.00	546758	0.02	1	0.6	0.05	0.5
50.00	51.00	1.00	546779	0.02	2	0.6	0.6	0.5

Drillhole Number: **PWM-17-09** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
51.00	52.00	1.00	546761	0.03	9	3	0.05	1
52.00	53.00	1.00	546762	0.03	3	1.1	0.1	0.5
53.00	54.00	1.00	546763	0.04	297	33.9	604	76
54.00	55.00	1.00	546764	0.11	1030	179	118	55
55.00	56.00	1.00	546765	0.1	781	135	30.2	33
56.00	57.00	1.00	546766	0.17	1960	437	76.3	65
57.00	58.00	1.00	546767	0.17	1480	242	77	60
58.00	59.00	1.00	546768	0.24	718	93.4	82.3	73
59.00	60.04	1.04	546769	0.12	562	96.5	68.7	58
60.04	61.40	1.36	546771	0.15	369	86.9	1.9	16
79.00	79.97	0.97	546772	0.16	361	64.5	3.3	8
79.97	81.05	1.08	546773	0.04	1060	96.8	189	74
81.05	82.00	0.95	546774	0.15	233	42.8	1.5	5
85.00	85.90	0.90	546776	0.16	509	84.6	12.1	11
85.90	86.63	0.73	546777	0.06	317	29.7	133	42
86.63	87.90	1.27	546778	0.18	713	102	15.2	16
87.90	88.56	0.66	546781	0.21	222	18.1	60.7	32
88.56	89.00	0.44	546782	0.14	382	77.7	3.9	7

PWM-17-09

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-10** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578151.8	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431676.76	**Core Size**	NQ	**C. Rod Sticking Out**	0.32	**Cell Claim No.**	207953	**Hole Start Date**	05/09/2017
Elevation	346.16	**Hole Test**	Reflex	**Overburden**	1.18	**Legacy Claim No.**	1213780	**Hole Complete Date**	06/09/2017
Azimuth	144	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-40	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	101	**Hole Making Water**	No					**Logging Compelete**	11/09/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	144	-40	Collar		Yes
20	150.4	-42.8	Reflex	5591	Yes
70	151.3	-40.9	Reflex	5602	Yes
101	152.4	-39.4	Reflex	5593	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-10** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.50	**Casing** Overburden
1.50	6.26	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Light grey weakly foliated Tonalite.
6.26	13.86	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Spodumene locally present in seveal zones over 5-20 cm. Quartz core from 9.87m to 10.76m, with the lower contact containing coarsed grained muscovite. Coarse grained white feldspar and grey quartz at upper contact. Banded fine grained garnets at lower contact.
13.86	30.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Light grey weakly foliated Tonalite.
30.40	30.80	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained grey quartz, white feldsar,
30.80	33.83	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
33.83	49.68	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Upper contact is 4cm fine grained aplite zone, followed by muscovite rich dark grey quartz and white feldspar pegmatite, lacking spodumene. Spodumene mineralization begins at 35.2m and is mostly continuous to 47.42m. From 49.86 to 50.06m. 47.42m to 49.55 is medium to fine grained and muscovite rich with several thin aplitic units.
49.68	50.06	**Aplitic Border Zone** Aplitic border phase of pegmatite,Inhomogeneous texture, with grain size ranging from fine to very coarse. Bottom 6 cm contains fine grained banded red garnets. Very coarse grained spodumene crystals at 49.6 meters.
50.06	53.76	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Medium grained weakly foliated tonalite. Rare deformed biotite orbicules. Aplitic unit from

Drillhole Number: **PWM-17-10** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		53.04m to 53.12 containing very coarse grained feldspar, quartz and minor green apatite. Bottom contact contains fine grained red garnets.
53.76	54.24	**Aplitic Border Zone** Aplitic border phase of pegmatite,Generally fine to medium grained unit, with abundant red garnets evenly distributed, with banding occuring over 1cm at 54.07m.
54.24	61.28	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.The majority of Spodumene mineralization occurs from 55.18m to 58m. The first meter before Spodumene appears is very coarse to coarse grained quartz, feldspar, and muscovite. From 55.75m to 56m is a zone of medium grained spodumene mineralization with medium grained red garnets. After 59 meters dark grey fine and medium grained muscovite becomes common.
61.28	62.05	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine to medium grained, yellow muscovite alteration, with several green apatite crystals. Near the bottom contact has abundant non-banded red garnets.
62.05	63.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, massive, same as above units of tonalite.
63.00	65.60	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine to medium grained grey unit, with sporatic, 0.5cm, blobs of spodumene mineralization. Fine grained non-banded red garnets and rare, 1-2mm blobs of sulfide mineralization occur through the unit.
65.60	67.25	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite with a few deformed biotite orbicules.
67.25	67.66	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine to medium grained aplitic unit with banding near the lower contact, and rare 1-2mm bands of spodumene mineralization.
67.66	71.72	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, with rare slightly deformed biotite orbicules.

Drillhole Number: **PWM-17-10** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
71.72	72.24	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained red garnet banding at top and bottom contact. 10cm zone of feldspar-quartz pegmatite.
72.24	74.72	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite with yellow muscovite alteration 15cm towards the bottom contact.
74.72	75.61	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Spudumene mineralization from 74.8 to 75.15m. Coarse white feldspar, grey quartz, and light green spodumene.
75.61	76.55	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Fine to medium grained tonalite with yellow muscovite alteration, top and bottom contacts are gradational.
76.55	77.00	**Aplitic Border Zone** Aplitic border phase of pegmatite,Coarse to fine grained aplitic unit, with non-banded fine grained garents at lower contact.
77.00	80.05	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Massive to weakly foliated tonalite.
80.05	80.32	**Aplitic Border Zone** Aplitic border phase of pegmatite,Zone of blue apatite from 82.9m - 92.94m. Weakly banded garnets, and yellow muscovite alteration. Several blobs of spodumene, up to 2cm across, occur sporatically, and occur up to 7cm into the tonalite at the lower contact.
80.32	82.85	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Rare deformed biotite orbicules. Quartz vein from 81.69m to 81.83m.
82.85	83.58	**Aplitic Border Zone** Aplitic border phase of pegmatite,Zone of blue apatite from 82.9m - 82.94m. Weakly banded garnets, and yellow muscovite alteration. Small, <0.5cm blobs of spodumene are common.
83.58	96.60	**Case Batholith**

Drillhole Number: **PWM-17-10** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Tonalite, granodiorite-quartz monzonite, Foliated grey tonalite.
96.60	97.35	**Aplitic Border Zone** Aplitic border phase of pegmatite,Medium to fine grained unit, with several bands of fine grained red garnet. Rare green apatite.
97.35	99.75	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Rare deformed biotite orbicules.
99.75	99.89	**Aplitic Border Zone** Aplitic border phase of pegmatite,Coarse to fine grained unit, red garnet banding near lower contact. Contains green apatite.
99.89	101.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite. Foliated and grey, similar to above units.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-10** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
5.00	6.26	1.26	546783	0.1	126	23	0.7	4
6.26	7.00	0.74	546784	0.94	483	113	39.4	42
7.00	8.00	1.00	546785	0.26	675	101	91.8	41
8.00	9.00	1.00	546786	0.08	1430	194	239	80
9.00	10.00	1.00	546787	0.46	1470	189	63.8	28
10.00	10.94	0.94	546788	0.04	1050	114	51.3	20
10.94	11.94	1.00	546789	0.48	981	164	172	67
11.94	12.94	1.00	546791	0.34	1100	143	46.7	35
12.94	13.80	0.86	546792	0.06	683	96.6	27.3	18
13.80	15.00	1.20	546793	0.1	172	42.1	1.1	5
33.00	33.83	0.83	546796	0.12	142	29	0.7	5
33.83	35.00	1.17	546797	0.18	902	102	17.5	47
35.00	36.00	1.00	546798	3.07	362	77.2	28.2	30
36.00	37.00	1.00	546799	1.83	437	82.3	27	26
37.00	38.00	1.00	546801	1.84	708	148	186	117
38.00	39.00	1.00	546802	3.11	844	131	158	65
39.00	40.00	1.00	546803	1.18	669	113	203	74
40.00	41.00	1.00	546804	1.83	1060	164	242	97
41.00	42.00	1.00	546805	1.99	777	112	314	74
42.00	43.00	1.00	546806	1.22	1050	151	511	141
43.00	44.00	1.00	546807	1.74	648	103	361	91
44.00	45.00	1.00	546808	2.23	787	164	725	167
45.00	46.00	1.00	546809	2.59	670	128	698	172
46.00	47.00	1.00	546811	1.72	248	75.7	36.2	30
47.00	48.00	1.00	546812	0.98	889	96.5	70.6	36
48.00	49.00	1.00	546813	0.22	1060	146	36	57

Drillhole Number: **PWM-17-10** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Length* (m)	*Sample No.*	*Li2O* (%)	*Rb* (ppm)	*Cs* (ppm)	*Ta* (ppm)	*Nb* (ppm)
49.00	50.06	1.06	546814	0.55	712	126	102	78
50.06	51.00	0.94	546816	0.17	263	65.8	0.9	4
51.00	52.00	1.00	546817	0.15	49	8.4	0.4	3
52.00	53.00	1.00	546818	0.15	159	33	2.2	4
53.00	53.76	0.76	546819	0.14	528	90.4	5.4	8
53.76	55.00	1.24	546821	0.18	1020	104	25.4	35
55.00	56.00	1.00	546822	2.08	892	133	222	61
56.00	57.00	1.00	546823	1.33	1280	164	184	59
57.00	58.00	1.00	546824	0.76	796	95.3	37.3	34
58.00	59.00	1.00	546825	0.15	1040	140	28.3	39
59.00	60.00	1.00	546826	0.2	1240	142	30.8	47
60.00	61.00	1.00	546827	0.18	1200	114	36.8	53
61.00	62.05	1.05	546828	0.12	680	76.2	36.6	57
62.05	63.00	0.95	546829	0.14	423	70.3	5.1	10
63.00	64.00	1.00	546831	0.1	414	25.9	17.9	35
64.00	65.00	1.00	546832	0.08	382	24.4	19.6	45
65.00	66.00	1.00	546833	0.11	429	45.9	16.1	22
66.00	67.00	1.00	546834	0.15	158	32.8	0.7	6
67.00	68.00	1.00	546836	0.13	372	53.1	8.8	16
71.00	71.72	0.72	546837	0.15	280	79.3	1.3	6
71.72	72.24	0.52	546838	0.08	1120	194	17.7	39
72.24	73.00	0.76	546839	0.14	194	51.1	1.3	5
73.00	74.00	1.00	546841	0.16	200	43.2	1.6	8
74.00	74.72	0.72	546842	0.17	627	153	10.6	18
74.72	75.61	0.89	546843	0.92	580	155	324	65
75.61	76.55	0.94	546844	0.15	661	96.2	22.2	27

Drillhole Number: **PWM-17-10** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
76.55	77.00	0.45	546845	0.17	476	74.2	20.9	28
77.00	78.00	1.00	546846	0.17	700	207	4.3	7
78.00	79.00	1.00	546847	0.14	373	92.5	6.3	11
79.00	80.00	1.00	546848	0.15	207	38.2	1.1	4
80.00	81.00	1.00	546849	0.2	323	51.7	3.7	7
81.00	82.00	1.00	546851	0.15	131	27.5	0.9	6
82.00	82.85	0.85	546852	0.15	294	54.4	1.3	6
82.85	83.58	0.73	546853	0.09	588	91	65.8	39
83.58	84.00	0.42	546854	0.13	300	59.4	1.8	6
96.00	96.60	0.60	546856	0.09	216	22.8	0.6	5
96.60	97.35	0.75	546857	0.06	764	40.3	19.5	48
97.35	98.00	0.65	546858	0.1	189	26.2	0.4	4

PWM-17-10

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-11** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578248.21	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431749.7	**Core Size**	NQ	**C. Rod Sticking Out**	0.05	**Cell Claim No.**	142528	**Hole Start Date**	06/09/2017
Elevation	342.69	**Hole Test**	Reflex	**Overburden**	1.05	**Legacy Claim No.**	1214666	**Hole Complete Date**	07/09/2017
Azimuth	147	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-41	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	92	**Hole Making Water**	No					**Logging Compelete**	11/09/2017

Comments PWM-17-11 is collared into claim 1214666 and ends in claim 1213780.

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	147	-41	Collar		Yes
20	148.8	-43.8	Reflex	5587	Yes
71	150.4	-42.6	Reflex	5591	Yes
92	150.8	-41.7	Reflex	5604	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-11** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.10	**Casing** Overburden
1.10	27.04	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Salt and pepper tonalite. Weakly foliated and grey in color. Orange oxidation color along fracture surfaces common down to 7 meters. Several 5cm quartz and feldspar veins. Bottom contact is sharp and wavy.
27.04	27.52	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained, light grey massive unit. Top contact has coarse grained muscovite and rare medium grained green apatite and red garnet. Bottom contact has a thin band of red garnets.
27.52	31.72	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine to coarse grained quartz, feldspar, muscovite with abundant medium to fine grained blue apatite throughout. Coarse grained blue apatite is most common near the bottom contact. A fine grained white and red garnet dyke , nearly parallet to the core axis occurs from 29.3m to 30.2m.
31.72	32.16	**Sediments** SedimentsDark grey to black metasediments. Sediment layers are generally 1-2mm thick. Beds at 60 degrees to core axis. Lower 3cm is strongly chlorite altered.
32.16	32.44	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite similar to above unit but grain size is smaller.
32.44	33.44	**Sediments** SedimentsMetasediments. Upper contact is strongly chlorite altered over 5cm, bottom contact is strongly chlorite altered over 16cm. Beds 60 degrees to core axis.
33.44	33.91	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Fine grained tonalite, similar to above tonalite unit.
33.91	36.99	**Sediments** SedimentsFine grained thinly bedded metasediments. Thin, 0.5-1cm quartz feldspar veins are common.

Drillhole Number: **PWM-17-11** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
36.99	37.93	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Quartz feldspar mica pegmatite, has a banded appearance in the muscovite, quartz, and feldspars. Thin band of red garnet at lower contact.
37.93	38.76	**Sediments** SedimentsMetasediments
38.76	40.17	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Similar to above banded pegmatite, with an abundance of yellow muscovite. Thin bands of garnets common.
40.17	42.73	**Sediments** SedimentsMetasediments. Bedding at 45 degrees to core axis.
42.73	43.92	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Similar to above banded pegmatite, more white feldspar rich than previous 2 units, banded garnets and yellow muscovite common. Lower contact is sharp, and at 80 degrees to core axis.
43.92	92.00	**Sediments** SedimentsMetasediments. From 47 to the bottom of the hole at 92 meters bedding is nearly parallel to core axi,s 0-10 degrees. Thin quartz veins are common. Thin pegmatite unit from 45.09 to 45.17, quartz rich. From 83.5 to 84 meters is a coarse grained quartz rich unit that contains orange garnet, and green apatite. Possible trace spodumene mineralization.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-11** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
26.00	27.04	1.04	546859	0.12	212	41.5	0.9	9
27.04	28.00	0.96	546861	0.11	530	39.1	10.9	56
28.00	29.00	1.00	546862	0.07	335	25.9	5.3	22
29.00	30.00	1.00	546863	0.04	258	19.3	16.4	32
30.00	31.00	1.00	546864	0.14	835	72.5	12.6	32
31.00	31.72	0.72	546865	0.04	385	30.8	16.4	29
31.72	33.00	1.28	546866	0.12	803	330	1.4	5
36.00	36.99	0.99	546867	0.14	915	378	2.4	7
36.99	37.93	0.94	546868	0.02	582	48.4	33.8	41
37.93	38.76	0.83	546869	0.13	917	264	2.4	17
38.76	40.17	1.41	546871	0.02	419	25.4	22.6	44
40.17	41.00	0.83	546872	0.08	679	242	2.4	9
41.00	42.00	1.00	546873	0.07	490	217	0.8	4
42.00	42.73	0.73	546874	0.09	637	223	1.1	6
42.73	43.92	1.19	546876	0.02	314	38.8	29.2	47
43.92	45.00	1.08	546877	0.15	1600	371	1.6	7

PWM-17-11

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-12** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578252.98	**Drill Hole Type**	DDH	**Casing Rod Length**	6	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431796.93	**Core Size**	NQ	**C. Rod Sticking Out**	0.26	**Cell Claim No.**	142528	**Hole Start Date**	07/09/2017
Elevation	340.97	**Hole Test**	Reflex	**Overburden**	4.74	**Legacy Claim No.**	1214666	**Hole Complete Date**	09/09/2017
Azimuth	146	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-45	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	242	**Hole Making Water**	No					**Logging Compelete**	11/09/2017

Comments PWM-17-12 collared into 1214666 and ends in claim 1214668.

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	146	-45	Collar		Yes
26	143.2	-38.1	Reflex	5610	Yes
77	144.6	-36.7	Reflex	5603	Yes
128	147	-35.4	Reflex	5597	Yes
200	149.5	-32.1	Reflex	5584	Yes
242	151.1	-30.5	Reflex	5588	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-12** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	5.00	**Casing** OverburdenBoulders near bedrock contact. Small 5cm piece of tonalite, probably boulder piece.
5.00	83.02	**Sediments** SedimentsMetasediments. Dark grey to black in color, fine grained, with bedding generally at a very low angle to the core axis (0-15 degrees). Several 1-3cm quartz-feldspar veins. 54.6m to 55m the core is rubble, and strongly chlorite altered, possible shear zone. Minor sulfide mineralization associted with thin, 1-2mm, quartz veining on fracture surfaces.
83.02	86.47	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Quartz-feldspar-yellow muscovite- red garnet pegmatite. Unit is banded, with zone from 1cm to 5cm wide. Zone is rich in coarse grained yellow muscovite. No spodumene observed. Upper and lower contacts are wavy and sharp. Very fine grained black metasediments from 85.47m to 85.75m
86.47	151.35	**Sediments** SedimentsFine grained dark grey to black metasediments. Bedding at 30-35 degrees to core axis. Quartz rich veins from 128.04m to 128.23m, and 140.19m to 140.28m.
151.35	152.05	**Quartz Vein** Quartz VeinQuartz rich vein with biotite rich seams, and 2-5mm red garnets.
152.05	165.83	**Sediments** SedimentsStrongly foliated (mm scale) dark grey metaseds, fol defined by alignment of biotite, few <cm to mm scale veinlets and stringers following foliation, foliation varies slightly from 15-30 TCA. Localized narrow bands of light green chlorite<3mm. Nonmineralized and nonmagnetic.
165.83	166.85	**Quartz Vein** Quartz Veinbeige to white quartz vein with slightly irregular contacts cutting at low angle to core axis (10-15 TCA). Nonmineralized and nonmagnetic.
166.85	211.26	**Sediments** Sedimentsdark grey to black fg-mg, moderate to strong, planar, mm scale foliation defined by bedding planes and alignment of biotite at 15-30TCA. Nonmineralized and nonmagnetic. Subunits: 181.06-181.2 dark grey quartz vein with small whisps of feldspar, mg biotite near planar contacts. Contacts at about 20TCA. 192.72-193.11 small vein of unit 9- green muscovite quartz albite vein with minor

Drillhole Number: **PWM-17-12** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		amount of whispy aplite throughout. No spodumene observed.
211.26	213.35	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Greenish beige/white green musc-quartz-albite aplite vein, vein/dyke takes on weakly banded appearance due to strong green muscovite and white whispy aplite. Nonmineralized. Aplite does host reddish garnets locally.
213.35	242.00	**Sediments** SedimentsEOH. Dark grey to black, moderate to strong foliation. Foliation defined by bedding and alignment of biotite ranging from 15-30TCA. Small planar stringer <0.5cm throughout but low in frequency. Nonmineralized and nonmagnetic. Localized tight isoclinal? Folding of bedding and veining at 218.3m with axis of folding at 20TCA. Nonmineralized and nonmagnetic.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-12** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
82.00	83.02	1.02	529433	0.08	738	159	6.7	11
83.02	84.00	0.98	529434	0.005	549	17.7	52.4	88
84.00	85.00	1.00	529436	0.005	474	15	21.4	84
85.00	86.00	1.00	529437	0.04	574	31	18.4	58
86.00	86.47	0.47	529438	0.005	435	22.1	18.4	65
86.47	87.47	1.00	529439	0.08	572	142	0.6	5
151.35	152.05	0.70	529441	0.005	48	6.9	0.5	2
172.16	173.16	1.00	529442	0.05	207	97.3	0.7	5
173.16	173.63	0.47	529443	0.03	125	53.6	53.7	76
173.63	174.63	1.00	529444	0.05	269	112	3.4	7

PWM-17-12

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-13** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578276.69	**Drill Hole Type**	DDH	**Casing Rod Length**	4.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431761.51	**Core Size**	NQ	**C. Rod Sticking Out**	0.25	**Cell Claim No.**	142528	**Hole Start Date**	15/09/2017
Elevation	341.83	**Hole Test**	Reflex	**Overburden**	4.05	**Legacy Claim No.**	1214666	**Hole Complete Date**	16/09/2017
Azimuth	145	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-44	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	65	**Hole Making Water**	No					**Logging Compelete**	17/09/2017

Comments PWM-17-13 is collared into claim 1214666 but ends in claim 1214668.

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	145	-44	Collar		Yes
20	142.7	-44.6	Reflex	5617	
65	151.1	-44.7	Reflex	5626	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-13** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	4.30	**Casing** Overburden
4.30	32.66	**Sediments** SedimentsFine grained, thinly bedded, <1mm, dark grey to black metasediments. Bedding is at a low angle to the core axis, 3-20 degrees. Several 0.5-1cm quartz veins along fracture surfaces. From 17.09m to 17.53m is a strongly chlorite altered zone.
32.66	32.78	**Quartz Vein** Quartz VeinGrey quartz vein with minor white feldspar. Upper and lower contacts within the sediments are strongly biotite altered over 3cm.
32.78	36.90	**Sediments** SedimentsDark grey to black metasediments similar to above sediments, this zone has some rubbled areas.
36.90	37.00	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Small pegmatite unit with yellow muscovite alteration. Core is small 5cm fragments.
37.00	42.81	**Sediments** SedimentsDark grey to black metasediments. Bedding is at 60-70 degrees to core axis.
42.81	42.94	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained white feldpsar- grey quartz- and yellow muscovite pegmatite.
42.94	43.83	**Sediments** SedimentsMetasediments. Similar to above units.
43.83	46.00	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Grey quartz- white feldspar - yellow muscovite with fine grained red garnets. Banding texture is common. Near the lower contact the red garnets are banded. No spodumene observed.

Drillhole Number: **PWM-17-13** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
46.00	46.39	**Sediments** SedimentsFine grained black metasediments. Similar to above units.
46.39	46.70	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,White coarse grained pegmatite, similar to above yellow muscovite containing units.
46.70	48.00	**Sediments** SedimentsMetasediments.
48.00	48.57	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,White pegmatite similar to above units, except the yellow garnets finer grained.
48.57	53.33	**Sediments** SedimentsMetasediments. Zone of quartz veining and chlorite alteration from 48.57m to 49.1m.
53.33	53.46	**Quartz Vein** Quartz VeinCoarse grained white quartz vein, with minor sulfide mineralization along contact surface.
53.46	54.19	**Sediments** SedimentsMetasediments with minor quartz veining. Lower 5cm is strongly chlorite altered.
54.19	54.55	**Quartz Vein** Quartz VeinCoarse grained quartz and feldspar vein. Minor orange colored garnet mineralization, with possible minor spodumene veining.
54.55	65.00	**Sediments** SedimentsFine grained dark grey to black metasediments with thin, 2-5mm, quartz veins along fracture surfaces. Foliation is generally 60-70 degrees to core axis.

Drillhole Number: **PWM-17-13** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***

PWM-17-13

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-13** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
43.00	43.83	0.83	529422	0.08	640	150	0.8	4
43.83	45.00	1.17	529423	0.005	775	28.6	24.6	64
45.00	46.00	1.00	529424	0.005	430	12.8	22.2	65
46.00	46.39	0.39	529425	0.12	1080	169	2.9	10
46.39	46.70	0.31	529426	0.005	272	9.9	24.3	59
46.70	48.00	1.30	529427	0.08	751	168	0.8	5
48.00	48.57	0.57	529428	0.005	278	10.5	34.2	76
48.57	49.70	1.13	529429	0.05	210	26.5	0.4	3
49.70	50.69	0.99	529431	0.05	152	38.6	0.3	3
54.19	54.55	0.36	529432	0.005	8	2	0.05	0.5

PWM-17-13

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-14** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578078.2	**Drill Hole Type**	DDH	**Casing Rod Length**	6	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431621.84	**Core Size**	NQ	**C. Rod Sticking Out**	0.4	**Cell Claim No.**	236534	**Hole Start Date**	16/09/2017
Elevation	345.1	**Hole Test**	Reflex	**Overburden**	4.8	**Legacy Claim No.**	1213780	**Hole Complete Date**	20/09/2017
Azimuth	150	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-43	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	160.87	**Hole Making Water**	No					**Logging Compelete**	17/09/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	150	-43	Collar		Yes
20	149.8	-44.1	Reflex	5612	Yes
71	151.5	-42	Reflex	5604	Yes
161	155.7	-40.7	Reflex	5602	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-14** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	5.20	**Casing** Overburdenseveral weakly weathered fragments of granodiorite/tonalite and one small piece of mg gabbro
5.20	11.59	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg black and white/beige fairly massive obicular tonalite
11.59	12.00	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,very cg dark muscovite books, both milky quartz and brownish massive smokey quartz with lesser albite. No spodumene observed
12.00	12.75	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,very quartz rich zone, almost entirely vcg brown glassy quartz and white milky quartz. Minor mg muscovite. Looks like a vein but irregular contacts with bordering pegmatite
12.75	14.03	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.inhomogenous variable textured pegmatite. Ranges from cg-mg dark muscovite/biotite rich-albite-quartz granite to cg pegmatitic patches of similar composition. Biotite dominates over musc and feldspars locally. No spodumene observed
14.03	14.45	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,almost straight quartz, massive dark smokey quartz and milky quartz. No spodumene observed
14.45	15.95	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed unit, ranges granitic to locally pegmatitic with whispy aplite throughout and dominant near lower contact. sodic aplite hosting fg diss and weakly banded orange garnets. Seems like there is some strongly alt tonalite xenolith? Within unit. No spodumene observed
15.95	21.71	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive mg obicular tonalite, nonmineralized and nonmagnetic
21.71	22.08	**Aplitic Border Zone**

Drillhole Number: **PWM-17-14** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Aplite dykes, muscovite-quartz-albite,muscovite quartz albite aplite vein, seems like it has been deformed. Upper contact may be a biotite obicule that has been sheared, unit has an overall banded appearance. Repeated bands of tonalite with green musc? Aplite. No spod observed
22.08	28.53	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive obicular tonalite with very few biotite "balls"
28.53	29.26	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.variable textured pegmatite-aplite unit. 28.6-28.8m white/beige kspar-spodumene-quartz-muscovite PEG. Spod makes up about 20% of PEG. Becomes finer grained, almost cg granitic and loses spod but gains mg-cg biotite/dark musc as unit becomes dominated by aplite near bottom contact.
29.26	30.57	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi massive tonalite, unaltered, nonmineralized and nonmagnetic
30.57	30.98	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.more of the same unit as above, variable, patchy texture ranging from pegmatitic to aplitic. Very cg spod and white kspar at center of unit surrounded by aplite and mg albite-musc-quartz peg. Spod is about 15%. Aplite is localized to upper and lower contacts and hosts fg diss orange garnets (spessartine)
30.98	32.52	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi massive obicular tonalite, very few biotite "balls". Unaltered, nonmineralized, nonmagnetic. Subunit-31.88-31.96 aplite - quartz vein with minor albite and mg spodumene, spd 5%.
32.52	36.43	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.dyke is largely sodic aplite with mg-cg peg patches throughout. Peg is largely quartz-albite-fg-cg green muscovite with patchy mg spd mineralization. Spd is 2% of interval. Trace diss Metallic fg oxides (<1mm-1.5mm) often localized to aplite-peg contact areas which may or may not show white albitizaiton of feldspar grain boundaries.
36.43	43.85	**Case Batholith**

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From (m)	*To* (m)	*Lithology*
		Tonalite, granodiorite-quartz monzonite, obicular mg semi massive tonalite. Very few, mod deformed, biotite "balls". Subunit - 42.76-43.12 - aplite veining with tonalite mixed in with hazy internal contacts, remnant tonalite xeno is altered, upper and lower contacts with tonalite are sharp at around 75TCA. Nonmineralized
43.85	44.90	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,mixed unit of peg and aplite, peg dominantly fg green musc- mg brown massive smokey quartz-white albite. One very large white kspar near upper contact. Orange fg garnets throughout aplite and peg. May contain trace fg spod. Unit has minor tonalite breaking up dyke. 70-30 dyke to tonalite.
44.90	51.88	**Case Batholith** Tonalite, granodiorite-quartz monzonite, weakly fol mg obicular tonalite. Fol may be at 20TCA. Unaltered, nonmineralized and nonmagnetic. Subintervals - 46.22-46.3, 51.49-51.61 small vein of kspar-quartz-musc-spd PEG, spd is fg and about 5% of vein. Thin band of garnets-aplite at lower contact.
51.88	52.29	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,fg-mg albite-quartz-minor musc with diss fg spessartine. May have localized patch of green, prismatic to cubic, fairly soft fluorite? Could host trace fg spd 1-2%.
52.29	56.46	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive to weakly fol, salt and pepper obicular tonalite. Very few small and stretched out biotite "balls", nonmineralized and nonmagnetic, hosts 2 small peg veins. Subunit - 54.02-54.11, 54.52-54.6m small quartz-albite>fg green musc veins with poss spod. Spd <5% of veins
56.46	56.70	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.mixed dyke with garnet hosting aplite at margins and small spd bearing peg at center. Peg is kspar-quartz>fg green musc, wk patchy albitization to kspar. Spd 2-5%.
56.70	58.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, same as previous with increased biotite obicules near upper contact with peg. Nonmineralized and nonmagnetic. Unaltered
58.40	59.69	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,mixed unit, cg kspar-quartz-musc peg with lower

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From (m)	*To* (m)	*Lithology*
		half of unit dominated by sugary aplite dyke with banded and laminated orange garnet(spessartine). May be trace fg spd along margins of kspar rich peg veins. Spd1%, no oxides observed.
59.69	62.22	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi massive obicular tonalite
62.22	62.48	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,very cg white kspar and quartz, minor biotite. Minor aplite near lower contact with banded orange garnets. No spd, possible trace <1mm oxide, 0.1%. Wk albitization of kspar along internal contact with aplite
62.48	76.96	**Case Batholith** Tonalite, granodiorite-quartz monzonite, same as previous descriptions for obicular tonalite, unaltered and nonmineralized. Few small peg veins <10cm.
76.96	77.17	**Aplitic Border Zone** Aplitic border phase of pegmatite,small vein or dyke, largely sodic aplite with minor whtie kspar-smokey quartz-green musc peg at center. No SPD observed. possible trace oxides <1%, small equant to prismatic, submetallic luster, fairly hard to scratch with scribe.
77.17	79.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered obicular tonalite, nonmineralized.
79.00	79.67	**Aplitic Border Zone** Aplitic border phase of pegmatite,pinkish to greenish aplite and with patches of kspar-quartz-musc PEG. Local laminated orange garnets in aplite with green patches due to fg green musc. May have trace mg spd in PEG near upper contact (<1%), possible diss fg, ,1.5mm, tantalum oxide (0.1%)
79.67	86.62	**Case Batholith** Tonalite, granodiorite-quartz monzonite, obicular tonalite with strongly deformed biotite "balls" and a few PEG-aplite veins. Few small epidote alt halos in tonalite around small fractures. Sununits - 80.64-80.79, 81.49-81.78- garnet hosting aplite with lesser kspar-musc/biotite quartz PEG. May have trace SPD and fg oxides.
86.62	86.87	**Wall Zone**

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From (m)	*To* (m)	*Lithology*
		Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,very cg white kspar-smokey massive quartz-green musc PEG lacking spd.
86.87	87.39	**Case Batholith** Tonalite, granodiorite-quartz monzonite, small wedge of tonalite within peg zone, broke it out because peg changes
87.39	88.60	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed unit dominated by aplitic sugary quartz and albite, garnet hosting, aplite to PEG patches. Internal contacts are highly irregular. PEG is dominantly albite>cg white kspar>quartz>green musc. No SPD observed. possible diss fg oxides (0.1%)
88.60	89.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, obicular tonalite
89.00	90.09	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,unit lacks SPD, PEG ranges from albite-quartz-musc to localized cg white k-spar-quartz-musc. Sugary reddish aplite at margins and whisping throughout.
90.09	91.95	**Case Batholith** Tonalite, granodiorite-quartz monzonite, obicular tonalite, unaltered and nonmineralized
91.95	95.03	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,very cg kspar>quartz>fg-mg green musc peg, albite dominates locally. Resembles quartz core in areas. Few small albite-quartz-fg green musc patches and about 50cm of aplite with banded-laminated contacts at lower contact with tonalite. Purple fluorite smears between cg kspar grain boundaries. No SPD observed but may host <1% fg tantalum oxides.Subunit- 93.86-94.49 - obicular tonalite
95.03	102.09	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered and nonmineralized, massive obicular tonalite. Very few obicules. Subunits- 96.1-96.24, 99.37-99.47 PEG veins, nonmineralized
102.09	102.55	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,beige fg aplitic dyke, banded orange/red garnets, diss fg black biotite and possible 0.1% tantalum

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From (m)	*To (m)*	*Lithology*
		oxide. No SPD
102.55	103.17	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered obicular tonalite
103.17	105.51	**Aplitic Border Zone** Aplitic border phase of pegmatite,red and greenish aplitic dyke, variable texture from aplitic to mg peg. Color changes due to fg green musc or banded garnets. No SPD, no oxides observed. Subunits - 104.6-105.14 tonalite
105.51	106.36	**Case Batholith** Tonalite, granodiorite-quartz monzonite, slight alteration halo at lower contact with outer intermediate zone dyke. Green alt to the biotite in the tonalite.
106.36	108.05	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.variable textured section dyke, pegmatitic-granitic-aplitic, internal contacts are often irregular. Albite musc quartz granite dominates with aplitic margins. 12cm White cg kspar-quartz-musc-spodumene PEG near lower contact, (10% spd locally). Overall SPD 1%.
108.05	111.52	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive unaltered nonmineralized obicular tonalite. One small <10cm peg vein, no spd
111.52	112.06	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.variable textured dyke, aplitic at margins with granitic and pegmatitic core. Principal components are albite-quartz-muscovite with mg spd in peg core, spd makes up 5%. No oxides observed
112.06	122.81	**Case Batholith** Tonalite, granodiorite-quartz monzonite, obicular tonalite with a few small <10cm peg veins. No spd observed
122.81	123.11	**Aplitic Border Zone** Aplitic border phase of pegmatite,white sodic aplite with weak banded garnets near lower contact. Cleavlandite near upper contact. No spd and no oxides observed.

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From (m)	*To (m)*	*Lithology*
123.11	136.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered semi massive tonalite, very few biotite obicules. No oxides observed. subunits - 132.03-132.25, 133.02-133.24 two small pegmatite-aplite dykes. Peg is mostly quartz-albite-musc with no spd. Banded fg garnets locally within aplite.
136.40	137.09	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed aplite-peg dyke/vein. Peg is cg white kspar-quartz-musc, with cleavlandite locally. No spd. White sodic aplite throughout and at contacts, weak banding of garnets throughout. No oxides observed.
137.09	140.69	**Case Batholith** Tonalite, granodiorite-quartz monzonite, same as previous desc for obicular tonalite
140.69	142.22	**Aplitic Border Zone** Aplitic border phase of pegmatite,white sodic aplite, local weak banding and thin laminations of orange garnet. Minor PEG patches throughout, cg shite kspar-quartz-musc, no spd or oxides observed. subunits - 140.79-141.01, 141.45-141.93 - tonalite
142.22	147.74	**Case Batholith** Tonalite, granodiorite-quartz monzonite, obicular tonalite, small alt halo defined by greenish color to biotite in tonalite within 20cm of lower contact with dyke. Nonmineralized
147.74	149.09	**Aplitic Border Zone** Aplitic border phase of pegmatite,sodic aplitic dyke, reddish or greenish hue in patches due to banding of garnets or fg green musc. Thin laminations of orange garnet locally. No spd and no oxides observed.
149.09	161.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered obicular tonalite, very few obicules. No oxides observed. subunit- 158.34-158.54 mixed peg unit, cg white kspar-quartz-biotite and sodic aplite. No spd observed and no oxides.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-14** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
10.50	11.50	1.00	548053	0.1	89	21.7	0.9	3
11.50	12.50	1.00	548054	0.11	661	66.6	15.3	35
12.50	13.50	1.00	548056	0.23	1080	105	52.4	65
13.50	14.50	1.00	548057	0.23	1380	136	27.7	79
14.50	15.50	1.00	548058	0.23	1170	145	34.2	66
15.50	16.00	0.50	548059	0.12	505	83.4	38	56
16.00	17.00	1.00	548061	0.12	117	31.5	0.4	3
20.70	21.70	1.00	548062	0.12	130	39.4	1.6	4
21.70	22.20	0.50	548063	0.41	799	105	41.6	50
22.20	23.20	1.00	548064	0.15	129	34.4	1.2	4
27.50	28.50	1.00	548065	0.12	184	65	2.5	6
28.50	29.30	0.80	548066	0.21	473	115	131	38
29.30	30.55	1.25	548067	0.15	242	90.3	0.5	4
30.55	31.05	0.50	548068	0.93	1500	295	72.7	52
31.05	31.80	0.75	548069	0.14	319	126	0.5	4
31.80	32.50	0.70	548071	0.21	544	156	10.8	15
32.50	33.00	0.50	548072	0.63	1090	205	59.8	86
33.00	34.00	1.00	548073	0.16	652	159	21.7	28
34.00	35.00	1.00	548074	0.08	130	63.6	40.8	55
35.00	36.00	1.00	548076	0.11	48	27.1	37.4	54
36.00	36.50	0.50	548077	0.25	272	52.7	59.2	64
36.50	37.50	1.00	548078	0.2	588	124	4.8	7
37.50	38.50	1.00	548079	0.14	236	49.3	5	10
38.50	39.50	1.00	548081	0.12	42	10.5	0.8	4
39.50	40.50	1.00	548082	0.11	35	5.8	0.4	4
40.50	41.50	1.00	548083	0.11	34	5.9	0.6	4

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From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
41.50	42.70	1.20	548084	0.14	125	30.8	1.3	5
42.70	43.20	0.50	548085	0.15	343	73.7	44.9	44
43.20	43.80	0.60	548086	0.13	342	92.5	0.8	5
43.80	44.50	0.70	548087	0.12	796	115	20.6	33
44.50	45.00	0.50	548088	0.14	382	66.9	13.8	29
45.00	46.00	1.00	548089	0.12	154	43.4	0.4	3
46.00	46.50	0.50	548091	0.18	419	85.5	11.9	14
46.50	47.50	1.00	548092	0.11	129	43.8	2.6	5
47.50	49.00	1.50	548093	0.11	71	16.2	1.2	4
49.00	50.35	1.35	548094	0.12	96	16.1	2.1	7
50.35	51.35	1.00	548096	0.14	181	40.7	3.1	7
51.35	51.85	0.50	548097	0.15	403	79.4	19.9	29
51.85	52.35	0.50	548098	0.12	172	24	21.3	42
52.35	53.00	0.65	548099	0.16	357	82.7	12.4	16
53.00	54.00	1.00	548101	0.13	176	34.1	1.2	4
54.00	55.00	1.00	548102	0.14	340	27.8	4.9	14
55.00	56.00	1.00	548103	0.13	79	18.6	1.1	4
56.00	57.00	1.00	548104	0.12	411	25.8	10.8	23
57.00	58.35	1.35	548105	0.14	96	22.8	1.4	4
58.35	59.00	0.65	548106	0.06	1010	85.6	16.3	33
59.00	59.75	0.75	548107	0.1	544	65.5	17.1	30
59.75	60.75	1.00	548108	0.11	182	32	2.3	6
60.75	62.00	1.25	548109	0.1	196	29.4	3.1	5
62.00	62.50	0.50	548111	0.08	437	37.4	12.6	25
62.50	63.50	1.00	548112	0.09	214	34.8	5.8	7
75.80	76.80	1.00	548113	0.1	80	23.5	0.7	4

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From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
76.80	77.30	0.50	548114	0.09	678	93	42.4	29
77.30	78.80	1.50	548116	0.12	88	32.4	0.7	4
78.80	79.80	1.00	548117	0.04	889	155	24.9	32
79.80	80.80	1.00	548118	0.18	305	79.8	3.3	16
80.80	81.80	1.00	548119	0.07	280	20.8	5.6	19
81.80	82.80	1.00	548121	0.06	262	27	3.8	10
82.80	84.00	1.20	548122	0.07	75	11.3	1.3	5
84.00	85.00	1.00	548123	0.07	109	23.8	1.2	4
85.00	86.00	1.00	548124	0.08	195	36.7	6.6	8
86.00	87.00	1.00	548125	0.05	488	38	13.6	22
87.00	88.00	1.00	548126	0.03	405	39.4	19.6	30
88.00	89.00	1.00	548127	0.06	898	101	49.2	42
89.00	90.12	1.12	548128	0.04	1040	85.4	35	46
90.12	91.00	0.88	548129	0.07	118	21.6	2.7	6
91.00	91.90	0.90	548131	0.04	178	14.6	3.1	8
91.90	92.90	1.00	548132	0.02	996	50.4	27.9	37
92.90	93.90	1.00	548133	0.01	698	48.9	49.4	62
93.90	94.40	0.50	548134	0.04	210	13.7	1.1	5
94.40	95.10	0.70	548136	0.05	1050	59.7	50	85
95.10	96.00	0.90	548137	0.08	212	29.3	5.5	13
96.00	97.00	1.00	548138	0.05	461	23.3	8.9	27
97.00	98.50	1.50	548139	0.05	60	7.8	0.4	3
98.50	100.00	1.50	548141	0.06	158	21.7	3.3	8
100.00	101.00	1.00	548142	0.06	118	19.1	4.7	7
101.00	102.00	1.00	548143	0.07	108	14.9	1.6	6

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From (m)	*To* (m)	*Length* (m)	*Sample No.*	*Li2O* (%)	*Rb* (ppm)	*Cs* (ppm)	*Ta* (ppm)	*Nb* (ppm)
102.00	103.00	1.00	548144	0.04	506	18.8	21.8	63
103.00	104.00	1.00	548145	0.03	801	43.6	30.6	54
104.00	105.00	1.00	548146	0.04	473	39.2	21.1	48
105.00	106.00	1.00	548147	0.07	262	40.9	15.1	34
106.00	107.00	1.00	548148	0.1	653	63.4	29.8	45
107.00	107.60	0.60	548149	0.05	380	54.1	43.5	41
107.60	108.10	0.50	548151	0.12	862	132	50.2	29
108.10	109.00	0.90	548152	0.1	223	45.6	1.4	5
109.00	110.50	1.50	548153	0.13	102	47.2	1.7	5
110.50	111.50	1.00	548154	0.13	177	124	1.4	5
111.50	112.10	0.60	548156	0.08	598	306	107	65
112.10	113.00	0.90	548157	0.1	262	120	4.8	9
113.00	114.00	1.00	548158	0.13	93	48.2	2.8	5
131.00	132.00	1.00	548159	0.07	86	12.9	0.8	4
132.00	133.00	1.00	548161	0.06	284	16.8	6.7	22
133.00	134.00	1.00	548162	0.08	362	28.3	3.6	12
134.00	135.00	1.00	548163	0.08	145	21.2	5.9	11
135.00	136.25	1.25	548164	0.08	94	15.9	0.9	4
136.25	137.25	1.00	548165	0.05	699	30	11.8	36
137.25	138.25	1.00	548166	0.08	238	24.5	3.2	12
138.25	139.25	1.00	548167	0.08	48	8.3	0.4	4
139.25	140.50	1.25	548168	0.08	77	11.5	0.6	4
140.50	141.50	1.00	548169	0.07	453	30.7	16.7	33
141.50	142.50	1.00	548171	0.08	538	34.2	8.5	24
142.50	143.50	1.00	548172	0.08	110	20.3	1.3	5
147.00	147.70	0.70	548173	0.1	286	35.1	1.2	8

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From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
147.70	148.20	0.50	548174	0.04	518	39.3	25.5	61
148.20	149.15	0.95	548176	0.04	601	46.1	26.7	72
149.15	150.00	0.85	548177	0.08	140	26.8	0.3	5

PWM-17-14

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-15** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578086.97	**Drill Hole Type**	DDH	**Casing Rod Length**	4.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431612.27	**Core Size**	NQ	**C. Rod Sticking Out**	0.42	**Cell Claim No.**	236534	**Hole Start Date**	21/09/2017
Elevation	345.95	**Hole Test**	Reflex	**Overburden**	3.08	**Legacy Claim No.**	1213780	**Hole Complete Date**	22/10/2017
Azimuth	149	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	122	**Hole Making Water**	No					**Logging Compelete**	21/09/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149	-42	Collar		Yes
20	151.1	-42.8	Reflex	5581	Yes
71	151.5	-41.8	Reflex	5610	
122	152.8	-40.3	Reflex	5598	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-15** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	3.50	**Casing** Overburdenfragments of tonalite/granodiorite. One piece shows interesting contact area beween tonalite and cooked metaseds?
3.50	6.90	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed unit, 50/50 peg to aplite. Peg is cg musc-albite-quartz lacking spd. Aplite is mixed throughout and hosts weakly banded fg garnet and localized fg green musc. No spod and no oxides observed.
6.90	12.02	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered and nonmineralized obicular tonalite/case batholith. No oxides observed
12.02	12.97	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed sodic aplite and fg peg unit. Fg peg is albite-musc-quartz. Aplite has only weak banding of garnets. No spd and no oxides observed
12.97	20.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive mg obicular tonalite, very few biotite obicules. Nonmineralized and nonmagnetic
20.30	21.20	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.variable textured peg-aplite. 60/40 peg to aplite. Aplitic margins with patchy-banded orange fg garnets, laminated near contacts. Peg is quartz-spd rich with albite-musc, 30%spd in peg core, 15% spd over interval
21.20	22.26	**Case Batholith** Tonalite, granodiorite-quartz monzonite, same as previous description for case batholith. Obicular tonalite, unaltered and nonmineralized
22.26	22.80	**Aplitic Border Zone** Aplitic border phase of pegmatite,cg peg with aplitic lower contact area. Peg is quartz-kspar-spd-musc. Spd is 2-5% over interval
22.80	23.85	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered obicular tonalite. Nonmineralized

Drillhole Number: **PWM-17-15** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
23.85	26.80	**Aplitic Border Zone** Aplitic border phase of pegmatite,sodic aplite with patchy fg red garnets, locally banded and thinly laminated. Also host <2% fg-mg apatite. Several small fg pegmatitic veins cut aplite, two host weak fg spd. Overall spd <1%. Possible trace fg oxides
26.80	30.17	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi massive obicular tonalite, biotite obicules are moderatly deformed. No spd and no oxides
30.17	30.80	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.quartz-albite-spd-musc pegmatite, variable texture. Where spd is the largest (4cm) kspar dominates over albite. Small interval of 30%spd grantie. Overall unit is 15% spd.
30.80	31.50	**Case Batholith** Tonalite, granodiorite-quartz monzonite, obicular tonalite, unaltered and nonmineralized
31.50	33.10	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.mixed unit of peg and aplite. 60/40 peg to aplite. Localized Cg Kspar-quartz-spd-mica hosts 25% spd, 15cm of 30%spd granite. Aplite has fg diss, patchy and locally laminated orange garnets. No oxides. Overall spd for unit 10%.
33.10	42.70	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered nonmineralized obicular tonalite. Subunit - 35.6-35.93 - quartz-kpar-musc peg surrounded by sodic aplite. Nonmin
42.70	43.38	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.aplitic margins with fg orange garnets and quartz-albite>musc peg core, small pod of spd granite 3cm wide at center. Overall spd 5% or under.
43.38	47.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered and nonmineralized mg semi massive obicular tonalite with spd hosting 14cm peg vein. Subunit- 44.29-44.43m mixed mg peg aplite vein, kspar-quartz minor musc + fg spd. Spd is <2%
47.30	50.05	**Aplitic Border Zone**

Drillhole Number: **PWM-17-15** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Aplitic border phase of pegmatite,fg sugary textured sodic aplite with reddish hue due to patchy garnets, locally laminated. Small 5cm vein of smokey massive quartz near center of unit hosts cg (1-2cm) spd locally. Overall spd is 5%. No oxides observed. subunit - 47.9-49.3m - obicular tonalite
50.05	68.23	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered and non mineralized obicular tonalite with a couple <10cm albite-quartz dominant peg veins. Subunits- 52.26-52.52 aplitic vein with reddish hue, no oxides observed and no mineralization.
68.23	71.72	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.largely sodic aplite with lesser spd hosting peg. Kspar-quartz>>musc>spd peg is patchy and variable in spd %. Spd varies from fg-cg, unit has <5% spd overall. Apltie has red and green patches due to garnets and fg green musc. Trace Fg-mg diss apatite. Garnets are very fg-fg, banded and laminated with locally concentric thin laminations. No oxides observed. subunit- 68.37-68.95, 70.89-71.33 weaklly alt tonalite
71.72	76.99	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Unaltered orbicular tonalite. From 73.76m to 73.83m is a narrow pegmatite unit with aplitic borders, mainly feldspar and quartz with one 2cm x 1cm light green spodumene crystal.
76.99	77.36	**Aplitic Border Zone** Aplitic border phase of pegmatite,Generally fine grained aplite with a red hue due to garnets. Two 5 cm zones of coarse grained feldspar and quartz with trace green apatite.
77.36	77.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Unaltered orbicular tonalite with a sharp lower contact.
77.80	81.73	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Largely very coarse grained grey quartz and white feldspar, with patches of yellow muscovite. Several fine to medium grained aplite zones with both patchy and laminated red garnets. At 80.24m is a dark purple patch of apatite. From 80.24m to 81.6m is a fault zone, where the core is fractured into pieces generally <10cm in size. Black mica rich zone occurs at 80.5m. No spodumene observed.
81.73	86.45	**Case Batholith**

Drillhole Number: **PWM-17-15** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Tonalite, granodiorite-quartz monzonite, Tonalite with rare orbicules. Upper 30cm of zone is altered to a pale green-yellow color. Sub units of aplite from 84.63m to 84.7m and 85.73m to 86m.
86.45	87.77	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Zone has a banded appearance and is mostly fine grained aplite with red garnets, and thin, 2-4cm wide zones of coarse grained feldspar-quartz-yellow muscovite. No spodumene observed.
87.77	95.49	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated orbicular tonalite. Upper 45cm of zone is altered to a light green-yellow color. Minor aplite and pegmatite units from: 90.58m to 90.75m, 90.96m to 91.05m, and 93.15m to 93.26m.
95.49	95.90	**Aplitic Border Zone** Aplitic border phase of pegmatite,Generally fine grained with several bands of red garnet and bands of medium grained muscovite. A few coarse grains of white feldspar. Possible minor oxide mineralization.
95.90	96.89	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite. At 96m is a 7cm black mica rich zone. Sub unit of aplite from 96.28m to 96.61m.
96.89	97.79	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Inhomogeneous aplitic unit with banded fine grained red garnets and banded medium grained yellow muscovite. From 96.3m to 96.4m is a very coarse grained white feldspar zone.
97.79	98.36	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite.
98.36	98.84	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Inhomogeneous unit of banded fine grained red garnets with several small zones of very coarse grained grey quartz and white feldspar.
98.84	103.92	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite. Sub-units of aplite from 99.9m to 99.95m and 100.76m to

Drillhole Number: **PWM-17-15** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		101.03m.
103.92	104.29	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained white aplite unit with abundant non-banded red garnets.
104.29	114.77	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite, weakly foliated. Orbicule rich zone from 107m to 107.15m. Aplite sub-units from: 106.73m to 106.8m, 109.79m to 109.81m, 110.06m to 110.11m, 112.87m to 112.89m, 113.35m to 113.39m, 113.52m to 113.62m.
114.77	115.13	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained sodic aplite with fine to medium grained banded red garnets.
115.13	122.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Unaltered, weakly foliated orbicular tonalite.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-15** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
3.50	4.50	1.00	548178	0.3	1340	133	34.1	90
4.50	5.50	1.00	548179	0.18	625	77.8	11.1	33
5.50	6.50	1.00	548181	0.23	1020	103	16.7	65
6.50	7.50	1.00	548182	0.14	548	79.1	13.9	34
7.50	8.50	1.00	548183	0.2	699	98.2	27.4	55
8.50	9.50	1.00	548184	0.13	73	18.5	0.6	3
9.50	11.00	1.50	548185	0.11	34	9.1	0.7	4
11.00	12.00	1.00	548186	0.33	90	18.8	0.3	4
12.00	13.00	1.00	548187	0.33	726	90.7	43.5	61
13.00	14.00	1.00	548188	0.12	186	40.2	3.6	6
19.00	20.20	1.20	548189	0.12	114	35.8	1	4
20.20	21.20	1.00	548191	0.57	713	133	108	75
21.20	22.20	1.00	548192	0.15	280	90.4	0.9	4
22.20	22.90	0.70	548193	0.18	539	132	31.7	38
22.90	23.80	0.90	548194	0.17	313	106	0.4	4
23.80	24.80	1.00	548196	0.23	322	67.6	35.2	46
24.80	25.80	1.00	548197	0.19	205	50.9	57.1	63
25.80	26.90	1.10	548198	0.14	136	30.9	34.5	50
26.90	27.90	1.00	548199	0.21	456	127	1.5	6
27.90	29.00	1.10	548201	0.17	121	42	3.4	4
29.00	30.10	1.10	548202	0.15	220	77.2	3.9	7
30.10	30.85	0.75	548203	1.05	737	191	73.5	36
30.85	31.50	0.65	548204	0.17	490	223	3.9	7
31.50	32.30	0.80	548205	0.67	890	256	56.7	22
32.30	33.10	0.80	548206	0.05	260	77.6	30.7	47
33.10	34.00	0.90	548207	0.16	190	79.4	0.7	2

Drillhole Number: **PWM-17-15** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
34.00	35.00	1.00	548208	0.16	128	34.3	2.2	4
35.00	36.00	1.00	548209	0.13	362	160	49	10
36.00	37.00	1.00	548211	0.12	131	53.8	1.6	3
41.70	42.70	1.00	548212	0.21	319	93.1	1.5	6
42.70	43.40	0.70	548213	0.12	353	62.8	21.8	28
43.40	44.00	0.60	548214	0.16	202	53	0.3	3
44.00	45.00	1.00	548216	0.2	324	67	2.6	5
45.00	46.00	1.00	548217	0.17	104	18.7	0.8	3
46.00	47.35	1.35	548218	0.17	317	86.5	4.6	8
47.35	47.90	0.55	548219	0.34	572	287	97.8	65
47.90	49.10	1.20	548221	0.15	209	80	1.2	5
49.10	50.10	1.00	548222	0.13	637	184	12.4	25
50.10	51.00	0.90	548223	0.12	101	39.9	0.3	3
67.00	68.00	1.00	548224	0.1	84	16.9	1.1	4
68.00	69.00	1.00	548225	0.09	328	38.7	3.4	9
69.00	70.00	1.00	548226	0.07	1050	262	56.6	38
70.00	71.00	1.00	548227	0.13	625	150	68.9	40
71.00	72.00	1.00	548228	0.15	660	104	17.5	33
72.00	73.00	1.00	548229	0.13	194	33.6	2	6
73.00	74.00	1.00	548231	0.11	226	43.8	4	7
74.00	75.00	1.00	548232	0.14	164	62.3	3	9
75.00	76.00	1.00	548233	0.09	81	18.2	1.1	4
76.00	76.99	0.99	548234	0.09	190	81.1	0.7	4
76.99	77.80	0.81	548236	0.05	453	102	17.9	28
77.80	79.00	1.20	548237	0.02	1300	86.9	36.6	49
79.00	80.00	1.00	548238	0.02	863	71	65.9	72

Drillhole Number: **PWM-17-15** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
80.00	81.00	1.00	548239	0.03	546	57.6	78.6	84
81.00	81.73	0.73	548241	0.005	769	42.1	38.6	70
81.73	83.00	1.27	548242	0.05	138	14.9	2.5	7
83.00	84.00	1.00	548243	0.06	79	11	0.6	4
84.00	85.00	1.00	548244	0.05	310	32.6	4.5	9
85.00	86.00	1.00	548245	0.05	373	35.5	10.6	14
86.00	87.00	1.00	548246	0.03	742	42.7	13.4	35
87.00	87.77	0.77	548247	0.02	815	50.4	46.3	77
87.77	89.00	1.23	548248	0.05	140	15.5	1.2	4
94.00	95.00	1.00	548249	0.09	61	10	0.4	3
95.00	96.00	1.00	548251	0.06	491	21	11.9	24
96.00	97.00	1.00	548252	0.09	699	54.8	10.8	26
97.00	98.00	1.00	548253	0.06	691	52.5	11	17
98.00	99.00	1.00	548254	0.06	707	49	9.1	16
99.00	100.00	1.00	548256	0.08	190	26.9	1.7	5
100.00	101.03	1.03	548257	0.07	363	29.3	5.8	11
101.03	102.00	0.97	548258	0.09	188	32.3	2.5	4
102.00	103.00	1.00	548259	0.09	100	24.5	0.3	3
103.00	103.92	0.92	548261	0.08	173	33	0.8	3
103.92	105.00	1.08	548262	0.07	156	28.8	30.1	18
113.00	114.13	1.13	548263	0.07	201	26.9	3.5	7
114.13	115.13	1.00	548264	0.07	299	29.3	4.6	11
115.13	116.00	0.87	548265	0.06	138	17.8	4.8	11

PWM-17-15

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578033.19	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431580.13	**Core Size**	NQ	**C. Rod Sticking Out**	0.35	**Cell Claim No.**	236534	**Hole Start Date**	24/09/2017
Elevation	346.11	**Hole Test**	Reflex	**Overburden**	0.55	**Legacy Claim No.**	1213780	**Hole Complete Date**	27/09/2017
Azimuth	146	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-43	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	131	**Hole Making Water**	No					**Logging Compelete**	26/09/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	146	-43	Collar		Yes
20	146.5	-44.4	Reflex	5603	Yes
71	148.3	-44	Reflex	5597	Yes
131	149.8	-42	Reflex	5600	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	0.90	**Casing** OverburdenCasing and Overburden
0.90	1.25	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Massive medium grained salt and pepper tonalite.
1.25	1.58	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Mixed aplite and pegmatite unit. Quartz-feldspar-muscovite, with trace spodumene.
1.58	2.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Massive to weakly foliated black and white tonalite.
2.40	4.50	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Mixed unit with quartz-feldspar-muscovite rich pegmatite zones with minor spodumene, to pegmatite zones dominated by muscovite-spdoumene-quartz-feldspar. Inhomogeneous texture with zones seperated by thin layers of aplite.
4.50	5.00	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,Very coarse grained white milky colored quartz mixed with coarse grained grey quartz. No spodumene observed.
5.00	7.00	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Similar to above inner intermediate zone, with very coarsed grained green to white spodumene from 5.2m to 5.7m, with approx. 20% spodumene volume.
7.00	9.00	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Spodumene granite zone, locally up to 25% spodumene, overall 15% spodumene. Quartz-feldspar-spodumene>muscovite.
9.00	11.90	**Aplitic Border Zone** Aplitic border phase of pegmatite,White aplite with bands of fine grained orange garnets. Minor coarse grained pegmatite patches of quartz-feldspar-spodumene. From 10.55m to 10.7m are fine grained patches of spodumene.

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
11.90	27.41	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Massive to weakly folaited medium grained salt and pepper tonalite. Subunits of kspar-quartz-muscovite+aplite veins with trace fine grained spodumene from 20.84-21.06m and 22.1-22.3m.
27.41	28.70	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Aplitic upper contact. Spodumene rich zones with a granitic texture from 27.55-27.9m and 28.15-28.58m. Locally up to 25% spodumene.
28.70	29.50	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitic zone with banded orange and red garnets. 2-3cm zones of pegmatite with trace fine grained spodumene.
29.50	36.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated medium grained tonalite. Several 5-10cm aplite and pegmatite dykes occur with a 1cm blob of spodumene occuring at 35.35m.
36.80	38.13	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Aplite at upper and lower contacts. Grain size ranging from fine to very coarse grained. From 37.22-37.53m is a very coarse grained light green spodumene rich zone. From 37.68-37.86 is spodumene granite, with 15-20% spodumene volume.
38.13	59.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Semi massive to weakly foliated orbicular tonalite. Subunits of orange and red garnet hosting aplite that have minor coarse grained quartz-feldspar-muscovite from: 46.98-47.12m, 55.32-55.5m, 55.8-55.98m, no spodumene observed.
59.30	60.60	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed pegmatite and aplite zone. Pegmatite consists of green muscovite-albite-quartz with coarse grained white kspar locally. Aplite has a reddish hue and patchy green muscovite rich zone. Garnets are disseminated to weakly banded locally. 60% aplite, 40% pegmatite. No spodumene observed.
60.60	68.14	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated orbicular tonalite.

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
68.14	68.60	**Aplitic Border Zone** Aplitic border phase of pegmatite,Kspar-quartz-green muscovite pegmatite with very coarse grained white feldspar. Lower contact contains fine grained banded garnets. No spodumene observed.
68.60	70.16	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated orbicular tonalite with minor light green and yellow epidote alteration.
70.16	70.60	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained albite-quartz-muscovite. Aplitic garnet rich lower contact. No spodumene observed.
70.60	81.45	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Black and white weakly foliated orbicular tonalite. Subunits: 78.54-78.73m albite-quartz-muscovite vein with aplitic margins, 81.05-81.14m aplite vein with minor pegmatite patches, with small stringer of trace spodumene (<1%).
81.45	81.90	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite and pegmatite unit. Rich in fine grained red garnets and sodic aplite with minor fine grained green muscovite. Minor banding of garnets. Pegmatite unit in center of zone with coarse grained feldspar-quartz-muscovite. No spodumene observed.
81.90	82.64	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated orbicular tonalite.
82.64	83.05	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Same as previous dyke with more apparent banding of fine grained micas. No spodumene observed.
83.05	91.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated orbicular tonalite. Aplite dyke from 85.92-86.05m and 86.53-86.62m.
91.80	92.17	**Aplitic Border Zone**

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Aplite dykes, muscovite-quartz-albite,Aplitic dyke with small bands of grey and brown quartz. Fine grained banded red garnets at upper and lower contacts. 1cmx1cm medium grained sphalerite inclusion at 92.13m.
92.17	94.68	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated orbicular tonalite.
94.68	95.77	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic zone with banded orange and red garnets. Garnets up to 2mm in size. Unit has patches of fine to mediun grained yellow muscovite, up to 15cm in size. No spodumene observed.
95.77	96.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite.
96.90	97.78	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite dyke with several bands of fine grained red garnets. Small patches of fine to medium grained yellow muscovite.
97.78	100.05	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated orbicular tonalite.
100.05	101.85	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained red garnet rich aplite unit with small patches of yellow muscovite. No spodumene observed.
101.85	103.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated unaltered orbicular tonalite.
103.80	104.11	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite dyke with minor patches of coarse grained feldspar-quartz-muscovite..
104.11	108.69	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
108.69	108.98	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Fine grained white aplite dyke.
108.98	109.43	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite
109.43	109.58	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite dyke with pegmatic central zone.
109.58	109.83	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite
109.83	110.05	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite dyke with coarse grained zone of feldspar-quartz-muscovite
110.05	110.88	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Bottom 30cm of unit contains altered yellow muscovite.
110.88	111.98	**Aplitic Border Zone** Aplitic border phase of pegmatite,Apltic red garnet rich zone with small patches of medium grained muscovite. No spodumene observed.
111.98	119.08	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Inhomogeneous unit of fine to very coarse grained pegmatite. Conatins white kspar-grey quartz- and yellow/green muscovite. Cleavlandite present locally from 118-118.5m with a feathery cleavage on core surface. No spodumene observed. Subunit of orbicular tonalite from 115.45-116.4m.
119.08	131.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey orbicular tonalite. Biotite orbicules are round to slightly (2:1) elongated. Two small pegmatite dykes from 119.75-119.82m, and 121.49-121.58m.

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***

PWM-17-16

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
1.00	2.00	1.00	548266	0.13	1050	159	17.8	12
2.00	3.00	1.00	548267	0.69	735	112	22.7	13
3.00	4.00	1.00	548268	0.85	814	96.5	45.2	46
4.00	5.00	1.00	548269	0.09	3870	271	13.5	21
5.00	6.00	1.00	548271	1.75	995	787	492	168
6.00	7.00	1.00	548272	0.27	1930	211	28.2	38
7.00	8.00	1.00	548273	1.87	890	113	151	60
8.00	9.00	1.00	548274	2.31	799	102	80.6	42
9.00	10.00	1.00	548276	0.27	581	92.8	43.2	33
10.00	11.00	1.00	548277	0.19	236	38.1	29.4	26
11.00	12.00	1.00	548278	0.14	144	31.2	54.8	39
12.00	13.00	1.00	548279	0.14	153	33.4	1.6	6
13.00	14.00	1.00	548281	0.11	47	4.4	0.3	4
14.00	15.00	1.00	548282	0.09	47	4.7	0.4	3
15.00	16.00	1.00	548283	0.1	262	20.7	1	3
16.00	17.00	1.00	548284	0.08	106	15.8	0.7	3
17.00	18.00	1.00	548285	0.09	72	10.6	0.4	2
18.00	19.00	1.00	548286	0.08	445	22.6	7.2	11
19.00	20.00	1.00	548287	0.09	77	12	0.4	0.5
20.00	21.00	1.00	548288	0.07	395	65.9	11.7	17
21.00	22.00	1.00	548289	0.09	108	22.9	0.3	2
22.00	23.00	1.00	548291	0.07	216	22.6	8.1	15
23.00	24.00	1.00	548292	0.1	364	30.5	1.9	5
24.00	25.00	1.00	548293	0.1	229	22.2	3.1	6
25.00	26.00	1.00	548294	0.12	60	9.5	0.4	3
26.00	27.00	1.00	548296	0.13	59	14	0.6	3

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
27.00	28.00	1.00	548297	0.7	605	159	30.4	25
28.00	29.00	1.00	548298	0.78	1010	204	42.7	32
29.00	30.00	1.00	548299	0.1	216	70.6	20	25
30.00	31.00	1.00	548301	0.14	63	16.9	1.4	5
31.00	32.00	1.00	548302	0.11	241	27.3	3.4	11
32.00	33.00	1.00	548303	0.11	212	24.2	9.7	18
33.00	34.00	1.00	548304	0.11	207	24.2	3.3	11
34.00	35.00	1.00	548305	0.12	117	17.8	1.2	5
35.00	36.00	1.00	548306	0.15	274	40.7	7.1	11
36.00	36.80	0.80	548307	0.13	173	52.8	0.4	4
36.80	37.60	0.80	548308	0.5	1610	285	56.9	40
37.60	38.13	0.53	548309	1.06	1120	244	67.4	56
38.13	39.00	0.87	548311	0.13	257	57.7	3.6	8
58.00	59.30	1.30	548312	0.07	159	23.2	3.3	6
59.30	60.00	0.70	548313	0.04	1180	42.2	15.8	55
60.00	60.60	0.60	548314	0.03	805	31.6	25.8	85
60.60	61.60	1.00	548316	0.11	211	39.6	3	8
67.00	68.14	1.14	548317	0.05	231	20.7	2.8	9
68.14	68.60	0.46	548318	0.03	978	32.9	18.4	52
68.60	70.00	1.40	548319	0.02	282	15.7	5.4	15
70.00	71.00	1.00	548321	0.03	632	42.8	29.8	22
71.00	72.00	1.00	548322	0.04	108	14.4	0.9	2
80.00	81.05	1.05	548323	0.12	176	21.5	1.5	4
81.05	81.90	0.85	548324	0.1	624	55.2	29.4	40
81.90	82.64	0.74	548325	0.13	315	70.3	1.6	4
82.64	83.05	0.41	548326	0.07	548	67.7	32.4	47

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
83.05	84.00	0.95	548327	0.11	139	26	0.5	3
91.00	91.80	0.80	548328	0.1	157	25.1	0.4	2
91.80	93.00	1.20	548329	0.08	322	24.7	6.3	10
93.00	94.00	1.00	548331	0.1	69	12.5	0.6	3
94.00	94.68	0.68	548332	0.11	210	28.1	1.5	4
94.68	95.77	1.09	548333	0.05	681	29.3	18.9	29
95.77	96.90	1.13	548334	0.12	472	50.9	3.3	7
96.90	97.78	0.88	548336	0.05	707	44.2	27.9	40
97.78	99.00	1.22	548337	0.14	405	46.7	3	8
99.00	100.05	1.05	548338	0.11	230	32.1	1.4	4
100.05	100.98	0.93	548339	0.07	508	34	23.3	24
100.98	101.85	0.87	548341	0.03	231	14.6	33.7	28
101.85	103.00	1.15	548342	0.1	240	38.4	2	5
103.00	103.80	0.80	548343	0.09	190	27.1	1.1	5
103.80	105.00	1.20	548344	0.08	613	51.8	12.1	14
105.00	106.00	1.00	548345	0.09	300	41.1	4.2	9
106.00	107.00	1.00	548346	0.07	154	19.9	1.7	4
107.00	108.00	1.00	548347	0.07	147	21.6	1.1	3
108.00	109.00	1.00	548348	0.08	245	25.1	5.6	12
109.00	110.00	1.00	548349	0.07	721	52.3	20.1	29
110.00	110.88	0.88	548351	0.1	510	53.9	4.4	11
110.88	112.00	1.12	548352	0.02	129	9.3	55.9	53
112.00	113.00	1.00	548353	0.04	1750	113	42.1	48
113.00	114.00	1.00	548354	0.05	688	73.7	86.6	66
114.00	115.00	1.00	548356	0.04	2090	144	49.6	47

Drillhole Number: **PWM-17-16** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
115.00	116.00	1.00	548357	0.08	644	53.9	22	43
116.00	117.00	1.00	548358	0.05	1330	64.1	18.8	52
117.00	118.00	1.00	548359	0.06	1200	60.6	17.9	59
118.00	119.08	1.08	548361	0.07	800	75.6	164	127
119.08	120.00	0.92	548362	0.1	486	54.6	5.1	16
120.00	121.00	1.00	548363	0.08	217	28.2	3.1	9

PWM-17-16

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-17** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577997.7	**Drill Hole Type**	DDH	**Casing Rod Length**	4.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431570.05	**Core Size**	NQ	**C. Rod Sticking Out**	0.43	**Cell Claim No.**	236534	**Hole Start Date**	27/09/2017
Elevation	347.22	**Hole Test**	Reflex	**Overburden**	1.97	**Legacy Claim No.**	1213780	**Hole Complete Date**	29/09/2017
Azimuth	149	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-40	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	137	**Hole Making Water**	No					**Logging Compelete**	27/09/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149	-40	Collar		Yes
20	148.7	-44.5	Reflex	5612	Yes
71	150.9	-43	Reflex	5607	Yes
130	153.3	-41.1	Reflex	5601	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-17** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
0.00	2.40	**Casing** OverburdenOverburden
2.40	7.15	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular Tonalite. Massive to weakly foliated. Non-mineralized and unalted. Biotite orbicules<1%.
7.15	12.50	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Ranges from coarse grained feldspar-quartz-muscovite with minor spodumene to coarse grained spodumene granite, up to 30% spodumene. Spodumene granite from: 7.45-9.21m, 10.53-10.9m, and 11.31-11.82m.
12.50	13.20	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitic border zone with banded garnets and green fine grained muscovite. Local mm scale banded garnets. Trace green apatite.
13.20	15.36	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Weakly foliated.
15.36	16.54	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitic border zone with 10cm of spodumene granite near upper contact.
16.54	23.75	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Weakly foliated.
23.75	24.30	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitic border zone with banded structures. Reddish hue due to fine grained garnets. No spodumene observed.
24.30	26.50	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite, non-mineralized.

Drillhole Number: **PWM-17-17** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
26.50	26.62	**Aplitic Border Zone** Aplitic border phase of pegmatite,Pegmatitc kspar-quartz-muscovite, with trace spodumene. 2.3cm zones of banded red garnets.
26.62	28.05	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated orbicular tonalite, minor muscovite alteration towards lower contact.
28.05	30.40	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.7cm upper 20cm lower fine grained aplitic margins. 20cm quartz core at 29m with coarse grained spodumene.Overall 20-25% spodumene. Spodumene granite from 28.16-30m.
30.40	39.45	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Oribcular tonalite, weakly foliated. Few 5-10cm pegmatite veins which are non-mineralized.
39.45	40.04	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Muscovite-spodumene-kspar-quartz pegmatite, with fine to mediun grained spodumene. Section of very coarse grained feldspar-quartz with medium grained muscovite and spodumene. Spodumene <2% overall.
40.04	58.55	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite with rare orbicules.
58.55	58.80	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic dyke. Non-mineralized.
58.80	59.56	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite.
59.56	59.74	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic dyke. Non-mineralized
59.74	63.73	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, weakly foliated, with rare and small, 1-3cm, orbicules.

Drillhole Number: **PWM-17-17** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
63.73	64.38	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed unit of sodic aplite with banded and laminated garnets, and coarse grained kspar-quartz-muscovite pegmatite. No spodumene or oxides observed.
64.38	68.33	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite, very rare biotite orbicules. Contains a few 2-10cm aplitic veins.
68.33	69.06	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Feldspar-quartz-muscovite dyke with minor aplite locally. No spodumene observed.
69.06	70.13	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite. Very rare orbicules.
70.13	70.34	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained feldspar-quartz-muscovite dyke, with minor aplite. No spodumene observed.
70.34	70.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite.
70.90	71.36	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Feldspar-quartz-minor muscovite with minor aplite locally. No spodumene observed.
71.36	73.77	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite, with rare biotite orbicules. Local epidote alteriation proximal to veinlets and fractures.
73.77	74.35	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Feldspar-quartz-minor muscovite pegmatite, with minor aplitic zone. No spodumene observed.

Drillhole Number: **PWM-17-17** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
74.35	84.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite. Few small, 5cm aplitic veins with laminated fine grained garents near lower contacts.
84.80	86.35	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Feldspar-quartz-muscovite pegmatite, very coarse grained. Minor aplite zones. No spodumene observed.
86.35	89.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite.
89.80	90.20	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Dominantly coarse grained white kspar and quartz, with minor muscovite. No spodumene or oxides observed.
90.20	97.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite. Few 5-10cm aplite and pegmatite dykes, no spodumene observed.
97.00	97.36	**Aplitic Border Zone** Aplitic border phase of pegmatite,White aplite, with banded fine grained garnets and weak banding of fine grained green muscovite locally. Banding is localized towards the lower contact.
97.36	99.84	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite.
99.84	100.30	**Aplitic Border Zone** Aplitic border phase of pegmatite,White aplite, similar to above aplite unit. Orange garnets become coarser grained near the upper contact. Garnets are weakly banded. Minor patches of pegmatic albite-kspar-quartz-muscovite. Fine to medium grained apatite, <1%. No spodumene or oxides observed.
100.30	105.15	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite, with minor veining.

Drillhole Number: **PWM-17-17** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
105.15	105.60	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white to grey aplite. Banding in fine grained red garnets and muscovite. Upper contact is coarse grained feldspar and quartz.
105.60	106.65	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
106.65	112.70	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitic border phase similar to those previously described. Unit is mixed tonalite 30%, and aplite 70%. Possible trace spodumene near quartz vein at 110.2m. Pegmatic patches are dominated by kspar-quartz with minor green muscovite. Green apatite is disseminated through unit, <1%. Tonalite between aplitic unit is yellow muscovite altered near contacts.
112.70	121.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated medium grained tonalite. Non mineralized and unaltered.
121.30	121.75	**Aplitic Border Zone** Aplitic border phase of pegmatite,Sodic aplite, with weak banding of fine grained garnets and fine grained muscovite. Minor pegmatic patches of quartz-albite-minor green muscovite. No spodumene observed.
121.75	125.70	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Medium grained grey weakly foliated tonalite.
125.70	126.90	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Mixed aplite and pegmatite unit. Coarse grained kspar-albite-quartz-muscovite at margins of unit. Aplite has weak banding of garnets and abundant fine grained freen muscovite, giving the aplite a greenish hue. No spodumene or oxides observed.
126.90	137.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Unaltered and non-mineralized grey weakly foliated tonalite.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-17** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
5.00	6.00	1.00	548364	0.13	153	19.5	3.2	7
6.00	7.15	1.15	548365	0.13	269	38.2	5.2	12
7.15	8.00	0.85	548366	1.88	596	99.6	67.2	64
8.00	9.00	1.00	548367	1.95	635	87.8	56.9	51
9.00	10.00	1.00	548368	0.48	1880	257	48.1	67
10.00	11.00	1.00	548369	2.05	1240	114	33	14
11.00	12.00	1.00	548371	1.39	1070	157	62.7	67
12.00	13.00	1.00	548372	0.08	263	36.4	45.5	45
13.00	14.00	1.00	548373	0.18	218	48	0.9	3
14.00	15.36	1.36	548374	0.17	205	37.2	3.8	6
15.36	16.54	1.18	548376	0.28	188	26.1	54.5	32
16.54	17.00	0.46	548377	0.16	289	110	2.1	3
17.00	18.00	1.00	548378	0.14	55	13.7	0.4	3
18.00	19.00	1.00	548379	0.13	125	21	1.7	4
19.00	20.00	1.00	548381	0.11	75	15	1.5	4
20.00	21.00	1.00	548382	0.11	124	19.4	1.7	5
21.00	22.00	1.00	548383	0.1	104	19	1	3
22.00	23.00	1.00	548384	0.1	302	20.7	8.8	9
23.00	23.75	0.75	548385	0.11	168	21.6	1	3
23.75	24.30	0.55	548386	0.08	768	40.9	25.7	45
24.30	25.00	0.70	548387	0.11	312	26.6	4.6	13
25.00	26.00	1.00	548388	0.12	134	17.7	1.5	4
26.00	27.00	1.00	548389	0.12	661	35.5	8.8	12
27.00	28.05	1.05	548391	0.15	329	128	1.4	3
28.05	29.00	0.95	548392	2.51	797	217	95.1	49
29.00	30.00	1.00	548393	2.28	1160	247	90.2	45

Drillhole Number: **PWM-17-17** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
30.00	31.00	1.00	548394	0.17	667	167	20.3	14
31.00	32.00	1.00	548396	0.06	151	23.9	1.8	5
32.00	33.00	1.00	548397	0.11	193	28.8	3.9	7
33.00	34.00	1.00	548398	0.09	104	17.2	0.7	4
34.00	35.00	1.00	548399	0.1	202	27.3	1.9	7
35.00	36.00	1.00	548401	0.09	179	15.7	2.5	7
36.00	37.00	1.00	548402	0.1	46	4.3	0.4	3
37.00	38.00	1.00	548403	0.11	237	23.5	3.7	9
38.00	39.00	1.00	548404	0.14	110	24	0.6	4
39.00	40.04	1.04	548405	0.13	807	116	23.4	16
40.04	41.00	0.96	548406	0.11	151	35.6	0.9	4
41.00	42.00	1.00	548407	0.1	72	11	0.8	4
58.00	59.00	1.00	548408	0.07	343	27.2	8.1	22
59.00	60.00	1.00	548409	0.07	281	34.6	5	15
60.00	61.00	1.00	548411	0.08	136	30.5	3.1	6
61.00	62.00	1.00	548412	0.08	70	10.9	0.6	4
62.00	63.00	1.00	548413	0.08	166	23.9	3.5	7
63.00	63.73	0.73	548414	0.1	253	31.4	2.4	7
63.73	64.38	0.65	548416	0.03	932	31.7	18.3	61
64.38	65.00	0.62	548417	0.1	429	54.4	6	12
65.00	66.00	1.00	548418	0.08	228	22.4	3.9	10
66.00	67.00	1.00	548419	0.08	102	12.9	0.8	5
67.00	68.00	1.00	548421	0.07	159	21.5	2.2	4
68.00	69.06	1.06	548422	0.04	647	29.9	20	25
69.06	70.00	0.94	548423	0.06	204	19	1.3	4
70.00	71.00	1.00	548424	0.05	529	34	12.9	22

Drillhole Number: **PWM-17-17** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
71.00	72.00	1.00	548425	0.05	265	15.9	9	10
72.00	73.00	1.00	548426	0.06	150	22	4.8	7
73.00	74.00	1.00	548427	0.07	334	38.1	11.3	13
74.00	75.00	1.00	548428	0.08	706	46.6	11.8	17
75.00	76.00	1.00	548429	0.08	137	19.7	2.1	4
84.00	84.80	0.80	548431	0.11	214	25.5	2.1	5
84.80	85.54	0.74	548432	0.02	1180	40	20	23
85.54	86.00	0.46	548433	0.12	223	41.3	0.6	4
86.00	87.00	1.00	548434	0.07	890	75.3	26.2	32
87.00	88.00	1.00	548436	0.1	87	17	0.6	3
88.00	89.00	1.00	548437	0.1	76	12.6	0.9	3
89.00	89.80	0.80	548438	0.11	136	17.7	0.6	3
89.80	90.20	0.40	548439	0.03	1550	39.9	16.3	30
90.20	91.00	0.80	548441	0.11	319	37.6	6.4	11
96.00	97.00	1.00	548442	0.14	273	71.5	3.3	5
97.00	98.00	1.00	548443	0.11	441	84.7	22.1	21
98.00	99.00	1.00	548444	0.15	424	72.3	5.7	12
99.00	99.84	0.84	548445	0.13	311	35.1	1.6	5
99.84	100.30	0.46	548446	0.05	579	14.9	36.4	44
100.30	101.00	0.70	548447	0.14	271	32.3	2.2	5
104.00	105.15	1.15	548448	0.11	188	16.5	1.4	5
105.15	105.60	0.45	548449	0.07	806	27.1	43.9	55
105.60	106.65	1.05	548451	0.14	219	43	0.6	4
106.65	107.17	0.52	548452	0.04	38	4.9	21.9	40
107.17	108.00	0.83	548453	0.17	425	40.5	14.6	14

Drillhole Number: **PWM-17-17** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
108.00	109.00	1.00	548454	0.18	642	82.7	18.6	24
109.00	110.00	1.00	548456	0.13	262	61.7	23.2	28
110.00	111.00	1.00	548457	0.1	265	52.2	24.2	43
111.00	112.00	1.00	548458	0.05	163	52.8	50.6	56
112.00	112.70	0.70	548459	0.06	109	31	53.5	57
112.70	114.00	1.30	548461	0.16	261	61.3	1.3	7
120.30	121.30	1.00	548462	0.09	290	60.2	6.4	12
121.30	121.75	0.45	548463	0.03	1060	43.2	34	74
121.75	123.00	1.25	548464	0.08	81	11.9	1.1	5
123.00	124.00	1.00	548465	0.08	56	7.2	0.5	5
124.00	125.00	1.00	548466	0.08	261	18.2	6.2	13
125.00	125.70	0.70	548467	0.09	132	19.2	0.4	5
125.70	126.90	1.20	548468	0.04	960	41.6	28.6	49
126.90	128.00	1.10	548469	0.07	207	29.7	3.3	7

PWM-17-17

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-18** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577984.7	**Drill Hole Type**	DDH	**Casing Rod Length**	3	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431597.58	**Core Size**	NQ	**C. Rod Sticking Out**	0.3	**Cell Claim No.**	236534	**Hole Start Date**	29/09/2017
Elevation	346.56	**Hole Test**	Reflex	**Overburden**	1.7	**Legacy Claim No.**	1213780	**Hole Complete Date**	30/09/2017
Azimuth	149	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	77	**Hole Making Water**	No					**Logging Compelete**	01/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149	-42	Collar		Yes
20	150.4	-44.8	Reflex	5616	Yes
75	152.9	-43.7	Reflex	5592	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-18** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	2.00	**Casing** OverburdenOverburden.
2.00	34.10	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Light grey in color. Massive to weakly foliated. Elongated biotite orbicules are semi-common, and up to 5cm x 2cm in size.
34.10	34.60	**Aplitic Border Zone** Aplitic border phase of pegmatite,Weakly banded to massive orange garnet aplite. Garnets range in size from fine to coarse.
34.60	35.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Oribcular tonalite. Weakly yellow muscovite altered upper and lower contacts.
35.80	42.23	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Fine to medium grained light green, unaltered spodumene (up to 30%) granite from 36-37m, 37.2- 37.39m, 39.37-39.93m, and 40.26-40.76m. Overall mixed unit of fine to medium grained spodumene granite with minor quartz-feldspar-muscoivte pegmatite. Aplite at top of unit over 20cm.
42.23	42.70	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained aplitic border phase, weak pinkish hue due to fine grained spessartine, possible trace fine grained oxides near lower contact.
42.70	48.25	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite, similar to above oribuclar tonalite. Grey in color.
48.25	48.45	**Aplitic Border Zone** Aplitic border phase of pegmatite,Dyke of mixed aplite with banded garnets and pegmatite. Trace spodumene.
48.45	51.61	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Nonmineralized and unaltered.
51.61	51.95	**Aplitic Border Zone**

Drillhole Number: **PWM-17-18** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Aplitic border phase of pegmatite,Dyke of mixed aplite and pegmatite. Pinkish bands due to fine grained garnets. mm scale laminated fine grained garnets locally. No spodumene or oxides observed.
51.95	52.84	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Nonmineralized and unaltered.
52.84	53.15	**Aplitic Border Zone** Aplitic border phase of pegmatite,More white aplitic border phase with minor fine grained banded garnets. Minor pegmatite zones.
53.15	54.21	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Oribuclar tonalite.
54.21	55.12	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Very coarse grained kspar-quartz- minor biotite with coarse to medium grained spodumene. Mineralization fines towards lower contact. Overall 10-15% spodumene, locally up to 30%. Aplitic lower contact. No oxides observed.
55.12	55.92	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated orbicular tonalite.
55.92	56.30	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Variable textured, aplitic to granitic to pegmatitic. Coarse grained spodumene in core with kspar and quartz. 5% spodumene.
56.30	77.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Unaltered and nonmineralized. A few small 5-10cm aplitic dykes, nonmineralized.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-18** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
33.00	34.00	1.00	548471	0.11	309	42.9	3.1	6
34.00	35.00	1.00	548472	0.1	410	24.1	12.9	24
35.00	36.00	1.00	548473	0.12	348	48.1	10.3	7
36.00	37.00	1.00	548474	2.18	1230	119	51.9	23
37.00	38.00	1.00	548476	0.45	1010	139	44.2	33
38.00	39.00	1.00	548477	0.16	714	93.5	35.5	33
39.00	40.00	1.00	548478	1.06	1520	160	102	63
40.00	41.00	1.00	548479	0.8	1220	137	61.2	67
41.00	42.00	1.00	548481	0.33	1090	149	52.6	50
42.00	42.70	0.70	548482	0.04	131	18.6	52	32
42.70	44.00	1.30	548483	0.15	186	46.9	1.3	4
44.00	45.00	1.00	548484	0.12	121	20.1	0.3	3
45.00	46.00	1.00	548485	0.1	248	44.3	6.8	6
46.00	47.00	1.00	548486	0.09	128	29.3	0.6	3
47.00	48.00	1.00	548487	0.1	134	23.1	1.5	6
48.00	49.00	1.00	548488	0.09	455	37	19.1	25
49.00	50.00	1.00	548489	0.12	120	30.9	1.4	3
50.00	51.00	1.00	548491	0.09	193	27.6	6.7	13
51.00	52.00	1.00	548492	0.11	793	95.4	18.7	28
52.00	53.00	1.00	548493	0.14	365	57.7	4.2	10
53.00	54.21	1.21	548494	0.14	377	97.4	2.7	8
54.21	55.12	0.91	548496	1.47	1090	275	95.1	34
55.12	55.92	0.80	548497	0.14	391	162	0.8	3
55.92	56.30	0.38	548498	0.48	1620	296	52.2	65
56.30	57.00	0.70	548499	0.14	251	88	0.2	3
57.00	58.00	1.00	548501	0.12	241	20.4	12.6	25

Drillhole Number: **PWM-17-18** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*

PWM-17-18

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-19** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577967.78	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431625.03	**Core Size**	NQ	**C. Rod Sticking Out**	0.28	**Cell Claim No.**	236534	**Hole Start Date**	01/10/2017
Elevation	346.6	**Hole Test**	Reflex	**Overburden**	1.02	**Legacy Claim No.**	1213780	**Hole Complete Date**	02/10/2017
Azimuth	148	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-40	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	110	**Hole Making Water**	No					**Logging Compelete**	01/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	148	-40	Collar		Yes
20	148.9	-44.8	Reflex	5631	Yes
71	151.6	-44.7	Reflex	5598	Yes
110	152.6	-44	Reflex	5594	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-19** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.30	**Casing** OverburdenOverburden
1.30	59.92	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly to moderately foliated orbicular tonalite. Nonmineralized, weakly pink kspar alteration. Elongated biotite orbicules up to 10 x 2.5cm.
59.92	60.30	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitic with minor pegmatite component. Spodumene granite over 5cm.
60.30	61.36	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey massive to weakly foliated tonalite.
61.36	61.67	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed unit of aplite and pegmatite, trace spodumene.
61.67	62.81	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Granite textured zone, medium to fine grained, locally up to 25% spodumene, overall 15-20%.
62.81	63.10	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite with fine grained red garnets, and medium grained green apatite.
63.10	65.27	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Moderately foliated orbicular tonalite. Lower contact is rich in white feldspars.
65.27	67.82	**Aplitic Border Zone** Aplitic border phase of pegmatite,Sodic aplite rich unit, abundant fine grained red garnets. Small 1-2cm veins of kfeld-quartz-muscovite. No spodumene observed.
67.82	68.37	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite, weak yellow muscovite alteration.

Drillhole Number: **PWM-17-19** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
68.37	70.47	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite unit with a reddish hue, contains green apaite.Coarse grained spodumene at 68.47 over 5cm.
70.47	78.35	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey orbicular tonalite, moderately foliated.
78.35	78.71	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite with minor quartz-feldspar-muscovite pegmatite.
78.71	81.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey orbicular tonalite. Contains a few 2-8cm aplite dykes.
81.90	83.00	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitic zone with banded fine grained red garnets. No spodumene observed.
83.00	85.45	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey orbicular tonalite.
85.45	85.76	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic dyke with bander red garnet, minor pegmatite patches.
85.76	105.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey orbicular tonalite, several small 3-10cm aplite dykes.
105.80	106.09	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitic dyke with fine grained banded red garnets.
106.09	110.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey orbicular tonalite. Rare elongated biotite orbicules.

Drillhole Number: **PWM-17-19** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***

PWM-17-19

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-19** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
59.00	59.92	0.92	548502	0.11	363	67.8	7.4	15
59.92	61.00	1.08	548503	0.19	384	70.4	15.2	16
61.00	61.67	0.67	548504	0.15	230	53.5	9.1	14
61.67	62.81	1.14	548505	2.56	213	55.7	47.5	44
62.81	64.00	1.19	548506	0.16	558	134	7.3	10
64.00	65.27	1.27	548507	0.16	260	82.5	0.6	3
65.27	66.00	0.73	548508	0.02	73	25.6	38.7	46
66.00	67.00	1.00	548509	0.06	172	31.3	12.6	19
67.00	67.82	0.82	548511	0.21	311	59.6	14.6	31
67.82	68.37	0.55	548512	0.15	638	181	8.6	10
68.37	69.37	1.00	548513	0.21	305	71.2	21.1	22
69.37	70.47	1.10	548514	0.08	54	23.7	26.3	48
70.47	71.34	0.87	548516	0.13	251	96.6	2.9	5
77.00	78.00	1.00	548517	0.08	274	23.2	9.5	23
78.00	79.00	1.00	548518	0.09	444	38.3	9	25
79.00	80.00	1.00	548519	0.12	178	38.7	3.1	6
80.00	81.00	1.00	548521	0.14	583	188	5.2	15
81.00	82.00	1.00	548522	0.14	189	61.1	2.5	9
82.00	83.00	1.00	548523	0.06	40	10.7	17.6	48
83.00	84.00	1.00	548524	0.14	155	43.2	0.7	4
84.00	85.00	1.00	548525	0.12	130	21.5	6.7	9
85.00	86.00	1.00	548526	0.11	422	35.9	9.3	20
86.00	87.00	1.00	548527	0.1	252	34.8	3.2	9

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-20** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577971.68	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431549.14	**Core Size**	NQ	**C. Rod Sticking Out**	0.3	**Cell Claim No.**	236534	**Hole Start Date**	04/10/2017
Elevation	346.21	**Hole Test**	Reflex	**Overburden**	1	**Legacy Claim No.**	1213780	**Hole Complete Date**	05/10/2017
Azimuth	143	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	86	**Hole Making Water**	No					**Logging Compelete**	05/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	143	-42	Collar		Yes
20	146.7	-46.4	Reflex	5605	Yes
86	149.3	-45.4	Reflex	5587	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-20** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.30	**Casing** OverburdenOverburden
1.30	3.61	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite.
3.61	4.30	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Medium to fine grained pegmatite, aplitic lower 10cm. No spodumene observed. Core is moderately fractured.
4.30	5.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite, core is moderately fractured
5.80	9.54	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Mixed zone from pegmatitc to granitic to aplitic. Trace spodumene observed, from 6m to 6.16m is spodumene granite, 7% spod, in zone of highly fractured core.
9.54	11.83	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey, foliated tonalite.
11.83	13.32	**Aplitic Border Zone** Aplitic border phase of pegmatite,Zone of aplite, with small zone of fine grained spodumene at 11.93m over 2cm. Multiple zones of fine grained banded garnets, minor pegmatite component.
13.32	17.33	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite. Pegmatite vein with spod, 5%, from 16.31m to 16.36m.
17.33	17.53	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite with reddish hue due to fine and medium grained red garnets, with medium grained green apatite.

Drillhole Number: **PWM-17-20** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
17.53	19.22	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Spodumene granite, 5% spod. Moderate yellow muscovite alteration is common.
19.22	19.79	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite with fine grained red garnets and green coarse grained apatite.
19.79	51.15	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated orbicular tonalite. Several small aplitic and pegmatic veins occur the largest being: 23.31m to 23.5m, 49.2m to 49.41, nonmineralized. Core has several highly fractured zones.
51.15	52.13	**Aplitic Border Zone** Aplitic border phase of pegmatite,Strongly banded aplite unit with coarse grained upper contact area. No spodumene observed.
52.13	54.67	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
54.67	54.87	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic dyke, with banded garnets.
54.87	59.81	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
59.81	60.77	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Very coarse grained feldspar-quartz-muscovite pegmatite with minor aplite zones. No spodumene observed
60.77	62.82	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, pegmatite vein from 62.33m to 62.41m.
62.82	63.43	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Similar to above unit, with greater aplite

Drillhole Number: **PWM-17-20** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		component.
63.43	63.69	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
63.69	63.90	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic dyke.
63.90	66.88	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
66.88	66.99	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic dyke
66.99	68.93	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
68.93	69.01	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Pegmatite vein.
69.01	70.50	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
70.50	71.24	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Quartz-feldspar-muscovite coarse grained pegmatite. No spodumene observed.
71.24	73.35	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
73.35	73.43	**Aplitic Border Zone** Aplitic border phase of pegmatite,Sm76.03all aplite and pegmatite dyke, nonmineralized.

Drillhole Number: **PWM-17-20** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
73.43	74.42	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite.
74.42	74.60	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixture of aplite and pegmatite. Nonmineralized.
74.60	76.03	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
76.03	76.42	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed unit of aplite and pegmatite.
76.42	76.93	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
76.93	77.02	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed unit of aplite and pegmatite.
77.02	86.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite. Small nonmineralized aplite and pegmatite veins from: 77.63m- 77.8m and 78.73m - 78.92m.

PWM-17-20

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-20** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
2.00	3.00	1.00	548528	0.11	60	11.3	0.8	4
3.00	4.00	1.00	548529	0.1	1010	118	88.7	66
4.00	5.00	1.00	548531	0.16	679	120	14.3	22
5.00	6.00	1.00	548532	0.17	429	80.9	17.9	16
6.00	7.00	1.00	548533	0.13	1590	168	78.4	62
7.00	8.00	1.00	548534	0.1	1080	149	109	90
8.00	9.00	1.00	548536	0.05	734	86	67.4	41
9.00	10.00	1.00	548537	0.08	166	32	14.8	13
10.00	11.00	1.00	548538	0.14	213	26.6	6.6	13
11.00	12.00	1.00	548539	0.22	511	95	49.1	15
12.00	13.00	1.00	548541	0.05	372	45.4	17.6	50
13.00	14.00	1.00	548542	0.13	402	85.3	14.3	21
14.00	15.00	1.00	548543	0.14	102	30.1	2.4	5
15.00	16.00	1.00	548544	0.15	83	23.7	0.8	5
16.00	17.00	1.00	548545	0.21	362	111	10.1	7
17.00	18.00	1.00	548546	0.14	1160	168	71.1	73
18.00	19.00	1.00	548547	1.27	1110	141	93.7	87
19.00	20.00	1.00	548548	0.13	420	81.4	32.2	33
20.00	21.00	1.00	548549	0.13	129	41.1	1.2	5
21.00	22.00	1.00	548551	0.11	183	25.6	1.9	8
22.00	23.00	1.00	548552	0.1	171	29.6	1.6	6
23.00	24.00	1.00	548553	0.07	255	28.5	10.4	27
24.00	25.00	1.00	548554	0.08	128	31.4	3.9	7
50.00	51.15	1.15	548556	0.03	88	5.1	0.8	4
51.15	52.13	0.98	548557	0.02	802	24.2	22	82
52.13	53.00	0.87	548558	0.04	260	12.7	3.2	11

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-20** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
53.00	54.00	1.00	548559	0.04	167	16.7	6.2	14
54.00	55.00	1.00	548561	0.03	414	18.7	8.4	25
55.00	56.00	1.00	548562	0.03	90	7.1	1	6
56.00	57.00	1.00	548563	0.04	133	15.7	2.8	8
57.00	58.00	1.00	548564	0.03	194	13.3	2.3	7
58.00	59.00	1.00	548565	0.04	77	7	0.6	4
59.00	60.00	1.00	548566	0.04	236	23.3	18.3	19
60.00	61.00	1.00	548567	0.01	896	52.7	22.7	33
61.00	62.00	1.00	548568	0.04	179	18.3	5.1	6
62.00	63.00	1.00	548569	0.03	234	11.2	4	7
63.00	64.00	1.00	548571	0.02	380	25.8	28.8	34
64.00	65.00	1.00	548572	0.03	109	8.2	0.4	2
69.00	70.00	1.00	548573	0.04	87	9.5	0.7	5
70.00	70.50	0.50	548574	0.04	112	11.4	1.1	5
70.50	71.24	0.74	548576	0.005	727	25	79.2	76
71.24	72.00	0.76	548577	0.06	183	22.1	1.4	5
72.00	73.00	1.00	548578	0.06	99	15.9	1	4
73.00	74.00	1.00	548579	0.05	183	17.6	7.1	12
74.00	75.00	1.00	548581	0.05	252	15.6	5.4	14
75.00	76.00	1.00	548582	0.06	205	35.8	2.7	8
76.00	77.00	1.00	548583	0.04	506	44.1	31.9	31
77.00	78.00	1.00	548584	0.03	243	18	10.2	18
78.00	79.00	1.00	548585	0.05	224	40.2	4.3	8
79.00	80.00	1.00	548586	0.05	243	34.3	30.3	11

PWM-17-20

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-21** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577948.78	**Drill Hole Type**	DDH	**Casing Rod Length**	6	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431578	**Core Size**	NQ	**C. Rod Sticking Out**	0.15	**Cell Claim No.**	236534	**Hole Start Date**	05/10/2017
Elevation	345.59	**Hole Test**	Reflex	**Overburden**	2.35	**Legacy Claim No.**	1213780	**Hole Complete Date**	06/10/2017
Azimuth	147	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	77	**Hole Making Water**	No					**Logging Compelete**	08/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	147	-42	Collar		Yes
20	150.5	-44.4	Reflex	5617	Yes
77	151.5	-42.9	Reflex	5602	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-21** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	2.50	**Casing** OverburdenOverburden.
2.50	30.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite.
30.40	30.88	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitic zone with fine and medium grained red garnets, coarse grained spodumene over 5cm near coarse grained grey quartz.
30.88	33.24	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite.
33.24	39.33	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Generally coarse and very coarse grained white feldspar-grey quartz-yellow muscovite zone with spodumene rich patches, (5-10% spod). Partial yellow muscovite alteration of spodumene. Zone of very coarse grained kfeldspar from 37.04-37.43m. Spodumene granite from 37.43-39.33m, partially altered to yellow muscovite, locally 10-15% spodumene. Overall zone 5-7% spodumene.
39.33	40.63	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite with banded fine grained red garnets, with trace spodumene over 5cm.
40.63	44.69	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey massive to weakly foliated tonalite.
44.69	45.10	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained aplite unit.
45.10	45.32	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Light grey yellow muscovite rich tonalite.
45.32	45.95	**Outer intermediate Zone**

Drillhole Number: **PWM-17-21** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Very coarse grained feldspar-quartz-spodumene-muscovite pegmatite. Coarse grained spodumene over 30cm.
45.95	48.12	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
48.12	48.87	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Mixed zone of pegmatite and aplite. No spodumene observed. Very coarse to fine grained zone.
48.87	49.43	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
49.43	49.61	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Mixed zone of pegmatite and aplite, similar to above zone, nonmineralized.
49.61	51.52	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite.
51.52	51.74	**Aplitic Border Zone** Aplitic border phase of pegmatite,Grey aplite and pegmatite with fine grained orange garnet and trace sulfide mineralization.
51.74	77.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey to dark grey tonalite. Nonmineralized. Core ground into small pieces at 58m. Note: "Missing. 45 cm of grinded core from reaming over"

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-21** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
29.00	30.40	1.40	548587	0.08	128	15.3	0.6	3
30.40	30.88	0.48	548588	0.01	692	26.2	56.8	52
30.88	32.00	1.12	548589	0.09	173	19	1.3	6
32.00	33.24	1.24	548591	0.11	127	25.7	0.7	4
33.24	34.00	0.76	548592	0.14	1210	168	61.9	58
34.00	35.00	1.00	548593	0.25	1690	160	67	48
35.00	36.00	1.00	548594	0.05	1440	140	60	39
36.00	37.00	1.00	548596	0.05	1150	143	106	73
37.00	38.00	1.00	548597	0.05	2000	175	40.5	42
38.00	39.00	1.00	548598	0.63	685	85.3	69.6	43
39.00	40.00	1.00	548599	0.19	483	75.9	53.9	47
40.00	41.00	1.00	548601	0.18	608	93.6	22.9	38
41.00	42.00	1.00	548602	0.11	277	38.3	20.3	12
42.00	43.00	1.00	548603	0.13	120	19.1	1.2	6
43.00	44.00	1.00	548604	0.16	124	32.1	1.9	6
44.00	45.00	1.00	548605	0.12	295	100	15.9	27
45.00	46.00	1.00	548606	1.3	2050	367	98.7	52
46.00	47.00	1.00	548607	0.13	293	67.4	4.1	10
47.00	48.00	1.00	548608	0.1	266	28.9	4	8
48.00	49.00	1.00	548609	0.06	698	30.1	21.4	78
49.00	50.00	1.00	548611	0.08	265	17.7	3.7	18
50.00	51.00	1.00	548612	0.07	72	8.7	0.4	5
51.00	52.00	1.00	548613	0.06	278	16.1	5	20

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-22** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577930	**Drill Hole Type**	DDH	**Casing Rod Length**	3	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431602.51	**Core Size**	NQ	**C. Rod Sticking Out**	0.4	**Cell Claim No.**	236534	**Hole Start Date**	07/10/2017
Elevation	345.02	**Hole Test**	Reflex	**Overburden**	1.1	**Legacy Claim No.**	1213780	**Hole Complete Date**	09/10/2017
Azimuth	139	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-45	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	107	**Hole Making Water**	No					**Logging Compelete**	08/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	139	-45	Collar		Yes
20	140.2	-45.6	Reflex	5614	Yes
71	141.3	-44.1	Reflex	5589	Yes
107	141.7	-42.8	Reflex	5601	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-22** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.50	**Casing** Overburdenrounded bits of tonalite
1.50	56.17	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive to weakly fol mg obicular tonalite with few biotite "balls". Nonmineralized, unaltered and no significant veining. Rubbled and ground core in box 8 at 34.2-35m, this 80cm of core is lost.
56.17	57.00	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.nonhomogenous mineralized variable textured albite-quartz-musc-spd pegmatite. Local very cg white kspar. Spod is about 5% overall with local 20cm spd granite hosting 20% fg pale green spd.
57.00	59.30	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.coarse grained white kspar- massive glassy quartz- green spd-greenish musc pegmatite, spd makes up 20% of unit, ranges in size from .4-3cm. No oxides observed.
59.30	61.20	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.mg spod granite, homogenous and massive, spd 2-4mm and makes up 30% of unit. No oxides observed. fairly sharp internal contacts with surrounding units.
61.20	62.30	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.somewhat homogenous mg white feldspar-quartz-musc-lesser spd pegmatite. Spd only makes up maybe 2% of interval.
62.30	63.10	**Aplitic Border Zone** Aplitic border phase of pegmatite,white and pinkish sodic aplite zone, weak banding and localized red laminated fg garnets. Fg 1-2mm blueish green apatite. Unit is fairly homogeneous with minor intervals of fg <5-8cm peg bands and alt tonalite. Trace fg spod within peg bands, 1%spd over unit, may have trace fg oxides near lower contact with tonalite.
63.10	70.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive mg obicular tonalite, nonmineralized and unaltered. Few small veins (<5cm) of peg, one with trace fg spd.

Drillhole Number: **PWM-17-22** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
70.30	71.00	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.variable textured albite-quartz-musc peg with xenoliths of alt tonalite and minor aplitic whisps. Trace fg spd <1%
71.00	72.82	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.cg kspar-quartz-spd-musc peg, 30% pale lime green spd.
72.82	75.60	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive obicular tonalite, unaltered and nonmineralized
75.60	77.20	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed unit of dominantly sodic garnet bearing aplite and albite-quartz-musc mg peg. Trace 1-2% fg spd occasionally within pinkish aplite. Fine laminations of vfg orange spess. Possible oxides near contacts with tonalite and internal contacts with peg. Subunit-76.16-76.66 obicular massive unaltered and nonmin tonalite.
77.20	100.32	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi massive obicular tonalite, nonmineralized and unaltered, small localized fracture zone near 95m, possible some ground core? Few small <10cm feldspar-quartz rich peg veins with no min.
100.32	100.66	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,mg peg with no spd min, dominantly feldspar (cg kspar + mg-fg zlbite)-quartz>>musc. No spd or oxides observed.
100.66	104.25	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi massive obiculat tonalite with localized greenish alt to the feldspars, often following fracture planes and stringers, epidote or weak bleaching? There are a few small mixed aplite/ peg veins <10cm but lack obvious min and are insignificant.
104.25	105.00	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed unit of peg and aplite. Aplite with banded and laminated orange fg garnets at margins and whisping throughout kspar-quartz dominant peg. Nonmineralized and no oxides observed. small 20cm of tonalite with weak ep alt within unit.

Drillhole Number: **PWM-17-22** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***
105.00	107.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered nonmineralized obicular tonalite, 107m EOH

PWM-17-22

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-22** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
55.00	56.00	1.00	548614	0.11	108	21	1.9	4
56.00	57.00	1.00	548616	0.3	951	137	30.8	46
57.00	58.00	1.00	548617	0.24	2360	182	54	53
58.00	59.00	1.00	548618	0.74	1740	181	40	45
59.00	60.00	1.00	548619	1.94	402	90.6	42.3	30
60.00	61.00	1.00	548621	2.85	129	54.9	28.6	21
61.00	62.00	1.00	548622	0.64	430	73	32.5	30
62.00	63.10	1.10	548623	0.14	497	71.1	20.9	21
63.10	64.00	0.90	548624	0.2	488	132	3.9	5
64.00	65.50	1.50	548625	0.15	145	37.3	2	6
65.50	67.00	1.50	548626	0.13	90	12.1	0.9	5
67.00	68.00	1.00	548627	0.13	115	12.2	1.1	5
68.00	69.00	1.00	548628	0.12	172	16.6	6.1	13
69.00	70.00	1.00	548629	0.12	145	20.6	2.2	5
70.00	71.00	1.00	548631	0.15	461	121	11.6	19
71.00	72.00	1.00	548632	2.95	2490	603	255	130
72.00	72.85	0.85	548633	1.05	895	294	109	77
72.85	74.00	1.15	548634	0.15	328	96.6	3.4	8
74.00	75.00	1.00	548636	0.17	72	14.3	0.7	4
75.00	75.60	0.60	548637	0.16	89	25.8	0.5	4
75.60	76.20	0.60	548638	0.15	85	25.7	0.5	4
76.20	77.20	1.00	548639	0.09	1460	163	61	76
77.20	78.00	0.80	548641	0.1	735	86.3	9.1	28
78.00	79.00	1.00	548642	0.13	156	41.3	0.5	5
79.00	80.00	1.00	548643	0.1	204	17.7	2.4	10
80.00	81.00	1.00	548644	0.09	249	26.4	4.5	17

Drillhole Number: **PWM-17-22** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
81.00	82.00	1.00	548645	0.07	73	10	0.4	3
82.00	82.50	0.50	548646	0.05	386	19.9	9.4	24
82.50	83.50	1.00	548647	0.07	122	20.1	0.7	4
103.00	104.00	1.00	548648	0.02	113	6.1	0.9	4
104.00	105.00	1.00	548649	0.03	540	21.4	7.5	24
105.00	106.00	1.00	548651	0.02	219	8.1	6.6	17
106.00	107.00	1.00	548652	0.03	137	4.7	0.8	4

PWM-17-22

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-23** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577925.51	**Drill Hole Type**	DDH	**Casing Rod Length**	6	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431564.89	**Core Size**	NQ	**C. Rod Sticking Out**	0.25	**Cell Claim No.**	236534	**Hole Start Date**	09/10/2017
Elevation	343.66	**Hole Test**	Reflex	**Overburden**	3.85	**Legacy Claim No.**	1213780	**Hole Complete Date**	10/11/2017
Azimuth	144	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-44	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	92	**Hole Making Water**	No					**Logging Compelete**	24/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	144	-44	Collar		Yes
20	149.2	-46.4	Reflex	5620	Yes
92	152.1	-44.2	Reflex	5597	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-23** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	4.10	**Casing** Overburdennot much in the box, starts off in tonalite
4.10	26.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, massive mg obicular tonalite, few whispy obicules, little veining. Unaltered and nonmineralized
26.40	26.92	**Aplitic Border Zone** Aplitic border phase of pegmatite,small interval of aplitic border phase, fg orange garnets (spess) diss and finely laminated local to lower sharp contact with tonalite. Unit starts off with cg felspar quartz dominant peg. No min observed.
26.92	29.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg unaltered and nonmineralized obicular tonalite
29.90	30.50	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.weakly variable textured from aplitic to peg. Peg consists of dominantly albite-quartz-lesser musc. Internal contact with inner intermediate phase marked by ++cg musc and vcg white kspar. No min observed.
30.50	32.10	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.cg white kspar-quartz-spd-musc with % varying throughout unit. Spd ranges from <1cm to 4cm and makes up from 20-30% of unit.
32.10	34.27	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.mg spd granite, spd makes up nearly 30% over interval however may be altered or lesser spd towards lower portion of unit.
34.27	35.85	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,very cg white kspar with slight greenish hue and brownish glassy massive quartz zone. Weakly mineralized with mg spd 5%. No oxides observed.
35.85	37.54	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.mg albite-

Drillhole Number: **PWM-17-23** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		quartz-musc peg with patches of variable texture and aplitic whisps throughout. Granitic textured zone is green musc rich but may host a minor amount of fg spd. Aplitic hosts diss fg orange spess and fg laminations local to lower contact with tonalite. <5% spd over interval.
37.54	40.05	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive obicular tonalite with small <5cm quartz albite vein. Nonmineralized and unaltered.
40.05	40.50	**Aplitic Border Zone** Aplitic border phase of pegmatite,small aplitic dyke with minor peg within. Small weakly laminated fg garnets. Trace fg oxides observed local to the laminated garnets. Oxides <1%
40.50	72.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, massive mg tonalite, nonmineralized with local silica alt zone at 69-70m with trace Py and local Po. Unit has several small nonmineralized peg veins and dykelets. Subunit - 64.5m small <10cm aplitic vein may host up to 2mm oxides at 1%of less, will be sampled.
72.00	72.47	**Aplitic Border Zone** Aplitic border phase of pegmatite,nonmineralized mixed unit of aplite with lesser peg. Peg consists of cg albite and quartz with lesser musc. Aplite hosts mod-strongly laminated fg garnets at lower contact, no oxides observed.
72.47	73.63	**Case Batholith** Tonalite, granodiorite-quartz monzonite, massive tonalite, possible wk pervasive silica alt. nonmineralized.
73.63	74.25	**Aplitic Border Zone** Aplitic border phase of pegmatite,pinkish aplitic unit with minor greenish patches, minor albite-quartz peg. Nonmin and unaltered. Possible trace oxides?
74.25	78.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive mg tonalite, unaltered and nonmineralized. Subunit-75.62-75.76m aplitic border phase with strong banded and laminated spess. No spd and no oxides observed.
78.80	79.09	**Aplitic Border Zone**

Drillhole Number: **PWM-17-23** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Aplitic border phase of pegmatite,dark grey with pinkish hue aplite, minor peg unit dominated by quartz and cg white kspar. Nonmineralized.
79.09	85.50	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive obicular tonalite, no mineralization and no alteration. Minor veining
85.50	87.21	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,dark grey cg peg with aplitic margins. Cg white/beige kspar has blackish alt. dark brown glassy quartz and weakly green musc make up peg. No min observed but will be sampled for oxides.
87.21	92.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, massive mg tonalite. No oxides observed. 92m EOH

PWM-17-23

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-23** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
25.40	26.40	1.00	548653	0.09	199	29.4	2.5	5
26.40	26.92	0.52	548654	0.005	747	24.5	23.1	25
26.92	28.00	1.08	548656	0.1	218	29.3	2.7	5
28.00	29.00	1.00	548657	0.12	100	17	0.6	3
29.00	29.90	0.90	548658	0.15	221	48.5	0.6	5
29.90	31.00	1.10	548659	0.62	521	87.1	70.7	56
31.00	32.00	1.00	548661	1.16	620	74.3	47.2	29
32.00	33.00	1.00	548662	0.05	653	87.4	60.7	36
33.00	34.00	1.00	548663	0.05	581	79.7	46.1	33
34.00	35.00	1.00	548664	0.21	2420	290	43.5	73
35.00	36.00	1.00	548665	0.05	2370	193	66	49
36.00	37.00	1.00	548666	0.03	533	65.5	73.1	40
37.00	37.70	0.70	548667	0.02	258	28.9	25.4	16
37.70	38.70	1.00	548668	0.09	140	17.1	0.7	3
38.70	40.00	1.30	548669	0.1	220	24.6	4.3	10
40.00	41.00	1.00	548671	0.07	629	39.8	10.1	25
41.00	42.00	1.00	548672	0.07	199	20.2	5	10
42.00	43.00	1.00	548673	0.04	82	11.4	1.3	7
62.00	63.00	1.00	548674	0.03	278	16.8	20.1	41
63.00	64.30	1.30	548676	0.03	108	8.7	12.8	35
64.30	64.70	0.40	548677	0.05	230	26	12.1	30
64.70	65.50	0.80	548678	0.04	84	14.2	0.5	4
71.00	72.00	1.00	548679	0.05	155	19.6	1.3	5
72.00	73.00	1.00	548681	0.04	435	29.8	9.8	32
73.00	74.00	1.00	548682	0.04	557	32.7	8.3	23
74.00	74.50	0.50	548683	0.03	156	11.4	16.4	47

Drillhole Number: **PWM-17-23** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
74.50	75.50	1.00	548684	0.04	94	10.2	0.3	4
75.50	76.50	1.00	548685	0.04	242	20.9	5.5	13
84.50	85.50	1.00	548686	0.07	199	25.1	1.9	7
85.50	86.50	1.00	548687	0.02	1140	78.9	59.7	62
86.50	87.50	1.00	548688	0.04	208	34.6	61	79
87.50	88.50	1.00	548689	0.06	102	19.7	1.1	5

PWM-17-23

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-24** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577905.39	**Drill Hole Type**	DDH	**Casing Rod Length**	4.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431591.29	**Core Size**	NQ	**C. Rod Sticking Out**	0.46	**Cell Claim No.**	236534	**Hole Start Date**	10/10/2017
Elevation	343.55	**Hole Test**	Reflex	**Overburden**	2.74	**Legacy Claim No.**	1213780	**Hole Complete Date**	12/10/2017
Azimuth	143	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-43	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	116	**Hole Making Water**	No					**Logging Compelete**	24/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	143	-43	Collar		Yes
20	148	-45.4	Reflex	5613	Yes
71	148.2	-44.1	Reflex	5589	Yes
116	159.6	-42.7	Reflex	5605	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-24** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	3.20	**Casing** Overburdennot much in the box, tonalite to start the core off
3.20	52.03	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive tonalite with minor and localized alt zones. Small bleaching alt zones around fractures and epidote veinlets and stringers. One small quartz vein <5cm. Nonmineralized
52.03	52.58	**Aplitic Border Zone** Aplitic border phase of pegmatite,aplitic border phase with peg core. Albite-quartz-musc peg surrounded by aplite at the margins. Aplite contains fg laminated orange garnets (spess) that coarsen near contacts with tonalite. No oxides observed and nonmineralized.
52.58	56.53	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive mg tonalite with 50cm alteration zone at lower contact with peg. Alteration bleaches core and replaced biotite with greenish musc. No min observed
56.53	57.57	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.albite-quartz-musc peg. Quartz is massive and glassy. Random cg white kspar. No spd or oxides observed.
57.57	60.95	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.cg white kspar-quartz-spod-musc pegmatite, spod ranges from <1cm-4cm anad makes up around 30% of unit. No oxides observed.
60.95	62.70	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.variable textured from peg to cg granitic, spd min ranges from 1% in albite-quartz-musc peg to around 5% local to more granitic patches.
62.70	63.20	**Aplitic Border Zone** Aplitic border phase of pegmatite,white sodic aplite with greenish patches due to fg green musc, reddish hue in places due to weakly patchy and laminated orange garnets. 5% Fg spd diss throughout and in small <cm scale veinlet. No oxides observed.
63.20	66.58	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive mg tonalite, no obicules observed. nonmineralized and unaltered.

Drillhole Number: **PWM-17-24** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
66.58	66.83	**Aplitic Border Zone** Aplitic border phase of pegmatite,mised unit of aplite and mg albite-quartz-musc peg. Mm scale laminated orange garnets near lower contact. 2% Fg spd local to peg near core of dyke.
66.83	68.93	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive mg tonalite, no obicules observed. nonmineralized and unaltered
68.93	69.60	**Aplitic Border Zone** Aplitic border phase of pegmatite,slight mixed unit dominated by sodic aplite with laminated garnets and weakly green musc rich patches. Small amount of albite-quartz dominant peg mixed near center. No spd observed with possible trace very fg oxides.
69.60	73.60	**Case Batholith** Tonalite, granodiorite-quartz monzonite, weakly altered with localized but weakly foliated obicular tonalite. Nonmineralized. Small amount of diss fg Py and local Po. Core takes on more white color due to the alt, seems like groundmass takes over with lesser biotite.
73.60	73.85	**Aplitic Border Zone** Aplitic border phase of pegmatite,minor peg within aplitic border phase, albite-quartz-musc peg. Aplite hosts laminated fg reddish garnets
73.85	91.17	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive tonalite, lacking obicules. Nonmineralized with few localized weak bleaching alt zones.
91.17	91.55	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,nonmineralized quartz feldspar rich peg vein/dykelet.
91.55	100.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered masive tonalite, few small <5cm quartz feldspar veins. Lacks obicules
100.90	102.98	**Aplitic Border Zone** Aplitic border phase of pegmatite,whitish grey/red aplitic border phase, roughly 60/40 aplite to peg. Peg consists of albite-quartz with

Drillhole Number: **PWM-17-24** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		minor musc. Localized fg, asicular, radiating cleavlandite localized to peg patches. Aplite hosts patchy and fg laminated red-orange garnets. No oxides observed. subunit - 101.35-102.35 - tonalite
102.98	108.58	**Case Batholith** Tonalite, granodiorite-quartz monzonite, massive nonminerized and unaltered tonalite, no obicules observed.
108.58	108.83	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,nonmineralized albite rich quartz-musc peg.
108.83	111.13	**Case Batholith** Tonalite, granodiorite-quartz monzonite, massive tonalite, unaltered and nonmineralized
111.13	111.96	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed aplite peg dyke, 50/50 aplite to peg, peg consists of quartz-albite-minor fg musc. Aplite hosts patchy and laminated fg garnets, laminated local to contacts.
111.96	116.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, massive mg tonalite, unaltered and nonmineralized. 116m EOH.

PWM-17-24

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-24** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
51.00	52.00	1.00	548691	0.07	131	17	0.4	4
52.00	53.00	1.00	548692	0.02	737	26.1	16.7	27
53.00	54.50	1.50	548693	0.08	135	14.2	1.3	5
54.50	56.00	1.50	548694	0.08	59	9	0.4	4
56.00	56.50	0.50	548696	0.07	161	35.7	0.4	5
56.50	57.50	1.00	548697	0.03	2000	168	67.6	66
57.50	58.50	1.00	548698	1.18	1650	193	93.9	72
58.50	59.50	1.00	548699	0.02	4200	303	22	12
59.50	60.50	1.00	548701	0.48	2640	213	33.8	28
60.50	61.50	1.00	548702	1.28	1200	161	81.7	64
61.50	62.50	1.00	548703	0.08	1600	168	89.8	58
62.50	63.50	1.00	548704	0.1	369	55.2	48.2	31
63.50	64.00	0.50	548705	0.16	281	63.2	4.4	6
64.00	65.00	1.00	548706	0.14	105	20.6	3.5	6
65.00	66.50	1.50	548707	0.14	100	20.5	0.5	4
66.50	67.00	0.50	548708	0.12	970	90.7	32.8	45
67.00	68.00	1.00	548709	0.13	155	28.5	2.4	6
68.00	68.90	0.90	548711	0.12	132	28.6	1.3	4
68.90	69.70	0.80	548712	0.04	792	51.4	29	38
69.70	70.70	1.00	548713	0.1	123	21.4	0.4	4
70.70	72.00	1.30	548714	0.06	153	12.9	2.7	10
100.00	100.90	0.90	548716	0.08	159	29.5	4	17
100.90	102.00	1.10	548717	0.05	443	28.2	10.1	26
102.00	103.00	1.00	548718	0.05	711	29.4	15.5	47
103.00	104.00	1.00	548719	0.07	130	17.1	0.4	5
110.00	111.00	1.00	548721	0.08	100	17.6	0.7	6

Drillhole Number: **PWM-17-24** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
111.00	112.00	1.00	548722	0.03	665	36.9	40.6	49
112.00	113.00	1.00	548723	0.1	248	39.7	1.3	6

PWM-17-24

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-25** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577892.87	**Drill Hole Type**	DDH	**Casing Rod Length**	6	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431619.6	**Core Size**	NQ	**C. Rod Sticking Out**	0.35	**Cell Claim No.**	236534	**Hole Start Date**	12/10/2017
Elevation	343.51	**Hole Test**	Reflex	**Overburden**	5.65	**Legacy Claim No.**	1213780	**Hole Complete Date**	14/10/2017
Azimuth	148	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-43	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	134	**Hole Making Water**	No					**Logging Compelete**	25/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	148	-43	Collar		Yes
26	151.2	-44.7	Reflex	5629	Yes
71	154	-42.8	Reflex	5595	Yes
130	154.2	-40.6	Reflex	5611	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-25** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	6.00	**Casing** Overburdentonalite
6.00	80.17	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg weakly foliated obicular tonalite. Obicules occur frequently, range from <1cm-4cm, decrease in frequency downhole. Localized K alt gives core reddish hue, more like a granodiorite, weak localized bleaching and epidote also present. Nonmineralized.
80.17	81.05	**Aplitic Border Zone** Aplitic border phase of pegmatite,whitish sodic aplite with diss fg orange garnets and patchy fg green musc. Giving core greenish hue in patches. Fg orange laminated garnets local to contacts both internal and external. Patches of fg peg to granitic albite-quartz-musc. Trace <1% fg spd local to peg.
81.05	84.60	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.albite>minor kspar-quartz-musc-spd peg. Varitextured from patches of mg peg to cg granitic. Spd is locally alt to a darker green by sheet silicate in coarsest grained sections. 10%spd from fg to cg.
84.60	87.13	**Aplitic Border Zone** Aplitic border phase of pegmatite,white to beige sodic aplite with diss orange garnets and patches of strong fg green musc. Laminated fg orange garnets throughout. Seems like there are several short intervals of strongly altered tonalite xenoliths within aplite. No spd observed. possible trace fg oxides.
87.13	92.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered semi massive tonalite. Very few obicules.
92.30	92.70	**Aplitic Border Zone** Aplitic border phase of pegmatite,darker grey mixed unit of albite-quartz-musc peg and sodic aplite with laminated bright orange vfg garnets local to lower contact.
92.70	97.95	**Case Batholith** Tonalite, granodiorite-quartz monzonite, semi massive mg tonalite with very few, mod deformed, biotite obicules.

Drillhole Number: **PWM-17-25** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***
97.95	98.42	**Aplitic Border Zone** Aplitic border phase of pegmatite,white and pink sodic aplite with laminated orange/red garnets. Locally the laminations seem wavy broken up. No mineralization observed.
98.42	129.35	**Case Batholith** Tonalite, granodiorite-quartz monzonite, nonmineralized obicular tonalite. Few small <6cm aplitic veins.
129.35	129.84	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed sodic aplite with minor albite-quartz-musc peg. No spd observed. finely laminated fg red/orange garnets are wavy in places. No oxides observed.
129.84	131.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered and nonmineralized mg obicular tonalite.
131.80	132.30	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed sodic aplite with minor peg near center. Similar to previous dyke. No mineralization
132.30	134.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg unaltered and nonmineralized tonalite.

PWM-17-25

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-25** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
79.00	80.15	1.15	548724	0.1	154	28.7	0.5	4
80.15	81.00	0.85	548725	0.09	448	83	20.6	26
81.00	82.00	1.00	548726	0.1	1620	163	61.4	78
82.00	83.00	1.00	548727	0.06	1060	147	191	150
83.00	84.00	1.00	548728	0.06	665	90	35.4	31
84.00	84.70	0.70	548729	0.1	471	92.5	35.2	28
84.70	86.00	1.30	548731	0.16	281	92.2	1.2	5
86.00	87.10	1.10	548732	0.18	344	90.1	2.2	7
87.10	88.00	0.90	548733	0.12	706	95.8	32.8	45
88.00	89.00	1.00	548734	0.08	343	42.8	13.6	22
89.00	89.60	0.60	548736	0.09	365	55.3	16.5	25
89.60	90.60	1.00	548737	0.14	185	43.4	1.4	6
90.60	92.00	1.40	548738	0.1	79	11.3	0.4	5
92.00	93.00	1.00	548739	0.07	319	32.3	14.7	30
93.00	94.50	1.50	548741	0.1	135	22.5	2.8	6
94.50	96.00	1.50	548742	0.08	166	17.6	2.2	7
96.00	97.00	1.00	548743	0.07	84	12.5	0.9	5
97.00	97.85	0.85	548744	0.08	369	31.4	5.4	10
97.85	98.45	0.60	548745	0.03	890	25.8	31	48
98.45	99.50	1.05	548746	0.07	121	11.7	0.6	5
115.50	116.50	1.00	548747	0.05	175	22.5	2.2	9
116.50	117.50	1.00	548748	0.05	104	15	0.6	5
117.50	118.00	0.50	548749	0.02	340	20.3	32.9	58
118.00	119.00	1.00	548751	0.05	81	15.1	0.7	3
128.30	129.30	1.00	548752	0.07	93	11.8	0.4	3
129.30	130.00	0.70	548753	0.04	519	19.3	19.4	61

Drillhole Number: **PWM-17-25** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
130.00	131.50	1.50	548754	0.08	94	13.1	0.6	3
131.50	132.50	1.00	548756	0.05	438	20.4	12	35
132.50	133.50	1.00	548757	0.1	152	25.5	1.2	5

PWM-17-25

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-26** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577940.78	**Drill Hole Type**	DDH	**Casing Rod Length**	6	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431544.09	**Core Size**	NQ	**C. Rod Sticking Out**	0.42	**Cell Claim No.**	236534	**Hole Start Date**	14/10/2017
Elevation	344.43	**Hole Test**	Reflex	**Overburden**	1.58	**Legacy Claim No.**	1213780	**Hole Complete Date**	16/10/2017
Azimuth	148	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-45	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	62	**Hole Making Water**	No					**Logging Compelete**	29/10/2017
Comments									

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	148	-45	Collar		Yes
20	148.8	-42.5	Reflex	5625	Yes
60	151.6	-41	Reflex	5592	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-26** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	2.00	**Casing** Overburdenreddish hue to tonalite/granodiorite
2.00	4.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, tonalite, lacking obicules
4.90	6.10	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed albite-quartz musc peg and aplite. Aplite hosts bright orange fg garnets and green apatite. No spd min and no oxides observed.
6.10	12.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, massive mg tonalite, lacks obicules. Nonmineralized
12.00	12.34	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed sodic aplite and fg albite-musc>>quartz peg. Hosts fg almandine, weak local laminations.
12.34	14.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive tonalite, unaltered and nonmineralized.
14.00	17.33	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.variable textured from peg to granitic with aplitic whisps throughout and localized to margins. Aplite hosts laminated fg orange garnets. Cg green apatite near upper contact. Peg dominantly albite-quartz-musc. No spd observed, possible trace amt of fg oxides.
17.33	18.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive tonalite with small vein of albite dom peg. Nonmineralized and unaltered.
18.90	19.65	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed aplitic and peg dyke. Sodic aplite hosts fg diss spess and local laminations. Trace fg diss apatite. Possible trace diss fg oxides.
19.65	49.60	**Case Batholith**

Drillhole Number: **PWM-17-26** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Tonalite, granodiorite-quartz monzonite, mg massive tonalite lacking obicules. Several small aplitic and albite dom peg veins. All nonmineralized.
49.60	50.65	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,mixed peg aplite dyke, albite-quartz minor musc peg with aplite mixed throughout. Diss reddish garnets and possible trace fg oxides. No spd observed.
50.65	62.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive tonalite, unaltered and nonmineralized. Few smaller elongate biotite obicules present. Several small cm scale albite quartz veins cut unit and variable angles. Subunit- 54.75-54.96 quartz-albite vein with little musc. Small whisps of garnet hosting aplite within vein.

PWM-17-26

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-26** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
4.00	5.00	1.00	548758	0.1	243	46.7	2.6	4
5.00	6.00	1.00	548759	0.06	649	55.8	11.7	17
6.00	7.00	1.00	548761	0.1	183	35.2	3.9	6
7.00	8.00	1.00	548762	0.1	130	24.3	1	4
8.00	9.50	1.50	548763	0.08	123	18.8	1.5	5
9.50	11.00	1.50	548764	0.11	111	16.7	2.3	4
11.00	12.00	1.00	548765	0.09	259	43.7	2.1	4
12.00	13.00	1.00	548766	0.07	357	59.5	16.4	31
13.00	14.00	1.00	548767	0.13	509	86.7	13.1	14
14.00	15.00	1.00	548768	0.1	407	62.8	11.2	14
15.00	16.00	1.00	548769	0.04	1060	109	83.4	43
16.00	17.00	1.00	548771	0.05	1070	117	79.2	67
17.00	18.00	1.00	548772	0.08	522	63.3	20.1	14
18.00	19.00	1.00	548773	0.12	425	80.5	8.6	10
19.00	20.00	1.00	548774	0.07	335	49.8	19.1	21
20.00	21.00	1.00	548776	0.09	135	36.7	1.6	5
48.00	49.00	1.00	548777	0.06	186	32.7	2.3	4
49.00	50.00	1.00	548778	0.04	462	36.9	14.9	26
50.00	51.00	1.00	548779	0.03	489	27.5	23.7	57
51.00	52.00	1.00	548781	0.05	112	15.4	1	5

PWM-17-26

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-27** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577919.66	**Drill Hole Type**	DDH	**Casing Rod Length**	6	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431526.52	**Core Size**	NQ	**C. Rod Sticking Out**	0.12	**Cell Claim No.**	236534	**Hole Start Date**	14/10/2017
Elevation	343.83	**Hole Test**	Reflex	**Overburden**	4.88	**Legacy Claim No.**	1213780	**Hole Complete Date**	15/10/2017
Azimuth	149	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-44	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	68	**Hole Making Water**	No					**Logging Compelete**	30/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149	-44	Collar		Yes
20	149.3	-46	Reflex	5620	Yes
68	151.2	-45.8	Reflex	5612	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-27** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	5.00	**Casing** Overburdenboulders of tonalite/granodiorite/metaseds.
5.00	40.10	**Sediments** Sedimentsdark grey strongly fol metased. Strong biotite, slightly variable foliation/bedding ranges from 10TCA to 40TCA. Intermitent quartz +-feldspar veins <10cm, nonmineralized.
40.10	40.47	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,musc-albite dominant vein with lesser albite and quartz. Minor fg garnets. Fg-mg green musc throughout. Nonmineralized and no oxides observed.
40.47	41.30	**Sediments** Sedimentsdark grey black metaseds. Same as previously described.
41.30	41.55	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,same veining as above, with increased quartz. Fg-mg green musc. No mineralization observed. vein cuts core at 40TCA.
41.55	44.00	**Sediments** Sedimentsdark grey black metaseds, strong biotite, runs to contact with alt tonalite, contact at low angle to core axis 10TCA which truncates fol of seds.
44.00	56.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, tonalite several def and broken quartz and quartz musc veins. Strong green musc alt and weak silicification to tonalite from 44-45.7m. No mineralization observed.
56.00	57.80	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,albite-musc dominant vein with dark brown massive quartz vein cutting unit. Quartz vein hosts trace mg molybdenite.
57.80	68.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi massive tonalite, very few deformed obicules. Biotite has strong to mod alt to green musc, strongest near upper contact with vein +- patchy silicification giving tonalite a bleached appearence. Small metased xenolith

Drillhole Number: **PWM-17-27** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***
		near upper contact with veining. 68.0m EOH.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-27** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
40.00	41.00	1.00	548782	0.19	743	173	18.1	65
41.00	42.00	1.00	548783	0.2	502	137	3.5	16
42.00	43.00	1.00	548784	0.19	345	114	0.4	5
43.00	44.00	1.00	548785	0.14	276	97.7	0.6	6
44.00	45.00	1.00	548786	0.02	126	10.4	1.7	4
45.00	46.00	1.00	548787	0.02	132	11.1	0.5	2
46.00	47.00	1.00	548788	0.02	94	8.3	0.3	3
55.00	56.00	1.00	548789	0.005	496	34	8.6	13
56.00	57.00	1.00	548791	0.01	408	26.6	12.6	21
57.00	58.00	1.00	548792	0.005	577	35.9	30.5	40
58.00	59.00	1.00	548793	0.04	181	14.7	1.5	6
59.00	60.00	1.00	548794	0.01	246	21.5	0.7	3
60.00	61.00	1.00	548796	0.01	260	24.1	1.5	5
61.00	62.00	1.00	548797	0.005	250	6.4	1.2	8

PWM-17-27

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-28** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577903.68	**Drill Hole Type**	DDH	**Casing Rod Length**	6	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431553.09	**Core Size**	NQ	**C. Rod Sticking Out**	0.2	**Cell Claim No.**	236534	**Hole Start Date**	17/10/2017
Elevation	343.54	**Hole Test**	Reflex	**Overburden**	4.8	**Legacy Claim No.**	1213780	**Hole Complete Date**	18/10/2017
Azimuth	147	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-40	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	86	**Hole Making Water**	No					**Logging Compelete**	31/10/2017

Comments

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	147	-40	Collar		Yes
20	150.9	-43.8	Reflex	5621	Yes
86	152.9	-42.7	Reflex	5607	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-28** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	5.00	**Casing** Overburdentonalite
5.00	5.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, ualtered massive mg tonalite
5.30	5.81	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,white mg albite-musc-quartz peg vein, nonmineralized and no oxides observed.
5.81	21.33	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive tonalite, minor planar quartz veins <3cm. Nonmineralized and unaltered.
21.33	22.59	**Aplitic Border Zone** Aplitic border phase of pegmatite,aplitic border phase. Minor albite quartz musc peg within unit, 70/30 aplite to peg. Minor patchy fg garnets, trace aplite. Minor greenish patches due to increased fg musc.
22.59	27.16	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semimassive tonalite. Nonmineralized. Subunit - 24.01-24.14 albite-quartz-musc peg, nonmineralized.
27.16	27.70	**Sediments** Sedimentsbeige with pinkish hue quartzite with fg garnets and biotite. Mostly quartz and seems like metased. Nonmineralized.
27.70	28.00	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,nonmineralized mg albite-quartz-musc peg. Minor cleavlandite locally.
28.00	31.35	**Sediments** Sedimentsdark grey strongly fol metaseds, strong biotite. Minor nonmineralized semi planar quartz veining. Minor stringers of py following bedding/foliation at 60-75TCA.
31.35	35.00	**Aplitic Border Zone** Aplitic border phase of pegmatite,mixed unit of aplite and mg albite-quartz musc peg. Fg green musc patches throughout, trace green

Drillhole Number: **PWM-17-28** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		apatite. Lower contact seems gradational with altered tonalite
35.00	43.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg tonalite seems to have an altered groundmass and biotite is largely turned to a greenish musc, grain boundaries are hazy. Subunits - 38.15-38.4, 41.1-41.6 dark brownish massive quartz cutting core at low angle, around 20TCA. Nonmineralized.
43.90	67.50	**Sediments** Sedimentsdark grey strongly fol metaseds with random interbedded planar quartz feldspar stringers. Fol seems to be variable over length of unit ranging from 0 - 15TCA. Small quartz-albite-musc and quartz veining <5cm, often with irregular contacts.
67.50	80.00	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,dark grey albite-green fg musc-quartz fg peg and sodic apltie unit mixed with deformed seds, possible local broad folding. Aplite hosts trace, patchy fg reddish garnets. Unit is nonmineralized
80.00	85.41	**Sediments** Sedimentsdark grey strongly fol metaseds with planar and irregular quartz veins and stringers. Nonmineralized.
85.41	86.00	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,white and patchy green sodic aplite with localized fg peg. Greenish color due to patches of increased fg green musc. 86.0m EOH

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-28** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
5.33	5.81	0.48	548798	0.005	259	19.6	1.4	4
20.00	21.33	1.33	548799	0.08	200	32.7	1.4	4
21.33	22.59	1.26	548801	0.01	401	28.1	37.6	51
22.59	24.00	1.41	548802	0.08	153	29.4	0.5	4
24.00	25.00	1.00	548803	0.09	236	36.2	5.5	9
25.00	26.00	1.00	548804	0.11	153	24.2	2.3	5
26.00	27.16	1.16	548805	0.1	102	21	0.5	4
27.16	28.00	0.84	548806	0.08	885	88.2	90.3	74
28.00	29.00	1.00	548807	0.48	1830	559	9.7	28
29.00	30.00	1.00	548808	0.18	665	335	0.8	5
30.00	31.00	1.00	548809	0.27	1140	477	3	8
31.00	32.00	1.00	548811	0.15	762	220	24.1	27
32.00	33.00	1.00	548812	0.07	942	121	49.8	60
33.00	34.00	1.00	548813	0.06	671	91.4	53.4	48
34.00	35.00	1.00	548814	0.03	357	38.9	28.2	26
35.00	36.00	1.00	548816	0.04	303	34.2	2.1	4
36.00	37.00	1.00	548817	0.05	164	22.6	0.7	3
37.00	38.00	1.00	548818	0.05	216	25.7	0.8	2
38.00	39.00	1.00	548819	0.03	234	25.3	1.9	3
39.00	40.00	1.00	548821	0.04	265	37.2	1.7	4
40.00	41.00	1.00	548822	0.04	780	79.6	9	13
41.00	42.00	1.00	548823	0.03	700	56.6	14.5	17
42.00	43.00	1.00	548824	0.03	904	88.8	8.8	13
43.00	44.00	1.00	548825	0.07	431	130	2.1	11
44.00	45.00	1.00	548826	0.21	474	241	0.4	7
66.00	67.50	1.50	548827	0.17	332	154	2.1	6

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-28** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
67.50	68.53	1.03	548828	0.01	203	24.1	35.2	69
68.53	69.53	1.00	548829	0.07	253	46.7	2.1	6
69.53	71.00	1.47	548831	0.18	514	212	1.7	8
71.00	72.00	1.00	548832	0.04	136	29.9	2.3	14
72.00	73.00	1.00	548833	0.11	183	81.8	6	13
73.00	74.00	1.00	548834	0.03	62	8.3	2.6	5
74.00	75.00	1.00	548836	0.02	70	7.9	0.4	2
75.00	76.00	1.00	548837	0.07	155	34.8	4.8	10
76.00	77.00	1.00	548838	0.06	193	23.8	6.9	24
77.00	78.00	1.00	548839	0.03	110	10.5	2.7	10
78.00	79.00	1.00	548841	0.04	136	13.2	4.8	14
79.00	80.00	1.00	548842	0.04	122	21.4	1.9	10
80.00	81.00	1.00	548843	0.21	514	211	1.1	7
81.00	82.00	1.00	548844	0.18	615	245	5.7	17
82.00	83.00	1.00	548845	0.24	761	332	0.6	11
84.00	85.00	1.00	548847	0.16	552	213	1.4	7
85.00	86.00	1.00	548848	0.13	503	157	8	23

PWM-17-28

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-29** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577876.72	**Drill Hole Type**	DDH	**Casing Rod Length**	7.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431538.83	**Core Size**	NQ	**C. Rod Sticking Out**	0.19	**Cell Claim No.**	236534	**Hole Start Date**	16/10/2017
Elevation	343.65	**Hole Test**	Reflex	**Overburden**	4.81	**Legacy Claim No.**	1213780	**Hole Complete Date**	18/11/2017
Azimuth	150	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-45	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	74	**Hole Making Water**	No					**Logging Compelete**	01/11/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	150	-45	Collar		Yes
20	155.3	-44.9	Reflex	5613	Yes
74	158.7	-43.7	Reflex	5609	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-29** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	5.00	**Casing** Overburdenrounded fragments of metaseds and tonalite
5.00	14.05	**Sediments** Sedimentsdark grey strongly foliated metased. Fol/bedding is planar but weakly variable from 15-25TCA. Small quartz stringers throughout, weakly and locally boudinaged. Nonmineralized. Subunit - small 35cm interval of tonalite at top of hole, boulder and likely part of the casing recovery.
14.05	19.20	**Aplitic Border Zone** Aplitic border phase of pegmatite,white and greenish sodic aplite mixed with minor localized peg patches. Fg green musc rich patches give core greenish color. Dark grey/brownish massive quartz vein at 17.9-18.35m. Mg trace Sphalerite and oxides below quartz vein in fractured fg green musc rich aplite.
19.20	58.25	**Sediments** Sedimentsdark grey, mod to strongly foliated metaseds, foliation is planar and slightly variable from 35-40 dominant to 0-10 TCA locally. Fol defined by bedding and alignment of biotite. Several deformed and broken quartz veins within unit, some with irregular contacts. Nonmineralized. 27.54-27.6 albite quartz fg green musc fg peg, nonmineralized. 57.3-57.55 band of strong epidote alt within metaseds. Quartz vein at lower contact.
58.25	60.85	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,mixed unit of whitish pink and grey aplite and granitic textured albite-musc-quartz. Diss and patchy fg orange garnets.
60.85	68.65	**Sediments** Sedimentsdark grey mod foliated metased. Several irregular and weakly def quartz veins. 1mm fg py, follows bedding locally. 64.9-65.1 albite musc quartz peg with fg reddish garnet hosting aplite throughout. Nonmineralized.
68.65	68.97	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,greenish white albite-musc-quartz dyke, nonmineralized.
68.97	74.00	**Sediments** Sedimentsdark grey unaltered and nonmineralized metased. Mod fol almost parallel to core axis. Weakly boudinaged narrow quartz vein.

Drillhole Number: **PWM-17-29** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***

PWM-17-29

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-29** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
13.00	14.00	1.00	548849	0.15	673	279	0.8	8
14.00	15.00	1.00	548851	0.03	214	34.7	2.5	10
15.00	16.00	1.00	548852	0.02	296	22.6	13	19
16.00	17.00	1.00	548853	0.03	432	33.7	18.2	33
17.00	18.00	1.00	548854	0.04	365	31.8	15.5	33
18.00	19.00	1.00	548856	0.04	367	28.1	13.5	29
19.00	20.00	1.00	548857	0.14	850	260	4.3	27
58.00	59.00	1.00	548858	0.04	122	22.6	0.8	9
59.00	60.00	1.00	548859	0.005	138	5.4	0.3	3
60.00	61.00	1.00	548861	0.01	138	9.4	1.1	9
68.65	68.97	0.32	548862	0.005	53	3.6	26.2	85

PWM-17-29

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-30** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577848.36	**Drill Hole Type**	DDH	**Casing Rod Length**	9	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431593.32	**Core Size**	NQ	**C. Rod Sticking Out**	0.22	**Cell Claim No.**	236534	**Hole Start Date**	18/10/2017
Elevation	343.72	**Hole Test**	Reflex	**Overburden**	7.58	**Legacy Claim No.**	1213780	**Hole Complete Date**	19/10/2017
Azimuth	146	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-48	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	110	**Hole Making Water**	No					**Logging Compelete**	04/11/2017

Comments

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	146	-48	Collar		Yes
20	147	-44.7	Reflex	5612	Yes
71	149.5	-43.2	Reflex	5604	Yes
110	150.9	-42.3	Reflex	5611	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-30** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	7.80	**Casing** OverburdenOverburden
7.80	69.32	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular Tonalite. Grey in color, weakly foliated. Biotite orbicules are elongated, (2:1, 3:1) and up to 7cm x 3cm in size. Minor quartz veining from 46-60m with associated bleaching of the core.
69.32	69.68	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, non-mineralized with fine to medium grained orange garnets. Minor zone of coarse grained grey quartz-white feldspar-muscovite pegmatite.
69.68	72.70	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey to dark grey moderately foliated tonalite.
72.70	75.31	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Mixed zone of fine grained aplite and coarse grained qtz-feld-muscovite pegmatite, and silicified tonalite. Nonmineralized.
75.31	75.90	**Sediments** SedimentsFine grained metasediments, mm scale bedding, black in color. Coarse grained nonmineralized pegmatite vein from 75.45-75.55m.
75.90	77.12	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, with bleached zones.
77.12	77.54	**Sediments** SedimentsFine grained metasediments.
77.54	77.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
77.90	78.14	**Sediments**

Drillhole Number: **PWM-17-30** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		SedimentsMetasediments.
78.14	80.60	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Generally medium grained qtz-feld-musc pegmatite with aplite at lower contact. No spodumene observed.
80.60	110.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Moderately foliated grey tonalite with rare biotite orbicules. Subunits of pegmatite, feld-qtz-musc from 88.74-88.98m, 102.33-102.81, and 105.26-105.38m. From 82-86m the core is strongly fractured and ground in several areas.

PWM-17-30

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-30** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
68.00	69.00	1.00	548863	0.1	90	15.3	0.4	6
69.00	70.00	1.00	548864	0.07	393	31.8	16	19
70.00	71.00	1.00	548865	0.07	120	17.8	1.5	7
71.00	72.00	1.00	548866	0.06	85	12.6	0.4	5
72.00	73.00	1.00	548867	0.05	252	40.9	7.9	15
73.00	74.00	1.00	548868	0.06	484	62	54.6	33
74.00	75.00	1.00	548869	0.12	947	130	22.3	19
75.00	76.00	1.00	548871	0.42	2540	440	39.6	58
76.00	77.00	1.00	548872	0.1	677	103	4.9	5
77.00	78.00	1.00	548873	0.41	2060	452	11.7	14
78.00	79.00	1.00	548874	0.16	1110	172	175	155
79.00	80.00	1.00	548876	0.1	665	103	14	17
80.00	81.00	1.00	548877	0.12	365	66.6	5	7

PWM-17-30

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-31** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577892.56	**Drill Hole Type**	DDH	**Casing Rod Length**	21	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431685.13	**Core Size**	NQ	**C. Rod Sticking Out**	0.25	**Cell Claim No.**	236534	**Hole Start Date**	22/10/2017
Elevation	342.97	**Hole Test**	Reflex	**Overburden**	20.45	**Legacy Claim No.**	1213780	**Hole Complete Date**	23/10/2017
Azimuth	143	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-44	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	153	**Hole Making Water**	No					**Logging Compelete**	05/11/2017

Comments

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	143	-44	collar		Yes
41	145.6	-44.5	Reflex	5596	Yes
92	147.9	-44.4	Reflex	5611	Yes
150	149.6	-43.4	Reflex	5603	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-31** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	20.70	**Casing** OverburdenOverburden
20.70	129.43	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey moderately foliated tonalite, with rare elongated, (5:1 to 10:1) biotite orbicules, nonmineralized
129.43	131.27	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, with medium grained feld-qtz-musc zone with yellow muscovite. No spodumene observed.
131.27	132.88	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
132.88	134.48	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, with bleached tonalite and yellow muscovite. Fine grained banded garnets at lower contact. No spodumene observed.
134.48	135.85	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
135.85	136.28	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, with trace spodumene at upper contact. Zone has a red hue due to fine grained red garnets. Rare medium grained green apatite.
136.28	153.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite. Aplite dykes, with no spodumene observed from: 145.62-146.08m, 150.32-150.87m, and 151.18-151.4m.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-31** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
128.00	129.00	1.00	548878	0.08	43	8.5	0.3	3
129.00	130.00	1.00	548879	0.08	402	60.5	47.5	29
130.00	131.00	1.00	548881	0.04	386	56.6	36.2	29
131.00	132.00	1.00	548882	0.08	218	58.9	4.8	13
132.00	133.00	1.00	548883	0.12	451	182	2.1	4
133.00	134.00	1.00	548884	0.06	120	30.4	23.3	32
134.00	135.00	1.00	548885	0.13	326	82.2	4.3	12
135.00	136.00	1.00	548886	0.11	295	64.8	4.4	9
136.00	137.00	1.00	548887	0.08	150	38.9	4.2	8

PWM-17-31

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-32** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	577846.5	**Drill Hole Type**	DDH	**Casing Rod Length**	7.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431665.96	**Core Size**	NQ	**C. Rod Sticking Out**	0.2	**Cell Claim No.**	236534	**Hole Start Date**	23/10/2017
Elevation	343.19	**Hole Test**	Reflex	**Overburden**	7.4	**Legacy Claim No.**	1213780	**Hole Complete Date**	25/10/2017
Azimuth	146	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-46	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	155	**Hole Making Water**	No					**Logging Compelete**	13/11/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	146	-46	Collar		Yes
25	149.1	-44.9	Reflex	5628	Yes
76	151	-45	Reflex	5604	Yes
127	152.2	-44.8	Reflex	5599	Yes
155	153.5	-44.7	Reflex	5601	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-32** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	7.60	**Casing** OverburdenOverburden
7.60	128.18	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Moderately foliated. Biotite orbicules are rare and elongated. Weak to moderate pink kspar alteration from 7.6 to 47m. Mafic dyke from 45.33-45.5m, which is fine grained and chlorite rich. 10cm zone of rubbled tonalite at 46m.
128.18	128.51	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.5cm zones of banded aplite at the upper and lower contacts. 15cm core of coarse grained spodumene pegmatite where the spodumene has been very strongly altered to green muscovite.
128.51	130.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, with moderate yellow muscovite alteration at the upper and lower contacts.
130.30	131.50	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Muscovite-Kspar-Quartz pegmatite. 12 cm aplitic upper and lower contacts. Coarse to medium grained pegmatite, no spodumene observed. From 130.45m to 130.55m is a strongly green muscovite altered zone, maybe very strongly altered spodumene.
131.50	133.27	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
133.27	133.50	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic dyke, with minor qtz-feld-musc pegmatite. Laminated fine grained red garnets at lowe contact.
133.50	143.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, with several thin non-spodumene bearing aplitic dyke from 134.91-135.01m, 136.9-136.97m, 137.18-137.34m, 138.3-138.4m, and 141.04-141.15m.
143.40	143.91	**Wall Zone**

Drillhole Number: **PWM-17-32** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained qtz-feld-musc pegmatite. No spodumene observed. 15cm aplitic lower contact.
143.91	146.43	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated orbicule tonalite.
146.43	146.59	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic dyke, no spodumene observed.
146.59	155.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, with aplitic dyke from 149.82-150.01m, nonmineralized.

PWM-17-32

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-32** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
127.00	128.18	1.18	548888	0.09	133	22.5	0.5	3
128.18	128.51	0.33	548889	0.07	951	101	96	58
128.51	129.51	1.00	548891	0.12	199	44.8	2.6	4
129.51	130.30	0.79	548892	0.12	293	51.4	5.5	7
130.30	131.50	1.20	548893	0.08	361	75.5	103	92
131.50	132.50	1.00	548894	0.15	313	104	0.7	5
142.40	143.40	1.00	548896	0.09	117	18.8	0.5	4
143.40	143.91	0.51	548897	0.04	1080	37.4	20.5	35
143.91	145.00	1.09	548898	0.08	140	19.2	0.4	4

PWM-17-32

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-33** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578197.54	**Drill Hole Type**	DDH	**Casing Rod Length**	3	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431660.87	**Core Size**	NQ	**C. Rod Sticking Out**	0.21	**Cell Claim No.**	207953	**Hole Start Date**	25/10/2017
Elevation	350.46	**Hole Test**	Reflex	**Overburden**	1.29	**Legacy Claim No.**	1213780	**Hole Complete Date**	27/10/2017
Azimuth	148	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	71	**Hole Making Water**	No					**Logging Compelete**	26/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	148	-42	Collar		Yes
20	152.2	-44.4	Reflex	5587	Yes
71	153.1	-44.5	Reflex	5590	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-33** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.50	**Casing** Overburdenmg obicular tonalite, few weakly deformed biotite obicules, nonmineralized and unaltered
1.50	3.50	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg salt and pepper, obicular tonalite, few obicules. Nonmineralized and unaltered.
3.50	6.00	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.quartz-albite-musc/biotite-localized spd, pale lime green spd is cg to vcg. Locally 30%spd giving overall unit 15% spd mineralization.
6.00	10.60	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,mineralized quartz rich peg zone. Dominantly quartz-green to white cg spd>>kspar/albite-musc peg. Lower contact with massive quartz zone. Spd makes up 20% of unit.
10.60	21.00	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,quartz core with zones of massive kspar and quartz. Trace spd <1%.
21.00	26.00	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.weakly variable textured albite-quartz-spd-musc peg. Spd varies in color and size, from white finer grained to green and cg. Spd 10-30% locally with overall unit having about 10-15%spd. Possible trace fg black oxides.
26.00	32.18	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.quartz-spd-kspar-musc peg, variable quartz%. Greenish musc very cg locally. Spd is largely pale lime green and cg, about 20-30% of unit.
32.18	34.15	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.mica quartz rich, variable textured peg. Peg is quartz-musc-albite with localized finer grained biotite rich.
34.15	36.00	**Aplitic Border Zone**

Drillhole Number: **PWM-17-33** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Aplitic border phase of pegmatite,sugary textured white sodic aplite with diss fg garnets and greenish apatite. Dark Orange Garnets are locally banded and laminated near lower contact with tonalite. Mica rich granitic patches throughout. No spd observed, possible trace oxides.
36.00	49.42	**Case Batholith** Tonalite, granodiorite-quartz monzonite, obicular tonalite, mg, semi massive, strong obicules which vary in size and are weakly deformed. Nonmineralized and unaltered.
49.42	50.07	**Aplitic Border Zone** Aplitic border phase of pegmatite,white sodic aplite with peg core. Aplitic zones host fg orange garnets. Local irregular veins of fg-mg spd, makes up around 2% of unit.
50.07	58.00	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.variable textured peg with mixed aplite throughout. Very cg kspar near upper contact. Variable textured peg is quartz-albite-musc, musc is fg and bright green in places. Stringers and localized mg pale green spd. 5% localized spd.
58.00	68.45	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive salt and pepper obicular tonalite, very few obicules. Nonmineralized.
68.45	71.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi massive obicular tonalite. Very few obicules. Nonmineralized and unaltered. Small rubbled zone near bottom of hole.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-33** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
2.00	3.00	1.00	548899	0.09	48	7.1	0.3	6
3.00	4.00	1.00	548901	0.19	833	81.6	13.3	49
4.00	5.00	1.00	548902	0.09	727	75.5	11.6	23
5.00	6.00	1.00	548903	2.85	260	79.4	24.6	17
6.00	7.00	1.00	548904	3.19	286	163	162	42
7.00	8.00	1.00	548905	1.93	855	113	255	64
8.00	9.00	1.00	548906	2.13	954	118	141	30
9.00	10.00	1.00	548907	1.96	751	130	481	96
10.00	11.00	1.00	548908	1.07	4370	520	108	31
11.00	12.00	1.00	548909	0.03	10700	2030	0.8	3
12.00	13.00	1.00	548911	0.03	4430	1150	0.4	0.5
13.00	14.00	1.00	548912	0.04	1	1.2	0.05	0.5
14.00	15.00	1.00	548913	0.03	1	0.5	0.05	1
15.00	16.00	1.00	548914	0.03	1	0.7	0.05	1
16.00	17.00	1.00	548916	0.03	1	1.7	0.05	2
18.00	19.00	1.00	548918	0.14	28	4.9	0.1	2
19.00	20.00	1.00	548919	0.03	1500	252	11.5	3
20.00	21.00	1.00	548921	0.23	406	60.3	2	2
21.00	22.00	1.00	548922	0.35	436	59.7	2.5	3
22.00	23.00	1.00	548923	1.09	1460	201	150	50
23.00	24.00	1.00	548924	2.44	693	218	436	108
24.00	25.00	1.00	548925	2.21	705	105	441	112
25.00	26.00	1.00	548926	1.2	852	79.7	150	43
26.00	27.00	1.00	548927	1.93	834	92.9	285	75
27.00	28.00	1.00	548928	2.39	303	54.2	517	150
28.00	29.00	1.00	548929	2.56	429	207	591	173

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-33** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
29.00	30.00	1.00	548931	2.59	457	101	183	55
30.00	31.00	1.00	548932	2.92	105	28.3	50	44
31.00	32.00	1.00	548933	3.3	117	65.2	31	33
32.00	33.00	1.00	548934	0.6	1060	142	18.4	39
33.00	34.00	1.00	548936	0.23	1450	146	55.9	79
34.00	35.00	1.00	548937	0.09	482	55.7	47.7	54
35.00	36.00	1.00	548938	0.06	192	31.6	30.5	35
36.00	37.00	1.00	548939	0.14	535	186	6.3	10
37.00	38.00	1.00	548941	0.09	147	16.2	3.2	10
48.40	49.40	1.00	548942	0.13	149	28.9	1.7	8
49.40	50.10	0.70	548943	0.18	1730	97.5	45.5	57
50.10	51.10	1.00	548944	0.13	148	22.1	0.7	6
57.00	57.90	0.90	548945	0.12	204	34.4	0.6	6
57.90	59.00	1.10	548946	0.07	2220	135	203	120
59.00	60.00	1.00	548947	0.06	886	107	53.8	61
60.00	61.00	1.00	548948	0.36	1190	110	104	52
61.00	62.00	1.00	548949	0.34	1010	81.3	45.3	38
62.00	62.60	0.60	548951	0.12	664	78.9	68.7	48
62.60	63.60	1.00	548952	0.13	185	31.4	0.9	6

PWM-17-33

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-34** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578170.15	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431647.1	**Core Size**	NQ	**C. Rod Sticking Out**	0.12	**Cell Claim No.**	207953	**Hole Start Date**	27/10/2017
Elevation	349.72	**Hole Test**	Reflex	**Overburden**	1.38	**Legacy Claim No.**	1213780	**Hole Complete Date**	28/10/2017
Azimuth	148	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-45	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	65	**Hole Making Water**	No					**Logging Compelete**	27/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	148	-45	Collar		Yes
20	149.2	-45.1	Reflex	5605	Yes
70	150.4	-45.5	Reflex	5604	

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-34** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.50	**Casing** Overburdenmg tonalite, nonmineralized
1.50	7.04	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi massive obicular tonalite, one small quartz vein, nonmineralized. Very few obicules.
7.04	8.50	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.musc rich quartz-musc-kspar peg, albite alt to most kspar. Quartz is massive, glassy and brownish. No spd observed.
8.50	24.65	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,very cg quartz rich quartz-kspar-spd peg with minor musc. Spd varies slightly but overal makes up around 30% of unit. Ranges in size <1cm-8cm, pale green to localized white finer grained spd. No oxides observed.
24.65	29.75	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,musc rich quartz-muscovite-albite dyke, lacking spod. fg-mg garnets oflen within or at grain boudaries of musc "books". Weakly variable textured with fg-mg granitic sections.
29.75	32.55	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,quartz rich quartz-kspar-spd-musc pegmatite. Pale Lime green spod is mg-cg, makes up around 15% of unit.
32.55	34.60	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,variable textured musc-quartz-kspar and albite dyke. Massive glassy quartz, darker grey musc. May have trace fg localized spod. Lower contact shows gradational alt zone, looks like strong alt tonalite/xenoliths.
34.60	43.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive tonalite, very few, smaller, obicules.
43.30	44.65	**Aplitic Border Zone**

Drillhole Number: **PWM-17-34** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Aplitic border phase of pegmatite,white sodic apalite with minor musc rich peg. Banding and minor laminated fg garnets. Trace greenish apatite. No spd or oxides observed.
44.65	48.05	**Case Batholith** Tonalite, granodiorite-quartz monzonite, massive mg tonalite, few obicules. Looks like there are a few small whispy aplitic veins within tonalite.
48.05	48.83	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,unit is split 60/40 peg to aplite. Peg is very cg quartz-kspar-spd dominant with lesser musc. Apltie hosts laminated and patchy fg garnets. Spd in quartz rich zone is pale lime green and cg, makes up about 5-10%.
48.83	53.98	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi massive grey obicular tonalite. Nonmineralized and unaltered.
53.98	54.33	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,quartz core surrounded by aplitic margins, very narrow upper aplitic margin. 20cm of quartz core is about 75-80% cg pale green spd. Overall unit is 40% spd.
54.33	56.20	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive grey obicular tonalite. Nonmineralized and unaltered. Few smaller obicules.
56.20	57.00	**Aplitic Border Zone** Aplitic border phase of pegmatite,fg sugary textured white aplite, banded and patchy orange garnets. Small patch (6cm) of spd-quartz peg near lower contact.
57.00	58.70	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg massive grey tonalite, lacks obicules. Nonmineralized and unaltered.
58.70	59.85	**Aplitic Border Zone** Aplitic border phase of pegmatite,white with patchy pink and green sodic aplite. Mg dark orange/red garnets near upper contact. Green patches due to increased fg green musc locally. No spd observed, no oxides observed.

Drillhole Number: **PWM-17-34** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
59.85	65.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, 65m EOH. Mg massive tonalite, unit lacks obicules. Unaltered and nonmineralized.

PWM-17-34

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-34** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
5.00	6.00	1.00	548953	0.08	146	37.6	3.2	8
6.00	7.00	1.00	548954	0.09	154	29.7	1	6
7.00	8.00	1.00	548956	0.14	1340	91.8	13.5	31
8.00	9.00	1.00	548957	1.11	1070	164	40.8	31
9.00	10.00	1.00	548958	1.72	447	81.1	46.9	36
10.00	11.00	1.00	548959	2.07	554	97.3	293	96
11.00	12.00	1.00	548961	1.96	600	67.3	41.7	21
12.00	13.00	1.00	548962	1.45	727	99.1	195	47
13.00	14.00	1.00	548963	1.53	4290	391	123	27
14.00	15.00	1.00	548964	1.01	3400	299	94.8	26
15.00	16.00	1.00	548965	2.44	656	94.1	139	26
16.00	17.00	1.00	548966	2.4	921	113	88.1	32
17.00	18.00	1.00	548967	1.84	1150	149	103	47
18.00	19.00	1.00	548968	2.03	1460	157	285	116
19.00	20.00	1.00	548969	1.79	869	155	373	122
20.00	21.00	1.00	548971	2.05	1210	131	159	94
21.00	22.00	1.00	548972	1.85	1070	167	240	62
22.00	23.00	1.00	548973	2.59	287	46.4	37.5	14
23.00	24.00	1.00	548974	1.94	156	56.1	32.2	28
24.00	25.00	1.00	548976	0.99	777	94.7	21.7	24
25.00	26.00	1.00	548977	0.17	965	88.1	20.9	35
26.00	27.00	1.00	548978	0.23	1400	106	29.7	61
27.00	28.00	1.00	548979	0.23	1640	138	46.4	66
28.00	29.00	1.00	548981	0.14	1200	107	31.7	41
29.00	30.00	1.00	548982	1.06	844	104	27.9	33
30.00	31.00	1.00	548983	2.03	385	60.9	40	28

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-34** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
31.00	32.00	1.00	548984	2.28	265	81.3	116	90
32.00	33.00	1.00	548985	0.4	897	99.4	23.2	34
33.00	34.00	1.00	548986	0.24	1250	125	28.2	65
34.00	35.00	1.00	548987	0.16	669	121	16.6	36
35.00	36.00	1.00	548988	0.12	134	22.1	0.6	6
42.00	43.30	1.30	548989	0.15	475	94.3	5.5	9
43.30	44.65	1.35	548991	0.17	1220	97.6	75.6	76
44.65	45.65	1.00	548992	0.16	167	33	0.4	5
45.65	47.00	1.35	548993	0.16	154	27.1	3	10
47.00	48.05	1.05	548994	0.16	331	52.9	15.4	29
48.05	48.83	0.78	548996	0.52	759	51.2	14.7	25
48.83	50.00	1.17	548997	0.13	334	31.8	1.8	9
53.00	53.98	0.98	548998	0.15	349	53.4	1.1	5
53.98	55.00	1.02	548999	1.2	544	77.7	29.8	28
55.00	56.00	1.00	549501	0.16	208	42	0.5	6
56.00	57.00	1.00	549502	0.21	989	112	49.4	49
57.00	58.00	1.00	549503	0.17	302	70	0.4	4
58.00	59.00	1.00	549504	0.16	652	128	15.2	18
59.00	60.00	1.00	549505	0.13	812	145	50.5	38
60.00	61.00	1.00	549506	0.14	191	49.3	0.8	6

PWM-17-34

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-35** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578126.92	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431659.07	**Core Size**	NQ	**C. Rod Sticking Out**	0.35	**Cell Claim No.**	207953	**Hole Start Date**	28/10/2017
Elevation	346.38	**Hole Test**	Reflex	**Overburden**	0.55	**Legacy Claim No.**	1213780	**Hole Complete Date**	29/10/2017
Azimuth	149	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-45	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Jesse Koroscil
Length	80	**Hole Making Water**	No					**Logging Compelete**	07/11/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149	-45	Collar		Yes
20	150.1	-47.9	Reflex	5620	
80	153.8	-44.8	Reflex	5591	

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-35** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	0.90	**Casing** Overburdentonalite
0.90	5.70	**Case Batholith** Tonalite, granodiorite-quartz monzonite, unaltered, massive, mg salt and pepper tonalite. Very few obicules. One small <5cm nonmineralized quartz vein.
5.70	12.40	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.weakly nonhomgeneous and variable textured quartz-albite-musc-spd pegmatite. Local patches of quartz dominant/quartz rich peg and minor aplite. Green cg spd, 1-4cm, occurs at random, making up 5% of unit, 10% locally.
12.40	29.45	**Case Batholith** Tonalite, granodiorite-quartz monzonite, weakly fol to semi massive mg, black and white tonalite. Very few obicules. Lacks alt, mineralization and veining.
29.45	30.60	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,dark grey quartz rich peg, wall zone or outer int. unit lacks spd. Dark cg musc and quartz dominant.
30.60	34.87	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,very cg quartz-spd-kspar>albite-musc peg. Lime green spd, .5-5cm length, one crystal measures 30cm at 33.95m. Spd makes up about 30% of unit.
34.87	47.15	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.variable textured, mixed unit. Varies from quartz-albite-musc+-spd peg to whispy sodic aplite and quartz-musc rich-albite granite texture. Spd is lime green and fg-mg, strongest at top of unit. Spd makes up maybe 1% overall but can be 5-10% locally. Subunit- 41-42m massive tonalite.
47.15	55.50	**Case Batholith** Tonalite, granodiorite-quartz monzonite, mg semi-massive obicular tonalite. Few obicules. Very little veining. Lacks alteration or mineralization.

Drillhole Number: **PWM-17-35** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
55.50	58.84	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Generally fine grained kspar-quartz- and yellow muscovite pegmatite. Lower 40cm is aplite with fine grained red garnets. Muscovite is locally 50% of the core. No spodumene observed.
58.84	62.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite.
62.80	63.30	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitie, with fine grained red garnets. Fine grained trace spodumene observed.
63.30	67.65	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite.
67.65	68.60	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite with red garnets and green apatite. Fine grained light green spodumene rich vein over 1cm.
68.60	72.65	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated grey tonalite.
72.65	72.93	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, with fine grained banded red garnets and green apatite. No spodumene observed.
72.93	75.76	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Folaited grey tonalite.
75.76	76.57	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite similar to above aplite dykes, with minor coarse grained quartz-feld
76.57	80.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite.

Drillhole Number: **PWM-17-35** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***

PWM-17-35

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-35** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
5.00	5.70	0.70	549507	0.08	123	24.4	0.5	3
5.70	7.00	1.30	549508	2.46	278	87.7	27.7	17
7.00	8.00	1.00	549509	0.6	782	118	112	31
8.00	9.00	1.00	549511	0.65	1250	170	144	41
9.00	10.00	1.00	549512	0.09	1040	148	171	37
10.00	11.00	1.00	549513	0.07	1390	207	321	107
11.00	12.00	1.00	549514	0.13	1640	204	123	67
12.00	13.00	1.00	549516	0.09	361	56.8	42.8	19
13.00	14.00	1.00	549517	0.07	37	4	0.4	4
29.00	30.00	1.00	549518	0.19	779	110	11.4	36
30.00	31.00	1.00	549519	0.23	1240	125	21.4	60
31.00	32.00	1.00	549521	1.3	547	92.4	19.3	25
32.00	33.00	1.00	549522	1.82	522	112	50.3	60
33.00	34.00	1.00	549523	2.26	994	144	118	57
34.00	35.00	1.00	549524	1.62	1740	258	96.8	21
35.00	36.00	1.00	549525	0.41	1210	177	378	52
36.00	37.00	1.00	549526	0.34	1890	261	302	107
37.00	38.00	1.00	549527	0.62	1350	139	325	60
38.00	39.00	1.00	549528	0.97	684	123	33.3	28
39.00	40.00	1.00	549529	0.25	1140	278	29.6	37
40.00	41.00	1.00	549531	0.22	622	162	100	29
41.00	42.00	1.00	549532	0.14	269	74.7	1.1	4
42.00	43.00	1.00	549533	0.63	1210	177	34.9	28
43.00	44.00	1.00	549534	0.17	1410	154	107	61
44.00	45.00	1.00	549536	0.21	1450	165	41.1	39
45.00	46.00	1.00	549537	0.21	1240	158	31.1	33

Drillhole Number: **PWM-17-35** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
46.00	47.15	1.15	549538	0.21	1100	117	39.8	58
47.15	48.00	0.85	549539	0.14	211	52.4	2.2	6
48.00	49.00	1.00	549541	0.1	50	9.8	0.5	5
54.50	55.50	1.00	549542	0.09	300	57.9	4.1	8
55.50	56.00	0.50	549543	0.09	939	135	284	70
56.00	57.00	1.00	549544	0.25	1210	225	384	66
57.00	58.00	1.00	549545	0.23	3730	755	861	216
58.00	58.84	0.84	549546	0.08	686	177	128	50
58.84	60.00	1.16	549547	0.13	153	33.9	0.9	4
62.80	63.30	0.50	549548	0.15	270	32.8	46	25
67.65	68.60	0.95	549549	0.25	630	126	31.5	28
75.76	76.57	0.81	549551	0.17	966	291	42.7	35

PWM-17-35

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-36** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578100.35	**Drill Hole Type**	DDH	**Casing Rod Length**	3	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431699.34	**Core Size**	NQ	**C. Rod Sticking Out**	0	**Cell Claim No.**	236534	**Hole Start Date**	29/10/2017
Elevation	343.35	**Hole Test**	Reflex	**Overburden**	1.25	**Legacy Claim No.**	1213780	**Hole Complete Date**	30/10/2017
Azimuth	149	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-49	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	104	**Hole Making Water**	No					**Logging Compelete**	30/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149	-49	Collar		Yes
20	150.1	-47.9	Reflex	5620	Yes
70	152.5	-46.5	dummy		Yes
101	154.3	-45.8	Reflex	5588	

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-36** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.25	**Casing** OverburdenOverburden. 60cm piece of fine grained metasediment after overburden, most likely from a metasediment boulder.
1.25	42.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Massive to weakly foliated grey orbicular tonalite. Biotite orbicules are rare and strongly deformed.
42.90	44.60	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse to medium grained quartz-kspar-muscovite pematite. Two grey quartz veins over 26cm and 12 cm. Minor aplitic zones. No spodumene observed.
44.60	60.41	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated grey tonalite.
60.41	64.00	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Localized fine and medium grained green spodumene within albite-musscovite-quartz pegmatite. 5% spodumene overall.
64.00	67.43	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Generally coarse to medium grained quartz-feldspar-muscovite pegmatite.
67.43	67.90	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained red garnet bearing aplite. No spodumene observed.
67.90	78.87	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Medium grained tonalite.
78.87	81.90	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Mixed zone of aplite and aplite-quartz-muscovite-spodumene pegmatite. Unit is 60% aplite. Spodumene is locallized to quartz rich zones in the pegmatite. 1-2% spodumene overall. Bottom 90cm of zone is mix of aplite and tonalite.

Drillhole Number: **PWM-17-36** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
81.90	85.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
85.00	85.28	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplitic dyke with 3cm of coarse grained spodumene.
85.28	94.89	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated tonalite. Aplite vein from 90.45-90.65m, no spodumene observed.
94.89	96.03	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained aplite, no spodumene observed.
96.03	96.87	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
96.87	97.22	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Medium to coarse grained pegmatite, with trace spodumene.
97.22	104.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite. Aplite dyke from 97.78 - 98.04m with spodumene over 3 cm, and nonmineralized dykes from 98.53-98.67m, 99.91-100.11m, and 102-102.2m.

PWM-17-36

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-36** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
42.00	42.90	0.90	549552	0.08	105	20.4	0.3	3
42.90	44.00	1.10	549553	0.09	529	146	263	37
44.00	44.60	0.60	549554	0.06	631	147	449	63
44.60	45.60	1.00	549556	0.09	125	29.3	1.1	4
59.41	60.41	1.00	549557	0.12	195	39.9	1.4	4
60.41	61.00	0.59	549558	0.17	973	102	61.7	51
61.00	62.00	1.00	549559	0.47	607	92.2	93	27
62.00	63.00	1.00	549561	2.04	1200	210	371	61
63.00	64.00	1.00	549562	0.56	992	158	158	57
64.00	65.00	1.00	549563	0.33	1020	153	54.4	45
65.00	66.00	1.00	549564	0.25	1720	177	52.2	78
66.00	67.00	1.00	549565	0.3	2040	225	57.7	105
67.00	68.00	1.00	549566	0.17	805	153	23.4	45
68.00	69.00	1.00	549567	0.11	134	33.6	0.5	5
78.00	78.87	0.87	549568	0.11	304	54.7	3.4	8
78.87	80.00	1.13	549569	0.13	534	98.3	47.7	47
80.00	81.00	1.00	549571	0.51	286	87.3	38.3	32
81.00	82.00	1.00	549572	0.3	1400	326	33.2	69
82.00	83.00	1.00	549573	0.16	229	97.2	1.8	3
83.00	84.00	1.00	549574	0.17	55	17.1	0.2	2
84.00	85.00	1.00	549576	0.15	203	41.8	0.5	3
85.00	86.00	1.00	549577	0.23	419	77.2	35.9	11
86.00	87.00	1.00	549578	0.17	436	154	3.2	4
94.00	94.89	0.89	549579	0.14	263	33.9	0.3	2
94.89	96.03	1.14	549581	0.1	290	24.4	28.6	28
96.03	96.87	0.84	549582	0.14	454	117	1.2	4

Drillhole Number: **PWM-17-36** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
96.87	98.04	1.17	549583	0.29	1100	258	17.3	24
98.04	99.00	0.96	549584	0.16	520	181	4.8	7

PWM-17-36

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-37** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578076.38	**Drill Hole Type**	DDH	**Casing Rod Length**	3	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431737.93	**Core Size**	NQ	**C. Rod Sticking Out**	0.33	**Cell Claim No.**	135786	**Hole Start Date**	30/10/2017
Elevation	340.73	**Hole Test**	Reflex	**Overburden**	1.8	**Legacy Claim No.**	1213780	**Hole Complete Date**	02/11/2017
Azimuth	149	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	131	**Hole Making Water**	No					**Logging Compelete**	31/10/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149	-42	Collar		Yes
20	154.2	-43.4	Reflex	5608	Yes
70	156	-41	dummy		
131	158.4	-39.3	Reflex	5586	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-37** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	2.13	**Casing** OverburdenOverburden
2.13	77.35	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated tonalite. From 45-51m the core is fractured into small pieces, with local moderate chlorite alteration and has a pot marked appearance. Moderate kspar alteration up to 68m.
77.35	77.97	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, with orange banded garnets near the lower contact. Upper half is coarse grained quartz-feldspar- yellow muscovite pegmaitte. Possible trace spodumene altered to muscovite.
77.97	93.07	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, grey and weakly foliated.
93.07	93.57	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite, with yellow muscovite, lacking garnets.
93.57	95.66	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
95.66	98.55	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed zone of aplite and very coarse grained feldspar-quartz-muscovite sections. No spodumene observed.
98.55	103.41	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite. Aplite dyke from 102.63 to 102.84m, nonmineralized.
103.41	105.88	**Aplitic Border Zone** Aplitic border phase of pegmatite,Zone of aplite and yellow muscovite altered tonalite. No spodumene observed.
105.88	108.38	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Mixed zone of aplite and feldspar-quartz-

Drillhole Number: **PWM-17-37** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		muscovite pegmatite. No spodumene observed.
108.38	109.32	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
109.32	110.19	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Fine grained spodumene granite from 109.35 to 109.8m, 20-30% spodumene. Aplitic lower contact.
110.19	114.35	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, weakly foliated.
114.35	116.52	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Mixed zone of aplite and pegmatite. Coarse to fine grained spodumene, locally up to 30% over 10cm.
116.52	119.79	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalitle.
119.79	120.13	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, no spodumene observed.
120.13	124.95	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
124.95	125.52	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, with 5cm zone of spoudmene pegmatite.
125.52	126.20	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
126.20	127.27	**Aplitic Border Zone**

Drillhole Number: **PWM-17-37** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Aplitic border phase of pegmatite,Aplite, abundant fine grained red garnets, no spodumene observed.
127.27	128.25	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
128.25	128.53	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, no spodumene observed.
128.53	129.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
129.40	129.86	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite. No spodumene observed.
129.86	131.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.

PWM-17-37

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-37** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
76.35	77.35	1.00	549585	0.07	105	19.9	0.5	3
77.35	77.97	0.62	549586	0.08	737	122	61.4	24
77.97	79.00	1.03	549587	0.07	146	50.1	3.5	3
92.00	93.00	1.00	549588	0.07	51	4.7	0.2	4
93.00	94.00	1.00	549589	0.08	277	27.4	4.4	4
94.00	95.00	1.00	549591	0.1	61	6.6	0.3	2
95.00	96.00	1.00	549592	0.09	331	40.3	14	7
96.00	97.00	1.00	549593	0.09	912	151	207	95
97.00	98.00	1.00	549594	0.1	1040	126	55.5	58
98.00	99.00	1.00	549596	0.08	619	80.6	30.1	30
99.00	100.00	1.00	549597	0.07	78	13.5	0.4	2
100.00	101.00	1.00	549598	0.07	90	10.5	1	2
101.00	102.00	1.00	549599	0.09	85	11.1	0.9	5
102.00	103.00	1.00	549601	0.11	258	33.5	7.6	7
103.00	104.00	1.00	549602	0.08	478	56.8	14	8
104.00	105.00	1.00	549603	0.06	397	41.7	28.7	13
105.00	106.00	1.00	549604	0.1	529	66.2	173	88
106.00	107.00	1.00	549605	0.18	1540	242	73.5	87
107.00	108.00	1.00	549606	0.16	1450	287	134	82
108.00	109.00	1.00	549607	0.14	561	193	19.9	22
109.00	110.00	1.00	549608	1.31	567	142	24.7	28
110.00	111.00	1.00	549609	0.18	458	120	11.5	14
111.00	112.00	1.00	549611	0.16	114	29.7	0.5	5
112.00	113.00	1.00	549612	0.14	50	4.3	0.4	3
113.00	114.00	1.00	549613	0.15	77	29.2	3.1	5
114.00	115.00	1.00	549614	0.25	597	187	261	46

Drillhole Number: **PWM-17-37** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
115.00	116.00	1.00	549616	0.85	1610	330	117	46
116.00	117.00	1.00	549617	0.11	332	102	28.5	24
124.00	125.00	1.00	549618	0.15	463	50.6	3.6	11
125.00	126.00	1.00	549619	0.17	550	50.6	15.5	25
126.00	127.00	1.00	549621	0.1	281	24.6	17.2	33
127.00	128.00	1.00	549622	0.15	249	47.8	10.7	23
128.00	129.00	1.00	549623	0.14	271	62.2	5.8	18
129.00	130.00	1.00	549624	0.13	434	34.7	5.8	23

PWM-17-37

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-38** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578064.89	**Drill Hole Type**	DDH	**Casing Rod Length**	3	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431701.65	**Core Size**	NQ	**C. Rod Sticking Out**	0.25	**Cell Claim No.**	236534	**Hole Start Date**	02/11/2017
Elevation	342.47	**Hole Test**	Reflex	**Overburden**	1.75	**Legacy Claim No.**	1213780	**Hole Complete Date**	03/11/2017
Azimuth	148	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-48	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	110	**Hole Making Water**	No					**Logging Compelete**	03/11/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	148	-48	Collar		Yes
20	151.7	-42.8	Reflex	5591	Yes
71	152	-40.1	Reflex	5593	Yes
110	153.9	-39.1	Reflex	5580	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-38** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	2.00	**Casing** OverburdenOverburden
2.00	58.08	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite. Grey, moderately foliated, rare biotite orbicules.
58.08	59.51	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite and altered tonalite. Yellow muscovite alteration in the tonalite. Towards lower contact are minor pegmatite zones, feldspar-quartz-muscovite, with a laminated appearance.
59.51	72.40	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
72.40	72.87	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse grained feldsapr-quartz-msucovite-with minor spodumene pegmatite. Overall 1-2% spodumene.
72.87	73.62	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Yellow muscovite altered tonlite, bleached appearance.
73.62	74.66	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse grained feldspar-quartz-muscovite pegmatite, trace spodumene observed.
74.66	75.06	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite, banded red garnets near lower contact, minor pegmatite component, no spodumene observed.
75.06	83.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated tonalite.
83.30	84.62	**Aplitic Border Zone**

Drillhole Number: **PWM-17-38** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Aplitic border phase of pegmatite,Generally fine grained white aplite zone, with minor pegmatite patches of very coarse grained feldspar at 84m. Minor zones of yellow muscovite altered tonalite.
84.62	85.57	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Moderately foliated tonalite.
85.57	88.04	**Aplitic Border Zone** Aplitic border phase of pegmatite,Generally fine grained white aplite, containing red garnets, minor pegmatite veining, no spodumene observed.
88.04	93.52	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated tonalite, very rare deformed orbicules.
93.52	93.68	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplitic dyke, nonmineralized.
93.68	93.97	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly altered tonalite.
93.97	97.67	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse to fine grained feldspar-quartz-muscovite-spodumene pegmatite. Fine grained spodumene granite from 96.4 to 97.1m, 25% spodumene in zone. Overall 5% spodumene.
97.67	102.20	**Aplitic Border Zone** Aplitic border phase of pegmatite,Inhomogeneous aplite unit, containing red garnet and green apatite. Numberous zone of fine to medium grained red garnets. Coarse grained spodumene over 5cm at 99.3m.
102.20	102.59	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Foliated, moderately altered tonalite.
102.59	103.15	**Aplitic Border Zone**

Drillhole Number: **PWM-17-38** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Aplitic border phase of pegmatite,Aplite, no spodumene observed.
103.15	105.08	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
105.08	105.54	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, no spodumene observed.
105.54	110.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.

PWM-17-38

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-38** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
57.00	58.08	1.08	549625	0.07	94	18.6	0.6	4
58.08	59.51	1.43	549626	0.08	463	71.8	77.7	26
59.51	60.51	1.00	549627	0.07	126	33.3	1.1	5
71.40	72.40	1.00	549628	0.11	236	73.3	1.7	4
72.40	72.87	0.47	549629	0.03	265	62.9	65.9	19
72.87	73.62	0.75	549631	0.16	1480	280	59.2	30
73.62	74.66	1.04	549632	0.05	1140	132	180	37
74.66	75.66	1.00	549633	0.09	425	85.6	30.6	17
82.30	83.30	1.00	549634	0.11	180	39.4	1.4	4
83.30	84.62	1.32	549636	0.13	1540	237	60.9	58
84.62	85.57	0.95	549637	0.12	285	54	1.9	5
85.57	87.00	1.43	549638	0.08	512	70.9	48.1	36
87.00	88.04	1.04	549639	0.06	196	33	45.7	48
88.04	89.00	0.96	549641	0.13	163	50.2	0.8	7
93.00	93.97	0.97	549642	0.13	349	59.4	10.3	11
93.97	95.00	1.03	549643	0.15	2190	285	43.2	31
95.00	96.00	1.00	549644	0.28	1740	211	143	61
96.00	97.10	1.10	549645	2.19	338	73.6	108	24
97.10	98.00	0.90	549646	0.19	418	60.2	39.1	51
98.00	99.00	1.00	549647	0.06	246	41.1	26.3	29
99.00	100.00	1.00	549648	0.4	312	65.2	29.4	28
100.00	101.00	1.00	549649	0.21	163	67.4	18.3	16
101.00	102.02	1.02	549651	0.19	213	66.5	25.1	22
102.02	102.59	0.57	549652	0.16	633	198	4.3	10
102.59	103.15	0.56	549653	0.11	112	32.8	24.4	23
103.15	104.00	0.85	549654	0.14	144	49.5	4.4	5

Drillhole Number: **PWM-17-38** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
104.00	105.08	1.08	549656	0.15	162	41.1	1.6	6
105.08	105.54	0.46	549657	0.09	233	36.3	36.3	41
105.54	106.54	1.00	549658	0.12	115	30.9	0.5	3

PWM-17-38

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-39** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578042.8	**Drill Hole Type**	DDH	**Casing Rod Length**	4.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431739.04	**Core Size**	NQ	**C. Rod Sticking Out**	0.45	**Cell Claim No.**	135786	**Hole Start Date**	04/11/2017
Elevation	340.71	**Hole Test**	Reflex	**Overburden**	3.7	**Legacy Claim No.**	1213780	**Hole Complete Date**	07/11/2017
Azimuth	149	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-40	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	140	**Hole Making Water**	No					**Logging Compelete**	11/11/2017

Comments hole PWM-17-39 is collared along the claim boundary between 1213780 and 1214666 to the north.

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149	-40	Collar		Yes
20	148.5	-41.9	Reflex	5608	Yes
71	150.5	-39.9	Reflex	5594	Yes
140	151.4	-36.5	Reflex	5589	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-39** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	4.15	**Casing** OverburdenOverburden
4.15	90.84	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated tonalite. Rare deformed biotite orbicules.
90.84	91.10	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite dyke, no spodumene observed.
91.10	108.34	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite. From 104.6m to 108.34m is a mixed zone of tonalite and aplite, which is white feldspar rich.
108.34	108.59	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite dyke, no spodumene observed.
108.59	116.26	**Case Batholith** Tonalite, granodiorite-quartz monzonite, White to grey tonalite. From 108.59m to 113.2m is a mixed zone of aplite and white feldspar rich tonalite. Nonmineralized aplite dyke from 114.12m to 114.39m.
116.26	120.15	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Very coarse to medium grained kspar-quartz-muscovite pegmatite. No spodumene observed, possible complete alteration to muscovite.
120.15	125.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated tonalite.
125.00	125.77	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Aplite dyke, fine to medium grained, minor coarse grained pegmatite patches, no spodumene observed.
125.77	129.33	**Case Batholith**

Drillhole Number: **PWM-17-39** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Tonalite, granodiorite-quartz monzonite, Grey tonalite, orbicule rich zone at 127.5m.
129.33	129.62	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained aplite, containing red garnets and green apatite.
129.62	130.08	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Spodumene grainte, generally fine grained. Spodumene is light green in color, and 20% of zone.
130.08	130.51	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained aplite, thin, 3cm, spodumene zone at 130.26m.
130.51	131.65	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
131.65	132.05	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Mixed zone of aplite and pegmatite, 1% spodumene.
132.05	132.58	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
132.58	133.29	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed zone of aplite and pegmatite, trace spodumene observed.
133.29	133.57	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
133.57	133.77	**Aplitic Border Zone** Aplite dykes, muscovite-quartz-albite,Aplite, no spodumene observed.
133.77	140.00	**Case Batholith**

Drillhole Number: **PWM-17-39** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***
		Tonalite, granodiorite-quartz monzonite, Tonalite. Aplite dyke from 135-135.15m, 135.29-135.56m, 135.82-136.18m, and 137.17-137.29m, no spodumene observed.

PWM-17-39

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-39** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
115.00	116.00	1.00	549659	0.1	164	52.8	2.8	5
116.00	117.00	1.00	549661	0.07	645	139	96	59
117.00	118.00	1.00	549662	0.1	1210	218	268	99
118.00	119.00	1.00	549663	0.05	469	83.8	259	88
119.00	120.15	1.15	549664	0.06	654	117	201	96
120.15	121.00	0.85	549665	0.08	147	20.8	2	4
124.00	125.00	1.00	549666	0.1	284	76	3	10
125.00	126.00	1.00	549667	0.07	426	104	25.5	25
126.00	127.00	1.00	549668	0.13	282	84.1	2	5
127.00	128.00	1.00	549669	0.2	100	28	0.6	8
128.00	129.33	1.33	549671	0.17	593	95.8	7.3	19
129.33	130.51	1.18	549672	0.98	292	66.3	64.2	31
130.51	131.65	1.14	549673	0.13	252	67.7	1	4
131.65	132.58	0.93	549674	0.21	498	132	6.9	13
132.58	133.29	0.71	549676	0.18	340	87	47.5	26
133.29	134.00	0.71	549677	0.16	317	110	7.6	16

PWM-17-39

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-40** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578227.4	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431700.22	**Core Size**	NQ	**C. Rod Sticking Out**	0.28	**Cell Claim No.**	207953	**Hole Start Date**	07/11/2017
Elevation	346.24	**Hole Test**	Reflex	**Overburden**	0.89	**Legacy Claim No.**	1213780	**Hole Complete Date**	09/11/2017
Azimuth	147	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	76	**Hole Making Water**	No					**Logging Compelete**	11/11/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	147	-42	Collar		Yes
20	151.6	-44.1	Reflex	5580	Yes
76	152.1	-44	Reflex	5584	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-40** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.17	**Casing** OverburdenOverburden.
1.17	8.23	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey foliated grey tonalite.
8.23	43.38	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Generally coarse to very coarse grey quartz- white feldspar- green spodumene- muscovite pegmatite. Majority of spodumene mineralization is from 18.8m to 35.85m, with 25-30% spodumene. From 8.23 to 18.8 meters spodumene has been moderately to strongly altered to muscovite. Zone of spodumene pegmatite from 11.47m to 11.72m. Muscovite rich zone at upper contact from 8.48m to 11.47, and at lower contact from 38 to 43.38m.
43.38	44.86	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained aplite with red banded garnets, no spodumene observed.
44.86	45.50	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
45.50	45.82	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite with fine grained banded red garnets. Zone of spodumene pegmatite, 10% spod, from 45.64 - 45.82m.
45.82	66.06	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
66.06	68.90	**Inner Intermediate Zone** Coarse to very CG muscovite-spodumene-quartz-kspar pegmatite.Very coarse grained white k-feldspar-grey quartz- muscovite pegmatite. Locally very coarse grained green spodumene, 1-2% spodumene overall
68.90	76.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.

Drillhole Number: **PWM-17-40** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***

PWM-17-40

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-40** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
7.00	8.23	1.23	549678	0.12	157	40.4	0.9	5
8.23	9.00	0.77	549679	0.24	1450	115	28.7	49
9.00	10.00	1.00	549681	0.23	1600	136	49.6	55
10.00	11.00	1.00	549682	0.21	1310	121	26	42
11.00	12.00	1.00	549683	0.3	899	125	58.9	61
12.00	13.00	1.00	549684	0.08	875	115	38.9	19
13.00	14.00	1.00	549685	0.05	764	99	103	37
14.00	15.00	1.00	549686	0.05	1310	135	549	140
15.00	16.00	1.00	549687	0.04	1680	175	364	74
16.00	17.00	1.00	549688	0.04	1600	196	219	61
17.00	18.00	1.00	549689	0.05	1250	183	210	60
18.00	19.00	1.00	549691	0.52	1330	174	171	44
19.00	20.00	1.00	549692	1.8	583	90.4	111	46
20.00	21.00	1.00	549693	2.45	695	144	154	56
21.00	22.00	1.00	549694	2.48	1210	174	132	61
22.00	23.00	1.00	549696	2.37	378	101	684	683
23.00	24.00	1.00	549697	1.29	134	40.6	28.1	21
24.00	25.00	1.00	549698	1.34	302	91.9	172	70
25.00	26.00	1.00	549699	1.38	2020	365	695	179
26.00	27.00	1.00	549701	1.44	1070	297	632	150
27.00	28.00	1.00	549702	2.2	211	44.1	60.6	19
28.00	29.00	1.00	549703	2.75	244	62.9	31.8	13
29.00	30.00	1.00	549704	2.84	244	45.3	47.1	16
30.00	31.00	1.00	549705	2.94	168	45.8	21.1	13
31.00	32.00	1.00	549706	3.01	325	115	41.7	17
32.00	33.00	1.00	549707	2.5	1020	165	543	76

Drillhole Number: **PWM-17-40** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
33.00	34.00	1.00	549708	3.4	440	89.1	258	35
34.00	35.00	1.00	549709	1.4	384	52.6	37.6	32
35.00	36.00	1.00	549711	1.08	686	118	31.3	25
36.00	37.00	1.00	549712	0.18	1000	134	23.3	46
37.00	38.00	1.00	549713	0.12	837	106	28.3	36
38.00	39.00	1.00	549714	0.28	1880	225	57.7	94
39.00	40.00	1.00	549716	0.27	1680	197	54.7	105
40.00	41.00	1.00	549717	0.23	1290	321	25.3	52
41.00	42.00	1.00	549718	0.31	1700	485	39.8	76
42.00	43.00	1.00	549719	0.31	2120	665	85.2	98
43.00	44.00	1.00	549721	0.09	563	165	32.4	64
44.00	45.00	1.00	549722	0.16	265	179	42.1	68
45.00	46.00	1.00	549723	0.4	649	171	19.6	34
46.00	47.00	1.00	549724	0.14	189	45.8	1.3	5
65.00	66.06	1.06	549725	0.11	115	29.8	0.6	7
66.06	67.00	0.94	549726	0.09	2560	131	8.7	12
67.00	68.00	1.00	549727	0.76	2290	221	30.5	18
68.00	68.90	0.90	549728	0.34	1240	113	43.4	83
68.90	70.00	1.10	549729	0.15	300	68.8	3.4	12

PWM-17-40

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-41** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578208.82	**Drill Hole Type**	DDH	**Casing Rod Length**	3	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431733.53	**Core Size**	NQ	**C. Rod Sticking Out**	0.16	**Cell Claim No.**	220042	**Hole Start Date**	10/11/2017
Elevation	342.67	**Hole Test**	Reflex	**Overburden**	1.51	**Legacy Claim No.**	1213780	**Hole Complete Date**	11/11/2017
Azimuth	146	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	104	**Hole Making Water**	No					**Logging Compelete**	11/11/2017
Comments									

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	146	-42	Collar		Yes
20	150.5	-43.5	Reflex	5607	Yes
71	149.1	-41.1	Reflex	5584	Yes
104	149.6	-39.7	Reflex	5595	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-41** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.67	**Casing** OverburdenOverburden
1.67	36.05	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicule rich tonalite. From 11m to 30m orbicules of biotite are very common, comprising 25% of the core. K-spar vein from 33.97m to 34.09m.
36.05	48.60	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse to medium grained kspar-quartz-muscovite pegmatite. Fine grained white aplitie zones with red garnets are common. No spodumene observed, possible complete alteration to muscovite.
48.60	51.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey massive tonalite, weak yellow muscovite alteration.
51.80	56.85	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite with massive and banded red garnets. Coarse grained muscovite veining makes up 35% of the zone. From 55.7m to 56.85 is very coarse grained grey quartz. No spodumene observed.
56.85	58.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite.
58.30	68.38	**Aplitic Border Zone** Aplitic border phase of pegmatite,Generally fine grained white aplite, with a few minor pegmatite zones. No spodumene observed.
68.38	93.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
93.00	98.12	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite with minor coarse grained muscovite veining. From 95.3m to 95.45m is a coarse grained spodumene bearing pegmatite vein.

Drillhole Number: **PWM-17-41** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
98.12	104.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.

PWM-17-41

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-41** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
36.00	37.00	1.00	549731	0.11	943	100	33.3	73
37.00	38.00	1.00	549732	0.16	1450	144	35.7	96
38.00	39.00	1.00	549733	0.1	899	106	25	55
39.00	40.00	1.00	549734	0.04	339	63.1	44	29
40.00	41.00	1.00	549736	0.03	362	68.5	130	50
41.00	42.00	1.00	549737	0.04	717	159	182	34
42.00	43.00	1.00	549738	0.07	1360	310	147	51
43.00	44.00	1.00	549739	0.08	971	175	114	55
44.00	45.00	1.00	549741	0.09	934	140	42.9	48
45.00	46.00	1.00	549742	0.12	1210	111	44.3	77
46.00	47.00	1.00	549743	0.11	1240	267	56.2	53
47.00	48.00	1.00	549744	0.06	890	142	76.5	38
48.00	49.00	1.00	549745	0.2	1520	183	43.3	47
49.00	50.00	1.00	549746	0.25	1210	250	14.1	26
50.00	51.00	1.00	549747	0.23	979	256	8.4	18
51.00	52.00	1.00	549748	0.27	1300	225	17	28
52.00	53.00	1.00	549749	0.13	760	83	35.6	61
53.00	54.00	1.00	549751	0.05	155	26.2	69.8	57
54.00	55.00	1.00	549752	0.07	480	88.3	118	64
55.00	56.00	1.00	549753	0.09	613	104	38.7	23
56.00	57.00	1.00	549754	0.05	281	45.2	348	38
57.00	58.00	1.00	549756	0.22	972	409	8	14
58.00	59.00	1.00	549757	0.14	867	235	41.6	41
59.00	60.00	1.00	549758	0.08	778	113	40.6	37
60.00	61.00	1.00	549759	0.04	385	75.8	926	85
61.00	62.00	1.00	549761	0.08	1150	134	91.5	86

Drillhole Number: **PWM-17-41** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
62.00	63.00	1.00	549762	0.1	991	166	50.8	65
63.00	64.00	1.00	549763	0.02	192	39	44	42
64.00	65.00	1.00	549764	0.05	454	76	23.6	30
65.00	66.00	1.00	549765	0.08	445	116	27.8	35
66.00	67.00	1.00	549766	0.23	1120	443	9.7	16
67.00	68.00	1.00	549767	0.2	758	197	12.7	32
68.00	69.00	1.00	549768	0.09	252	86.7	20.2	29
92.00	93.00	1.00	549769	0.16	390	95.1	5.2	8
93.00	94.00	1.00	549771	0.06	395	51.1	142	136
94.00	95.00	1.00	549772	0.2	1340	189	74.9	50
95.00	96.00	1.00	549773	0.32	940	148	132	64
96.00	97.00	1.00	549774	0.08	502	67.2	27.9	45
97.00	98.00	1.00	549776	0.08	236	46.5	55.2	70
98.00	99.00	1.00	549777	0.13	353	136	7.7	15

PWM-17-41

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-42** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578243.12	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431709.19	**Core Size**	NQ	**C. Rod Sticking Out**	0.12	**Cell Claim No.**	207953	**Hole Start Date**	11/11/2017
Elevation	345.94	**Hole Test**	Reflex	**Overburden**	0.78	**Legacy Claim No.**	1213780	**Hole Complete Date**	14/11/2017
Azimuth	142	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	101	**Hole Making Water**	No					**Logging Compelete**	11/11/2017

Comments

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	142	-42	Collar		Yes
20	150.9	-44	Reflex	5592	Yes
74	150.6	-41.8	Reflex	5595	Yes
100	150	-39.9	Reflex	5595	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-42** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	0.90	**Casing** OverburdenOverburden.
0.90	5.15	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey massive orbicular tonalite.
5.15	5.45	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite, with red garnets.
5.45	6.40	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained kspar-quartz-muscovite pegmaite, no spodumene observed, likely altered to muscovite.
6.40	6.95	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite with banded red and orange garnets.
6.95	7.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
7.90	18.00	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse grained white feldspar-grey quartz- muscovite - spodumene pegmatite. Spodumene mineralization has been moderately to strongly altered to yellow muscovite. Overall 1-2% spodumene.
18.00	21.36	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed zone of altered tonalite and aplite, generally fine to medium grained, no spodumene observed.
21.36	23.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
23.90	37.30	**Outer intermediate Zone**

Drillhole Number: **PWM-17-42** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Very coarse grained quartz-feldspar-muscovite pegmatite. Trace spodumene observed, strongly altered to yellow muscovite. Very coarse grained quartz rich zone from 24.75 to 31m, with no spodumene observed.
37.30	38.42	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
38.42	40.65	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite with banded red garnets, minor coarse grained pegmatite patches, no spodumene observed.
40.65	64.66	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite.
64.66	68.81	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Inhomogeneous zone of fine to coarse grained quartz-feldspar-muscovite-spodumene pegmatite. Several zones of fine and medium grained spodumene rich pegmatite occur over 10cm to 30cm, with spodumene volume up to 30%. Aplitic lower contact.
68.81	90.66	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey massive tonalite.
90.66	93.65	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mized zone of aplite and minor muscovite rich pegmatite zones. Fine and medium grained orange garnets near lower contact. No spodumene observed.
93.65	101.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey massive tonalite.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-42** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
4.00	5.00	1.00	549778	0.17	243	77.7	0.4	5
5.00	6.00	1.00	549779	0.12	1350	104	29.6	53
6.00	7.00	1.00	549781	0.08	659	72.9	56.2	91
7.00	8.00	1.00	549782	0.22	978	210	7	25
8.00	9.00	1.00	549783	0.09	921	112	17.3	35
9.00	10.00	1.00	549784	0.05	587	76	22.7	22
10.00	11.00	1.00	549785	0.03	1330	148	260	186
11.00	12.00	1.00	549786	0.02	2180	187	94.9	20
12.00	13.00	1.00	549787	0.01	4840	582	81.6	21
13.00	14.00	1.00	549788	0.02	2410	309	58.1	21
14.00	15.00	1.00	549789	0.03	1290	138	298	77
15.00	16.00	1.00	549791	0.03	1450	136	183	50
16.00	17.00	1.00	549792	0.04	816	97.4	70.3	33
17.00	18.00	1.00	549793	0.11	912	116	50.9	27
18.00	19.00	1.00	549794	0.15	1130	125	46.5	47
19.00	20.00	1.00	549796	0.09	994	104	46.8	46
20.00	21.00	1.00	549797	0.03	339	32	84.4	53
21.00	22.00	1.00	549798	0.12	789	166	25.9	22
22.00	23.00	1.00	549799	0.15	430	131	3.1	6
23.00	24.00	1.00	549801	0.14	512	102	5.4	22
24.00	25.00	1.00	549802	0.08	766	86.7	10.6	24
25.00	26.00	1.00	549803	0.02	9	2.3	0.05	0.5
26.00	27.00	1.00	549804	0.02	353	60.2	1	4
27.00	28.00	1.00	549805	0.05	459	59.9	15.8	19
28.00	29.00	1.00	549806	0.01	27	2.7	0.4	0.5
29.00	30.00	1.00	549807	0.01	1860	419	0.3	0.5

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-42** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
30.00	31.00	1.00	549808	0.01	83	8.8	0.7	0.5
31.00	32.00	1.00	549809	0.01	3300	543	2.1	3
32.00	33.00	1.00	549811	0.03	1010	128	132	31
33.00	34.00	1.00	549812	0.09	861	102	17.4	31
34.00	35.00	1.00	549813	0.04	584	75.6	144	28
35.00	36.00	1.00	549814	0.13	1220	151	22	45
36.00	37.00	1.00	549816	0.24	1730	152	32.4	73
37.00	38.00	1.00	549817	0.2	793	155	7.2	20
38.00	39.00	1.00	549818	0.13	459	98.6	38.6	31
39.00	40.00	1.00	549819	0.07	1320	138	124	36
40.00	41.00	1.00	549821	0.21	573	182	33.7	35
41.00	42.00	1.00	549822	0.15	362	101	16.4	26
42.00	43.00	1.00	549823	0.13	133	41.8	1.3	6
64.00	65.00	1.00	549824	0.09	1200	58.2	0.9	4
65.00	66.00	1.00	549825	0.88	639	64.8	27.3	21
66.00	67.00	1.00	549826	0.81	449	50.1	17.7	6
67.00	68.00	1.00	549827	1.29	1320	129	220	74
68.00	69.00	1.00	549828	0.11	500	64.4	30	36
89.66	90.66	1.00	549829	0.12	271	69	1.3	5
90.66	92.00	1.34	549831	0.05	1200	155	505	163
92.00	93.00	1.00	549832	0.02	372	43.4	128	55
93.00	93.65	0.65	549833	0.005	47	3.6	65.4	39
93.65	94.65	1.00	549834	0.2	634	123	7	10

PWM-17-42

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-43** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578243.18	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431708.93	**Core Size**	NQ	**C. Rod Sticking Out**	0.32	**Cell Claim No.**	207953	**Hole Start Date**	12/11/2017
Elevation	346.02	**Hole Test**	Reflex	**Overburden**	0.58	**Legacy Claim No.**	1213780	**Hole Complete Date**	14/11/2017
Azimuth	120	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-46	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	101	**Hole Making Water**	No					**Logging Compelete**	13/11/2017

Comments collar looks like it is on the border between claims 1213780 and 1214666

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	120	-46	Collar		Yes
21	127.3	-48.8	Reflex	5606	Yes
100	128.5	-45.9	Reflex	5595	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-43** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	0.90	**Casing** OverburdenOverburden
0.90	5.18	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey orbicular tonalite.
5.18	20.61	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse grained feldspar-quartz-muscovite with minor spodumene pegmatite. The spodumene mineralization has been strongly to moderately altered to muscovite. Very coarse grained weakly altered spodumene from 8.03 to 8.55m.
20.61	23.42	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine to medium grained zone of aplite.
23.42	28.98	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Medium grained feldspar-quartz-muscovite pegmatite, no spodumene observed. Aplite from 26 to 26.5m.
28.98	29.60	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white to light pink aplite.
29.60	32.18	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Weakly foliated tonalite.
32.18	33.10	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed zone of aplite and pegmatite, no spodumene observed.
33.10	34.49	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite.
34.49	36.33	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed zone of aplite and pegmatite, no spodumene observed.

Drillhole Number: **PWM-17-43** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
36.33	36.91	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Yellow muscovite altered tonalite.
36.91	42.88	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained red garnet rich aplite, with trace spodumene at 42.25m.
42.88	43.15	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
43.15	43.30	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, no spodumene observed.
43.30	67.65	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
67.65	68.80	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse grained feldspar-quartz-muscovite-spodumene pegmatite. From 68.35 to 68.7m is 25% light green spodumene. Lower contact with metasediments at 45 degrees to core axis.
68.80	69.14	**Sediments** SedimentsBlack fine grained metasediments.
69.14	69.40	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained feldspar-quartz-muscovite, no spodumene observed.
69.40	70.32	**Sediments** SedimentsMetasediments.
70.32	70.43	**Aplitic Border Zone**

Drillhole Number: **PWM-17-43** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		Aplitic border phase of pegmatite,Fine grained aplite with yellow muscovite.
70.43	79.70	**Sediments** SedimentsMetasediments.
79.70	81.82	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Fine grained dark grey tonalite.
81.82	82.60	**Sediments** SedimentsBlack fine grained metasediments.
82.60	84.50	**Aplitic Border Zone** Aplitic border phase of pegmatite,Light grey aplite. Yellow muscovite rich with medium to coarse grained red garnets.
84.50	89.50	**Sediments** SedimentsMetasediments, rich in medium grained garents.
89.50	90.50	**Aplitic Border Zone** Aplitic border phase of pegmatite,Light grey aplite, similar to above unit.
90.50	96.24	**Sediments** SedimentsMetasediments. Abundant, 25%, medium grained red garnets from 90.5 to 92.5m. Strong chlorite alteration from 92.9 to 93.25m.
96.24	96.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Fine grained grey tonalite.
96.80	101.00	**Sediments** SedimentsBlack metasediments. Chlorite rich from 96.8 to 97.38m. Minor quartz veining.

Drillhole Number: **PWM-17-43** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Lithology***

PWM-17-43

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-43** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
4.00	5.18	1.18	549862	0.21	439	121	4.9	6
5.18	6.00	0.82	549863	0.22	1680	140	32.6	55
6.00	7.00	1.00	549864	0.15	1100	108	27.7	63
7.00	8.00	1.00	549865	0.14	741	107	21.5	22
8.00	9.00	1.00	549866	0.44	244	42.2	34	26
9.00	10.00	1.00	549867	0.05	622	81.1	28.3	18
10.00	11.00	1.00	549868	0.05	900	90.8	29.2	24
11.00	12.00	1.00	549869	0.03	1400	158	377	72
12.00	13.00	1.00	549871	0.03	1150	94.6	162	39
13.00	14.00	1.00	549872	0.03	453	60.2	20.9	16
14.00	15.00	1.00	549873	0.04	719	82.6	35.2	17
15.00	16.00	1.00	549874	0.06	1030	127	25.1	33
16.00	17.00	1.00	549876	0.04	380	108	268	83
17.00	18.00	1.00	549877	0.04	1340	139	289	75
18.00	19.00	1.00	549878	0.03	860	79.1	184	48
19.00	20.00	1.00	549879	0.04	435	56.5	42.9	23
20.00	21.00	1.00	549881	0.08	1100	125	40.4	49
21.00	22.00	1.00	549882	0.07	951	102	59.3	74
22.00	23.00	1.00	549883	0.08	755	121	48.8	52
23.00	24.00	1.00	549884	0.09	1110	115	48.4	69
24.00	25.00	1.00	549885	0.09	1190	113	48.6	77
25.00	26.00	1.00	549886	0.07	918	82.7	50.8	75
26.00	27.00	1.00	549887	0.09	1400	192	64.1	69
27.00	28.00	1.00	549888	0.04	550	62.6	59.1	64
28.00	29.00	1.00	549889	0.07	1030	126	83.2	87
29.00	30.00	1.00	549891	0.07	441	93.4	34.2	38

Drillhole Number: **PWM-17-43** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
30.00	31.00	1.00	549892	0.13	285	62.3	2.7	11
31.00	32.00	1.00	549893	0.1	228	43.3	5.2	16
32.00	33.00	1.00	549894	0.07	766	130	142	56
33.00	34.00	1.00	549896	0.11	368	109	9.6	14
34.00	35.00	1.00	549897	0.14	582	119	24.1	32
35.00	36.00	1.00	549898	0.11	915	138	96	79
36.00	37.00	1.00	549899	0.24	1430	314	127	55
37.00	38.00	1.00	549901	0.08	363	135	72.6	47
38.00	39.00	1.00	549902	0.04	102	37.3	64.6	35
39.00	40.00	1.00	549903	0.05	179	64.3	19.7	30
40.00	41.00	1.00	549904	0.07	290	93.1	9.6	15
41.00	42.00	1.00	549905	0.09	171	66.6	36.1	42
42.00	43.00	1.00	549906	0.12	932	188	29.3	56
43.00	44.00	1.00	549907	0.14	435	110	5.2	9
66.65	67.65	1.00	549908	0.14	209	51.7	0.9	5
67.65	68.80	1.15	549909	0.85	1440	184	94.1	73
68.80	70.00	1.20	549911	0.35	1810	527	41.2	34
70.00	71.00	1.00	549912	0.18	171	192	1.1	7
81.60	82.60	1.00	549913	0.11	91	40.3	1.2	5
82.60	83.60	1.00	549914	0.02	45	3.8	0.5	1
83.60	84.50	0.90	549916	0.04	39	8.3	0.4	3
84.50	85.50	1.00	549917	0.13	91	34.8	0.5	5
85.50	86.50	1.00	549918	0.13	87	30.6	0.5	5
86.50	87.50	1.00	549919	0.14	100	39.3	0.5	5
87.50	88.50	1.00	549921	0.13	121	45	0.5	5
88.50	89.50	1.00	549922	0.12	101	37.5	0.5	5

Drillhole Number: **PWM-17-43** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
89.50	90.50	1.00	549923	0.02	36	3.4	0.2	2
90.50	91.50	1.00	549924	0.11	99	34.8	0.4	5

PWM-17-43

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-44** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578266.02	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431681.04	**Core Size**	NQ	**C. Rod Sticking Out**	0.2	**Cell Claim No.**	207953	**Hole Start Date**	14/11/2017
Elevation	348.61	**Hole Test**	Reflex	**Overburden**	0.16	**Legacy Claim No.**	1213780	**Hole Complete Date**	15/11/2017
Azimuth	150	**Hole Cement**	No	**Casing Pulled**	emaged	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-45	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	71	**Hole Making Water**	No					**Logging Compelete**	15/11/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments casing flush with OB and smashed, driven over with heavy equipment

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149.1	-41.8	collar		Yes
20	149.1	-41.8	Reflex	5592	Yes
71	150.3	-39.4	Reflex	5586	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-44** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	0.36	**Casing** OverburdenOverburden.
0.36	5.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey massive tonalite.
5.00	10.49	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained grey quartz-white feldspar-muscovite pegmatite. From 10-10.2m 10-15% coarse grained spodumene, no other spodumene observed.
10.49	10.94	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite. 5cm of missing core.
10.94	12.28	**Aplitic Border Zone** Aplitic border phase of pegmatite,White fine grained aplite with red banded garnets. No spodumene observed. 20cm of missing core.
12.28	21.46	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey massive tonalite.
21.46	21.86	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained grey aplite vein mixed with tonalite.
21.86	25.32	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite, minor quartz and kspar veining.
25.32	25.50	**Quartz Vein** Quartz VeinGrey quartz vein.
25.50	33.34	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.

Drillhole Number: **PWM-17-44** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
33.34	34.79	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Very coarse grained white feldspar and grey quartz pegmatite, with minor muscovite. No spodumene observed.
34.79	54.58	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
54.58	60.34	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Medium grained to very coarse grained quartz-feldspar-spodumene muscovite pegmatite. From 56.1 to 58.7m is a very coarse grained quartz and spodumene zone, with 15-20% spodumene. Overall zone 10% spodumene.
60.34	60.80	**Aplitic Border Zone** Aplitic border phase of pegmatite,White fine grained aplite with red garnets, no spodumene observed.
60.80	61.45	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained quartz-feldspar-muscovite pegmatite, no spodumene observed.
61.45	62.10	**Aplitic Border Zone** Aplitic border phase of pegmatite,White fine grained aplite, no spodumene observed.
62.10	71.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.

PWM-17-44

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-44** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
4.00	5.00	1.00	549836	0.15	819	80.7	15.2	22
5.00	6.00	1.00	549837	0.15	1300	97.8	20.4	41
6.00	7.00	1.00	549838	0.21	1300	109	22.1	70
7.00	8.00	1.00	549839	0.3	1780	152	29.3	77
8.00	9.00	1.00	549841	0.31	1930	187	35.4	95
9.00	10.00	1.00	549842	0.54	742	80.2	51.6	70
10.00	11.00	1.00	549843	0.66	748	126	25.8	40
11.00	12.00	1.00	549844	0.11	353	37	39.1	64
12.00	13.00	1.00	549845	0.11	308	70.3	17.6	33
32.34	33.34	1.00	549846	0.13	168	37.2	0.4	5
33.34	34.79	1.45	549847	0.04	3380	221	87.8	89
34.79	35.79	1.00	549848	0.08	178	19.5	0.2	2
53.58	54.58	1.00	549849	0.15	439	78.7	2.5	5
54.58	55.30	0.72	549851	0.68	276	39.4	99.8	134
55.30	56.00	0.70	549852	1.33	265	46.2	131	67
56.00	57.00	1.00	549853	1.38	181	207	8.7	9
57.00	58.00	1.00	549854	1.94	31	9.5	1.9	4
58.00	59.00	1.00	549856	1.44	286	48.5	65.8	73
59.00	60.00	1.00	549857	0.28	651	73.7	176	151
60.00	61.00	1.00	549858	0.69	393	51.3	52.7	29
61.00	62.10	1.10	549859	0.21	552	76.2	62.4	31
62.10	63.00	0.90	549861	0.19	448	88.2	0.9	6

PWM-17-44

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-45** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578208.58	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431674.61	**Core Size**	NQ	**C. Rod Sticking Out**	0.08	**Cell Claim No.**	207953	**Hole Start Date**	15/11/2017
Elevation	349.31	**Hole Test**	Reflex	**Overburden**	0.94	**Legacy Claim No.**	1213780	**Hole Complete Date**	16/11/2017
Azimuth	146	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-40	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	74	**Hole Making Water**	No					**Logging Compelete**	15/11/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	146	-40	Collar		Yes
21	147.6	-42.4	Reflex	5594	Yes
74	148.8	-40.5	Reflex	5582	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-45** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.02	**Casing** OverburdenOverburden. Pink potassium feldspar rich boulder from 0.55-1.02m.
1.02	6.15	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite.
6.15	14.60	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse grained quartz-feldspar-spodumene-muscovite pegmatite. Spodumene mineralization from 7.8 to 14.6m, 20-25% spodumene. Large crystal of spodumene from 9.6 to 10.07m, 47x5cm.
14.60	22.57	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,Very coarse grained zone of white feldspar and white quartz. At 14.83m is a 4cm orb of a soft metallic mineral. Possibly molybdinite.
22.57	31.12	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse grained quartz-feldspar-spodumene-muscovite pegmatite. Main zone of spodumene mineralization from 22.87 to 30.28m, 20-25% spodumene.
31.12	39.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Mixed zone of aplite and tonalite from 31.13 to 31.8m. Inhomogeneous unit of white and grey aplite, with red banded garnets. Minor coarse grained muscovite. No spodumene observed.
39.90	66.62	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey, massive to weakly foliated orbicular tonalite.
66.62	66.69	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine to medium grained aplite with red garnets.
66.69	67.33	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse

Drillhole Number: **PWM-17-45** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		grained quatz-feldspar-spodumene-muscovite pegmatite zone, 15-20% spodumene.
67.33	70.10	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite with fine to medium grained red garnets.
70.10	74.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-45** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
5.00	6.15	1.15	549925	0.08	138	23.3	1.2	8
6.15	7.00	0.85	549926	0.24	1500	149	29.5	76
7.00	8.00	1.00	549927	0.44	800	136	29.8	30
8.00	9.00	1.00	549928	2.07	411	161	34.1	32
9.00	10.00	1.00	549929	2.03	1080	216	148	35
10.00	11.00	1.00	549931	1.6	1260	203	273	77
11.00	12.00	1.00	549932	1.79	1280	165	178	59
12.00	13.00	1.00	549933	1.52	761	109	47.1	13
13.00	14.00	1.00	549934	1.02	1030	164	86	25
14.00	15.00	1.00	549936	0.17	3350	457	76.9	22
15.00	16.00	1.00	549937	0.02	8410	1810	0.5	0.5
16.00	17.00	1.00	549938	0.02	3410	951	0.9	2
17.00	18.00	1.00	549939	0.03	30	4.5	0.4	2
18.00	19.00	1.00	549941	0.02	17	3.4	0.05	0.5
19.00	20.00	1.00	549942	0.02	43	10.4	0.4	4
20.00	21.00	1.00	549943	0.02	443	138	0.2	3
21.00	22.00	1.00	549944	0.02	9360	2210	0.1	0.5
22.00	23.00	1.00	549945	0.26	5310	843	112	18
23.00	24.00	1.00	549946	1.48	908	130	376	96
24.00	25.00	1.00	549947	1.01	1020	144	243	62
25.00	26.00	1.00	549948	1.94	957	123	735	187
26.00	27.00	1.00	549949	2.07	477	85.7	200	73
27.00	28.00	1.00	549951	1.87	389	82.8	174	71
28.00	29.00	1.00	549952	2.07	264	94.4	41	56
29.00	30.00	1.00	549953	1.7	537	127	69.1	34
30.00	31.00	1.00	549954	0.49	893	136	31.3	26

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-45** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
31.00	32.00	1.00	549956	0.16	1170	131	34.9	39
32.00	33.00	1.00	549957	0.05	585	86.5	93.1	29
33.00	34.00	1.00	549958	0.07	1070	174	76.6	60
34.00	35.00	1.00	549959	0.14	1850	287	96	88
35.00	36.00	1.00	549961	0.18	3670	686	154	90
36.00	37.00	1.00	549962	0.09	963	148	52.9	53
37.00	38.00	1.00	549963	0.1	1070	148	105	80
38.00	39.00	1.00	549964	0.03	367	52.9	102	67
39.00	39.90	0.90	549965	0.04	460	52.8	76.3	60
39.90	41.00	1.10	549966	0.1	216	40.2	1.3	8
65.62	66.62	1.00	549967	0.16	343	56.9	3.5	8
66.62	67.62	1.00	549968	1.52	182	43.1	65.2	58
67.62	68.50	0.88	549969	0.08	128	18	67.8	52
68.50	69.50	1.00	549971	0.03	130	16.9	94.4	51
69.50	70.10	0.60	549972	0.07	527	50.7	104	56
70.10	71.00	0.90	549973	0.15	373	68	2.3	7

PWM-17-45

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-46** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578142.24	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431631.83	**Core Size**	NQ	**C. Rod Sticking Out**	0.1	**Cell Claim No.**	207953	**Hole Start Date**	16/11/2017
Elevation	348.2	**Hole Test**	Reflex	**Overburden**	0.55	**Legacy Claim No.**	1213780	**Hole Complete Date**	17/11/2017
Azimuth	149	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-46	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	65	**Hole Making Water**	No					**Logging Compelete**	17/11/2017

Comments

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149	-46	Collar		Yes
21	151	-45.1	Reflex	5589	Yes
65	154	-45.2	Reflex	5583	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-46** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
52.23	54.20	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained aplite, no spodumene observed.
54.20	54.55	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
54.55	55.23	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, no spodumene observed.
55.23	60.20	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite.
60.20	60.70	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed zone of aplite and altered tonalite. No spodumene observed.
60.70	65.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
0.00	0.65	**Casing** OverburdenOverburden.
0.65	7.20	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite.
7.20	15.68	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse to medium grained feldspar-quartz-spodumene-muscovite pegmatite, with medium grained red garnets. Spodumene mineralization from 7.97 to 14.22m, and is 20% spodumene.
15.68	18.66	**Aplitic Border Zone** Aplitic border phase of pegmatite,Generally fine grained aplite, with a muscovite rich zone from 15.68 to 17m. Minor zones of coarse

Drillhole Number: **PWM-17-46** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
		grained spodumene from 17.93 to 17.77m, and 18.31 to 18.36m.
18.66	29.10	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite.
29.10	30.83	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Very coarse grained quartz-feldspar-muscovite pegmatite, no spodumene observed.
30.83	31.22	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
31.22	31.71	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed zone of aplite and very coarse grained quartz-feldspar-muscovite pegmatite, no spodumene observed.
31.71	37.05	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
37.05	37.23	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite, no spodumene observed.
37.23	41.30	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
41.30	42.55	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite with medium grained disseminated orange garnets.
42.55	45.69	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
45.69	45.91	**Wall Zone**

Drillhole Number: **PWM-17-46** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained feldspar-quartz-muscovite pegmatite, no spodumene observed.
45.91	47.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
47.90	50.00	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, with fine grained banded red garnets.
50.00	52.23	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.

PWM-17-46

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-46** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
6.00	7.20	1.20	549974	0.1	119	27.4	0.9	4
7.20	8.00	0.80	549976	0.22	1190	127	21.8	52
8.00	9.00	1.00	549977	1.96	283	70.2	19.3	19
9.00	10.00	1.00	549978	1.56	1040	133	89.4	44
10.00	11.00	1.00	549979	1.62	1250	163	164	55
11.00	12.00	1.00	549981	1.86	1340	179	273	71
12.00	13.00	1.00	549982	1.92	827	118	339	88
13.00	14.00	1.00	549983	1.83	990	152	234	84
14.00	15.00	1.00	549984	0.39	713	112	108	75
15.00	16.00	1.00	549985	0.15	1260	178	40.8	53
16.00	17.00	1.00	549986	0.22	1650	215	49.9	80
17.00	18.00	1.00	549987	0.21	707	177	88.4	63
18.00	19.00	1.00	549988	0.15	430	102	38.5	36
19.00	20.00	1.00	549989	0.13	83	17.7	0.4	5
28.00	29.10	1.10	549991	0.13	377	73	5	10
29.10	30.00	0.90	549992	0.06	2820	226	10.3	18
30.00	31.00	1.00	549993	0.37	1200	113	192	139
31.00	32.00	1.00	549994	0.12	528	87.2	26.2	17
40.30	41.30	1.00	549996	0.17	253	83.1	1.7	9
41.30	42.55	1.25	549997	0.13	112	32.2	36.2	32
42.55	43.55	1.00	549998	0.15	187	60.9	0.9	3
51.23	52.23	1.00	549999	0.12	196	58.7	0.5	2
52.23	53.00	0.77	530001	0.12	483	64	29.5	30
53.00	54.00	1.00	530002	0.12	720	67.1	13.6	14
54.00	55.23	1.23	530003	0.14	754	93	20.6	23
55.23	56.00	0.77	530004	0.13	183	43.4	0.4	3

Drillhole Number: **PWM-17-46** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*

PWM-17-46

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-47** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578113.36	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431622.22	**Core Size**	NQ	**C. Rod Sticking Out**	0.18	**Cell Claim No.**	236534	**Hole Start Date**	16/11/2017
Elevation	346.78	**Hole Test**	Reflex	**Overburden**	1.71	**Legacy Claim No.**	1213780	**Hole Complete Date**	18/11/2017
Azimuth	145	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	65	**Hole Making Water**	No					**Logging Compelete**	25/11/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	145	-42	Collar		Yes
21	147.7	-44.5	Reflex	5592	Yes
65	146.8	-43.7	Reflex	5594	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-47** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	1.89	**Casing** OverburdenOverburden.
1.89	6.47	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
6.47	15.20	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse and medium grained quartz-feldspar-spodumene-muscovite pegmatite. Spodumene mineralization from 8.35 to 12.9m, 20% spodumene. Small zone of tonalite from 6.63 to 6.73m.
15.20	16.85	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed zone of aplite and tonalite. Banded fine grained red garnets at lower contact.
16.85	27.33	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite.
27.33	27.70	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, with very coarse grained quartz vein over 8cm. No spodumene observed.
27.70	30.17	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
30.17	31.84	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white and light pink aplite with several thin veins, 1-2cm, of spodumene mineralization, <1% overall.
31.84	32.90	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
32.90	33.78	**Aplitic Border Zone**

Drillhole Number: **PWM-17-47** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		Aplitic border phase of pegmatite,Fine grained white and light pink aplite, with thin, 1-2cm veins of spodumene mineralization. Similar to above unit.
33.78	39.42	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
39.42	41.32	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine to medium grained aplite with banded red garnets and minor coarse grained quartz-feldspar-muscovite pegmatite.
41.32	41.82	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
41.82	41.98	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained quartz-feldspar-muscovite pegmatite, with trace spodumene.
41.98	54.99	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, with rare deformed orbicules.
54.99	56.09	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained grey aplite.
56.09	57.02	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
57.02	57.25	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite with weakly banded red garnets.
57.25	59.08	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.

Drillhole Number: **PWM-17-47** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
59.08	59.79	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed zone of fine grained aplite and coarse grained quartz-feldspar-muscovite pegmatite, no spodumene observed.
59.79	60.22	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
60.22	60.88	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse grained quartz-feldspar-muscovite pegmatite, with trace spodumene, and minor aplite zones. 1% spodumene.
60.88	63.65	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
63.65	64.41	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained aplite, no spodumene observed.
64.41	65.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.

PWM-17-47

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-47** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
5.47	6.47	1.00	530005	0.12	217	58.1	5.2	6
6.47	7.75	1.28	530006	0.31	1630	172	25.9	60
7.75	9.00	1.25	530007	0.38	838	96.5	23.1	46
9.00	10.00	1.00	530008	1.37	521	94.3	117	62
10.00	11.00	1.00	530009	1.33	994	146	135	35
11.00	12.00	1.00	530011	0.61	394	61.8	103	77
12.00	13.00	1.00	530012	0.88	1110	198	66	36
13.00	14.00	1.00	530013	0.14	1000	160	55.6	31
14.00	15.00	1.00	530014	0.17	959	121	67.4	57
15.00	16.00	1.00	530016	0.2	1060	161	24.6	33
16.00	17.00	1.00	530017	0.18	685	162	37.3	34
17.00	18.00	1.00	530018	0.11	85	26.4	0.3	4
18.00	19.00	1.00	530019	0.1	40	5.8	0.9	6
29.00	30.17	1.17	530021	0.17	415	74.3	1.7	5
30.17	31.00	0.83	530022	0.22	325	55.2	52.9	64
31.00	31.84	0.84	530023	0.17	64	11	45.1	52
31.84	32.90	1.06	530024	0.15	489	90	3.8	4
32.90	33.78	0.88	530025	0.2	91	15.7	53.9	26
33.78	35.00	1.22	530026	0.17	252	60.8	3.6	4
39.42	40.42	1.00	530027	0.14	398	80.5	21.7	21
40.42	41.32	0.90	530028	0.11	358	109	55.2	36
54.00	54.99	0.99	530029	0.12	291	83.1	3.3	4
54.99	56.09	1.10	530031	0.08	961	151	16	15
56.09	57.02	0.93	530032	0.24	453	165	1.1	3
57.02	58.00	0.98	530033	0.12	320	69.5	8.2	13
58.00	59.08	1.08	530034	0.11	220	68.7	1.6	4

Drillhole Number: **PWM-17-47** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
59.08	60.00	0.92	530036	0.07	1250	211	132	55
60.00	61.00	1.00	530037	0.09	1630	287	91.7	39
61.00	62.00	1.00	530038	0.13	70	28.1	0.7	3

PWM-17-47

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-48** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578059.66	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431593.27	**Core Size**	NQ	**C. Rod Sticking Out**	0.45	**Cell Claim No.**	236534	**Hole Start Date**	18/11/2017
Elevation	346.05	**Hole Test**	Reflex	**Overburden**	0.02	**Legacy Claim No.**	1213780	**Hole Complete Date**	19/11/2017
Azimuth	150	**Hole Cement**	No	**Casing Pulled**	emaged	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-45	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	65	**Hole Making Water**	No					**Logging Compelete**	25/11/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments casing is broken off at OB and rock face interval, casing still in but very loose. No measurement

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	145.7	-41.6	Collar		Yes
20	145.7	-41.6	Reflex	5592	Yes
65	148	-40.8	Reflex	5588	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-48** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	0.37	**Casing** OverburdenOverburden.
0.37	11.64	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated orbicular tonalite.
11.64	16.08	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite, with abundant disseminated and weakly banded red garnets. Thin veins of spodumene mineralization from 12.08 to 12.28m, 13.7 to 13.72m, and 13.77 to 13.8m. Less than 1% spodumene overall.
16.08	31.95	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Nonmineralization aplite dykes from 17.67-17.73m, 18.61-18.75m, 23.02-23.3m, 26.08-26.36m, and 26.46-26.64m.
31.95	32.30	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained aplite, with trace spodumene in a vein 1cm wide. Minor coarse grained spodumene.
32.30	32.52	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.
32.52	32.92	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine to medium grained aplite, trace spodumene.
32.92	40.75	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, with aplite dykes from 33.34-33.47 with trace spodumene, 34.34-34.52m, and 35.35-35.5m.
40.75	41.37	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained aplite with banded red garnets. No spodumene observed.
41.37	62.08	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite. Nonmineralized dykes from 42.27-42.43m, 43.25-43.46m, 43.55-43.6m,

Drillhole Number: **PWM-17-48** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
		53.75-54.08m, 58.7-59.15m, and 60.69-60.77m.
62.08	63.10	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, with fine grained bands of red garnets. No spodumene observed. Minor pegmatite patches locally, and from 62.08-62.3m.
63.10	65.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite.

PWM-17-48

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-48** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
10.64	11.64	1.00	530039	0.17	361	78.4	5.2	5
11.64	13.00	1.36	530041	0.34	391	41.2	34.3	31
13.00	14.00	1.00	530042	0.42	160	27.8	27	37
14.00	15.00	1.00	530043	0.09	56	12.2	18	21
15.00	16.08	1.08	530044	0.07	21	12.6	24.8	19
16.08	17.00	0.92	530045	0.14	155	36.3	1.1	2
31.00	31.95	0.95	530046	0.13	199	39.9	2.1	4
31.95	33.00	1.05	530047	0.15	411	67.2	24.4	29
33.00	34.00	1.00	530048	0.14	274	66.6	3.5	8
34.00	35.00	1.00	530049	0.12	187	67.1	11.6	14
39.75	40.75	1.00	530051	0.09	108	15.6	0.6	3
40.75	41.37	0.62	530052	0.05	1080	45.8	21.1	45
41.37	42.43	1.06	530053	0.08	261	25.5	6.6	14
58.70	59.15	0.45	530054	0.03	984	64.8	29.7	50
62.08	63.10	1.02	530056	0.03	713	34.6	31.2	63

PWM-17-48

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-49** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578292.8	**Drill Hole Type**	DDH	**Casing Rod Length**	3	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431636.2	**Core Size**	NQ	**C. Rod Sticking Out**	0.35	**Cell Claim No.**	158106	**Hole Start Date**	19/11/2017
Elevation	350.81	**Hole Test**	Reflex	**Overburden**	2.28	**Legacy Claim No.**	1214668	**Hole Complete Date**	19/11/2017
Azimuth	149	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-42	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	68	**Hole Making Water**	No					**Logging Compelete**	25/11/2017

Comments

Collar Survey Yes

Datum NAD1983 Zone 17N

Survey Complete Date 06/05/2018

Survey Comments

Survey Equipment Trimble R2 GNSS CM Receiver

Positioning Services CenterPoint RTX

Unit Measurement Meters

Downhole Geophysics None

Core Stored Case Lake Core Farm

Hole Position Surface Exploration

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	149	-42	Collar		Yes
20	151.8	-43.5	Reflex	5594	Yes
68	153.2	-42.7	Reflex	5591	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-49** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	2.63	**Casing** OverburdenOverburden.
2.63	24.15	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Fine to medium grained tonalite. Zones of light grey tonalite from 9 to 14m.
24.15	26.71	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Coarse to very coarse grained feldspar-quartz-muscovite pegmatite. Minor aplite, no spodumene observed.
26.71	29.40	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite with disseminated and weakly banded red garnets.
29.40	31.45	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey tonalite.
31.45	34.87	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Generally coarse grained quartz-feldspar-muscovite-spodumene pegmatite. 3% spodumene overall.
34.87	35.48	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite with banded garnets and muscovite. Slight purple color to the quartz at 33.1m.
35.48	57.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Fine grained grey massive tonalite. Rubble from 39-39.5m. Quartz veins from 49.77-49.96m, and 52.06-52.21m, no spodumene observed.
57.00	57.39	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Medium grained quartz-feldspar-spodumene-muscovite pegmatite. 5% spodumene in zone.

Drillhole Number: **PWM-17-49** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To* (m)	*Lithology*
57.39	58.80	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Tonalite, feldspar rich and yellow muscovite altered from 58-58.8m.
58.80	61.08	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Medium and coarse grained quartz-feldspar-muscovite-spodumene pegmatite. Spodumene is 3-5% overall, and has been moderately to strongly altered to yellow muscovite.
61.08	61.83	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite with abundant disseminated red garnets, no spodumene observed.
61.83	68.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey massive tonalite.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-49** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
23.00	24.15	1.15	530057	0.17	144	44.8	0.6	6
24.15	25.00	0.85	530058	0.11	1990	144	14.2	69
25.00	26.00	1.00	530059	0.08	2780	162	15.8	50
26.00	27.00	1.00	530061	0.05	1990	207	44.7	46
27.00	28.00	1.00	530062	0.12	301	48.5	42.9	63
28.00	29.40	1.40	530063	0.07	389	45.8	58.7	65
29.40	30.45	1.05	530064	0.24	373	122	2.7	12
30.45	31.45	1.00	530065	0.21	309	163	2.5	5
31.45	32.45	1.00	530066	1.31	1480	402	127	98
32.45	33.45	1.00	530067	2.13	1280	10400	265	86
33.45	34.45	1.00	530068	1.39	1360	27300	39.4	30
34.45	35.48	1.03	530069	0.15	724	178	38.4	67
35.48	36.48	1.00	530071	0.14	206	128	1.1	4
56.00	57.00	1.00	530072	0.16	200	74.9	0.6	3
57.00	58.00	1.00	530073	0.21	720	113	103	32
58.00	59.00	1.00	530074	0.08	693	119	28.3	9
59.00	60.00	1.00	530076	0.07	1360	190	174	43
60.00	61.00	1.00	530077	0.62	1010	154	98.7	25
61.00	62.00	1.00	530078	0.05	1610	216	32.3	18
62.00	63.00	1.00	530079	0.07	295	41.1	0.7	1

PWM-17-49

POWER METALS CORP

Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-50** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

Collar		*Drill Hole*		*Casing*		*Location*		*Operation*	
Easting	578178.72	**Drill Hole Type**	DDH	**Casing Rod Length**	1.5	**Township**	Steele	**Drilling Contractor**	Jacobs & Samuel
Northing	5431658.56	**Core Size**	NQ	**C. Rod Sticking Out**	0.3	**Cell Claim No.**	207953	**Hole Start Date**	20/11/2017
Elevation	349.62	**Hole Test**	Reflex	**Overburden**	0.47	**Legacy Claim No.**	1213780	**Hole Complete Date**	20/11/2017
Azimuth	146	**Hole Cement**	No	**Casing Pulled**	No	**NTS**	032E4SW	**Project Operator**	J-J Minerals
Dip	-41	**Tool Lift in Hole**	Nothing	**Casing Capped**	Yes			**Logged By**	Alan Rich
Length	71	**Hole Making Water**	No					**Logging Compelete**	25/11/2017
Comments									

Collar Survey Yes **Survey Equipment** Trimble R2 GNSS CM Receiver **Downhole Geophysics** None

Datum NAD1983 Zone 17N **Positioning Services** CenterPoint RTX **Core Stored** Case Lake Core Farm

Survey Complete Date 06/05/2018 **Unit Measurement** Meters **Hole Position** Surface Exploration

Survey Comments

Section

Level

Local Grid X

Local Grid Y

Local Grid Z

Drill Hole Deviation Tests

Depth	Azimuth	Dip	Test Type	Magnetic Reading	Good
0	146	-41	Collar		Yes
20	147.2	-44.5	Reflex	5604	Yes
70	147.4	-42.8	Reflex	5592	Yes

POWER METALS CORP

Detailed Drill Hole Log

J-J Minerals

Drillhole Number: **PWM-17-50** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
0.00	0.77	**Casing** OverburdenOverburden.
0.77	7.77	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Light grey in color, massive, orbicular tonalite.
7.77	8.45	**Aplitic Border Zone** Aplitic border phase of pegmatite,Fine grained white aplite with small, 1-2cm patches of biotite. No spodumene observed.
8.45	11.18	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite.
11.18	17.92	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse to medium grained quartz-feldspar-spodumene-muscovite pegmatite. Spodumene mineralization from 12.35-17.92m, with 15% spodumene.
17.92	30.60	**Quartz Core** Very CG quartz rich pegmatite in the core zone. Largely massive glassy to milky quartz, often with CG kspar,Very coarse grained zone of white feldspar and white quartz, with no spodumene observed. Core is very blocky and broken into small pieces. One meter of missing core from 23-26m, and 2.5m of missing core from 26-29m. Poor recovery due to blocky ground, and possible cave.
30.60	42.29	**Outer intermediate Zone** Varied inhomogenous textures from PEG, granitic to aplitic. Main components are muscovite-albite-spodumene-quartz-kspar.Coarse to medium grained quartz-feldspar-spodumene-muscovite pegmatite. Main spodumene mineralization from 30.6-41.35m, with 20% spodumene.
42.29	44.12	**Aplitic Border Zone** Aplitic border phase of pegmatite,Mixed zone of aplite and aplite altered tonalite, muscovite rich. No spodumene observed.
44.12	51.73	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite.

Drillhole Number: **PWM-17-50** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	*To (m)*	*Lithology*
51.73	52.14	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Very coarse grained feldspar rich pegmatite, no spodumene observed.
52.14	55.74	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite.
55.74	57.22	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Medium to coarse grained quartz-feldspar-muscovite pegmatite with minor aplite, and no spodumene observed.
57.22	60.50	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Orbicular tonalite.
60.50	61.43	**Wall Zone** Muscovite-quartz-kspar pegmatite, lacks spodumene with or without scattered beryl,Very coarse grained feldspar-quartz-muscovite pegmatite, no spodumene observed.
61.43	62.70	**Aplitic Border Zone** Aplitic border phase of pegmatite,Aplite, with aplite altered tonalite, no spodumene observed.
62.70	71.00	**Case Batholith** Tonalite, granodiorite-quartz monzonite, Grey weakly foliated tonalite. Nonmineralized aplite dykes from: 63.85-64.17m, 64.43-64.69m, 65.11-65.36m, 65.54-65.82m, and 66.98-67.18m.

POWER METALS CORP

Assays Intervals

J-J Minerals

Drillhole Number: **PWM-17-50** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From (m)	To (m)	Length (m)	Sample No.	Li2O (%)	Rb (ppm)	Cs (ppm)	Ta (ppm)	Nb (ppm)
10.00	11.18	1.18	530081	0.11	125	22.7	0.5	5
11.18	12.00	0.82	530082	0.24	1710	127	16.5	33
12.00	13.00	1.00	530083	1.54	789	199	14	38
13.00	14.00	1.00	530084	1.36	679	85.1	51.6	18
14.00	15.00	1.00	530085	1.24	2310	291	264	171
15.00	16.00	1.00	530086	1.76	1110	151	47.3	12
16.00	17.00	1.00	530087	1.07	942	118	166	47
17.00	18.00	1.00	530088	0.89	2280	260	96.8	21
18.00	19.00	1.00	530089	0.02	10200	1430	0.4	0.5
19.00	20.00	1.00	530091	0.04	4170	803	0.9	0.5
20.00	21.00	1.00	530092	0.02	18	4	0.6	0.5
29.00	30.00	1.00	530093	0.05	74	16.1	0.5	0.5
30.00	31.00	1.00	530094	0.28	38	7.5	2.7	0.5
31.00	32.00	1.00	530096	1.07	840	116	91.8	15
32.00	33.00	1.00	530097	1.68	1340	188	87	15
33.00	34.00	1.00	530098	1.23	1350	199	362	80
34.00	35.00	1.00	530099	1.34	1950	193	318	92
35.00	36.00	1.00	530101	0.84	889	120	88.2	24
36.00	37.00	1.00	530102	1.18	859	123	47.4	13
37.00	38.00	1.00	530103	1.59	815	107	88.8	24
38.00	39.00	1.00	530104	2.05	668	77.8	333	100
39.00	40.00	1.00	530105	2.18	527	87.1	256	117
40.00	41.00	1.00	530106	2.54	248	63.4	249	128
41.00	42.00	1.00	530107	0.59	613	74.3	51.6	27
42.00	43.00	1.00	530108	0.22	1360	151	51	70
43.00	44.12	1.12	530109	0.31	446	56.3	38.8	48

Drillhole Number: **PWM-17-50** Project Location: **Case Lake, Cochrane Ontario** Project No.: **201704**

From *(m)*	***To*** *(m)*	***Length*** *(m)*	***Sample No.***	***Li2O*** *(%)*	***Rb*** *(ppm)*	***Cs*** *(ppm)*	***Ta*** *(ppm)*	***Nb*** *(ppm)*
44.12	45.00	0.88	530111	0.13	148	41.9	0.5	5
55.00	55.74	0.74	530112	0.13	310	48.2	7.3	14
55.74	57.00	1.26	530113	0.13	1380	115	103	59
57.00	58.00	1.00	530114	0.18	942	120	11.5	29
58.00	59.00	1.00	530116	0.18	1410	115	12.3	33
59.00	60.00	1.00	530117	0.17	1050	129	8.6	20
60.00	61.00	1.00	530118	0.12	1700	136	11.7	13
61.00	62.00	1.00	530119	0.08	628	66.5	24.8	25
62.00	63.00	1.00	530121	0.15	764	85.1	75.2	65

PWM-17-50

Appendix 7 – Drill Core Assay Certificates

Quality Analysis ... *Innovative Technologies*

Date Submitted: 11-Sep-17
Invoice No.: A17-09858
Invoice Date: 10-Oct-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC v6c 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

158 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-09858**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546501	71.20	16.34	0.96	0.013	0.18	2.57	5.93	1.31	0.128	0.02	0.44	99.09	< 1	3	8	20	< 1	< 20	< 10	60	24	< 1	< 5
546502	68.35	19.72	0.77	0.106	0.07	0.92	5.49	0.65	0.020	0.15	0.63	96.89	< 1	110	< 5	< 20	< 1	< 20	< 10	< 30	52	3	< 5
546503	70.74	16.75	1.08	0.107	0.16	1.62	6.75	1.30	0.062	0.62	0.87	100.1	< 1	37	9	30	< 1	< 20	< 10	90	43	3	< 5
546504	68.28	18.62	0.95	0.100	0.24	1.32	7.35	1.71	0.082	0.21	1.10	99.96	< 1	88	10	< 20	< 1	< 20	< 10	120	52	3	< 5
546505	68.54	18.00	0.61	0.238	0.06	0.97	9.00	0.56	0.023	0.14	0.57	98.71	< 1	69	< 5	< 20	< 1	< 20	< 10	40	41	3	< 5
546506	67.13	19.76	0.94	0.212	0.10	0.83	4.55	2.30	0.036	0.15	0.73	96.72	< 1	101	< 5	< 20	< 1	< 20	< 10	60	54	3	< 5
546507	68.38	18.44	0.79	0.254	0.12	1.21	7.97	1.09	0.050	0.10	0.80	99.21	< 1	124	< 5	< 20	1	< 20	< 10	70	45	3	< 5
546508	71.53	17.14	0.66	0.426	0.05	1.05	8.07	0.58	0.015	0.30	0.43	100.3	< 1	24	< 5	< 20	< 1	< 20	< 10	30	41	4	< 5
546509	71.41	16.83	0.61	0.559	0.03	0.68	8.52	0.32	0.008	0.13	0.32	99.41	< 1	12	< 5	< 20	< 1	< 20	< 10	40	36	4	< 5
546510	98.20	0.53	1.37	0.016	0.03	0.02	0.09	0.07	0.024	< 0.01	0.06	100.4	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
546511	71.72	16.53	0.85	0.012	0.16	2.50	5.77	1.56	0.119	0.02	0.39	99.65	< 1	4	7	< 20	< 1	< 20	< 10	60	25	< 1	< 5
546512	71.52	16.84	0.83	0.009	0.17	2.50	5.81	1.72	0.113	0.02	0.36	99.88	< 1	2	8	20	< 1	< 20	< 10	60	24	< 1	< 5
546513	72.73	15.77	0.89	0.045	0.14	2.09	5.80	1.91	0.094	0.04	0.25	99.76	< 1	4	7	< 20	< 1	< 20	< 10	60	25	< 1	< 5
546514	73.35	15.54	0.65	0.148	0.07	0.92	5.66	3.56	0.039	0.08	0.29	100.3	< 1	18	< 5	< 20	< 1	< 20	< 10	50	29	2	< 5
546515	72.61	15.46	0.70	0.160	0.07	0.86	5.91	3.33	0.038	0.06	0.34	99.54	< 1	8	< 5	< 20	< 1	< 20	< 10	70	29	2	< 5
546516	71.78	15.92	0.88	0.065	0.14	2.03	5.78	2.13	0.095	0.18	0.35	99.34	< 1	7	< 5	< 20	< 1	< 20	< 10	130	26	1	< 5
546517	70.95	16.39	1.11	0.011	0.18	2.50	5.68	1.73	0.120	0.03	0.39	99.09	< 1	2	8	< 20	1	< 20	< 10	70	25	< 1	< 5
546518	72.04	16.50	0.99	0.010	0.22	2.51	5.65	1.80	0.139	0.03	0.40	100.3	< 1	3	10	< 20	< 1	< 20	< 10	80	24	< 1	< 5
546519	70.96	16.36	1.02	0.014	0.22	2.47	5.68	1.67	0.131	0.03	0.41	98.95	< 1	6	8	< 20	< 1	< 20	< 10	80	26	< 1	< 5
546520	77.23	9.65	4.81	0.052	0.91	1.61	1.27	1.96	0.819	0.38	1.22	99.92	11	34	65	80	6	30	280	130	22	3	31
546521	71.75	17.78	0.71	0.204	0.03	0.67	4.83	1.21	0.025	0.03	0.81	98.04	< 1	52	< 5	30	< 1	< 20	< 10	< 30	51	4	< 5
546522	71.72	16.34	0.82	0.409	0.03	0.81	7.89	0.58	0.016	0.04	0.36	99.02	< 1	16	< 5	< 20	< 1	< 20	< 10	< 30	35	3	< 5
546523	71.94	16.61	0.88	0.015	0.17	2.43	5.78	1.44	0.111	0.03	0.49	99.89	< 1	15	6	< 20	< 1	< 20	< 10	70	24	< 1	< 5
546524	72.82	16.27	0.98	0.022	0.18	2.28	5.69	1.37	0.114	0.03	0.47	100.2	< 1	7	9	< 20	< 1	< 20	< 10	80	25	< 1	< 5
546525	67.51	19.52	0.63	0.246	0.04	0.93	7.55	1.24	0.024	0.08	0.79	98.57	< 1	63	< 5	< 20	< 1	< 20	< 10	50	48	4	< 5
546526	71.95	16.27	0.95	0.014	0.17	2.38	5.59	1.47	0.111	0.02	0.40	99.32	< 1	5	6	< 20	< 1	< 20	< 10	60	25	< 1	< 5
546527	72.16	16.31	0.89	0.100	0.14	1.89	6.01	1.65	0.088	0.03	0.31	99.59	< 1	7	7	< 20	< 1	< 20	< 10	80	29	1	< 5
546528	71.73	16.47	1.06	0.014	0.20	2.42	5.75	1.79	0.124	0.07	0.36	99.99	< 1	5	7	< 20	< 1	< 20	< 10	80	26	< 1	< 5
546529	72.29	16.20	0.79	0.019	0.15	2.30	5.84	1.86	0.100	< 0.01	0.28	99.82	< 1	3	6	< 20	< 1	< 20	< 10	70	26	< 1	< 5
546530	97.18	0.49	2.16	0.021	0.02	0.03	0.12	0.09	0.019	< 0.01	-0.16	99.98	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
546531	71.31	16.32	0.93	0.060	0.16	2.09	6.03	1.56	0.104	0.04	0.34	98.95	< 1	5	7	< 20	< 1	< 20	< 10	270	27	< 1	< 5
546532	71.39	16.54	0.98	0.036	0.18	2.32	5.79	1.87	0.117	0.07	0.38	99.68	< 1	4	8	< 20	< 1	< 20	< 10	80	26	< 1	< 5
546533	71.17	16.78	0.87	0.017	0.18	2.42	5.90	1.76	0.113	0.06	0.42	99.70	< 1	4	9	< 20	< 1	< 20	< 10	70	26	< 1	< 5
546534	70.08	17.42	1.06	0.068	0.12	1.71	6.38	1.95	0.075	0.03	0.38	99.27	< 1	34	6	< 20	< 1	< 20	< 10	60	31	1	< 5
546535	70.31	17.34	1.01	0.069	0.19	1.60	6.01	2.25	0.101	0.04	0.45	99.36	< 1	16	8	< 20	1	< 20	< 10	90	33	2	< 5
546536	70.99	16.42	1.30	0.032	0.16	2.29	5.60	1.76	0.108	0.04	0.33	99.04	< 1	4	7	< 20	< 1	< 20	< 10	70	25	< 1	< 5
546537	72.20	15.87	0.76	0.024	0.14	2.15	5.42	1.65	0.100	0.04	0.36	98.71	< 1	4	9	< 20	< 1	< 20	< 10	70	25	< 1	< 5
546538	76.27	13.65	0.71	0.162	0.04	0.63	5.78	1.42	0.020	0.05	0.56	99.31	< 1	205	< 5	20	< 1	< 20	< 10	60	29	2	< 5
546539	72.26	16.31	0.83	0.021	0.17	2.31	5.81	1.58	0.113	0.03	0.41	99.84	< 1	5	7	< 20	1	< 20	< 10	70	25	< 1	< 5
546540	77.04	10.00	4.23	0.050	0.76	1.27	1.15	1.78	0.578	0.29	1.22	98.38	8	39	57	80	6	30	340	160	30	5	53
546541	72.43	15.83	0.97	0.027	0.15	2.19	5.69	2.01	0.103	0.05	0.33	99.78	< 1	4	7	20	1	< 20	< 10	60	24	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546542	72.12	16.62	0.88	0.009	0.16	2.47	5.76	1.77	0.117	0.02	0.35	100.3	< 1	2	9	< 20	< 1	< 20	< 10	60	24	< 1	< 5
546543	71.90	16.44	1.09	0.025	0.18	2.31	5.78	1.94	0.122	0.04	0.35	100.2	< 1	4	7	20	< 1	< 20	< 10	80	26	< 1	< 5
546544	72.15	16.71	0.89	0.011	0.17	2.46	5.79	1.77	0.113	0.03	0.35	100.4	< 1	3	8	< 20	< 1	< 20	< 10	60	25	< 1	< 5
546545	70.84	16.82	1.35	0.019	0.27	2.36	5.65	1.98	0.144	0.07	0.35	99.84	< 1	4	11	< 20	< 1	< 20	< 10	100	26	< 1	< 5
546546	72.34	16.40	0.70	0.061	0.14	1.66	5.62	2.85	0.077	0.04	0.32	100.2	< 1	4	6	< 20	< 1	< 20	< 10	50	25	1	< 5
546547	70.75	16.25	1.05	0.014	0.17	2.37	5.78	1.75	0.114	0.05	0.32	98.62	< 1	3	9	< 20	1	< 20	< 10	70	25	< 1	< 5
546548	71.51	17.05	0.89	0.011	0.18	2.46	5.79	1.81	0.126	0.03	0.39	100.2	< 1	3	8	< 20	< 1	< 20	< 10	70	25	< 1	< 5
546549	71.71	16.35	1.00	0.011	0.18	2.53	5.65	1.77	0.120	0.03	0.36	99.72	< 1	2	10	< 20	< 1	< 20	< 10	70	28	< 1	< 5
546550	97.42	0.33	1.17	0.009	0.02	0.03	0.08	0.03	0.017	0.02	0.16	99.28	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
546551	70.55	16.66	0.99	0.012	0.18	2.45	5.57	1.74	0.118	0.04	0.35	98.65	< 1	4	8	< 20	< 1	< 20	< 10	70	28	< 1	< 5
546552	71.31	16.65	0.81	0.015	0.16	2.44	5.70	1.75	0.111	0.06	0.37	99.37	< 1	7	7	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546553	72.90	16.27	0.89	0.029	0.15	2.17	5.51	1.98	0.099	0.06	0.34	100.4	< 1	7	7	< 20	< 1	< 20	< 10	100	29	1	< 5
546554	72.61	15.26	0.81	0.131	0.13	1.18	5.66	2.35	0.061	0.06	0.37	98.64	< 1	5	6	< 20	< 1	< 20	< 10	90	33	2	< 5
546555	72.35	15.66	0.77	0.125	0.08	1.09	5.61	2.99	0.043	0.04	0.27	99.03	< 1	4	< 5	< 20	< 1	< 20	< 10	60	32	2	< 5
546556	70.85	17.07	0.81	0.021	0.17	2.39	5.87	1.83	0.117	0.03	0.33	99.49	< 1	3	9	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546557	69.86	17.26	0.87	0.015	0.18	2.50	5.97	1.76	0.112	0.09	0.33	98.94	< 1	9	7	< 20	< 1	< 20	< 10	70	30	< 1	< 5
546558	72.64	15.73	0.85	0.114	0.13	1.65	5.48	2.61	0.074	0.03	0.34	99.65	< 1	4	6	< 20	1	< 20	< 10	70	33	2	< 5
546559	73.59	15.18	0.74	0.155	0.08	0.88	5.58	3.05	0.035	0.05	0.34	99.67	< 1	8	< 5	< 20	< 1	< 20	< 10	380	36	3	< 5
546560	77.39	9.23	4.59	0.051	0.90	1.63	1.32	1.95	0.803	0.34	1.26	99.47	10	34	65	80	7	20	310	130	25	4	32
546561	71.14	16.69	0.86	0.014	0.19	2.44	5.71	1.67	0.122	0.03	0.35	99.21	< 1	3	8	< 20	< 1	< 20	< 10	70	28	< 1	< 5
546562	71.63	16.34	0.92	0.014	0.17	2.45	5.78	1.79	0.112	0.02	0.35	99.58	< 1	3	8	< 20	< 1	< 20	< 10	70	28	< 1	< 5
546563	70.88	16.70	1.04	0.012	0.26	2.49	5.75	1.88	0.134	0.05	0.43	99.62	< 1	3	9	< 20	< 1	< 20	< 10	80	28	< 1	< 5
546564	71.07	16.06	0.91	0.018	0.22	2.20	5.95	1.86	0.102	0.03	0.46	98.87	< 1	6	7	30	< 1	< 20	< 10	70	29	< 1	< 5
546565	71.63	16.71	0.88	0.054	0.26	1.37	6.23	2.35	0.085	0.02	0.78	100.4	< 1	6	6	< 20	< 1	< 20	< 10	70	30	1	< 5
546566	71.81	15.86	0.88	0.058	0.15	1.63	5.84	2.34	0.079	0.06	0.43	99.13	< 1	14	< 5	< 20	< 1	< 20	< 10	90	33	2	< 5
546567	72.22	15.80	0.81	0.088	0.14	1.67	5.81	1.94	0.080	0.04	0.45	99.04	< 1	8	7	< 20	< 1	< 20	< 10	70	33	2	< 5
546568	71.82	16.78	0.90	0.015	0.18	2.44	5.75	1.69	0.106	0.03	0.59	100.3	< 1	5	10	< 20	< 1	< 20	< 10	90	36	2	< 5
546569	72.85	15.20	0.67	0.117	0.10	0.97	4.97	3.90	0.043	0.05	0.46	99.32	< 1	9	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
546570	96.88	0.47	2.07	0.022	0.05	0.03	0.08	0.08	0.019	< 0.01	-0.11	99.59	< 1	< 1	8	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
546571	71.29	16.38	1.02	0.018	0.19	2.42	5.72	1.73	0.117	0.04	0.36	99.30	< 1	5	9	< 20	< 1	< 20	< 10	60	28	< 1	< 5
546572	71.25	16.50	0.95	0.012	0.16	2.44	5.84	1.80	0.112	0.02	0.33	99.41	< 1	3	9	< 20	< 1	< 20	< 10	60	27	< 1	< 5
546573	70.22	16.85	1.02	0.011	0.17	2.48	6.00	1.77	0.118	0.01	0.34	99.00	< 1	3	8	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546574	71.55	16.41	1.00	0.011	0.17	2.54	5.91	1.84	0.111	0.02	0.32	99.87	< 1	3	7	70	< 1	180	< 10	70	28	< 1	< 5
546575	71.51	16.47	0.95	0.011	0.19	2.50	5.91	1.77	0.117	0.03	0.41	99.88	< 1	3	9	< 20	< 1	< 20	< 10	90	27	< 1	< 5
546576	70.97	16.22	1.11	0.014	0.23	2.45	5.47	1.77	0.132	0.05	0.40	98.83	< 1	3	9	< 20	< 1	< 20	< 10	70	32	2	< 5
546577	71.59	15.79	0.98	0.128	0.14	1.50	5.54	2.40	0.080	0.06	0.45	98.67	< 1	24	6	< 20	< 1	< 20	< 10	80	32	1	< 5
546578	73.11	15.57	0.88	0.038	0.16	2.02	5.59	2.00	0.099	0.08	0.43	99.96	< 1	7	8	< 20	< 1	< 20	< 10	60	29	< 1	< 5
546579	71.80	16.24	0.88	0.011	0.16	2.48	5.47	1.67	0.115	0.03	0.38	99.24	< 1	3	8	< 20	< 1	< 20	< 10	60	29	< 1	< 5
546580	77.81	9.86	4.24	0.048	0.75	1.27	1.14	1.78	0.601	0.28	1.25	99.03	8	39	57	70	6	20	340	140	31	5	45
546581	73.45	15.62	0.87	0.133	0.12	1.52	5.63	2.28	0.068	0.03	0.36	100.1	< 1	7	7	70	< 1	< 20	< 10	80	33	2	< 5
546582	72.12	16.40	0.95	0.010	0.18	2.51	5.48	1.67	0.121	0.02	0.45	99.92	< 1	2	10	70	< 1	< 20	< 10	70	28	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546583	72.74	15.67	0.89	0.012	0.17	2.48	5.52	1.63	0.113	0.04	0.41	99.68	< 1	4	7	60	< 1	< 20	< 10	70	29	< 1	< 5
546584	73.48	15.85	0.98	0.463	0.04	0.67	7.46	0.72	0.026	0.03	0.20	99.90	< 1	22	< 5	< 20	< 1	< 20	< 10	< 30	38	3	< 5
546585	72.07	16.96	0.80	0.011	0.18	2.50	5.68	1.64	0.114	0.01	0.33	100.3	< 1	3	10	50	< 1	< 20	< 10	70	29	< 1	< 5
546586	70.28	16.68	1.09	0.020	0.21	2.26	5.77	1.79	0.125	0.04	0.55	98.81	< 1	6	10	70	< 1	< 20	< 10	80	30	< 1	< 5
546587	72.01	16.12	0.94	0.027	0.18	2.20	5.85	1.84	0.107	0.02	0.67	99.96	< 1	5	7	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546588	71.54	16.13	0.80	0.018	0.19	2.33	5.81	1.70	0.115	0.03	0.58	99.24	< 1	3	8	30	< 1	< 20	< 10	70	29	< 1	< 5
546589	71.27	16.37	0.75	0.094	0.14	1.56	5.76	2.67	0.075	0.04	0.41	99.15	< 1	9	6	< 20	< 1	< 20	< 10	60	34	2	< 5
546590	97.23	0.52	2.05	0.018	0.02	0.04	0.17	0.09	0.016	< 0.01	-0.19	99.96	< 1	< 1	< 5	550	2	< 20	20	< 30	1	< 1	< 5
546591	70.97	17.35	1.02	0.011	0.19	2.49	5.81	1.66	0.123	0.04	0.40	100.1	< 1	2	9	80	< 1	< 20	< 10	70	29	< 1	< 5
546592	71.10	17.32	1.01	0.010	0.17	2.49	5.86	1.87	0.122	0.03	0.42	100.4	< 1	3	8	80	< 1	< 20	< 10	60	29	< 1	< 5
546593	70.69	16.88	1.10	0.012	0.23	2.45	5.61	1.89	0.132	0.03	0.51	99.54	< 1	3	9	< 20	< 1	< 20	< 10	80	29	< 1	< 5
546594	71.47	16.90	0.87	0.044	0.16	2.03	5.70	2.13	0.095	0.02	0.37	99.78	< 1	4	8	< 20	< 1	< 20	< 10	60	30	1	< 5
546595	73.09	16.04	0.86	0.040	0.16	2.05	5.78	1.92	0.094	0.05	0.35	100.4	< 1	4	6	60	< 1	< 20	< 10	60	29	1	< 5
546596	71.83	16.04	0.63	0.218	0.09	1.02	7.11	1.13	0.047	0.04	0.43	98.58	< 1	8	< 5	50	< 1	< 20	< 10	50	35	3	< 5
546597	69.98	16.56	2.08	0.035	0.56	2.38	5.23	2.18	0.232	0.08	0.67	99.99	1	3	22	< 20	< 1	< 20	< 10	170	30	< 1	< 5
546598	71.90	16.31	0.91	0.013	0.18	2.51	5.64	1.41	0.115	0.03	0.52	99.53	< 1	3	9	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546599	71.88	16.24	1.02	0.337	0.04	0.25	5.48	3.73	0.008	0.03	0.45	99.47	< 1	5	< 5	< 20	< 1	< 20	< 10	830	44	3	< 5
546600	77.03	9.51	4.67	0.054	0.92	1.62	1.30	1.99	0.786	0.33	1.37	99.56	11	36	64	70	7	20	300	120	26	4	33
546601	72.08	16.58	1.03	0.015	0.20	2.49	5.69	1.55	0.127	0.04	0.52	100.3	< 1	6	8	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546602	72.93	15.27	0.89	0.467	0.05	0.67	6.98	1.63	0.026	0.03	0.42	99.37	< 1	8	< 5	< 20	< 1	< 20	< 10	< 30	36	3	< 5
546603	72.16	16.40	1.03	0.015	0.20	2.51	5.64	1.50	0.126	0.03	0.63	100.3	< 1	4	9	< 20	< 1	< 20	< 10	80	28	< 1	< 5
546604	75.25	14.45	0.93	0.464	0.06	0.55	6.94	0.98	0.018	0.04	0.40	100.1	< 1	34	< 5	< 20	< 1	< 20	< 10	60	40	4	< 5
546605	71.75	15.81	0.91	0.014	0.17	2.44	5.59	1.60	0.117	0.03	0.46	98.89	< 1	5	9	< 20	< 1	< 20	< 10	60	29	< 1	< 5
546606	69.17	17.39	1.12	0.036	0.22	2.09	6.12	1.85	0.122	0.16	0.84	99.11	< 1	22	8	< 20	< 1	< 20	< 10	100	43	2	< 5
546607	71.38	16.74	1.20	0.016	0.25	2.50	5.66	1.63	0.139	0.07	0.51	100.1	< 1	5	10	< 20	< 1	< 20	< 10	80	28	< 1	< 5
546608	74.07	15.42	0.83	0.281	0.04	0.44	7.48	1.06	0.018	0.06	0.34	100.0	< 1	22	< 5	< 20	< 1	< 20	< 10	70	41	4	< 5
546609	71.88	16.13	1.15	0.014	0.20	2.51	5.77	1.74	0.116	0.03	0.39	99.92	< 1	3	9	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546610	98.55	0.53	0.67	0.010	0.04	0.04	0.09	0.07	0.028	0.01	0.18	100.2	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
546611	71.19	16.86	1.05	0.012	0.20	2.54	5.67	1.78	0.125	0.03	0.48	99.95	< 1	2	11	< 20	< 1	< 20	< 10	70	28	< 1	< 5
546612	71.35	15.97	0.87	0.024	0.20	2.36	5.82	1.59	0.104	0.11	0.52	98.91	< 1	7	9	< 20	< 1	< 20	< 10	60	27	< 1	< 5
546613	76.25	12.19	0.59	0.055	0.06	0.23	2.23	7.43	0.024	0.02	0.38	99.45	< 1	5	< 5	< 20	< 1	< 20	< 10	50	25	2	< 5
546614	76.68	13.14	0.49	0.070	0.04	0.19	3.80	5.68	0.012	0.02	0.36	100.5	< 1	8	< 5	< 20	< 1	< 20	< 10	40	26	2	< 5
546615	75.15	12.95	0.62	0.066	0.06	0.24	3.79	5.21	0.022	0.04	0.43	98.57	< 1	10	< 5	< 20	< 1	< 20	< 10	50	25	3	< 5
546616	73.96	15.19	0.79	0.361	0.04	0.32	6.55	2.35	0.014	0.03	0.35	99.95	< 1	50	< 5	< 20	< 1	< 20	< 10	< 30	39	4	< 5
546617	71.93	16.54	1.07	0.022	0.22	2.51	5.68	1.60	0.129	0.03	0.43	100.2	< 1	4	9	< 20	< 1	< 20	< 10	70	28	< 1	< 5
546618	72.29	16.27	0.94	0.011	0.18	2.52	5.59	1.66	0.114	0.04	0.35	99.96	< 1	3	7	< 20	< 1	< 20	< 10	60	27	< 1	< 5
546619	71.88	16.66	0.91	0.013	0.18	2.47	5.94	1.59	0.117	0.03	0.41	100.2	< 1	7	8	< 20	< 1	< 20	< 10	60	27	< 1	< 5
546620	77.27	9.95	4.33	0.048	0.77	1.27	1.15	1.78	0.550	0.30	1.27	98.68	8	40	57	70	6	30	340	140	30	5	47
546621	71.89	16.14	0.94	0.070	0.16	1.79	5.84	2.48	0.086	0.24	0.43	100.1	< 1	12	11	< 20	< 1	< 20	< 10	110	30	2	< 5
546622	72.19	16.72	0.87	0.046	0.17	2.24	6.17	1.14	0.107	0.05	0.41	100.1	< 1	7	8	< 20	< 1	< 20	< 10	50	29	< 1	< 5
546623	73.03	16.81	0.47	0.140	0.03	0.55	8.41	0.48	0.015	0.09	0.21	100.3	< 1	14	< 5	< 20	< 1	< 20	< 10	< 30	41	4	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546624	74.77	14.37	0.70	0.231	0.03	0.31	6.57	1.45	0.009	0.02	0.38	98.84	< 1	16	< 5	< 20	< 1	< 20	< 10	< 30	40	3	< 5
546625	72.27	16.09	0.46	0.109	0.03	0.28	5.14	5.64	0.008	0.03	0.37	100.4	< 1	35	< 5	< 20	< 1	< 20	< 10	< 30	36	3	< 5
546626	74.22	15.31	0.89	0.597	0.04	0.34	7.73	0.89	0.008	0.06	0.00	100.1	< 1	14	6	< 20	< 1	< 20	< 10	< 30	38	4	< 5
546627	71.05	17.23	1.14	0.015	0.26	2.44	5.76	1.74	0.136	0.03	0.42	100.2	< 1	5	11	< 20	< 1	< 20	< 10	80	30	< 1	< 5
546628	72.45	16.04	0.93	0.013	0.20	2.40	5.68	1.74	0.116	0.02	0.36	99.94	< 1	4	9	< 20	< 1	< 20	< 10	60	28	< 1	< 5
546629	76.88	12.99	0.83	0.081	0.09	0.77	4.36	2.90	0.042	0.06	0.42	99.42	< 1	151	< 5	< 20	< 1	< 20	< 10	440	32	2	< 5
546630	98.66	0.24	0.55	0.010	0.05	0.02	0.04	0.02	0.015	< 0.01	0.04	99.62	< 1	< 1	6	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
546631	71.51	16.26	0.89	0.015	0.18	2.40	5.90	1.58	0.107	0.04	0.43	99.32	< 1	7	7	< 20	< 1	< 20	< 10	60	29	< 1	< 5
546632	75.86	13.59	0.82	0.124	0.07	0.30	4.02	4.46	0.024	0.02	0.52	99.80	< 1	25	< 5	< 20	< 1	< 20	10	130	38	3	< 5
546633	72.63	15.69	0.69	0.109	0.04	0.33	5.21	4.69	0.012	0.02	0.58	99.99	< 1	20	< 5	< 20	< 1	< 20	20	40	36	3	< 5
546634	74.54	15.15	0.73	0.128	0.05	0.40	5.39	3.30	0.018	0.03	0.35	100.1	< 1	7	< 5	< 20	< 1	< 20	< 10	60	38	3	< 5
546635	73.99	15.58	0.82	0.124	0.06	0.39	5.32	3.66	0.019	0.03	0.44	100.4	< 1	7	< 5	< 20	< 1	< 20	< 10	90	40	2	< 5
546636	71.18	16.56	1.07	0.013	0.24	2.45	5.73	1.57	0.133	0.04	0.40	99.40	< 1	5	11	< 20	< 1	< 20	< 10	70	28	< 1	< 5
546679	70.87	17.04	1.26	0.013	0.27	2.58	5.80	1.67	0.148	0.03	0.43	100.1	< 1	3	11	< 20	< 1	< 20	< 10	80	30	< 1	< 5
546680	77.13	9.37	4.62	0.051	0.89	1.59	1.29	1.97	0.815	0.35	1.29	99.36	11	34	65	70	6	30	310	130	27	4	36
546681	71.98	16.54	0.98	0.015	0.22	2.43	5.89	1.46	0.129	0.04	0.39	100.1	< 1	6	9	< 20	< 1	< 20	< 10	60	30	< 1	< 5
546682	79.07	12.08	0.94	0.039	0.15	0.55	3.58	2.97	0.046	< 0.01	0.66	100.1	< 1	29	6	< 20	< 1	< 20	< 10	90	36	3	< 5
546683	72.60	17.36	0.96	0.081	0.12	0.97	5.04	0.85	0.045	0.06	0.81	98.91	< 1	65	6	< 20	< 1	< 20	< 10	60	53	3	< 5
546684	74.49	15.88	0.88	0.079	0.06	0.59	3.32	0.51	0.028	< 0.01	0.63	96.46	< 1	77	< 5	< 20	< 1	< 20	< 10	< 30	57	3	< 5
546685	82.29	12.31	0.76	0.090	0.05	0.17	0.88	0.30	0.013	< 0.01	0.39	97.26	< 1	5	< 5	< 20	< 1	< 20	< 10	50	43	3	< 5
546686	75.27	16.22	0.62	0.077	0.04	0.41	3.48	2.17	0.019	< 0.01	0.53	98.84	< 1	186	< 5	< 20	< 1	< 20	< 10	< 30	50	3	< 5
546687	77.04	14.37	0.59	0.070	0.04	0.46	4.13	1.25	0.020	0.01	0.60	98.58	< 1	70	< 5	< 20	< 1	< 20	< 10	< 30	47	3	< 5
546688	76.75	15.03	0.62	0.082	0.05	0.35	3.11	0.91	0.015	0.02	0.49	97.44	< 1	159	< 5	< 20	< 1	< 20	< 10	< 30	47	3	< 5
546689	74.68	16.34	0.62	0.076	0.03	0.37	4.19	2.02	0.016	< 0.01	0.45	98.79	< 1	479	< 5	< 20	< 1	< 20	< 10	< 30	49	4	< 5
546690	97.90	0.43	0.60	0.007	0.02	0.01	0.07	0.13	0.018	< 0.01	0.11	99.30	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
546691	72.57	16.58	0.63	0.085	0.03	0.43	4.68	1.03	0.016	< 0.01	0.52	96.58	< 1	205	< 5	< 20	< 1	< 20	< 10	30	52	4	< 5
546692	74.47	15.96	0.60	0.067	0.03	0.40	4.73	2.10	0.011	0.01	0.52	98.90	< 1	389	< 5	< 20	< 1	< 20	< 10	< 30	46	4	< 5
546693	72.90	17.59	0.62	0.111	0.03	0.37	4.32	0.95	0.011	< 0.01	0.45	97.34	< 1	290	< 5	< 20	< 1	< 20	< 10	< 30	51	3	< 5
546694	72.14	18.96	0.76	0.128	0.04	0.43	4.83	0.31	0.010	< 0.01	0.47	98.05	< 1	378	< 5	< 20	< 1	< 20	< 10	< 30	56	3	< 5
546695	71.97	18.33	0.63	0.123	0.04	0.43	4.97	0.38	0.012	< 0.01	0.48	97.36	< 1	386	< 5	< 20	< 1	< 20	< 10	< 30	56	3	< 5
546696	74.55	16.35	0.57	0.097	0.06	0.40	4.19	1.32	0.008	< 0.01	0.47	98.02	< 1	287	< 5	< 20	< 1	< 20	< 10	< 30	48	4	< 5
546697	72.45	17.52	0.47	0.083	0.04	0.46	4.90	2.60	0.006	< 0.01	0.48	99.02	< 1	244	< 5	< 20	< 1	< 20	< 10	< 30	45	4	< 5
546698	72.41	16.39	0.43	0.068	0.05	0.54	6.22	2.50	0.008	< 0.01	0.60	99.22	< 1	169	< 5	< 20	< 1	< 20	< 10	< 30	38	3	< 5
546699	73.11	15.61	0.38	0.048	0.03	0.47	5.35	2.83	0.007	0.01	0.48	98.34	< 1	60	< 5	< 20	< 1	< 20	< 10	< 30	37	4	< 5
546700	77.88	9.71	4.21	0.050	0.78	1.26	1.22	1.84	0.587	0.27	1.24	99.05	9	40	58	80	6	30	330	160	31	5	47

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	GRAV
546501	153	937	< 2	124	4	< 2	< 0.5	< 0.2	2	0.6	36.1	900	< 0.4	3.3	0.6	< 1	1.1	12	1.4	1.9	0.12	
546502	281	209	< 2	34	59	< 2	< 0.5	< 0.2	12	< 0.5	45.1	38	< 0.4	3.1	89.4	< 1	1.8	16	5.5	8.3	2.52	
546503	798	254	< 2	91	54	< 2	< 0.5	< 0.2	28	< 0.5	89.7	72	< 0.4	5.7	29.6	< 1	4.5	11	6.3	7.0	0.11	
546504	1010	315	< 2	85	78	< 2	< 0.5	< 0.2	37	< 0.5	130	106	< 0.4	5.9	51.5	1	6.3	13	7.3	7.6	0.17	
546505	289	217	< 2	86	60	< 2	< 0.5	< 0.2	8	< 0.5	41.2	29	< 0.4	8.6	88.1	< 1	2.5	19	5.8	7.6	0.06	
546506	1040	219	< 2	42	94	< 2	< 0.5	< 0.2	19	< 0.5	109	181	< 0.4	4.6	154	< 1	8.4	35	7.9	11.5	2.50	
546507	688	310	< 2	90	51	< 2	< 0.5	< 0.2	19	< 0.5	113	50	< 0.4	8.6	70.3	< 1	5.3	25	6.4	9.8	0.24	
546508	272	204	2	70	46	< 2	< 0.5	< 0.2	8	< 0.5	39.0	25	< 0.4	8.8	56.2	< 1	2.6	23	4.2	19.2	0.28	
546509	81	158	< 2	87	36	8	< 0.5	< 0.2	3	< 0.5	23.0	17	< 0.4	9.7	41.0	< 1	1.0	36	5.0	19.5	0.06	
546510	3	3	4	45	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	26	< 0.4	1.4	0.3	< 1	0.2	< 5	1.4	0.6	< 0.01	
546511	141	911	< 2	101	3	< 2	< 0.5	< 0.2	< 1	< 0.5	50.7	948	< 0.4	3.3	0.4	< 1	1.1	14	1.3	1.2	0.13	2.70
546512	67	928	< 2	104	3	< 2	< 0.5	< 0.2	< 1	< 0.5	10.3	1004	< 0.4	2.8	0.3	< 1	0.5	12	1.3	1.2	0.08	
546513	249	738	< 2	92	17	< 2	< 0.5	< 0.2	< 1	< 0.5	26.9	825	0.4	4.2	11.6	< 1	1.5	13	1.7	3.1	0.08	
546514	968	318	< 2	49	42	< 2	< 0.5	< 0.2	4	< 0.5	48.5	360	< 0.4	2.6	21.5	< 1	6.3	18	3.0	5.9	0.05	
546515	868	293	< 2	45	41	< 2	< 0.5	< 0.2	4	< 0.5	44.3	341	< 0.4	2.5	28.5	< 1	6.4	19	2.5	6.1	0.04	
546516	402	671	< 2	96	13	< 2	< 0.5	< 0.2	3	< 0.5	36.9	795	< 0.4	3.0	4.5	< 1	3.3	19	1.7	3.2	0.09	
546517	78	894	< 2	111	3	< 2	< 0.5	< 0.2	< 1	< 0.5	12.0	1036	< 0.4	3.0	0.3	< 1	1.1	11	1.2	1.1	0.11	
546518	49	903	< 2	114	3	< 2	< 0.5	< 0.2	< 1	< 0.5	9.0	1026	< 0.4	3.0	0.3	< 1	0.5	12	1.3	1.1	0.12	
546519	163	884	< 2	109	4	< 2	< 0.5	< 0.2	2	< 0.5	59.4	1017	< 0.4	2.8	0.9	< 1	1.3	12	1.2	1.3	0.14	
546520	1120	311	26	209	832	8	0.6	2.5	728	8.6	218	1980	10.3	4.6	18.1	5	9.4	26	92.1	15.4	0.51	
546521	735	161	< 2	16	99	< 2	< 0.5	< 0.2	30	< 0.5	181	53	7.0	2.2	242	< 1	6.6	21	6.9	9.0	2.27	2.83
546522	291	212	< 2	64	41	< 2	< 0.5	< 0.2	5	< 0.5	85.0	66	< 0.4	6.7	56.3	< 1	3.1	19	7.1	12.1	0.10	
546523	485	890	< 2	116	8	< 2	< 0.5	< 0.2	4	< 0.5	175	1036	< 0.4	2.9	3.2	< 1	4.0	11	1.2	1.2	0.21	
546524	405	810	< 2	109	5	< 2	< 0.5	< 0.2	4	< 0.5	168	840	< 0.4	2.9	1.2	< 1	3.6	16	1.1	3.1	0.20	
546525	759	239	< 2	57	46	< 2	< 0.5	< 0.2	15	< 0.5	199	91	< 0.4	6.2	119	< 1	5.9	24	8.5	12.1	1.06	
546526	299	852	< 2	105	4	< 2	< 0.5	< 0.2	2	< 0.5	99.0	950	< 0.4	3.1	0.9	< 1	3.3	12	1.1	1.8	0.16	
546527	437	698	< 2	83	19	< 2	< 0.5	< 0.2	5	< 0.5	79.4	768	< 0.4	3.1	8.7	< 1	3.9	15	1.9	3.6	0.18	
546528	169	855	< 2	105	5	< 2	< 0.5	< 0.2	2	< 0.5	33.7	1017	< 0.4	2.9	1.3	< 1	1.5	11	1.2	1.2	0.17	
546529	134	802	< 2	96	6	< 2	< 0.5	< 0.2	< 1	< 0.5	16.8	920	< 0.4	2.7	1.9	< 1	1.0	13	1.3	1.3	0.13	
546530	3	5	3	45	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	20	< 0.4	1.3	0.1	< 1	< 0.1	< 5	1.5	0.5	< 0.01	
546531	174	758	< 2	84	21	< 2	< 0.5	< 0.2	2	< 0.5	25.9	850	< 0.4	2.7	8.5	< 1	1.0	18	1.6	4.0	0.12	2.73
546532	239	843	< 2	100	11	< 2	< 0.5	< 0.2	2	< 0.5	37.3	983	< 0.4	3.2	7.3	< 1	1.5	15	1.7	2.3	0.14	
546533	190	889	< 2	100	5	< 2	< 0.5	< 0.2	< 1	< 0.5	34.1	964	< 0.4	2.9	1.0	< 1	1.3	12	1.4	1.6	0.17	
546534	569	622	< 2	67	26	< 2	< 0.5	< 0.2	4	< 0.5	90.5	615	< 0.4	2.7	25.9	< 1	4.1	14	2.7	2.9	0.31	
546535	718	550	< 2	75	30	< 2	< 0.5	< 0.2	6	< 0.5	110	610	< 0.4	3.0	30.3	< 1	5.4	16	2.6	3.0	0.49	
546536	183	802	2	97	8	< 2	< 0.5	< 0.2	< 1	< 0.5	29.0	933	< 0.4	3.0	2.7	< 1	1.9	13	1.4	1.9	0.16	
546537	339	790	3	97	25	< 2	< 0.5	< 0.2	1	< 0.5	94.8	877	< 0.4	2.9	6.2	< 1	2.6	13	1.4	3.0	0.14	
546538	632	176	< 2	25	41	< 2	< 0.5	< 0.2	7	< 0.5	204	137	< 0.4	2.9	56.4	17	4.5	19	5.2	8.4	0.09	
546539	301	843	< 2	96	4	< 2	< 0.5	< 0.2	2	< 0.5	94.2	926	< 0.4	2.6	2.3	< 1	2.8	11	1.3	1.3	0.13	
546540	1330	207	18	163	1100	8	< 0.5	3.9	1140	11.5	302	1021	14.5	3.8	21.9	6	10.1	24	49.0	8.3	1.03	
546541	182	792	< 2	98	12	< 2	< 0.5	< 0.2	2	< 0.5	16.0	921	< 0.4	3.0	3.6	< 1	2.7	13	1.4	1.5	0.10	2.72

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	GRAV
546542	67	905	< 2	112	4	< 2	< 0.5	< 0.2	< 1	< 0.5	9.3	1011	< 0.4	3.1	0.5	< 1	1.0	13	1.3	1.0	0.09	
546543	168	802	< 2	102	9	< 2	< 0.5	< 0.2	< 1	< 0.5	20.2	940	< 0.4	3.1	2.4	< 1	1.2	13	1.4	1.9	0.08	
546544	86	877	< 2	104	4	< 2	< 0.5	< 0.2	< 1	< 0.5	13.3	972	< 0.4	2.9	1.2	< 1	0.6	12	1.2	1.0	0.07	
546545	202	854	< 2	105	48	3	< 0.5	< 0.2	2	< 0.5	34.7	1030	< 0.4	2.9	12.8	< 1	1.2	12	1.3	1.1	0.10	
546546	417	609	< 2	72	11	< 2	< 0.5	< 0.2	2	< 0.5	37.9	664	< 0.4	2.4	3.6	< 1	2.3	13	1.3	2.3	0.06	
546547	114	870	< 2	104	5	< 2	< 0.5	< 0.2	1	< 0.5	22.3	964	< 0.4	2.9	1.3	< 1	0.9	11	1.2	1.0	0.07	
546548	69	903	< 2	120	4	< 2	< 0.5	< 0.2	< 1	< 0.5	11.8	1005	< 0.4	3.2	2.3	< 1	0.4	12	1.3	1.0	0.06	
546549	54	884	< 2	99	3	< 2	0.5	< 0.2	1	< 0.5	7.2	1035	< 0.4	3.1	0.4	1	0.4	12	1.2	0.9	0.06	
546550	< 2	3	5	46	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	12	< 0.4	1.5	0.2	< 1	< 0.1	< 5	1.2	0.5	< 0.01	
546551	69	869	< 2	99	3	< 2	< 0.5	< 0.2	2	< 0.5	13.3	993	< 0.4	3.0	0.7	< 1	0.2	12	1.1	0.9	0.06	2.75
546552	120	884	< 2	92	4	< 2	< 0.5	< 0.2	2	< 0.5	22.0	1004	< 0.4	3.0	1.9	< 1	0.4	12	1.2	1.3	0.06	
546553	275	824	< 2	93	9	< 2	< 0.5	< 0.2	3	< 0.5	33.0	883	< 0.4	3.0	3.0	< 1	1.3	14	1.4	1.7	0.07	
546554	625	404	< 2	48	32	< 2	< 0.5	< 0.2	4	< 0.5	34.3	496	< 0.4	2.5	12.6	< 1	3.5	20	2.2	6.4	0.06	
546555	769	361	< 2	41	41	< 2	< 0.5	< 0.2	4	< 0.5	32.4	428	< 0.4	2.2	22.1	4	4.7	20	2.3	6.5	0.04	
546556	163	901	2	100	6	< 2	< 0.5	< 0.2	2	< 0.5	18.4	1018	< 0.4	3.0	3.3	< 1	1.4	13	1.3	1.5	0.07	
546557	203	869	< 2	97	5	< 2	< 0.5	< 0.2	3	< 0.5	36.7	1036	< 0.4	2.9	4.6	< 1	1.1	12	1.2	1.2	0.08	
546558	568	534	< 2	73	24	< 2	< 0.5	< 0.2	9	< 0.5	38.5	623	< 0.4	2.8	8.7	< 1	3.2	17	2.0	3.8	0.07	
546559	856	273	< 2	40	31	< 2	< 0.5	< 0.2	14	< 0.5	36.3	352	< 0.4	2.4	17.5	< 1	5.0	14	2.4	5.1	0.05	
546560	1190	284	27	198	766	8	0.9	2.7	707	7.8	230	2008	10.5	4.7	16.8	8	10.0	26	91.0	15.5	0.51	
546561	134	853	< 2	101	8	< 2	< 0.5	< 0.2	2	< 0.5	24.4	987	< 0.4	3.0	7.1	< 1	2.3	12	1.3	1.3	0.08	2.72
546562	110	833	< 2	102	5	< 2	< 0.5	< 0.2	2	< 0.5	15.6	986	< 0.4	3.0	1.9	< 1	1.0	13	1.2	1.1	0.07	
546563	101	873	< 2	117	3	< 2	< 0.5	< 0.2	1	< 0.5	19.3	1116	< 0.4	3.2	0.5	< 1	0.6	12	1.1	0.7	0.09	
546564	206	757	< 2	89	5	< 2	< 0.5	< 0.2	2	< 0.5	24.8	1002	< 0.4	2.5	3.9	< 1	1.1	12	1.3	1.2	0.06	
546565	373	523	< 2	81	13	< 2	< 0.5	< 0.2	3	< 0.5	22.0	793	< 0.4	2.9	9.1	< 1	2.0	30	1.5	2.7	0.03	
546566	595	556	2	72	15	< 2	< 0.5	< 0.2	9	< 0.5	59.0	693	< 0.4	2.6	10.2	4	3.4	13	1.8	2.8	0.07	
546567	501	565	3	79	20	< 2	< 0.5	< 0.2	8	< 0.5	45.5	645	< 0.4	3.2	12.1	< 1	3.0	10	2.0	4.1	0.07	
546568	1080	891	< 2	98	25	< 2	< 0.5	< 0.2	9	< 0.5	71.3	941	< 0.4	2.4	19.7	< 1	7.0	15	1.9	5.1	0.10	
546569	3	371	< 2	41	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	481	< 0.4	1.0	0.1	< 1	0.7	< 5	1.2	0.5	0.06	
546570	< 2	3	< 2	40	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	17	< 0.4	< 0.2	< 0.1	< 1	0.2	< 5	< 0.1	< 0.1	< 0.01	
546571	99	851	3	94	5	< 2	< 0.5	< 0.2	1	< 0.5	11.8	1020	< 0.4	3.0	2.1	< 1	0.7	11	1.2	0.9	0.09	2.72
546572	62	869	2	102	3	< 2	< 0.5	< 0.2	1	< 0.5	11.5	1024	< 0.4	2.8	1.3	< 1	0.2	11	1.2	0.9	0.08	
546573	63	922	< 2	96	2	< 2	< 0.5	< 0.2	1	< 0.5	11.2	1036	< 0.4	3.1	0.6	< 1	0.2	12	1.2	0.8	0.08	
546574	63	919	3	100	3	< 2	< 0.5	< 0.2	1	< 0.5	11.6	1106	< 0.4	2.9	0.4	< 1	0.1	11	1.1	0.8	0.09	
546575	132	928	2	110	3	< 2	< 0.5	< 0.2	1	< 0.5	11.1	1072	< 0.4	2.8	0.5	< 1	0.5	12	1.1	0.9	0.09	
546576	615	906	< 2	99	31	< 2	< 0.5	< 0.2	10	< 0.5	106	1093	< 0.4	3.7	14.9	5	3.5	14	2.2	5.2	0.12	
546577	522	513	< 2	79	14	< 2	< 0.5	< 0.2	11	< 0.5	135	553	< 0.4	3.5	16.0	3	3.5	20	1.6	2.6	0.11	
546578	112	694	< 2	103	3	< 2	< 0.5	< 0.2	1	< 0.5	21.4	824	< 0.4	3.1	0.7	2	1.0	12	1.2	0.8	0.12	
546579	154	906	< 2	112	4	< 2	< 0.5	< 0.2	2	< 0.5	26.6	1033	< 0.4	3.0	1.2	< 1	0.9	13	1.3	1.0	0.12	
546580	1320	210	19	159	1240	9	0.6	4.1	1090	13.3	303	1026	15.1	3.9	22.4	9	10.5	24	47.4	8.0	1.06	
546581	566	547	< 2	69	26	< 2	< 0.5	< 0.2	17	122	41.0	614	< 0.4	2.8	10.8	3	4.8	14	1.7	4.1	0.10	2.74
546582	93	878	< 2	114	4	5	< 0.5	< 0.2	2	< 0.5	16.4	1018	< 0.4	3.3	0.6	2	1.3	12	1.2	0.9	0.11	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	GRAV
546583	190	860	< 2	114	5	< 2	< 0.5	< 0.2	2	< 0.5	33.0	1031	< 0.4	3.5	1.2	< 1	1.4	12	1.3	0.9	0.11	
546584	153	187	4	53	43	< 2	< 0.5	< 0.2	7	< 0.5	20.1	157	< 0.4	4.9	35.5	< 1	1.0	31	4.1	15.0	0.04	
546585	122	918	< 2	110	4	4	< 0.5	< 0.2	1	< 0.5	27.2	1018	< 0.4	3.3	1.0	4	0.7	12	1.2	0.7	0.09	
546586	201	772	2	106	6	< 2	< 0.5	< 0.2	2	< 0.5	31.4	986	< 0.4	3.1	3.2	< 1	1.1	12	1.3	1.0	0.09	
546587	180	750	< 2	109	9	< 2	< 0.5	< 0.2	2	< 0.5	13.5	954	< 0.4	3.3	4.8	< 1	1.0	15	1.4	1.5	0.06	
546588	140	835	< 2	108	7	2	< 0.5	< 0.2	1	< 0.5	14.1	987	< 0.4	3.3	1.6	< 1	0.7	13	1.2	1.0	0.06	
546589	464	542	< 2	75	31	< 2	< 0.5	< 0.2	7	< 0.5	33.7	655	< 0.4	3.1	8.7	< 1	2.4	20	2.1	6.5	0.06	
546590	3	5	4	45	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	16	< 0.4	1.2	0.2	< 1	< 0.1	< 5	1.4	0.4	< 0.01	
546591	117	919	< 2	114	4	< 2	< 0.5	< 0.2	1	< 0.5	26.7	1035	< 0.4	3.2	0.6	< 1	0.5	12	1.2	0.9	0.08	2.76
546592	73	956	< 2	117	3	6	< 0.5	< 0.2	1	< 0.5	16.4	1091	< 0.4	3.3	0.5	< 1	0.3	12	1.1	0.8	0.08	
546593	70	904	< 2	118	4	< 2	< 0.5	< 0.2	7	< 0.5	15.6	1124	< 0.4	3.4	0.6	< 1	0.2	13	1.2	0.9	0.09	
546594	446	753	< 2	92	14	< 2	< 0.5	< 0.2	3	< 0.5	38.7	833	< 0.4	3.0	5.4	< 1	2.4	17	1.4	2.1	0.08	
546595	374	780	< 2	96	11	< 2	< 0.5	< 0.2	3	< 0.5	34.6	830	< 0.4	3.1	4.0	< 1	2.3	18	1.4	2.2	0.08	
546596	273	363	< 2	73	38	3	< 0.5	< 0.2	8	< 0.5	24.6	329	< 0.4	6.3	21.9	< 1	1.1	21	4.1	22.3	0.08	
546597	280	874	< 2	120	8	< 2	< 0.5	< 0.2	8	< 0.5	55.9	1121	< 0.4	3.4	2.0	< 1	1.4	13	1.1	1.1	0.22	
546598	171	936	< 2	108	3	< 2	< 0.5	< 0.2	3	< 0.5	31.4	892	< 0.4	3.1	0.4	< 1	1.0	12	1.3	1.0	0.12	
546599	1140	84	3	41	62	< 2	< 0.5	< 0.2	30	< 0.5	65.8	125	< 0.4	5.2	25.1	< 1	6.6	51	4.9	12.2	0.11	
546600	1180	294	27	211	797	8	0.8	2.5	678	8.0	227	2019	10.3	4.9	17.0	5	9.7	27	93.2	16.1	0.50	
546601	289	890	< 2	117	6	< 2	< 0.5	< 0.2	4	< 0.5	150	1019	< 0.4	3.3	0.8	< 1	3.5	13	1.3	1.1	0.15	2.79
546602	610	188	3	74	37	< 2	< 0.5	< 0.2	9	< 0.5	182	198	< 0.4	8.1	31.3	< 1	4.1	30	8.6	14.9	0.09	
546603	251	902	< 2	117	4	< 2	< 0.5	< 0.2	3	< 0.5	145	1018	< 0.4	3.2	1.1	< 1	2.2	13	1.4	1.0	0.15	
546604	335	134	3	71	58	< 2	< 0.5	< 0.2	18	< 0.5	111	138	< 0.4	11.3	46.7	< 1	2.3	36	9.5	21.2	0.08	
546605	223	854	< 2	117	6	< 2	< 0.5	< 0.2	2	< 0.5	87.1	968	< 0.4	3.6	2.1	< 1	1.7	12	1.4	1.1	0.13	
546606	746	687	< 2	116	15	< 2	< 0.5	< 0.2	23	< 0.5	382	803	< 0.4	3.7	11.3	2	4.4	16	1.4	1.1	0.19	
546607	289	927	< 2	125	4	< 2	< 0.5	< 0.2	2	< 0.5	88.1	1058	< 0.4	3.4	0.8	< 1	2.3	12	1.3	0.9	0.14	
546608	330	106	2	37	51	< 2	< 0.5	< 0.2	14	< 0.5	25.9	69	0.9	4.2	47.2	< 1	1.9	16	2.9	8.9	0.04	
546609	128	917	< 2	112	4	< 2	< 0.5	< 0.2	2	< 0.5	17.5	1049	< 0.4	3.3	0.9	< 1	0.8	12	1.2	0.9	0.10	
546610	3	4	3	43	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	26	< 0.4	1.1	< 0.1	1	< 0.1	< 5	1.4	0.4	< 0.01	
546611	70	887	< 2	113	4	< 2	< 0.5	< 0.2	1	< 0.5	10.7	1011	< 0.4	3.3	0.4	< 1	0.1	13	1.2	0.9	0.08	2.71
546612	198	850	< 2	106	6	< 2	< 0.5	< 0.2	2	< 0.5	27.1	889	< 0.4	3.0	2.4	< 1	0.9	10	1.2	1.0	0.08	
546613	1680	150	< 2	10	11	< 2	< 0.5	< 0.2	3	< 0.5	121	260	< 0.4	0.8	9.4	< 1	11.0	19	0.4	1.1	0.03	
546614	1420	149	< 2	13	67	< 2	< 0.5	< 0.2	3	< 0.5	85.9	277	< 0.4	1.9	101	< 1	11.0	14	2.3	4.1	0.03	
546615	1350	153	< 2	15	77	< 2	< 0.5	< 0.2	4	< 0.5	84.4	248	< 0.4	1.7	119	< 1	11.0	64	2.0	3.3	0.04	
546616	755	91	4	41	60	< 2	< 0.5	< 0.2	10	< 0.5	67.1	125	< 0.4	5.9	83.1	< 1	6.4	8	4.8	12.0	0.03	
546617	182	915	< 2	123	4	< 2	< 0.5	< 0.2	2	< 0.5	32.8	982	< 0.4	3.5	0.8	< 1	2.2	11	1.3	0.9	0.09	
546618	92	906	< 2	114	4	< 2	< 0.5	< 0.2	1	< 0.5	14.6	982	< 0.4	3.3	1.0	< 1	0.9	11	1.3	1.0	0.07	
546619	168	890	< 2	120	4	< 2	< 0.5	< 0.2	3	< 0.5	24.3	994	< 0.4	3.4	1.0	< 1	1.2	12	1.2	0.9	0.08	
546620	1290	208	19	160	1130	9	0.5	4.2	1110	12.1	302	1029	15.6	3.8	21.4	6	10.5	24	48.3	8.2	1.04	
546621	626	631	3	99	16	< 2	< 0.5	< 0.2	7	< 0.5	66.3	799	< 0.4	2.8	12.3	< 1	3.5	11	1.6	2.2	0.09	2.71
546622	322	796	< 2	104	6	< 2	< 0.5	< 0.2	5	< 0.5	41.5	873	< 0.4	3.3	2.5	< 1	2.8	11	1.4	1.3	0.08	
546623	112	123	< 2	32	56	< 2	< 0.5	< 0.2	3	< 0.5	11.4	69	< 0.4	3.5	63.3	< 1	1.1	12	1.7	6.4	0.02	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	GRAV
546624	478	63	< 2	29	63	< 2	< 0.5	< 0.2	10	< 0.5	29.2	32	< 0.4	4.5	44.3	< 1	2.6	13	3.6	12.4	0.03	
546625	1720	136	< 2	17	69	< 2	< 0.5	< 0.2	10	< 0.5	89.7	239	0.6	3.2	49.7	< 1	12.2	17	5.5	15.2	0.04	
546626	259	72	3	36	55	< 2	< 0.5	< 0.2	10	< 0.5	19.6	17	< 0.4	4.9	42.1	< 1	1.9	28	4.0	15.8	0.03	
546627	172	922	< 2	113	5	< 2	< 0.5	< 0.2	2	< 0.5	29.4	989	< 0.4	3.3	0.6	1	1.3	13	1.2	1.0	0.11	
546628	163	838	< 2	111	5	< 2	< 0.5	< 0.2	1	< 0.5	22.1	941	< 0.4	3.4	3.5	< 1	1.1	12	1.3	1.8	0.08	
546629	897	276	< 2	38	46	< 2	< 0.5	< 0.2	16	< 0.5	64.3	327	1.2	1.9	25.0	< 1	5.0	16	2.9	5.2	0.06	
546630	< 2	< 2	3	43	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	11	< 0.4	1.0	< 0.1	2	0.4	< 5	1.0	0.4	< 0.01	
546631	247	899	2	118	6	< 2	< 0.5	< 0.2	2	< 0.5	32.1	920	< 0.4	3.4	2.0	< 1	1.5	12	1.3	1.1	0.07	2.74
546632	1240	113	3	15	48	< 2	< 0.5	< 0.2	21	< 0.5	61.1	161	< 0.4	1.2	19.7	< 1	7.0	13	1.9	6.8	0.05	
546633	1400	119	< 2	17	77	< 2	< 0.5	< 0.2	14	< 0.5	112	142	9.6	2.6	59.5	< 1	10.1	75	5.2	13.8	0.03	
546634	988	132	3	21	56	< 2	< 0.5	< 0.2	13	< 0.5	41.6	145	< 0.4	1.7	18.1	< 1	7.1	13	2.6	9.7	0.03	
546635	1020	125	< 2	22	58	< 2	< 0.5	< 0.2	16	< 0.5	47.3	159	< 0.4	1.9	16.8	< 1	7.4	14	2.7	10.0	0.04	
546636	60	842	2	118	4	< 2	< 0.5	< 0.2	1	< 0.5	8.8	897	< 0.4	3.5	0.3	< 1	1.3	12	1.5	1.2	0.07	
546679	130	917	< 2	127	5	< 2	< 0.5	< 0.2	2	< 0.5	27.6	909	< 0.4	3.6	2.8	< 1	1.1	12	1.3	1.2	0.08	
546680	1170	293	25	212	859	8	0.7	2.7	727	9.1	230	1987	13.6	5.2	17.0	7	10.1	30	97.1	16.9	0.50	
546681	166	901	< 2	125	6	< 2	< 0.5	< 0.2	4	< 0.5	25.5	767	< 0.4	3.6	0.8	1	2.3	12	1.5	1.4	0.09	
546682	1230	276	< 2	5	34	< 2	< 0.5	< 0.2	28	< 0.5	97.5	429	< 0.4	0.4	12.2	< 1	7.9	8	0.8	0.3	0.13	
546683	577	300	< 2	8	32	< 2	< 0.5	< 0.2	25	< 0.5	76.2	53	2.6	0.6	18.1	< 1	4.4	8	1.7	1.0	1.63	2.81
546684	355	142	< 2	7	21	< 2	< 0.5	< 0.2	21	< 0.5	62.4	15	29.7	1.5	21.3	1	2.5	8	1.4	2.2	2.55	
546685	176	30	< 2	< 4	12	< 2	< 0.5	< 0.2	24	< 0.5	29.6	9	3.2	0.4	56.8	< 1	0.7	< 5	0.8	2.2	3.04	
546686	1060	90	< 2	17	117	< 2	< 0.5	< 0.2	24	< 0.5	147	36	20.6	8.5	648	1	7.0	43	2.0	5.5	1.85	
546687	778	75	< 2	9	62	< 2	< 0.5	< 0.2	20	< 0.5	114	14	1.1	3.4	399	1	5.4	13	4.7	5.5	1.34	
546688	497	56	< 2	7	50	< 2	< 0.5	< 0.2	19	< 0.5	92.9	14	0.6	1.8	390	< 1	3.1	10	3.1	5.0	2.23	
546689	977	59	< 2	11	124	< 2	< 0.5	< 0.2	22	< 0.5	200	16	0.7	4.7	738	2	7.8	21	7.6	7.4	1.83	
546690	7	< 2	4	49	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.6	19	< 0.4	1.4	1.2	4	0.8	< 5	1.5	0.5	< 0.01	
546691	550	56	< 2	13	77	< 2	< 0.5	< 0.2	20	< 0.5	98.6	9	< 0.4	4.9	409	2	3.6	17	4.2	5.7	1.84	
546692	918	50	< 2	9	53	< 2	< 0.5	< 0.2	14	< 0.5	161	12	< 0.4	3.1	246	5	6.7	23	4.9	10.3	1.38	
546693	409	33	< 2	11	57	< 2	< 0.5	< 0.2	18	< 0.5	83.5	6	< 0.4	3.7	307	4	3.7	12	2.4	3.8	2.34	2.83
546694	167	33	< 2	17	54	< 2	< 0.5	< 0.2	19	< 0.5	73.6	5	< 0.4	6.3	248	5	1.5	12	4.5	5.7	2.47	
546695	201	35	< 2	18	57	< 2	< 0.5	< 0.2	20	< 0.5	77.5	6	< 0.4	6.6	299	1	1.4	14	5.8	6.9	2.57	
546696	533	48	< 2	7	41	< 2	< 0.5	< 0.2	14	< 0.5	101	10	< 0.4	2.3	221	3	3.9	18	2.3	4.5	2.06	
546697	1070	71	2	6	30	< 2	< 0.5	< 0.2	11	< 0.5	162	19	< 0.4	2.2	177	2	8.4	15	1.7	2.5	1.58	
546698	1030	64	< 2	17	49	< 2	< 0.5	< 0.2	8	< 0.5	137	15	< 0.4	5.0	377	2	7.9	17	4.3	4.8	0.59	
546699	1180	69	< 2	10	66	< 2	< 0.5	< 0.2	9	< 0.5	154	14	< 0.4	4.1	591	3	10.7	24	7.6	6.0	0.65	
546700	1300	204	20	171	1270	8	0.7	4.3	1120	13.2	304	1068	16.3	4.1	22.1	6	12.6	26	50.3	9.3	1.06	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.17	1.85	0.73	0.010	0.34	42.68	0.84	0.55	0.120	30.22					1605								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.12	18.13	9.54	0.150	10.00	11.44	1.89	0.22	0.470	0.07			31		149	290	54	250	100	70	14		
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15		
GBW 07113 Meas	70.68	12.62	3.17	0.140	0.16	0.63	2.45	5.40	0.270	0.05			5	4	< 5								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																80	29	50	40	140			26
LKSD-3 Cert																87.0	30.0	47.0	35.0	152			27.0
TDB-1 Meas																250		100	350	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	53.28	15.01	10.24	0.160	6.30	11.15	2.24	0.62	1.070	0.12			36	< 1	266	90	44	70	110	80	18	2	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	
SY-4 Meas	49.76	20.81	6.26	0.110	0.50	8.08	6.91	1.67	0.290	0.13			< 1	3	9								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			50	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.10	15.94	11.19	0.170	9.84	13.50	1.84	0.02	0.990	0.02			43	< 1	325	370	47	160	120	70	15		
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16		
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30	4		940	100	15	12	69
NCS DC70009 (GBW07241) Cert																30	3.7		960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		160				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	46		420				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	45		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20	< 10		15	2	16
JR-1 Cert																		1.67	2.68		16.1	1.88	16.3
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86304 Meas																							
NCS DC86304 Cert																							
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NCS DC86314 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Cert																							
546507 Orig																							
546507 Dup																							
546515 Orig	72.94	15.51	0.69	0.162	0.06	0.86	5.92	3.34	0.038	0.07	0.34	99.92	< 1	8	< 5	< 20	< 1	< 20	< 10	70	28	2	< 5
546515 Dup	72.28	15.42	0.70	0.159	0.07	0.87	5.91	3.32	0.037	0.06	0.34	99.15	< 1	8	< 5	< 20	< 1	< 20	< 10	60	30	2	< 5
546530 Orig																							
546530 Dup																							
546532 Orig	71.39	16.70	0.98	0.037	0.18	2.34	5.82	1.87	0.118	0.07	0.38	99.89	< 1	4	8	< 20	< 1	< 20	< 10	80	26	< 1	< 5
546532 Dup	71.40	16.37	0.98	0.036	0.19	2.31	5.76	1.88	0.117	0.07	0.38	99.48	< 1	5	9	< 20	1	< 20	< 10	80	26	< 1	< 5
546538 Orig																							
546538 Dup																							
546551 Orig	70.55	16.66	0.99	0.012	0.18	2.45	5.57	1.74	0.118	0.04	0.35	98.65	< 1	4	8	< 20	< 1	< 20	< 10	70	28	< 1	< 5
546551 Split PREP DUP	70.90	16.36	1.11	0.014	0.18	2.47	5.57	1.74	0.118	0.04	0.36	98.85	< 1	4	8	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546551 Orig																							
546551 Dup																							
546558 Orig																							
546558 Dup																							
546562 Orig	71.65	16.42	0.93	0.014	0.17	2.44	5.74	1.77	0.111	0.02	0.35	99.61	< 1	3	9	< 20	< 1	< 20	< 10	80	28	< 1	< 5
546562 Dup	71.62	16.26	0.91	0.013	0.17	2.46	5.84	1.80	0.113	0.03	0.35	99.56	< 1	3	7	< 20	< 1	< 20	< 10	70	27	< 1	< 5
546572 Orig																							
546572 Dup																							
546579 Orig	71.74	16.14	0.88	0.011	0.16	2.49	5.47	1.67	0.114	0.03	0.38	99.08	< 1	3	8	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546579 Dup	71.86	16.34	0.88	0.011	0.16	2.48	5.48	1.66	0.116	0.02	0.38	99.40	< 1	3	8	< 20	< 1	< 20	< 10	60	29	< 1	< 5
546580 Orig																							
546580 Dup																							
546594 Orig																							
546594 Dup																							
546600 Orig																							
546600 Dup																							
546601 Orig	72.08	16.58	1.03	0.015	0.20	2.49	5.69	1.55	0.127	0.04	0.52	100.3	< 1	6	8	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546601 Split PREP DUP	71.21	17.04	1.04	0.014	0.19	2.45	5.65	1.51	0.126	0.03	0.52	99.79	< 1	6	7	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546609 Orig	72.01	15.80	1.16	0.014	0.20	2.49	5.79	1.75	0.117	0.02	0.39	99.74	< 1	3	9	< 20	< 1	< 20	< 10	70	29	< 1	< 5
546609 Dup	71.75	16.45	1.14	0.014	0.20	2.54	5.74	1.73	0.116	0.03	0.39	100.1	< 1	4	10	< 20	< 1	< 20	< 10	60	29	< 1	< 5
546615 Orig																							
546615 Dup																							
546623 Orig																							
546623 Dup																							
546626 Orig																< 20	< 1	< 20	< 10	< 30	40	4	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546626 Dup																< 20	< 1	< 20	< 10	< 30	41	4	< 5
546679 Orig																							
546679 Dup																							
546687 Orig																							
546687 Dup																							
546692 Orig	74.47	15.96	0.60	0.067	0.03	0.40	4.73	2.10	0.011	0.01	0.52	98.90	< 1	389	< 5	< 20	< 1	< 20	< 10	< 30	46	4	< 5
546692 Split PREP DUP	73.93	16.12	0.55	0.070	0.03	0.41	4.71	2.12	0.011	< 0.01	0.56	98.51	< 1	364	< 5	< 20	< 1	< 20	< 10	< 30	46	4	< 5
546698 Orig	72.63	16.22	0.44	0.068	0.06	0.54	6.24	2.50	0.007	0.02	0.60	99.32	< 1	169	5	< 20	< 1	< 20	< 10	< 30	40	4	< 5
546698 Dup	72.18	16.55	0.42	0.068	0.05	0.54	6.20	2.50	0.008	< 0.01	0.60	99.13	< 1	169	< 5	< 20	< 1	< 20	< 10	< 30	40	4	< 5
546698 Orig																20	< 1	20	< 10	< 30	39	3	< 5
546698 Dup																< 20	< 1	< 20	< 10	< 30	37	3	< 5
546700 Orig																							
546700 Dup																							
Method Blank	< 0.01	< 0.01	< 0.01	0.001	< 0.01	< 0.01	< 0.01	< 0.01	0.004	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	< 0.01	0.01	0.002	< 0.01	0.01	0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	< 0.01	0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	GRAV
NIST 694 Meas																						
NIST 694 Cert																						
DNC-1 Meas		137	15	39						0.9		107						6				
DNC-1 Cert		144.0	18.0	38						0.96		118						6.3				
GBW 07113 Meas		46	45	396								494										
GBW 07113 Cert		43.0	43.0	403								506										
LKSD-3 Meas	79					< 2					2.2			4.6	0.7				11.3	4.6		
LKSD-3 Cert	78.0					2.00					2.30			4.80	0.700				11.4	4.60		
TDB-1 Meas																			2.5			
TDB-1 Cert																			2.7			
W-2a Meas	20	191	18	93	7	< 2				0.8		173	< 0.4	2.4	0.4	1	< 0.1	8		0.5		
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600				0.790		182	0.0300	2.60	0.500	0.300	0.200	9.30		0.530		
SY-4 Meas		1196	115	537								348										
SY-4 Cert		1191	119	517								340										
CTA-AC-1 Meas														1.2	2.8				22.3			
CTA-AC-1 Cert														1.13	2.65				21.8			
BIR-1a Meas		106	14	15						< 0.5		7		0.6								
BIR-1a Cert		110	16	18						0.58		6		0.60								
NCS DC86312 Meas																			24.6			
NCS DC86312 Cert																			23.6			
NCS DC70009 (GBW07241) Meas	523						1.7	1.0	1670	3.1	41.4					2150	1.8		29.1			
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3			
OREAS 100a (Fusion) Meas						22													49.6	135		
OREAS 100a (Fusion) Cert						24.1													51.6	135		
OREAS 101a (Fusion) Meas						23													34.5	410		
OREAS 101a (Fusion) Cert						21.9													36.6	422		
OREAS 101b (Fusion) Meas						20													35.6	389		
OREAS 101b (Fusion) Cert						21													37.1	396		
JR-1 Meas	250				16	3		< 0.2	3	1.2	20.7		0.6	4.1	1.9	2		21	25.7	8.6		
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59		19.3	26.7	8.88		
NCS DC86303 Meas																					0.47	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	GRAV
NCS DC86303 Cert																					0.460	
NCS DC86303 Meas																					0.46	
NCS DC86303 Cert																					0.460	
NCS DC86303 Meas																					0.45	
NCS DC86303 Cert																					0.460	
NCS DC86303 Meas																					0.46	
NCS DC86303 Cert																					0.460	
NCS DC86303 Meas																					0.47	
NCS DC86303 Cert																					0.460	
NCS DC86303 Meas																					0.43	
NCS DC86303 Cert																					0.460	
NCS DC86303 Meas																					0.45	
NCS DC86303 Cert																					0.460	
NCS DC86303 Meas																					0.45	
NCS DC86303 Cert																					0.460	
NCS DC86304 Meas																					2.33	
NCS DC86304 Cert																					2.29	
NCS DC86304 Meas																					2.27	
NCS DC86304 Cert																					2.29	
NCS DC86304 Meas																					2.24	
NCS DC86304 Cert																					2.29	
NCS DC86304 Meas																					2.36	
NCS DC86304 Cert																					2.29	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	GRAV
NCS DC86304 Meas																					2.33	
NCS DC86304 Cert																					2.29	
NCS DC86304 Meas																					2.35	
NCS DC86304 Cert																					2.29	
NCS DC86304 Meas																					2.29	
NCS DC86304 Cert																					2.29	
NCS DC86304 Meas																					2.37	
NCS DC86304 Cert																					2.29	
NCS DC86314 Meas																					3.71	
NCS DC86314 Cert																					3.89	
NCS DC86314 Meas																					3.80	
NCS DC86314 Cert																					3.89	
NCS DC86314 Meas																					3.90	
NCS DC86314 Cert																					3.89	
NCS DC86314 Meas																					3.94	
NCS DC86314 Cert																					3.89	
NCS DC86314 Meas																					3.99	
NCS DC86314 Cert																					3.89	
NCS DC86314 Meas																					3.95	
NCS DC86314 Cert																					3.89	
NCS DC86314 Meas																					3.82	
NCS DC86314 Cert																					3.89	
NCS DC86314 Meas																					3.95	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	GRAV
NCS DC86314 Cert																					3.89	
546507 Orig																					0.24	
546507 Dup																					0.24	
546515 Orig	840	297	< 2	45	42	< 2	< 0.5	< 0.2	4	< 0.5	43.2	342	< 0.4	2.6	31.6	< 1	6.1	19	2.4	6.0	0.04	
546515 Dup	896	290	< 2	45	39	< 2	< 0.5	< 0.2	4	< 0.5	45.5	339	< 0.4	2.4	25.3	< 1	6.7	19	2.6	6.2	0.04	
546530 Orig																					< 0.01	
546530 Dup																					< 0.01	
546532 Orig	237	832	< 2	99	10	< 2	< 0.5	< 0.2	2	< 0.5	36.9	985	< 0.4	3.0	7.1	< 1	1.5	14	1.6	2.2		
546532 Dup	241	855	2	101	11	< 2	< 0.5	< 0.2	2	< 0.5	37.6	981	< 0.4	3.3	7.6	< 1	1.6	15	1.7	2.5		
546538 Orig																					0.09	
546538 Dup																					0.09	
546551 Orig	69	869	< 2	99	3	< 2	< 0.5	< 0.2	2	< 0.5	13.3	993	< 0.4	3.0	0.7	< 1	0.2	12	1.1	0.9	0.06	
546551 Split PREP DUP	74	876	< 2	98	4	< 2	< 0.5	< 0.2	2	< 0.5	13.7	1000	< 0.4	3.1	0.8	< 1	0.2	12	1.2	1.0	0.06	
546551 Orig																					0.06	
546551 Dup																					0.06	
546558 Orig																					0.07	
546558 Dup																					0.07	
546562 Orig	110	834	< 2	101	4	< 2	< 0.5	< 0.2	2	< 0.5	15.6	976	< 0.4	2.9	1.9	< 1	1.2	13	1.2	1.1		
546562 Dup	109	833	< 2	102	5	< 2	< 0.5	< 0.2	2	< 0.5	15.7	997	< 0.4	3.0	1.9	< 1	0.8	13	1.2	1.1		
546572 Orig																					0.08	
546572 Dup																					0.08	
546579 Orig	113	921	< 2	112	4	< 2	< 0.5	< 0.2	1	< 0.5	21.9	1033	< 0.4	3.3	0.7	8	0.7	12	1.2	0.8		
546579 Dup	194	891	< 2	112	4	< 2	< 0.5	< 0.2	2	< 0.5	31.4	1032	< 0.4	2.8	1.7	< 1	1.1	13	1.3	1.2		
546580 Orig																					1.05	
546580 Dup																					1.07	
546594 Orig																					0.08	
546594 Dup																					0.08	
546600 Orig																					0.49	
546600 Dup																					0.50	
546601 Orig	289	890	< 2	117	6	< 2	< 0.5	< 0.2	4	< 0.5	150	1019	< 0.4	3.3	0.8	< 1	3.5	13	1.3	1.1	0.15	
546601 Split PREP DUP	281	871	< 2	113	5	< 2	< 0.5	< 0.2	3	< 0.5	141	1009	< 0.4	3.2	0.9	< 1	2.6	12	1.3	1.0	0.14	
546609 Orig	129	926	< 2	115	4	< 2	< 0.5	< 0.2	2	< 0.5	17.6	1056	< 0.4	3.3	0.9	< 1	0.9	12	1.2	0.9		
546609 Dup	127	909	< 2	110	4	< 2	< 0.5	< 0.2	2	< 0.5	17.5	1042	< 0.4	3.2	0.9	< 1	0.7	12	1.2	0.9		
546615 Orig																					0.04	
546615 Dup																					0.04	
546623 Orig																					0.02	
546623 Dup																					0.02	
546626 Orig	275				56	< 2	< 0.5	< 0.2	10	< 0.5	20.2		< 0.4	4.7	40.7	< 1	2.9	34	4.0	17.1		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	GRAV
546626 Dup	280				68	< 2	< 0.5	< 0.2	10	< 0.5	20.9		< 0.4	5.8	45.0	< 1	2.1	36	3.9	16.0		
546679 Orig																					0.07	
546679 Dup																					0.08	
546687 Orig																					1.33	
546687 Dup																					1.35	
546692 Orig	918	50	< 2	9	53	< 2	< 0.5	< 0.2	14	< 0.5	161	12	< 0.4	3.1	246	5	6.7	23	4.9	10.3	1.38	
546692 Split PREP DUP	921	52	< 2	10	48	< 2	< 0.5	< 0.2	14	< 0.5	155	12	< 0.4	3.9	230	< 1	7.5	24	4.6	9.5	1.44	
546698 Orig	1030	64	3	17	51	< 2	< 0.5	< 0.2	8	< 0.5	141	15	< 0.4	4.8	389	2	9.0	21	4.5	5.0		
546698 Dup	1040	64	< 2	17	49	< 2	< 0.5	< 0.2	8	< 0.5	138	15	< 0.4	5.2	366	1	8.6	19	4.2	4.7		
546698 Orig	1040				53	< 2	< 0.5	< 0.2	8	< 0.5	139		< 0.4	5.3	382	2	7.6	17	4.4	5.0		
546698 Dup	1020				44	< 2	< 0.5	< 0.2	8	< 0.5	135		< 0.4	6.4	399	2	8.3	17	4.2	5.5		
546700 Orig																					1.06	
546700 Dup																					1.05	
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1		
Method Blank		< 2	< 2	< 4								< 3										
Method Blank		< 2	< 2	< 4								< 3										
Method Blank																					< 0.01	
Method Blank																					< 0.01	
Method Blank																					< 0.01	
Method Blank																					< 0.01	
Method Blank																					< 0.01	
Method Blank																					< 0.01	
Method Blank																					< 0.01	
Method Blank																					< 0.01	
Method Blank																						1.00

Quality Analysis ... *Innovative Technologies*

Date Submitted: 14-Sep-17
Invoice No.: A17-10010
Invoice Date: 24-Oct-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC v6c 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

79 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-10010**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
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Analyte Symbol	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Method Code	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546701	1.47	71.36	16.91	0.65	0.067	0.15	0.62	5.57	2.40	0.019	0.03	0.82	98.59	< 1	34	< 5	< 20	< 1	< 20	< 10	< 30	44	3
546702	0.98	76.61	14.56	0.82	0.063	0.10	0.53	4.29	1.21	0.021	< 0.01	0.65	98.88	< 1	9	< 5	20	< 1	< 20	< 10	< 30	42	3
546703	1.74	75.61	15.50	0.79	0.082	0.05	0.44	4.37	1.08	0.017	0.02	0.49	98.45	< 1	81	< 5	30	< 1	< 20	< 10	< 30	46	3
546704	2.10	76.67	15.07	0.71	0.079	0.05	0.35	3.37	1.22	0.013	< 0.01	0.43	97.96	< 1	221	< 5	30	< 1	< 20	< 10	< 30	45	3
546705	2.50	74.86	16.26	1.37	0.135	0.08	0.43	2.75	0.79	0.026	< 0.01	0.69	97.39	< 1	562	6	50	< 1	< 20	< 10	40	55	3
546706	1.90	80.49	12.62	0.87	0.081	0.06	0.44	2.62	0.56	0.027	< 0.01	0.49	98.25	< 1	170	< 5	30	< 1	< 20	< 10	50	41	3
546707	3.29	76.45	14.91	1.05	0.088	0.06	0.31	1.61	0.31	0.017	< 0.01	0.46	95.27	< 1	357	< 5	50	< 1	< 20	< 10	30	52	3
546708	2.10	76.98	13.73	0.93	0.085	0.05	0.36	2.32	1.63	0.020	0.02	0.41	96.53	< 1	352	< 5	30	< 1	< 20	< 10	< 30	43	3
546709	2.16	76.49	14.29	0.91	0.084	0.04	0.34	2.25	1.59	0.015	0.01	0.45	96.47	< 1	182	< 5	40	< 1	< 20	< 10	40	43	3
546710	< 0.01	97.94	0.38	0.57	0.008	0.04	0.04	0.06	0.05	0.018	< 0.01	0.11	99.22	< 1	< 1	6	190	< 1	< 20	< 10	< 30	< 1	< 1
546711	2.30	73.88	16.49	0.96	0.103	0.07	0.53	3.33	0.79	0.024	< 0.01	0.81	97.00	< 1	182	< 5	30	< 1	< 20	< 10	< 30	53	3
546712	2.39	77.88	14.16	1.08	0.119	0.08	0.30	2.33	0.77	0.024	0.01	0.49	97.24	< 1	66	< 5	40	< 1	< 20	< 10	60	50	3
546713	0.13	76.93	13.45	0.87	0.049	0.10	0.58	4.44	1.72	0.048	< 0.01	1.16	99.36	< 1	89	< 5	20	< 1	< 20	< 10	60	47	3
546714	0.08	76.68	13.35	1.02	0.045	0.12	0.57	4.88	1.58	0.051	0.03	0.99	99.31	< 1	24	5	30	< 1	< 20	< 10	50	44	3
546715	0.08	76.17	13.66	1.00	0.054	0.12	0.51	4.79	1.73	0.055	0.02	1.09	99.21	< 1	27	< 5	30	< 1	< 20	< 10	60	48	3
546716	0.30	71.54	17.11	0.78	0.051	0.09	0.79	7.10	1.43	0.033	0.03	1.04	99.98	< 1	65	< 5	< 20	< 1	< 20	< 10	40	51	3
546717	0.30	74.08	13.95	2.02	0.129	0.42	1.04	3.27	2.83	0.118	0.45	1.44	99.73	1	34	17	30	2	< 20	< 10	230	64	3
546718	0.08	84.25	8.29	0.96	0.031	0.12	0.51	3.21	0.76	0.033	< 0.01	0.60	98.76	< 1	14	< 5	50	< 1	< 20	< 10	60	24	2
546719	0.18	77.72	11.84	1.23	0.057	0.24	0.67	4.04	1.60	0.066	0.06	0.93	98.45	< 1	48	7	30	1	< 20	< 10	130	40	3
546720	0.51	77.37	9.10	4.43	0.051	0.90	1.59	1.27	1.95	0.760	0.36	1.21	98.99	11	33	64	70	7	30	290	130	26	4
546721	0.18	72.11	15.53	1.15	0.222	0.18	1.10	6.11	1.50	0.054	0.46	0.81	99.23	< 1	14	9	< 20	1	< 20	< 10	120	50	3
546722	0.12	72.78	16.51	0.89	0.320	0.10	0.56	7.69	0.97	0.029	0.05	0.51	100.4	< 1	31	< 5	< 20	< 1	< 20	< 10	80	44	3
546723	0.25	63.66	16.30	4.88	0.036	1.99	3.11	4.41	2.64	0.646	0.35	1.18	99.21	2	4	77	20	11	< 20	10	330	32	< 1
546724	0.17	64.58	16.58	4.07	0.027	1.63	3.23	4.92	2.30	0.535	0.31	1.01	99.20	2	2	65	20	9	< 20	10	240	30	< 1
546725	0.16	65.63	16.66	3.64	0.023	1.41	3.20	5.13	2.15	0.489	0.26	0.78	99.38	2	2	57	< 20	8	< 20	10	210	30	< 1
546726	0.18	65.83	15.94	3.58	0.029	1.39	3.32	4.97	1.97	0.460	0.26	0.93	98.69	2	5	58	30	8	< 20	10	210	31	< 1
546727	0.02	71.69	14.44	0.67	0.016	0.05	0.25	1.99	9.60	0.017	0.03	0.38	99.12	< 1	18	< 5	< 20	< 1	< 20	< 10	50	26	3
546728	0.04	74.58	14.01	0.57	0.028	0.04	0.49	5.13	4.16	0.015	0.03	0.54	99.60	< 1	150	< 5	< 20	< 1	< 20	< 10	< 30	30	3
546729	0.18	65.75	16.16	3.62	0.029	1.44	3.22	5.08	2.17	0.478	0.28	0.80	99.01	2	5	61	< 20	8	< 20	< 10	220	30	< 1
546730	< 0.01	97.28	0.47	0.67	0.007	0.03	0.21	0.11	0.06	0.024	0.01	0.23	99.10	< 1	< 1	< 5	200	< 1	< 20	< 10	< 30	< 1	< 1
546731	0.10	71.21	15.91	1.05	0.015	0.20	2.39	6.00	1.94	0.108	0.02	0.33	99.17	< 1	6	7	20	< 1	< 20	< 10	70	28	< 1
546732	0.08	71.11	15.70	1.15	0.027	0.18	2.23	5.93	1.67	0.102	0.02	0.37	98.49	< 1	20	5	20	< 1	< 20	< 10	60	30	< 1
546733	0.08	72.90	15.49	0.88	0.160	0.13	1.10	6.83	1.17	0.061	0.08	0.58	99.38	< 1	66	6	< 20	< 1	< 20	< 10	130	36	2
546734	0.21	83.66	8.40	1.60	0.068	0.27	0.47	1.77	2.16	0.076	0.14	0.88	99.49	< 1	17	10	40	2	< 20	< 10	160	37	2
546735	0.21	81.98	8.92	1.71	0.073	0.28	0.68	1.89	2.00	0.081	0.31	0.88	98.80	< 1	14	10	60	2	60	< 10	160	37	2
546736	1.40	76.97	14.05	1.09	0.068	0.14	0.62	3.52	1.00	0.041	< 0.01	0.72	98.22	< 1	30	< 5	30	< 1	< 20	< 10	70	44	3
546737	2.90	76.76	15.53	1.04	0.083	0.06	0.46	2.59	0.40	0.020	< 0.01	0.37	97.30	< 1	194	< 5	40	< 1	< 20	< 10	40	49	3
546738	2.70	75.06	15.44	1.02	0.084	0.06	0.47	2.86	0.42	0.020	< 0.01	0.42	95.85	< 1	283	< 5	30	< 1	< 20	< 10	50	50	3
546739	2.60	78.75	13.91	0.98	0.082	0.08	0.42	2.30	0.39	0.019	0.02	0.42	97.36	< 1	276	< 5	40	< 1	< 20	< 10	40	46	3
546740	1.04	75.17	9.86	4.15	0.049	0.77	1.26	1.16	1.77	0.554	0.28	2.70	97.73	8	38	57	70	6	30	330	150	30	5
546741	1.76	78.22	13.16	0.89	0.161	0.05	0.36	2.56	1.34	0.018	0.02	0.63	97.41	< 1	718	< 5	40	< 1	< 20	< 10	70	42	3

Analyte Symbol	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Method Code	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546742	0.06	78.97	11.76	0.62	0.155	0.03	0.41	3.79	2.83	0.018	0.03	0.67	99.29	< 1	587	< 5	30	< 1	< 20	< 10	40	30	3
546743	0.65	75.44	14.77	0.69	0.071	0.03	0.80	4.82	1.69	0.015	0.10	0.86	99.29	< 1	198	< 5	30	< 1	< 20	< 10	40	39	3
546744	0.43	78.61	12.16	0.76	0.062	0.06	0.51	3.93	1.42	0.027	< 0.01	0.91	98.45	< 1	462	< 5	30	< 1	< 20	< 10	50	37	3
546745	2.73	81.75	11.97	1.12	0.110	0.08	0.26	1.23	0.25	0.012	0.03	0.33	97.15	< 1	152	< 5	50	< 1	< 20	< 10	< 30	41	3
546746	0.94	76.88	13.39	1.11	0.086	0.16	0.60	3.35	1.57	0.060	0.02	0.99	98.20	< 1	117	6	40	< 1	< 20	< 10	90	47	3
546747	0.13	87.98	5.91	1.02	0.046	0.16	0.31	1.54	1.00	0.047	0.02	0.56	98.58	< 1	11	< 5	40	1	< 20	< 10	90	22	2
546748	0.13	76.93	12.82	0.81	0.047	0.11	0.71	4.50	1.61	0.037	0.02	0.92	98.52	< 1	298	6	40	< 1	< 20	< 10	90	39	2
546749	1.27	79.42	11.91	0.67	0.082	0.06	0.35	2.36	1.65	0.017	0.01	0.73	97.26	< 1	185	< 5	30	< 1	< 20	< 10	40	41	2
546750	< 0.01	97.44	0.67	0.71	0.008	0.03	0.03	0.03	0.20	0.028	< 0.01	0.11	99.27	< 1	< 1	< 5	220	< 1	< 20	< 10	< 30	1	< 1
546751	0.05	79.18	12.19	0.73	0.084	0.05	0.59	3.75	1.99	0.019	0.03	0.97	99.59	< 1	135	< 5	30	< 1	< 20	< 10	30	36	3
546752	0.91	78.58	12.72	0.87	0.069	0.08	0.51	3.07	1.08	0.034	0.02	0.77	97.80	< 1	572	< 5	30	< 1	< 20	< 10	50	42	3
546753	0.05	78.74	12.09	0.49	0.035	0.03	0.87	4.48	0.76	0.013	0.09	0.89	98.49	< 1	65	< 5	40	< 1	< 20	< 10	< 30	33	3
546754	0.03	88.42	5.92	0.81	0.044	0.02	0.33	1.67	1.99	0.009	0.09	0.30	99.60	< 1	112	< 5	40	< 1	< 20	< 10	< 30	15	2
546755	0.06	90.79	5.24	0.62	0.032	0.03	0.17	1.46	1.44	0.012	< 0.01	0.45	100.3	< 1	160	< 5	50	< 1	< 20	< 10	< 30	17	2
546756	0.03	83.31	9.19	0.51	0.076	0.03	0.77	3.74	0.49	0.016	0.11	0.71	98.96	< 1	22	< 5	30	< 1	< 20	< 10	< 30	25	3
546757	0.02	92.85	3.19	0.48	0.030	0.02	0.10	0.98	1.42	0.006	< 0.01	0.23	99.30	< 1	9	< 5	50	< 1	< 20	< 10	< 30	7	2
546759	1.07	77.51	12.49	0.74	0.210	0.05	0.31	2.63	2.23	0.020	< 0.01	0.62	96.82	< 1	266	< 5	30	< 1	< 20	< 10	< 30	41	3
546796	0.12	72.45	15.70	0.96	0.013	0.15	2.43	4.92	1.54	0.109	0.02	0.32	98.61	< 1	8	8	30	< 1	< 20	< 10	50	29	< 1
546797	0.18	84.81	8.61	1.30	0.062	0.20	0.48	2.35	1.47	0.066	0.08	0.64	100.1	< 1	15	9	40	1	< 20	< 10	120	33	2
546798	3.07	75.58	15.41	0.91	0.077	0.08	0.45	2.49	0.60	0.024	0.01	0.46	96.10	< 1	257	< 5	40	< 1	< 20	< 10	50	54	3
546799	1.83	79.39	13.50	0.90	0.063	0.08	0.49	3.04	0.61	0.031	< 0.01	0.48	98.58	< 1	98	< 5	30	< 1	< 20	< 10	50	45	3
546800	0.50	75.33	9.55	4.50	0.052	0.88	1.59	1.60	1.87	0.784	0.34	1.17	97.67	11	33	63	70	6	< 20	290	130	27	4
546801	1.84	80.54	11.71	0.64	0.057	0.05	0.23	2.16	1.39	0.012	0.01	0.34	97.13	< 1	409	< 5	30	< 1	< 20	< 10	30	36	3
546802	3.11	73.44	16.92	0.70	0.089	0.04	0.26	2.44	1.77	0.012	< 0.01	0.44	96.13	< 1	167	< 5	30	< 1	< 20	< 10	< 30	55	3
546803	1.18	74.88	15.60	0.64	0.088	0.05	0.52	4.62	1.12	0.019	< 0.01	0.79	98.31	< 1	262	< 5	30	< 1	< 20	< 10	< 30	47	3
546804	1.83	74.92	15.11	0.67	0.101	0.05	0.37	3.20	1.91	0.020	< 0.01	0.54	96.90	< 1	244	< 5	30	< 1	< 20	< 10	< 30	49	4
546805	1.99	72.96	17.09	0.70	0.220	0.03	0.46	4.09	1.53	0.017	< 0.01	0.70	97.80	< 1	196	< 5	30	< 1	< 20	< 10	< 30	53	4
546806	1.22	75.27	15.17	0.49	0.139	0.09	0.43	3.87	2.19	0.012	< 0.01	0.76	98.43	< 1	217	< 5	< 20	< 1	< 20	< 10	30	43	4
546807	1.74	77.11	14.12	0.60	0.093	0.03	0.46	3.82	1.22	0.012	< 0.01	0.41	97.89	< 1	178	< 5	30	< 1	< 20	< 10	< 30	45	4
546808	2.23	75.95	14.36	0.62	0.101	0.05	0.34	2.63	1.53	0.018	< 0.01	0.47	96.08	< 1	376	< 5	30	< 1	< 20	< 10	< 30	48	3
546809	2.59	76.52	14.44	0.73	0.110	0.04	0.35	2.30	1.18	0.022	0.01	0.47	96.18	< 1	236	< 5	30	< 1	< 20	< 10	< 30	53	3
546810	< 0.01	96.72	0.33	3.29	0.034	0.02	0.01	0.05	0.03	0.018	< 0.01	-0.38	100.1	< 1	2	< 5	20	1	< 20	10	< 30	< 1	< 1
546811	1.72	75.64	15.16	0.59	0.064	0.06	0.76	4.02	0.41	0.016	0.03	0.51	97.27	< 1	196	< 5	30	< 1	< 20	< 10	< 30	46	3
546812	0.98	76.34	14.48	0.95	0.074	0.11	0.52	3.24	1.68	0.048	< 0.01	1.09	98.54	< 1	88	6	30	< 1	< 20	< 10	60	58	3
546813	0.22	75.00	14.23	1.20	0.073	0.24	1.02	4.44	1.59	0.075	0.18	0.90	98.95	< 1	154	10	20	1	< 20	< 10	190	48	3
546814	0.55	73.34	15.05	0.95	0.193	0.13	0.80	5.28	1.16	0.039	0.21	0.70	97.84	< 1	33	5	< 20	< 1	< 20	< 10	90	49	3
546815	0.52	72.65	15.54	0.99	0.202	0.16	0.87	5.20	1.38	0.048	0.25	0.87	98.16	< 1	33	8	< 20	< 1	< 20	< 10	100	52	3
546816	0.17	72.41	15.57	1.02	0.015	0.15	2.41	4.91	1.49	0.104	0.01	0.29	98.39	< 1	6	8	< 20	< 1	< 20	< 10	60	27	< 1

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-
Lower Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546701	< 5	1110	74	< 2	7	41	< 2	< 0.5	< 0.2	14	< 0.5	137	22	0.4	2.2	309	< 1	7.3	20	2.7	3.2	
546702	< 5	696	57	< 2	4	11	< 2	< 0.5	< 0.2	15	< 0.5	97.6	14	< 0.4	0.7	32.6	< 1	5.2	9	2.2	2.3	
546703	< 5	604	74	< 2	8	63	< 2	< 0.5	< 0.2	19	< 0.5	93.6	22	< 0.4	2.0	204	< 1	4.4	14	16.4	8.2	
546704	< 5	535	67	< 2	8	78	< 2	< 0.5	< 0.2	22	< 0.5	108	38	2.6	2.3	286	< 1	4.2	19	5.4	11.1	
546705	< 5	378	64	< 2	17	343	2	< 0.5	< 0.2	34	< 0.5	132	40	1.4	5.8	1770	3	1.7	31	6.6	11.3	
546706	< 5	367	108	< 2	8	124	< 2	< 0.5	< 0.2	19	< 0.5	79.7	20	1.7	1.4	245	2	2.4	14	6.5	6.4	
546707	< 5	213	66	< 2	< 4	24	3	< 0.5	< 0.2	19	< 0.5	80.4	10	< 0.4	0.6	73.7	< 1	1.3	12	1.7	4.4	
546708	< 5	765	105	< 2	7	89	< 2	< 0.5	< 0.2	20	< 0.5	150	57	1.1	1.5	266	< 1	5.0	14	6.6	6.3	
546709	< 5	744	104	< 2	5	52	2	< 0.5	< 0.2	15	< 0.5	103	51	2.9	0.8	155	1	5.4	12	2.7	3.7	
546710	< 5	3	< 2	3	42	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	14	< 0.4	1.1	1.4	< 1	< 0.1	< 5	< 0.1	0.3	
546711	< 5	445	119	< 2	9	28	< 2	< 0.5	< 0.2	17	< 0.5	82.0	28	1.0	1.2	83.1	< 1	2.5	16	4.4	7.5	2.83
546712	< 5	455	70	< 2	7	28	3	< 0.5	< 0.2	24	< 0.5	72.8	28	1.6	1.8	146	< 1	2.8	12	2.9	6.3	
546713	< 5	941	163	< 2	11	26	< 2	< 0.5	< 0.2	26	< 0.5	97.6	50	< 0.4	0.8	49.1	< 1	5.3	8	2.7	1.7	
546714	< 5	982	164	< 2	21	39	< 2	< 0.5	< 0.2	28	< 0.5	102	62	< 0.4	1.9	62.0	1	6.0	8	2.0	1.4	
546715	< 5	1110	154	< 2	21	48	< 2	< 0.5	< 0.2	32	< 0.5	120	65	< 0.4	2.5	94.8	< 1	6.8	9	2.5	1.8	
546716	< 5	733	204	< 2	14	67	< 2	< 0.5	< 0.2	23	< 0.5	71.5	41	< 0.4	1.8	134	< 1	4.9	10	4.7	3.0	
546717	< 5	1810	147	< 2	35	101	< 2	< 0.5	< 0.2	81	< 0.5	164	179	< 0.4	2.1	31.9	< 1	10.8	9	1.4	2.3	
546718	< 5	533	162	< 2	9	26	3	< 0.5	< 0.2	19	< 0.5	59.3	48	< 0.4	0.4	16.7	< 1	4.2	< 5	0.4	1.0	
546719	< 5	1160	217	< 2	19	49	< 2	< 0.5	< 0.2	45	< 0.5	213	106	< 0.4	1.0	24.7	1	7.3	6	1.1	1.7	
546720	34	1170	299	25	202	903	8	0.7	2.7	758	8.3	221	2051	10.0	4.4	17.3	4	10.9	27	95.7	16.3	
546721	< 5	1050	157	< 2	54	63	3	< 0.5	< 0.2	40	< 0.5	236	84	< 0.4	4.0	28.0	< 1	7.7	8	4.8	8.2	2.73
546722	< 5	448	137	< 2	55	75	< 2	< 0.5	< 0.2	16	< 0.5	105	111	< 0.4	7.3	80.5	< 1	3.8	15	6.3	12.6	
546723	< 5	360	996	< 2	185	7	< 2	< 0.5	< 0.2	3	< 0.5	76.0	1940	< 0.4	4.2	0.6	< 1	3.3	10	3.8	3.8	
546724	< 5	165	1038	< 2	175	5	< 2	< 0.5	< 0.2	2	< 0.5	40.8	1775	< 0.4	4.0	0.4	< 1	1.6	11	3.8	2.0	
546725	< 5	142	1079	4	179	5	< 2	< 0.5	< 0.2	2	< 0.5	27.0	1685	< 0.4	4.0	0.3	< 1	1.1	12	4.1	1.2	
546726	< 5	192	1004	< 2	179	6	< 2	< 0.5	< 0.2	4	< 0.5	33.9	1489	< 0.4	4.0	1.1	< 1	1.4	10	4.0	1.8	
546727	< 5	2990	282	< 2	5	31	< 2	< 0.5	< 0.2	15	< 0.5	157	1112	< 0.4	< 0.2	15.1	< 1	23.3	22	0.7	2.3	
546728	< 5	1410	203	< 2	8	32	< 2	< 0.5	< 0.2	11	< 0.5	95.3	475	0.8	0.8	36.9	2	13.3	14	2.3	2.9	
546729	< 5	244	1161	2	174	7	< 2	< 0.5	< 0.2	3	< 0.5	43.2	1565	< 0.4	3.9	1.7	< 1	3.7	11	4.2	1.7	
546730	< 5	3	17	3	39	< 1	3	< 0.5	< 0.2	< 1	< 0.5	< 0.5	15	< 0.4	1.0	0.1	< 1	0.7	< 5	1.6	0.4	
546731	< 5	126	844	< 2	107	6	3	< 0.5	< 0.2	1	< 0.5	18.9	913	< 0.4	3.1	0.8	< 1	1.0	16	1.2	1.8	2.75
546732	< 5	342	785	< 2	107	22	< 2	< 0.5	< 0.2	2	< 0.5	74.9	820	< 0.4	3.3	4.9	< 1	2.5	14	1.3	1.4	
546733	< 5	633	324	< 2	73	32	< 2	< 0.5	< 0.2	14	< 0.5	104	252	< 0.4	3.9	31.3	< 1	4.0	15	2.5	4.7	
546734	< 5	1260	114	< 2	19	59	2	< 0.5	< 0.2	52	< 0.5	130	183	< 0.4	1.1	23.8	< 1	7.3	< 5	0.4	0.7	
546735	< 5	1220	122	3	22	57	< 2	< 0.5	< 0.2	51	< 0.5	128	159	< 0.4	1.2	19.1	< 1	7.4	< 5	0.6	0.8	
546736	< 5	623	176	< 2	8	25	< 2	< 0.5	< 0.2	22	< 0.5	86.6	48	2.3	0.6	16.7	< 1	4.6	8	1.5	1.3	
546737	< 5	252	119	< 2	8	35	< 2	< 0.5	< 0.2	16	< 0.5	60.2	18	2.5	1.0	43.1	< 1	2.1	10	3.1	4.2	
546738	< 5	270	119	< 2	9	26	< 2	< 0.5	< 0.2	15	< 0.5	67.3	18	5.3	1.0	29.8	< 1	1.7	13	3.4	6.3	
546739	< 5	262	102	< 2	13	33	< 2	< 0.5	< 0.2	14	< 0.5	82.6	17	1.5	1.4	30.2	< 1	1.6	12	5.9	5.9	
546740	49	1290	206	19	160	1240	9	0.6	4.0	1130	11.7	299	1019	14.6	3.7	22.8	6	11.2	25	49.6	8.4	
546741	< 5	636	69	< 2	16	83	2	< 0.5	< 0.2	15	< 0.5	184	16	0.6	4.4	500	1	5.6	18	5.0	7.2	2.85

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-
Lower Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546742	< 5	1310	73	< 2	11	125	< 2	< 0.5	< 0.2	12	< 0.5	227	32	< 0.4	3.1	477	< 1	11.0	20	6.2	7.1	
546743	< 5	640	164	< 2	13	176	< 2	< 0.5	< 0.2	12	< 0.5	65.7	17	0.9	1.9	176	< 1	5.9	22	6.8	9.3	
546744	< 5	702	131	< 2	12	23	< 2	< 0.5	< 0.2	15	< 0.5	113	28	2.9	1.7	41.8	< 1	5.3	25	5.4	8.4	
546745	< 5	122	46	< 2	11	19	3	< 0.5	< 0.2	10	< 0.5	45.7	10	0.4	2.6	98.3	< 1	1.4	11	2.8	3.7	
546746	< 5	1030	179	< 2	19	127	< 2	< 0.5	< 0.2	30	< 0.5	134	57	0.4	1.2	204	< 1	5.9	7	2.3	2.3	
546747	< 5	722	110	2	14	37	3	< 0.5	< 0.2	29	< 0.5	102	61	< 0.4	0.6	15.1	2	4.6	< 5	0.7	0.9	
546748	< 5	796	221	< 2	6	46	< 2	< 0.5	< 0.2	21	< 0.5	106	43	0.4	0.6	56.8	< 1	5.7	8	0.9	1.4	
546749	< 5	666	75	< 2	8	50	2	< 0.5	< 0.2	14	< 0.5	71.4	13	< 0.4	1.2	135	< 1	4.1	21	4.8	10.9	
546750	< 5	10	8	4	45	1	4	< 0.5	< 0.2	< 1	< 0.5	< 0.5	29	< 0.4	1.2	0.4	< 1	0.7	< 5	2.2	0.4	
546751	< 5	721	128	< 2	11	83	< 2	< 0.5	< 0.2	13	< 0.5	62.1	22	1.0	1.5	85.5	1	5.0	21	7.3	5.8	2.73
546752	< 5	610	134	< 2	14	46	2	< 0.5	< 0.2	16	< 0.5	126	28	5.1	1.5	44.1	< 1	4.1	22	7.3	11.9	
546753	< 5	327	169	< 2	21	95	< 2	< 0.5	< 0.2	7	< 0.5	37.2	15	0.7	2.7	86.2	2	2.8	17	11.4	6.4	
546754	< 5	980	61	< 2	12	169	2	< 0.5	< 0.2	5	< 0.5	148	41	< 0.4	2.8	174	< 1	9.1	10	4.6	6.2	
546755	< 5	732	42	< 2	6	27	< 2	< 0.5	< 0.2	7	< 0.5	120	27	< 0.4	1.2	61.3	< 1	6.9	5	1.2	2.2	
546756	< 5	225	121	< 2	24	839	3	< 0.5	< 0.2	8	< 0.5	30.6	14	0.5	4.2	722	3	2.7	48	19.9	28.2	
546757	< 5	545	32	< 2	7	34	3	< 0.5	< 0.2	3	< 0.5	69.1	65	< 0.4	2.1	265	< 1	4.4	7	1.7	2.7	
546759	< 5	1080	54	< 2	24	71	< 2	< 0.5	< 0.2	16	< 0.5	164	18	< 0.4	7.3	421	2	8.8	22	6.1	8.7	
546796	< 5	142	886	< 2	106	5	4	< 0.5	< 0.2	1	< 0.5	29.0	891	< 0.4	2.9	0.7	< 1	2.5	12	1.1	1.6	
546797	< 5	902	159	< 2	20	47	< 2	< 0.5	< 0.2	35	< 0.5	102	112	< 0.4	1.1	17.5	< 1	5.4	< 5	0.6	0.8	
546798	< 5	362	130	< 2	5	30	2	< 0.5	< 0.2	18	< 0.5	77.2	53	1.3	0.6	28.2	< 1	3.1	9	3.2	3.1	2.87
546799	< 5	437	121	< 2	5	26	< 2	< 0.5	< 0.2	18	< 0.5	82.3	16	1.5	0.5	27.0	< 1	3.1	7	1.6	2.1	
546800	35	1140	291	25	187	791	8	0.9	2.7	646	6.6	220	1930	9.9	4.3	16.4	4	10.5	27	90.5	15.9	
546801	< 5	708	67	< 2	5	117	2	< 0.5	< 0.2	15	< 0.5	148	28	1.6	0.9	186	3	7.3	11	2.3	3.1	
546802	< 5	844	57	< 2	4	65	< 2	< 0.5	< 0.2	18	< 0.5	131	13	1.1	1.1	158	< 1	7.9	12	1.9	3.5	
546803	< 5	669	79	< 2	7	74	< 2	< 0.5	< 0.2	16	< 0.5	113	15	0.4	1.9	203	< 1	5.9	10	2.6	3.8	
546804	< 5	1060	64	< 2	9	97	< 2	< 0.5	< 0.2	20	< 0.5	164	12	0.5	2.5	242	1	8.6	19	4.7	6.6	
546805	< 5	777	56	< 2	25	74	< 2	< 0.5	< 0.2	22	< 0.5	112	9	1.0	7.5	314	< 1	7.3	29	8.6	16.1	
546806	< 5	1050	61	< 2	28	141	< 2	< 0.5	< 0.2	15	< 0.5	151	14	5.4	8.2	511	2	9.7	37	13.4	16.7	
546807	< 5	648	65	< 2	11	91	< 2	< 0.5	< 0.2	16	< 0.5	103	9	< 0.4	3.5	361	2	6.2	16	6.5	6.4	
546808	< 5	787	65	< 2	17	167	< 2	< 0.5	< 0.2	24	< 0.5	164	18	< 0.4	5.4	725	3	6.9	19	13.2	10.0	2.79
546809	< 5	670	71	< 2	7	172	< 2	< 0.5	< 0.2	30	< 0.5	128	20	2.7	2.7	698	2	5.7	15	6.8	8.1	
546810	< 5	7	< 2	2	44	2	< 2	< 0.5	< 0.2	1	< 0.5	1.4	5	< 0.4	1.2	1.7	< 1	1.1	< 5	1.1	0.5	
546811	< 5	248	188	< 2	16	30	< 2	< 0.5	< 0.2	12	< 0.5	75.7	12	6.6	1.4	36.2	< 1	1.9	13	5.2	6.9	
546812	< 5	889	140	< 2	13	36	< 2	< 0.5	< 0.2	29	< 0.5	96.5	31	3.5	2.7	70.6	1	5.8	16	6.4	5.4	
546813	< 5	1060	281	< 2	43	57	< 2	< 0.5	< 0.2	42	< 0.5	146	98	< 0.4	2.4	36.0	< 1	7.0	11	2.5	2.3	
546814	< 5	712	128	2	46	78	< 2	< 0.5	< 0.2	25	< 0.5	126	48	< 0.4	4.5	102	1	5.4	18	3.9	7.6	
546815	< 5	858	146	2	50	58	< 2	< 0.5	< 0.2	29	< 0.5	148	61	< 0.4	5.7	62.6	< 1	5.8	16	2.6	6.9	
546816	< 5	263	872	2	119	4	< 2	< 0.5	< 0.2	2	< 0.5	65.8	899	< 0.4	3.2	0.9	< 1	3.0	13	1.1	1.9	

Analyte Symbol	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Method Code	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas		11.19	1.98	0.74	0.013	0.34	42.62	0.93	0.55	0.120	30.20					1623							
NIST 694 Cert		11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740							
DNC-1 Meas		47.02	18.47	9.62	0.145	9.98	11.44	1.90	0.22	0.491	0.06			31		149	280	58	260	100	70	14	
DNC-1 Cert		47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15	
GBW 07113 Meas		71.56	12.52	3.10	0.137	0.15	0.60	2.51	5.39	0.280	0.04			5	4	< 5							
GBW 07113 Cert		72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00							
LKSD-3 Meas																	90	30	50	30	150		
LKSD-3 Cert																	87.0	30.0	47.0	35.0	152		
TDB-1 Meas																	250		100	340	170		
TDB-1 Cert																	251		92	323	155		
W-2a Meas		53.52	15.71	10.67	0.167	6.24	11.16	2.19	0.62	1.121	0.13			36	< 1	270	100	44	70	110	80	18	2
W-2a Cert		52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00
SY-4 Meas		50.51	20.29	6.16	0.107	0.50	8.09	6.48	1.67	0.289	0.13			1	3	8							
SY-4 Cert		49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0							
CTA-AC-1 Meas																							
CTA-AC-1 Cert																							
BIR-1a Meas		48.23	15.71	11.16	0.174	9.46	13.60	1.83	0.02	0.994	0.02			43	< 1	325	380	51	160	130	70	15	
BIR-1a Cert		47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16	
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																				950	100	17	
NCS DC70009 (GBW07241) Cert																				960	100	16.5	
OREAS 100a (Fusion) Meas																		17		170			
OREAS 100a (Fusion) Cert																		18.1		169			
OREAS 101a (Fusion) Meas																		46		420			
OREAS 101a (Fusion) Cert																		48.8		430			
OREAS 101b (Fusion) Meas																		45		420			
OREAS 101b (Fusion) Cert																		47		420			
JR-1 Meas																			< 20		30	18	2
JR-1 Cert																			1.67		30.6	16.1	1.88
NCS DC86303 Meas	0.45																						

Analyte Symbol	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Method Code	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert	0.460																						
NCS DC86303 Meas	0.45																						
NCS DC86303 Cert	0.460																						
NCS DC86303 Meas	0.44																						
NCS DC86303 Cert	0.460																						
NCS DC86303 Meas	0.43																						
NCS DC86303 Cert	0.460																						
NCS DC86303 Meas	0.46																						
NCS DC86303 Cert	0.460																						
NCS DC86303 Meas	0.45																						
NCS DC86303 Cert	0.460																						
NCS DC86303 Meas	0.47																						
NCS DC86303 Cert	0.460																						
NCS DC86304 Meas	2.32																						
NCS DC86304 Cert	2.29																						
NCS DC86304 Meas	2.31																						
NCS DC86304 Cert	2.29																						
NCS DC86304 Meas	2.35																						
NCS DC86304 Cert	2.29																						
NCS DC86304 Meas	2.37																						
NCS DC86304 Cert	2.29																						
NCS DC86304 Meas	2.41																						
NCS DC86304 Cert	2.29																						

Analyte Symbol	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Method Code	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86304 Meas	2.51																						
NCS DC86304 Cert	2.29																						
NCS DC86304 Meas	2.27																						
NCS DC86304 Cert	2.29																						
NCS DC86314 Meas	3.91																						
NCS DC86314 Cert	3.89																						
NCS DC86314 Meas	3.85																						
NCS DC86314 Cert	3.89																						
NCS DC86314 Meas	3.83																						
NCS DC86314 Cert	3.89																						
NCS DC86314 Meas	4.14																						
NCS DC86314 Cert	3.89																						
NCS DC86314 Meas	3.86																						
NCS DC86314 Cert	3.89																						
NCS DC86314 Meas	3.86																						
NCS DC86314 Cert	3.89																						
NCS DC86314 Meas	3.81																						
NCS DC86314 Cert	3.89																						
546707 Orig	3.30																						
546707 Dup	3.29																						
546715 Orig	0.08	75.88	13.51	1.00	0.053	0.12	0.50	4.71	1.72	0.055	0.02	1.09	98.66	< 1	26	6	30	< 1	< 20	< 10	60	47	3
546715 Dup	0.08	76.47	13.82	0.99	0.054	0.12	0.51	4.88	1.74	0.055	0.02	1.09	99.75	< 1	27	< 5	30	< 1	< 20	< 10	60	48	3
546729 Orig	0.18																						
546729 Dup	0.18																						
546732 Orig		71.23	15.81	1.15	0.027	0.18	2.24	5.92	1.68	0.102	0.03	0.37	98.72	< 1	20	5	20	< 1	< 20	< 10	70	30	< 1
546732 Dup		71.00	15.60	1.16	0.027	0.18	2.22	5.93	1.67	0.101	0.02	0.37	98.27	< 1	20	5	20	< 1	< 20	< 10	60	30	< 1
546740 Orig	1.04																						

Analyte Symbol	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1
Method Code	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546740 Dup	1.04																						
546749 Orig	1.27	79.42	11.91	0.67	0.082	0.06	0.35	2.36	1.65	0.017	0.01	0.73	97.26	< 1	185	< 5	30	< 1	< 20	< 10	40	41	2
546749 Split PREP DUP	1.26	79.95	11.62	0.64	0.075	0.05	0.36	2.20	1.65	0.015	0.01	0.68	97.25	< 1	185	< 5	30	< 1	< 20	< 10	30	40	2
546751 Orig	0.05																						
546751 Dup	0.05																						
546757 Orig	0.02																						
546757 Dup	0.02																						
546800 Orig		75.46	9.52	4.49	0.051	0.88	1.60	1.64	1.87	0.794	0.34	1.17	97.82	11	33	64	70	6	< 20	290	130	27	4
546800 Dup		75.21	9.58	4.51	0.052	0.88	1.59	1.56	1.86	0.773	0.34	1.17	97.52	11	33	63	70	6	< 20	300	130	26	4
546804 Orig	1.85																						
546804 Dup	1.82																						
546810 Orig	< 0.01																						
546810 Dup	< 0.01																						
546816 Orig	0.17	72.41	15.57	1.02	0.015	0.15	2.41	4.91	1.49	0.104	0.01	0.29	98.39	< 1	6	8	< 20	< 1	< 20	< 10	60	27	< 1
546816 Split PREP DUP	0.16	72.23	15.57	0.94	0.014	0.15	2.40	5.16	1.49	0.103	0.01	0.39	98.47	< 1	6	8	< 20	< 1	< 20	< 10	60	28	< 1
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank																							
Method Blank																	< 20	< 1	< 20	< 10	< 30	< 1	< 1
Method Blank		< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5							
Method Blank	< 0.01																						
Method Blank	< 0.01																						
Method Blank	< 0.01																						

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-
Lower Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NIST 694 Meas																						
NIST 694 Cert																						
DNC-1 Meas			143	15	36						1.0		103						6			
DNC-1 Cert			144.0	18.0	38						0.96		118						6.3			
GBW 07113 Meas			38	41	385								500									
GBW 07113 Cert			43.0	43.0	403								506									
LKSD-3 Meas	25	73					< 2	2.5		3		2.1			4.5	0.6				10.6	4.3	
LKSD-3 Cert	27.0	78.0					2.00	2.70		3.00		2.30			4.80	0.700				11.4	4.60	
TDB-1 Meas		21																		2.6		
TDB-1 Cert		23																		2.7		
W-2a Meas	< 5	20	201	20	92	8	< 2				0.8	0.9	174	< 0.4	2.5	0.5	< 1	< 0.1	9	2.2	0.6	
W-2a Cert	1.20	21.0	190	24.0	94.0	7.90	0.600				0.790	0.990	182	0.0300	2.60	0.500	0.300	0.200	9.30	2.40	0.530	
SY-4 Meas			1210	112	529								347									
SY-4 Cert			1191	119	517								340									
CTA-AC-1 Meas																2.6				23.7	4.3	
CTA-AC-1 Cert																2.65				21.8	4.4	
BIR-1a Meas			107	14	14						1.0		7		0.6				< 5			
BIR-1a Cert			110	16	18						0.58		6		0.60				3			
NCS DC86312 Meas																				25.1		
NCS DC86312 Cert																				23.6		
NCS DC70009 (GBW07241) Meas	63	489							1.0	1650	3.0	40.8					2270			30.4		
NCS DC70009 (GBW07241) Cert	69.9	500							1.3	1700	3.1	41					2200			28.3		
OREAS 100a (Fusion) Meas							23													51.7	138	
OREAS 100a (Fusion) Cert							24.1													51.6	135	
OREAS 101a (Fusion) Meas							20													35.5	413	
OREAS 101a (Fusion) Cert							21.9													36.6	422	
OREAS 101b (Fusion) Meas							20													37.6	408	
OREAS 101b (Fusion) Cert							21													37.1	396	
JR-1 Meas	17	265				14	3		< 0.2	3	1.2	19.4		0.5	4.2	1.9	1	1.6	19	26.9	9.0	
JR-1 Cert	16.3	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59	1.56	19.3	26.7	8.88	
NCS DC86303 Meas																						

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-
Lower Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NCS DC86303 Cert																						
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Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-
Lower Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NCS DC86304 Meas																						
NCS DC86304 Cert																						
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NCS DC86314 Cert																						
NCS DC86314 Meas																						
NCS DC86314 Cert																						
546707 Orig																						
546707 Dup																						
546715 Orig	< 5	1100	152	< 2	21	47	< 2	< 0.5	< 0.2	31	< 0.5	118	64	< 0.4	2.5	92.2	< 1	6.6	8	2.4	1.8	
546715 Dup	< 5	1110	156	< 2	21	48	< 2	< 0.5	< 0.2	32	< 0.5	122	66	< 0.4	2.6	97.4	< 1	7.1	9	2.5	1.8	
546729 Orig																						
546729 Dup																						
546732 Orig	< 5	344	800	< 2	108	22	2	< 0.5	< 0.2	2	< 0.5	75.3	823	< 0.4	3.2	5.1	< 1	2.5	14	1.3	1.4	
546732 Dup	< 5	339	769	< 2	107	22	< 2	< 0.5	< 0.2	2	< 0.5	74.5	818	< 0.4	3.3	4.8	< 1	2.6	14	1.3	1.4	
546740 Orig																						

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-
Lower Limit	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546740 Dup																						
546749 Orig	< 5	666	75	< 2	8	50	2	< 0.5	< 0.2	14	< 0.5	71.4	13	< 0.4	1.2	135	< 1	4.1	21	4.8	10.9	
546749 Split PREP DUP	< 5	658	74	< 2	8	39	2	< 0.5	< 0.2	13	< 0.5	71.6	14	< 0.4	1.1	86.5	1	4.8	23	5.5	14.4	
546751 Orig																						
546751 Dup																						
546757 Orig																						
546757 Dup																						
546800 Orig	34	1140	294	25	179	766	8	0.8	2.6	605	5.7	220	1939	9.4	4.1	16.2	4	9.9	27	90.7	16.2	
546800 Dup	36	1130	288	25	196	816	8	0.9	2.7	687	7.6	220	1920	10.4	4.5	16.6	4	11.2	27	90.3	15.6	
546804 Orig																						
546804 Dup																						
546810 Orig																						
546810 Dup																						
546816 Orig	< 5	263	872	2	119	4	< 2	< 0.5	< 0.2	2	< 0.5	65.8	899	< 0.4	3.2	0.9	< 1	3.0	13	1.1	1.9	
546816 Split PREP DUP	< 5	261	881	< 2	115	4	< 2	< 0.5	< 0.2	2	< 0.5	66.9	900	< 0.4	3.1	1.0	< 1	2.9	13	1.1	1.9	
Method Blank																						
Method Blank																						
Method Blank																						
Method Blank																						
Method Blank																						1.00
Method Blank	< 5	< 2				< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5		< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	
Method Blank			< 2	< 2	< 4								< 3									
Method Blank																						
Method Blank																						
Method Blank																						

Quality Analysis ... *Innovative Technologies*

Date Submitted: 19-Sep-17
Invoice No.: A17-10225 (i)
Invoice Date: 23-Oct-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC v6c 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

89 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-10225 (i)**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546906	0.16	0.08	72.59	16.28	1.22	0.024	0.19	2.12	5.61	1.58	0.102	0.02	0.36	100.1	< 1	8	10	20	1	< 20	< 10	80	31
546907	0.17	0.08	71.83	15.97	1.17	0.016	0.22	2.34	5.24	1.95	0.107	0.02	0.51	99.38	< 1	4	11	30	2	< 20	< 10	70	29
546908	0.22	0.10	70.55	17.01	1.13	0.040	0.19	2.20	5.76	1.75	0.097	0.05	0.55	99.32	< 1	13	9	30	2	< 20	< 10	90	35
546909	1.97	0.92	72.24	16.65	1.18	0.170	0.19	0.48	3.43	2.16	0.058	0.02	0.83	97.41	< 1	121	7	40	2	< 20	< 10	150	60
546910	< 0.01	< 0.01	96.90	0.82	0.69	0.006	0.03	0.01	0.18	0.19	0.037	< 0.01	0.18	99.04	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	1
546911	0.27	0.13	70.24	17.10	1.14	0.154	0.18	1.42	6.27	1.53	0.083	0.09	0.64	98.85	< 1	11	8	30	1	< 20	< 10	100	43
546912	0.20	0.09	70.50	16.41	1.11	0.015	0.20	2.30	5.29	2.17	0.123	0.02	0.40	98.53	< 1	4	10	30	1	< 20	< 10	80	30
546913	0.20	0.09	72.19	16.52	0.94	0.032	0.16	2.14	5.57	1.90	0.093	0.04	0.39	99.97	< 1	7	7	30	1	< 20	< 10	70	31
546914	0.15	0.07	71.25	16.28	0.91	0.017	0.15	2.22	5.70	1.80	0.101	0.02	0.35	98.81	< 1	7	8	40	1	< 20	< 10	70	30
546915	0.16	0.07	70.64	16.62	1.22	0.020	0.17	2.13	5.53	1.98	0.119	0.03	0.34	98.79	< 1	7	9	20	1	< 20	< 10	80	30
546916	0.06	0.03	71.67	16.31	0.91	0.779	0.01	0.35	8.13	0.75	0.002	0.10	0.11	99.14	< 1	10	< 5	< 20	< 1	< 20	< 10	< 30	37
546917	0.13	0.06	71.43	16.84	1.04	0.019	0.15	2.21	5.86	1.44	0.112	0.02	0.37	99.47	< 1	8	9	20	1	< 20	< 10	80	30
546821	0.18	0.08	75.22	13.71	1.08	0.122	0.18	0.62	5.20	1.72	0.054	0.06	0.66	98.62	< 1	18	7	30	2	< 20	< 10	100	41
546822	2.08	0.97	71.84	17.04	1.08	0.099	0.13	0.55	3.89	1.65	0.035	< 0.01	0.70	97.03	< 1	151	< 5	40	1	< 20	< 10	50	54
546823	1.33	0.62	72.01	17.06	0.77	0.098	0.06	0.39	4.21	2.86	0.017	< 0.01	0.71	98.19	< 1	234	< 5	30	1	< 20	< 10	< 30	49
546824	0.76	0.36	67.97	18.83	0.72	0.056	0.09	1.11	6.57	1.58	0.026	0.01	0.91	97.87	< 1	73	< 5	30	1	< 20	< 10	100	46
546825	0.15	0.07	83.63	9.39	1.24	0.063	0.22	0.52	3.00	1.23	0.065	< 0.01	0.73	100.1	< 1	23	6	30	1	< 20	< 10	110	33
546826	0.20	0.09	75.39	13.61	1.41	0.099	0.26	0.77	4.04	1.74	0.084	0.15	0.97	98.53	< 1	105	13	40	2	< 20	< 10	190	45
546827	0.18	0.08	71.79	16.59	1.10	0.088	0.22	0.92	5.17	1.88	0.077	0.14	1.33	99.31	< 1	16	11	30	2	< 20	< 10	140	56
546828	0.12	0.05	69.87	17.00	0.89	0.228	0.13	1.10	7.14	1.09	0.038	0.40	0.73	98.61	< 1	12	6	20	1	< 20	< 10	90	50
546829	0.14	0.07	71.14	16.19	0.91	0.045	0.19	2.05	5.70	1.49	0.102	0.03	0.94	98.79	< 1	7	7	30	1	< 20	< 10	60	29
546830	< 0.01	< 0.01	98.23	0.44	0.59	0.006	0.02	0.02	0.07	0.06	0.019	< 0.01	0.07	99.52	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	< 1
546817	0.15	0.07	70.72	16.41	0.94	0.011	0.17	2.48	5.42	1.73	0.111	0.01	0.21	98.21	< 1	2	8	30	1	< 20	< 10	70	28
546818	0.15	0.07	71.42	16.84	1.08	0.017	0.20	2.47	5.47	1.66	0.125	0.01	0.37	99.67	< 1	4	10	30	1	< 20	< 10	70	27
546819	0.14	0.06	70.50	16.31	1.00	0.044	0.17	2.13	5.83	1.61	0.106	0.08	0.38	98.15	< 1	9	8	30	1	< 20	< 10	70	29
546820	0.52	0.24	75.46	9.47	4.65	0.051	0.90	1.63	1.25	1.91	0.847	0.37	1.16	97.70	11	33	66	80	7	30	290	130	24
546831	0.10	0.04	72.90	14.77	0.79	0.069	0.10	1.15	4.82	4.07	0.055	0.01	0.27	99.00	< 1	34	6	30	1	< 20	20	40	33
546832	0.08	0.04	72.57	15.01	0.79	0.139	0.08	1.04	5.04	4.16	0.051	0.02	0.27	99.16	< 1	23	< 5	20	< 1	< 20	40	50	35
546833	0.11	0.05	72.09	15.07	0.93	0.071	0.11	1.44	4.75	4.07	0.065	0.02	0.26	98.87	< 1	9	6	30	1	< 20	20	50	30
546834	0.15	0.07	70.91	16.06	1.18	0.019	0.22	2.37	5.38	1.96	0.138	0.03	0.33	98.60	< 1	5	11	20	2	< 20	< 10	90	29
546835	0.14	0.06	70.45	16.29	1.08	0.018	0.19	2.37	5.40	1.96	0.129	0.03	0.30	98.22	< 1	5	11	< 20	1	< 20	< 10	80	29
546836	0.13	0.06	71.35	16.37	1.22	0.129	0.13	1.68	6.50	1.44	0.078	0.04	0.28	99.21	< 1	11	7	30	1	< 20	< 10	60	34
546837	0.15	0.07	69.68	16.88	1.17	0.046	0.17	2.40	5.65	1.75	0.117	0.14	0.31	98.31	< 1	6	10	20	1	< 20	< 10	70	30
546838	0.08	0.04	70.24	17.26	0.62	0.224	0.05	0.58	7.00	3.15	0.015	0.11	0.29	99.53	< 1	10	< 5	20	< 1	< 20	< 10	60	40
546839	0.14	0.07	72.21	16.64	1.08	0.024	0.16	2.35	5.54	1.81	0.112	0.03	0.26	100.2	< 1	5	9	20	1	< 20	< 10	70	28
546840	1.07	0.50	76.55	10.23	4.38	0.049	0.76	1.27	1.20	1.85	0.602	0.31	1.14	98.33	8	39	58	80	7	30	330	150	29
546771	0.15	0.07	69.40	17.09	1.91	0.041	0.59	2.83	5.30	1.75	0.255	0.10	0.53	99.79	2	6	28	30	4	< 20	< 10	110	28
546772	0.16	0.07	69.02	16.95	2.12	0.037	0.64	3.13	5.24	1.66	0.271	0.11	0.74	99.91	2	6	32	30	4	< 20	< 10	110	29
546773	0.04	0.02	65.39	20.41	0.45	0.076	0.07	1.07	8.27	3.09	0.019	0.02	1.01	99.87	< 1	15	< 5	20	< 1	< 20	< 10	< 30	44
546774	0.15	0.07	69.87	16.28	1.78	0.027	0.52	2.76	5.14	1.95	0.218	0.09	0.45	99.09	2	5	24	20	3	< 20	< 10	90	26
546775	0.05	0.02	66.27	20.12	0.46	0.058	0.06	0.91	8.24	2.65	0.017	0.02	0.96	99.77	< 1	18	< 5	< 20	< 1	< 20	10	30	44

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546776	0.16	0.07	67.55	17.42	1.87	0.036	0.49	2.58	5.19	2.18	0.213	0.09	0.84	98.46	1	8	23	30	3	< 20	< 10	90	33
546777	0.06	0.03	65.36	19.71	0.56	0.250	0.06	0.95	9.79	0.81	0.021	0.03	1.05	98.60	< 1	18	< 5	< 20	< 1	< 20	< 10	< 30	49
546778	0.18	0.09	68.11	17.82	1.75	0.038	0.52	2.50	5.13	2.37	0.222	0.08	0.78	99.33	2	10	24	20	3	< 20	< 10	100	37
546779	0.02	0.01	99.08	0.22	0.88	0.011	< 0.01	0.03	0.07	0.01	0.001	< 0.01	-0.03	100.3	< 1	< 1	< 5	80	< 1	< 20	< 10	< 30	< 1
546780	0.49	0.23	77.32	9.10	4.58	0.054	0.91	1.58	1.31	1.95	0.780	0.37	1.16	99.10	11	33	65	70	7	< 20	300	120	27
546781	0.21	0.10	67.02	20.02	0.64	0.269	0.06	0.85	9.66	0.90	0.015	0.06	0.62	100.1	< 1	12	< 5	< 20	< 1	< 20	< 10	< 30	44
546782	0.14	0.06	71.01	16.34	1.64	0.025	0.45	2.56	5.15	2.04	0.180	0.06	0.44	99.90	2	5	20	30	3	< 20	< 10	80	28
546851	0.15	0.07	73.19	14.77	0.96	0.014	0.14	2.06	5.03	1.89	0.088	0.03	0.47	98.65	< 1	13	6	30	1	< 20	20	50	28
546852	0.15	0.07	70.93	16.23	1.08	0.017	0.15	2.18	5.70	1.58	0.109	0.03	0.54	98.54	< 1	12	8	30	1	< 20	< 10	60	28
546853	0.09	0.04	71.31	16.14	0.83	0.431	0.01	0.47	7.17	2.01	0.005	0.15	0.38	98.92	< 1	185	< 5	< 20	< 1	< 20	< 10	50	36
546854	0.13	0.06	71.18	16.79	0.98	0.019	0.17	2.17	6.05	1.36	0.116	0.04	0.54	99.42	< 1	7	10	20	1	< 20	< 10	70	28
546855	0.11	0.05	72.03	16.76	0.77	0.396	0.02	0.53	7.21	2.04	0.005	0.19	0.38	100.3	< 1	75	< 5	< 20	< 1	< 20	< 10	50	38
546856	0.09	0.04	71.49	16.67	1.07	0.014	0.16	2.29	5.67	1.92	0.116	0.02	0.47	99.89	< 1	3	10	30	1	< 20	< 10	70	29
546857	0.06	0.03	74.27	14.60	1.27	0.291	0.04	0.25	6.64	2.71	0.006	0.08	0.22	100.4	< 1	12	< 5	< 20	< 1	< 20	< 10	30	37
546858	0.10	0.05	71.48	16.84	1.03	0.014	0.16	2.44	5.84	1.45	0.110	0.03	0.47	99.86	< 1	3	9	20	1	< 20	< 10	70	28
546758	0.02	0.01	98.66	0.19	0.85	0.011	< 0.01	0.04	0.04	0.01	0.001	< 0.01	0.17	99.97	< 1	< 1	< 5	60	1	< 20	< 10	< 30	< 1
546760	0.48	0.22	76.55	9.20	4.61	0.054	0.92	1.58	1.31	1.95	0.803	0.39	1.33	98.70	11	33	65	70	7	< 20	300	130	26
546841	0.16	0.07	70.98	17.08	1.04	0.014	0.15	2.38	5.55	1.73	0.104	0.02	0.40	99.44	< 1	9	8	20	1	< 20	10	60	28
546842	0.17	0.08	70.12	17.56	1.14	0.034	0.16	1.95	6.53	1.42	0.102	0.04	0.52	99.59	< 1	29	11	30	1	< 20	< 10	90	34
546843	0.92	0.43	74.57	14.77	0.98	0.093	0.10	0.52	5.27	0.93	0.046	0.10	0.75	98.13	< 1	129	< 5	30	1	< 20	< 10	120	51
546844	0.15	0.07	72.01	15.96	0.93	0.051	0.12	0.61	6.93	1.12	0.068	0.04	0.84	98.68	< 1	16	7	20	1	< 20	< 10	110	43
546845	0.17	0.08	71.24	16.81	0.84	0.138	0.09	0.68	7.83	0.87	0.039	0.15	0.70	99.39	< 1	12	6	< 20	1	< 20	< 10	80	44
546846	0.17	0.08	71.56	15.97	1.18	0.039	0.21	2.21	5.72	1.26	0.118	0.05	0.65	98.98	< 1	20	9	20	2	< 20	< 10	100	29
546847	0.14	0.06	72.46	16.00	0.97	0.054	0.14	2.15	6.17	1.27	0.093	0.03	0.54	99.89	< 1	14	8	30	2	< 20	10	80	31
546848	0.15	0.07	71.59	15.66	0.90	0.015	0.15	2.23	5.72	1.67	0.106	0.02	0.52	98.58	< 1	5	8	20	1	< 20	< 10	70	28
546849	0.20	0.09	71.40	15.74	0.85	0.080	0.12	1.59	6.73	1.30	0.084	0.05	0.51	98.46	< 1	12	7	20	1	< 20	< 10	90	33
546850	< 0.01	< 0.01	98.09	0.46	0.47	0.007	0.01	0.02	0.14	0.05	0.021	0.02	0.22	99.50	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1
546761	0.03	0.01	99.06	0.22	0.45	0.008	0.01	0.07	0.05	0.01	0.002	0.03	0.21	100.1	< 1	< 1	< 5	60	< 1	< 20	< 10	90	< 1
546762	0.03	0.01	98.48	0.18	0.41	0.007	< 0.01	0.06	0.04	0.01	0.001	< 0.01	0.16	99.33	< 1	< 1	< 5	60	< 1	< 20	< 10	< 30	< 1
546763	0.04	0.02	82.82	9.66	0.53	0.033	0.04	0.48	3.89	0.66	0.018	0.02	0.67	98.80	< 1	14	< 5	50	< 1	< 20	< 10	< 30	27
546764	0.11	0.05	72.28	16.09	0.91	0.055	0.14	0.75	5.41	1.83	0.066	0.01	1.40	98.93	< 1	39	7	30	1	< 20	< 10	70	53
546765	0.10	0.05	83.98	8.47	0.99	0.050	0.14	0.46	2.96	1.04	0.053	0.01	0.77	98.93	< 1	15	6	50	2	< 20	< 10	100	29
546766	0.17	0.08	66.11	18.99	1.46	0.050	0.27	0.81	4.97	3.36	0.121	0.01	2.11	98.28	< 1	29	14	30	2	< 20	< 10	140	82
546767	0.17	0.08	71.24	15.99	1.34	0.066	0.26	0.93	4.98	2.28	0.091	0.16	1.32	98.65	< 1	19	12	30	2	< 20	< 10	160	60
546768	0.24	0.11	74.72	14.61	1.16	0.247	0.19	0.82	5.83	1.21	0.043	0.28	0.88	99.98	< 1	13	10	30	1	< 20	< 10	90	47
546769	0.12	0.05	73.71	14.64	0.86	0.277	0.10	0.44	7.11	1.05	0.030	0.02	0.66	98.90	< 1	12	< 5	< 20	< 1	< 20	< 10	50	45
546770	< 0.01	< 0.01	97.68	0.47	2.54	0.027	0.03	0.03	0.07	0.06	0.023	< 0.01	-0.09	100.8	< 1	< 1	< 5	30	2	< 20	< 10	< 30	1
546783	0.10	0.05	71.25	16.87	0.96	0.013	0.18	2.47	5.81	1.76	0.114	0.01	0.56	99.99	< 1	4	9	30	1	< 20	< 10	60	27
546784	0.94	0.44	75.48	14.80	0.76	0.057	0.11	0.80	4.81	0.74	0.032	0.02	1.01	98.62	< 1	201	< 5	40	< 1	< 20	< 10	50	41
546785	0.26	0.12	78.24	12.77	0.70	0.058	0.06	0.50	4.47	1.34	0.024	< 0.01	0.94	99.09	< 1	310	< 5	40	< 1	< 20	< 10	40	36
546786	0.08	0.04	76.52	13.82	0.64	0.045	0.03	0.36	4.40	2.96	0.022	0.02	0.80	99.62	< 1	300	< 5	40	< 1	< 20	< 10	< 30	37

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546787	0.46	0.22	79.34	12.23	0.51	0.054	0.04	0.20	2.96	3.01	0.018	< 0.01	0.68	99.05	< 1	105	< 5	40	< 1	< 20	< 10	< 30	34
546788	0.04	0.02	85.69	8.23	0.66	0.023	0.02	0.14	1.93	2.46	0.018	< 0.01	0.51	99.67	< 1	66	< 5	60	< 1	< 20	< 10	430	24
546789	0.48	0.22	75.64	14.38	0.94	0.079	0.09	0.46	4.19	1.89	0.038	< 0.01	1.16	98.86	< 1	333	< 5	20	< 1	< 20	< 10	40	49
546790	< 0.01	< 0.01	94.85	0.61	3.54	0.036	0.01	0.02	0.14	0.12	0.018	0.01	-0.32	99.05	< 1	2	< 5	20	< 1	< 20	10	< 30	2
546791	0.34	0.16	72.69	15.99	1.08	0.136	0.07	0.54	4.13	2.27	0.042	< 0.01	1.41	98.36	< 1	375	< 5	40	1	< 20	< 10	60	58
546792	0.06	0.03	80.35	11.28	0.73	0.053	0.05	0.53	3.82	1.40	0.030	< 0.01	0.83	99.09	< 1	186	< 5	40	< 1	< 20	< 10	40	34
546793	0.10	0.04	70.71	17.76	1.07	0.014	0.19	2.46	5.82	1.91	0.123	0.02	0.40	100.5	< 1	14	10	30	1	< 20	< 10	70	29

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546906	< 1	< 5	565	731	< 2	98	6	< 2	< 0.5	< 0.2	5	< 0.5	330	865	< 0.4	3.0	5.9	< 1	3.7	15	1.2	1.9	
546907	< 1	< 5	102	772	< 2	96	4	< 2	< 0.5	< 0.2	1	< 0.5	37.6	872	< 0.4	2.8	0.7	< 1	0.7	16	1.1	1.2	
546908	1	< 5	741	705	< 2	101	8	< 2	< 0.5	< 0.2	13	< 0.5	513	804	< 0.4	3.4	28.2	< 1	5.2	15	1.3	1.3	
546909	4	< 5	1640	135	< 2	43	85	< 2	< 0.5	< 0.2	52	< 0.5	715	130	< 0.4	4.7	211	< 1	11.7	16	3.2	7.0	
546910	< 1	< 5	7	3	4	58	1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.6	24	< 0.4	1.6	0.4	< 1	1.4	< 5	1.9	0.6	
546911	2	< 5	838	426	< 2	98	35	< 2	< 0.5	< 0.2	26	< 0.5	257	409	< 0.4	4.7	19.5	< 1	5.7	16	2.2	5.3	
546912	< 1	< 5	126	793	< 2	113	6	< 2	< 0.5	< 0.2	2	< 0.5	42.5	980	< 0.4	3.2	2.8	< 1	1.5	16	1.2	1.5	
546913	< 1	< 5	342	741	< 2	93	8	< 2	< 0.5	< 0.2	3	< 0.5	57.1	835	< 0.4	2.9	3.2	< 1	2.5	15	1.1	1.9	
546914	< 1	< 5	289	766	< 2	101	5	< 2	< 0.5	< 0.2	6	< 0.5	57.4	848	< 0.4	2.8	2.3	< 1	1.9	16	1.2	1.0	
546915	< 1	< 5	345	745	< 2	109	7	< 2	< 0.5	< 0.2	7	< 0.5	68.8	970	< 0.4	2.8	2.2	< 1	2.2	16	1.1	1.1	
546916	4	< 5	166	64	< 2	63	54	< 2	< 0.5	< 0.2	4	< 0.5	25.4	33	< 0.4	8.3	35.8	< 1	1.2	24	2.1	12.4	2.78
546917	< 1	< 5	427	817	< 2	115	4	< 2	< 0.5	< 0.2	8	< 0.5	57.9	892	< 0.4	2.9	0.7	< 1	2.4	12	1.2	1.1	
546821	3	< 5	1020	192	< 2	25	35	< 2	< 0.5	< 0.2	28	< 0.5	104	96	< 0.4	1.6	25.4	< 1	6.2	13	2.6	4.3	
546822	3	< 5	892	140	< 2	12	61	< 2	< 0.5	< 0.2	22	< 0.5	133	41	< 0.4	2.7	222	1	6.2	12	3.3	4.1	
546823	3	< 5	1280	96	< 2	13	59	< 2	< 0.5	< 0.2	17	< 0.5	164	36	< 0.4	3.2	184	< 1	10.4	16	5.3	4.6	
546824	3	< 5	796	290	< 2	11	34	< 2	< 0.5	< 0.2	14	< 0.5	95.3	43	< 0.4	1.3	37.3	< 1	6.9	17	3.9	4.2	
546825	3	< 5	1040	178	2	11	39	< 2	< 0.5	< 0.2	30	< 0.5	140	66	< 0.4	0.7	28.3	< 1	5.3	6	0.9	1.6	
546826	3	< 5	1240	185	< 2	39	47	< 2	< 0.5	< 0.2	43	< 0.5	142	96	< 0.4	2.0	30.8	< 1	7.9	7	1.3	1.8	
546827	3	< 5	1200	213	< 2	50	53	< 2	< 0.5	< 0.2	41	< 0.5	114	93	< 0.4	2.8	36.8	< 1	7.8	18	4.9	5.4	
546828	3	< 5	680	139	< 2	60	57	< 2	< 0.5	< 0.2	25	< 0.5	76.2	55	< 0.4	5.5	36.6	< 1	5.0	41	3.4	10.3	
546829	1	< 5	423	742	2	105	10	< 2	< 0.5	< 0.2	2	< 0.5	70.3	763	0.6	2.8	5.1	< 1	3.9	20	1.4	2.2	2.74
546830	< 1	< 5	3	3	4	47	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	21	< 0.4	1.2	0.2	< 1	0.5	< 5	1.5	0.6	
546817	< 1	< 5	49	899	< 2	118	3	< 2	< 0.5	< 0.2	< 1	< 0.5	8.4	941	< 0.4	3.0	0.4	< 1	0.4	13	1.2	1.0	
546818	< 1	< 5	159	904	< 2	126	4	< 2	< 0.5	< 0.2	2	< 0.5	33.0	949	< 0.4	3.1	2.2	< 1	1.0	14	1.3	1.2	
546819	< 1	< 5	528	730	2	106	8	< 2	< 0.5	< 0.2	4	< 0.5	90.4	805	< 0.4	3.2	5.4	< 1	3.6	12	1.4	2.0	
546820	4	32	1170	307	25	211	922	8	0.5	2.6	701	8.4	214	1960	9.4	4.7	15.6	4	9.2	26	93.3	16.5	
546831	2	< 5	414	420	3	56	35	< 2	< 0.5	< 0.2	1	< 0.5	25.9	522	0.5	3.1	17.9	< 1	3.7	28	1.6	7.6	
546832	2	< 5	382	338	4	54	45	2	< 0.5	< 0.2	< 1	< 0.5	24.4	392	0.9	3.1	19.6	< 1	2.7	28	2.0	10.3	
546833	2	< 5	429	524	3	69	22	< 2	< 0.5	< 0.2	1	< 0.5	45.9	664	0.5	2.9	16.1	< 1	2.9	28	1.5	8.1	
546834	< 1	< 5	158	832	< 2	117	6	< 2	< 0.5	< 0.2	1	< 0.5	32.8	988	< 0.4	3.1	0.7	< 1	1.3	13	1.3	1.2	
546835	< 1	< 5	149	845	3	117	6	< 2	< 0.5	< 0.2	1	< 0.5	29.6	1009	< 0.4	3.2	1.5	< 1	1.0	14	1.3	1.5	2.75
546836	2	< 5	372	582	< 2	80	16	< 2	< 0.5	< 0.2	8	< 0.5	53.1	625	< 0.4	3.3	8.8	< 1	2.2	15	1.9	4.5	
546837	< 1	< 5	280	825	2	116	6	< 2	< 0.5	< 0.2	5	< 0.5	79.3	963	< 0.4	4.0	1.3	< 1	1.9	13	1.2	1.2	
546838	3	< 5	1120	197	2	40	39	< 2	< 0.5	< 0.2	12	< 0.5	194	361	< 0.4	4.2	17.7	< 1	7.4	16	2.1	5.0	
546839	< 1	< 5	194	840	2	112	5	< 2	< 0.5	< 0.2	2	< 0.5	51.1	1017	< 0.4	3.3	1.3	< 1	2.1	13	1.3	1.4	
546840	5	55	1300	214	19	158	1270	9	0.6	4.0	1180	13.6	285	1049	15.3	3.7	19.7	7	10.4	25	49.2	8.1	
546771	1	< 5	369	1186	3	145	16	< 2	< 0.5	< 0.2	6	< 0.5	86.9	968	< 0.4	3.6	1.9	3	4.1	14	4.6	3.3	
546772	< 1	< 5	361	1169	< 2	157	8	< 2	< 0.5	< 0.2	5	< 0.5	64.5	994	< 0.4	3.6	3.3	< 1	3.2	19	4.4	1.7	
546773	3	< 5	1060	267	< 2	17	74	< 2	< 0.5	< 0.2	8	< 0.5	96.8	232	0.6	2.7	189	7	8.2	15	5.2	5.2	
546774	< 1	< 5	233	1169	< 2	124	5	< 2	< 0.5	< 0.2	2	< 0.5	42.8	2394	< 0.4	2.9	1.5	< 1	2.7	21	4.0	2.0	
546775	4	6	930	248	2	15	77	< 2	< 0.5	< 0.2	9	0.5	89.7	212	1.4	3.2	210	15	7.2	251	3.0	6.1	2.70

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546776	< 1	< 5	509	1097	< 2	139	11	< 2	< 0.5	< 0.2	13	< 0.5	84.6	2203	< 0.4	3.2	12.1	< 1	4.1	14	3.9	1.8	
546777	4	< 5	317	204	< 2	62	42	< 2	< 0.5	< 0.2	12	< 0.5	29.7	116	< 0.4	9.5	133	< 1	2.6	15	7.2	8.0	
546778	< 1	< 5	713	1125	4	139	16	< 2	< 0.5	< 0.2	21	< 0.5	102	2268	< 0.4	3.3	15.2	< 1	4.6	14	4.0	2.0	
546779	1	< 5	2	2	< 2	< 4	< 1	2	< 0.5	< 0.2	< 1	< 0.5	0.6	5	< 0.4	< 0.2	0.6	< 1	0.5	< 5	< 0.1	< 0.1	
546780	4	34	1220	302	23	196	738	8	0.8	2.5	679	8.9	222	2002	9.2	4.1	16.5	5	10.4	26	93.8	15.8	
546781	3	< 5	222	199	< 2	67	32	< 2	< 0.5	< 0.2	8	< 0.5	18.1	120	< 0.4	8.2	60.7	< 1	3.4	31	6.6	15.1	
546782	< 1	< 5	382	1085	3	115	7	< 2	< 0.5	< 0.2	5	< 0.5	77.7	1656	< 0.4	3.1	3.9	< 1	3.4	17	3.1	1.8	
546851	< 1	< 5	131	794	< 2	90	6	< 2	< 0.5	< 0.2	1	< 0.5	27.5	981	< 0.4	2.7	0.9	< 1	1.3	12	1.1	1.0	
546852	< 1	< 5	294	815	2	109	6	< 2	< 0.5	< 0.2	6	< 0.5	54.4	840	< 0.4	3.1	1.3	< 1	1.8	12	1.2	1.4	
546853	3	< 5	588	133	< 2	52	39	< 2	< 0.5	< 0.2	4	< 0.5	91.0	128	< 0.4	7.1	65.8	< 1	4.0	20	2.8	8.7	2.70
546854	< 1	< 5	300	809	< 2	120	6	< 2	< 0.5	< 0.2	8	< 0.5	59.4	845	< 0.4	3.1	1.8	< 1	2.3	11	1.4	1.0	
546855	4	< 5	620	132	< 2	51	29	5	< 0.5	< 0.2	5	< 0.5	82.7	128	< 0.4	6.8	81.7	< 1	4.2	22	3.1	8.3	
546856	< 1	< 5	216	838	3	113	5	< 2	< 0.5	< 0.2	4	< 0.5	22.8	971	< 0.4	3.1	0.6	< 1	1.7	12	1.2	1.1	
546857	3	< 5	764	79	< 2	45	48	< 2	< 0.5	< 0.2	12	< 0.5	40.3	101	< 0.4	5.2	19.5	< 1	6.5	21	2.5	11.1	
546858	< 1	< 5	189	904	< 2	111	4	< 2	< 0.5	< 0.2	2	< 0.5	26.2	977	< 0.4	2.8	0.4	< 1	1.7	12	1.3	1.0	
546758	1	< 5	< 2	2	< 2	< 4	< 1	3	< 0.5	< 0.2	< 1	< 0.5	0.6	5	< 0.4	< 0.2	< 0.1	2	< 0.1	< 5	< 0.1	< 0.1	
546760	4	35	1250	299	25	200	755	8	0.7	2.6	689	8.6	223	1989	10.0	4.0	16.1	6	10.7	27	93.9	15.7	
546841	< 1	< 5	200	874	2	105	8	< 2	< 0.5	< 0.2	4	< 0.5	43.2	941	< 0.4	2.6	1.6	< 1	2.5	13	1.3	1.0	
546842	1	< 5	627	710	< 2	108	18	< 2	< 0.5	< 0.2	18	< 0.5	153	670	< 0.4	3.1	10.6	< 1	4.2	10	1.2	1.3	
546843	3	< 5	580	87	< 2	55	65	< 2	< 0.5	< 0.2	37	< 0.5	155	39	1.7	5.6	324	< 1	3.6	14	5.3	7.5	2.80
546844	2	< 5	661	161	< 2	82	27	< 2	< 0.5	< 0.2	34	< 0.5	96.2	109	< 0.4	3.0	22.2	< 1	3.9	7	2.0	2.7	
546845	3	< 5	476	126	< 2	96	28	< 2	< 0.5	< 0.2	26	< 0.5	74.2	37	< 0.4	6.9	20.9	< 1	2.9	8	1.7	3.5	
546846	< 1	< 5	700	760	< 2	115	7	< 2	< 0.5	< 0.2	9	< 0.5	207	890	< 0.4	3.1	4.3	< 1	4.9	11	1.3	1.6	
546847	1	< 5	373	739	< 2	103	11	< 2	< 0.5	< 0.2	6	< 0.5	92.5	762	< 0.4	4.1	6.3	< 1	3.3	14	1.7	3.0	
546848	< 1	< 5	207	805	< 2	105	4	< 2	< 0.5	< 0.2	4	< 0.5	38.2	884	< 0.4	2.7	1.1	< 1	1.6	12	1.2	1.0	
546849	1	< 5	323	553	< 2	112	7	< 2	< 0.5	< 0.2	11	< 0.5	51.7	604	< 0.4	4.7	3.7	< 1	2.0	11	1.4	2.6	
546850	< 1	< 5	2	5	7	66	4	< 2	< 0.5	< 0.2	1	< 0.5	< 0.5	34	< 0.4	1.6	0.1	< 1	2.1	< 5	1.5	0.6	
546761	1	< 5	9	9	< 2	< 4	1	3	< 0.5	< 0.2	< 1	< 0.5	3.0	17	< 0.4	< 0.2	< 0.1	< 1	1.0	< 5	< 0.1	0.6	
546762	1	< 5	3	6	< 2	5	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.1	11	< 0.4	< 0.2	0.1	< 1	0.6	< 5	< 0.1	3.8	
546763	2	< 5	297	99	< 2	15	76	3	< 0.5	< 0.2	10	< 0.5	33.9	36	< 0.4	3.0	604	< 1	1.3	22	4.9	15.3	2.72
546764	3	< 5	1030	171	< 2	26	55	< 2	< 0.5	< 0.2	30	< 0.5	179	70	< 0.4	4.2	118	< 1	5.6	32	4.4	8.0	
546765	3	< 5	781	131	< 2	16	33	2	< 0.5	< 0.2	23	< 0.5	135	53	< 0.4	1.5	30.2	< 1	4.9	5	1.6	3.9	
546766	2	< 5	1960	234	< 2	24	65	< 2	< 0.5	< 0.2	57	< 0.5	437	124	< 0.4	2.5	76.3	2	12.6	20	0.8	3.2	
546767	3	< 5	1480	222	< 2	52	60	17	< 0.5	< 0.2	50	< 0.5	242	113	1.0	2.8	77.0	< 1	10.4	15	3.5	4.4	
546768	3	< 5	718	115	3	49	73	< 2	< 0.5	< 0.2	30	< 0.5	93.4	66	< 0.4	4.2	82.3	< 1	5.5	11	3.5	15.2	
546769	3	< 5	562	116	< 2	26	58	< 2	< 0.5	< 0.2	17	< 0.5	96.5	77	< 0.4	3.0	68.7	1	3.4	11	4.2	8.2	
546770	< 1	< 5	11	3	3	52	1	< 2	< 0.5	< 0.2	1	< 0.5	2.1	16	< 0.4	1.4	0.5	< 1	0.5	< 5	2.3	0.7	
546783	< 1	< 5	126	908	< 2	115	4	< 2	< 0.5	< 0.2	2	< 0.5	23.0	992	< 0.4	3.0	0.7	5	1.0	12	1.2	1.6	
546784	3	< 5	483	227	< 2	15	42	< 2	< 0.5	< 0.2	19	< 0.5	113	39	0.7	1.6	39.4	< 1	3.0	13	6.5	4.0	
546785	3	< 5	675	111	< 2	12	41	< 2	< 0.5	< 0.2	13	< 0.5	101	19	3.4	1.8	91.8	< 1	4.9	9	3.4	2.4	2.75
546786	3	< 5	1430	85	< 2	8	80	< 2	< 0.5	< 0.2	13	< 0.5	194	43	2.1	1.7	239	1	11.7	13	3.7	3.6	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546787	3	< 5	1470	74	< 2	5	28	< 2	< 0.5	< 0.2	13	< 0.5	189	167	< 0.4	1.1	63.8	< 1	13.7	11	2.3	2.1	
546788	2	< 5	1050	56	< 2	< 4	20	4	< 0.5	< 0.2	10	< 0.5	114	91	0.9	0.4	51.3	< 1	10.8	8	1.0	1.2	
546789	3	< 5	981	95	< 2	10	67	< 2	< 0.5	< 0.2	21	< 0.5	164	41	0.9	1.4	172	1	6.8	12	7.0	5.6	
546790	1	< 5	36	5	2	46	1	< 2	< 0.5	< 0.2	< 1	< 0.5	4.4	21	< 0.4	1.2	1.9	1	1.4	< 5	1.4	0.5	
546791	3	< 5	1100	133	< 2	47	35	< 2	< 0.5	< 0.2	29	< 0.5	143	23	0.8	10.1	46.7	2	7.7	14	4.0	5.5	
546792	2	< 5	683	170	< 2	15	18	2	< 0.5	< 0.2	17	< 0.5	96.6	75	< 0.4	1.4	27.3	< 1	5.8	10	3.0	0.9	
546793	< 1	< 5	172	928	< 2	119	5	5	< 0.5	< 0.2	2	< 0.5	42.1	1045	< 0.4	3.1	1.1	< 1	2.7	13	1.2	1.2	

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas			11.07	1.82	0.74	0.013	0.33	42.28	0.84	0.54	0.115	30.21					1599						
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740						
DNC-1 Meas			47.16	18.86	9.94	0.148	10.15	11.56	1.93	0.22	0.477	0.07			31		150	280	58	260	100	70	14
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15
GBW 07113 Meas			71.78	13.38	3.25	0.143	0.15	0.61	2.53	5.45	0.283	0.04			5	4	< 5						
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00						
LKSD-3 Meas																		90	30	50	30	150	
LKSD-3 Cert																		87.0	30.0	47.0	35.0	152	
TDB-1 Meas																		250		100	340	170	
TDB-1 Cert																		251		92	323	155	
W-2a Meas			53.49	15.19	10.64	0.162	6.22	11.22	2.24	0.61	1.031	0.14			35	< 1	273	100	44	70	110	80	18
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0
SY-4 Meas			50.33	20.50	6.03	0.108	0.51	8.20	6.91	1.66	0.279	0.12			< 1	3	6						
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0						
CTA-AC-1 Meas																							
CTA-AC-1 Cert																							
BIR-1a Meas			47.97	15.90	11.48	0.172	9.72	13.61	1.82	0.02	0.957	0.02			44	< 1	327	380	51	160	130	70	15
BIR-1a Cert			47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																					950	100	17
NCS DC70009 (GBW07241) Cert																					960	100	16.5
OREAS 100a (Fusion) Meas																			17		170		
OREAS 100a (Fusion) Cert																			18.1		169		
OREAS 101a (Fusion) Meas																			46		420		
OREAS 101a (Fusion) Cert																			48.8		430		
OREAS 101b (Fusion) Meas																			45		420		
OREAS 101b (Fusion) Cert																			47		420		
JR-1 Meas																				< 20		30	18
JR-1 Cert																				1.67		30.6	16.1
NCS DC86303 Meas	0.45	0.21																					

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert	0.460	0.21																					
NCS DC86303 Meas	0.44	0.21																					
NCS DC86303 Cert	0.460	0.21																					
NCS DC86303 Meas	0.44	0.20																					
NCS DC86303 Cert	0.460	0.21																					
NCS DC86303 Meas	0.46	0.21																					
NCS DC86303 Cert	0.460	0.21																					
NCS DC86303 Meas	0.46	0.21																					
NCS DC86303 Cert	0.460	0.21																					
NCS DC86303 Meas	0.44	0.21																					
NCS DC86303 Cert	0.460	0.21																					
NCS DC86304 Meas	2.31	1.07																					
NCS DC86304 Cert	2.29	1.06																					
NCS DC86304 Meas	2.33	1.08																					
NCS DC86304 Cert	2.29	1.06																					
NCS DC86304 Meas	2.29	1.06																					
NCS DC86304 Cert	2.29	1.06																					
NCS DC86304 Meas	2.39	1.11																					
NCS DC86304 Cert	2.29	1.06																					
NCS DC86304 Meas	2.39	1.11																					
NCS DC86304 Cert	2.29	1.06																					
NCS DC86304 Meas	2.27	1.05																					
NCS DC86304 Cert	2.29	1.06																					

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas	3.90	1.81																					
NCS DC86314 Cert	3.89	1.81																					
NCS DC86314 Meas	3.98	1.85																					
NCS DC86314 Cert	3.89	1.81																					
NCS DC86314 Meas	3.82	1.77																					
NCS DC86314 Cert	3.89	1.81																					
NCS DC86314 Meas	4.05	1.88																					
NCS DC86314 Cert	3.89	1.81																					
NCS DC86314 Meas	3.99	1.85																					
NCS DC86314 Cert	3.89	1.81																					
NCS DC86314 Meas	3.81	1.77																					
NCS DC86314 Cert	3.89	1.81																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.08																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.06																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.39																					
Lithium Tetraborate FX-LT 100 lot#220610B		8																					

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.25																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.02																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.33																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.12																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
546912 Orig	0.20	0.09																					
546912 Dup	0.20	0.10																					
546823 Orig	1.34	0.62	71.91	16.94	0.76	0.096	0.06	0.39	4.20	2.86	0.017	< 0.01	0.71	97.94	< 1	235	< 5	30	1	< 20	< 10	< 30	49
546823 Dup	1.32	0.61	72.11	17.18	0.78	0.100	0.06	0.40	4.23	2.86	0.017	< 0.01	0.71	98.44	< 1	234	< 5	30	1	< 20	< 10	30	49
546833 Orig	0.11	0.05																					
546833 Dup	0.11	0.05																					
546771 Orig	0.15	0.07																					
546771 Dup	0.15	0.07																					
546780 Orig			77.45	9.15	4.58	0.054	0.91	1.58	1.32	1.95	0.776	0.38	1.16	99.30	11	33	65	70	7	< 20	300	130	27
546780 Dup			77.19	9.06	4.58	0.054	0.91	1.58	1.30	1.94	0.784	0.35	1.16	98.90	11	33	65	70	7	< 20	300	120	26
546852 Orig	0.15	0.07	70.93	16.23	1.08	0.017	0.15	2.18	5.70	1.58	0.109	0.03	0.54	98.54	< 1	12	8	30	1	< 20	< 10	60	28
546852 Split PREP DUP	0.16	0.07	72.32	16.68	0.97	0.019	0.15	1.95	5.66	1.70	0.111	0.03	0.48	100.1	< 1	11	9	30	1	< 20	< 10	60	29

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546853 Orig	0.09	0.04																					
546853 Dup	0.09	0.04																					
546760 Orig	0.49	0.23																					
546760 Dup	0.49	0.23																					
546841 Orig	0.16	0.07																					
546841 Dup	0.16	0.07																					
546845 Orig			71.44	16.86	0.84	0.137	0.09	0.68	7.89	0.87	0.039	0.16	0.70	99.71	< 1	13	6	20	1	< 20	< 10	80	44
546845 Dup			71.03	16.75	0.85	0.139	0.10	0.68	7.77	0.87	0.039	0.15	0.70	99.07	< 1	12	6	< 20	1	< 20	< 10	80	44
546765 Orig	0.10	0.04																					
546765 Dup	0.10	0.05																					
546785 Orig	0.26	0.12																					
546785 Dup	0.26	0.12																					
546792 Orig			80.50	11.26	0.74	0.053	0.05	0.53	3.88	1.40	0.031	< 0.01	0.83	99.28	< 1	185	6	40	< 1	< 20	< 10	40	33
546792 Dup			80.20	11.30	0.73	0.052	0.05	0.53	3.77	1.39	0.030	0.02	0.83	98.90	< 1	187	< 5	40	< 1	< 20	< 10	40	34
546793 Orig	0.10	0.04	70.71	17.76	1.07	0.014	0.19	2.46	5.82	1.91	0.123	0.02	0.40	100.5	< 1	14	10	30	1	< 20	< 10	70	29
546793 Split PREP DUP	0.10	0.05	70.00	16.97	0.89	0.013	0.19	2.45	5.81	1.92	0.113	0.02	0.48	98.86	< 1	16	9	20	1	< 20	< 10	60	30
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank																							
Method Blank			< 0.01	< 0.01	0.01	0.003	0.02	< 0.01	< 0.01	< 0.01	0.003	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1
Method Blank			0.02	< 0.01	0.01	0.002	0.01	< 0.01	< 0.01	< 0.01	0.002	< 0.01			< 1	< 1	< 5						
Method Blank			< 0.01	< 0.01	0.02	0.002	0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5						
Method Blank	< 0.01	< 0.01																					

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas				147	15	37						1.0		105						6			
DNC-1 Cert				144.0	18.0	38						0.96		118						6.3			
GBW 07113 Meas				41	44	377								503									
GBW 07113 Cert				43.0	43.0	403								506									
LKSD-3 Meas		25	73					< 2	2.5		3		2.1			4.5	0.6				10.6	4.3	
LKSD-3 Cert		27.0	78.0					2.00	2.70		3.00		2.30			4.80	0.700				11.4	4.60	
TDB-1 Meas			21																		2.6		
TDB-1 Cert			23																		2.7		
W-2a Meas	2	< 5	20	190	20	91	8	< 2				0.8	0.9	172	< 0.4	2.5	0.5	< 1	< 0.1	9	2.2	0.6	
W-2a Cert	1.00	1.20	21.0	190	24.0	94.0	7.90	0.600				0.790	0.990	182	0.0300	2.60	0.500	0.300	0.200	9.30	2.40	0.530	
SY-4 Meas				1202	116	547								345									
SY-4 Cert				1191	119	517								340									
CTA-AC-1 Meas																	2.6				23.7	4.3	
CTA-AC-1 Cert																	2.65				21.8	4.4	
BIR-1a Meas				108	14	15						1.0		6		0.6				< 5			
BIR-1a Cert				110	16	18						0.58		6		0.60				3			
NCS DC86312 Meas																					25.1		
NCS DC86312 Cert																					23.6		
NCS DC70009 (GBW07241) Meas		63	489							1.0	1650	3.0	40.8					2270			30.4		
NCS DC70009 (GBW07241) Cert		69.9	500							1.3	1700	3.1	41					2200			28.3		
OREAS 100a (Fusion) Meas								23													51.7	138	
OREAS 100a (Fusion) Cert								24.1													51.6	135	
OREAS 101a (Fusion) Meas								20													35.5	413	
OREAS 101a (Fusion) Cert								21.9													36.6	422	
OREAS 101b (Fusion) Meas								20													37.6	408	
OREAS 101b (Fusion) Cert								21													37.1	396	
JR-1 Meas	2	17	265				14	3		< 0.2	3	1.2	19.4		0.5	4.2	1.9	1	1.6	19	26.9	9.0	
JR-1 Cert	1.88	16.3	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59	1.56	19.3	26.7	8.88	
NCS DC86303 Meas																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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NCS DC86304 Cert																							
NCS DC86304 Meas																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
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NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
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Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
546912 Orig																							
546912 Dup																							
546823 Orig	3	< 5	1260	95	< 2	13	59	< 2	< 0.5	< 0.2	17	< 0.5	162	36	< 0.4	3.4	182	< 1	9.9	15	5.1	4.6	
546823 Dup	3	< 5	1290	97	< 2	13	59	< 2	< 0.5	< 0.2	17	< 0.5	165	37	< 0.4	3.0	185	< 1	10.9	17	5.4	4.6	
546833 Orig																							
546833 Dup																							
546771 Orig																							
546771 Dup																							
546780 Orig	4	35	1230	306	22	199	733	8	0.8	2.5	665	7.8	222	2011	9.2	4.2	16.7	5	9.9	27	94.7	15.9	
546780 Dup	3	33	1220	299	24	194	742	8	0.7	2.5	693	10.0	221	1994	9.2	3.9	16.4	5	10.8	25	92.8	15.7	
546852 Orig	< 1	< 5	294	815	2	109	6	< 2	< 0.5	< 0.2	6	< 0.5	54.4	840	< 0.4	3.1	1.3	< 1	1.8	12	1.2	1.4	
546852 Split PREP DUP	< 1	< 5	324	727	< 2	117	6	< 2	< 0.5	< 0.2	9	< 0.5	62.8	830	< 0.4	3.5	2.0	< 1	3.0	12	1.2	1.4	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546853 Orig																							
546853 Dup																							
546760 Orig																							
546760 Dup																							
546841 Orig																							
546841 Dup																							
546845 Orig	3	< 5	470	125	< 2	94	27	< 2	< 0.5	< 0.2	25	< 0.5	73.9	37	< 0.4	6.8	21.6	< 1	3.0	8	1.7	3.5	
546845 Dup	3	< 5	482	126	< 2	99	28	< 2	< 0.5	< 0.2	26	< 0.5	74.5	37	< 0.4	7.1	20.1	< 1	2.8	8	1.6	3.5	
546765 Orig																							
546765 Dup																							
546785 Orig																							
546785 Dup																							
546792 Orig	2	< 5	681	169	< 2	15	18	2	< 0.5	< 0.2	18	< 0.5	95.5	76	< 0.4	1.5	23.7	2	5.8	10	3.0	0.9	
546792 Dup	2	< 5	684	170	< 2	15	18	2	< 0.5	< 0.2	16	< 0.5	97.7	74	< 0.4	1.2	30.9	< 1	5.8	10	3.1	0.9	
546793 Orig	< 1	< 5	172	928	< 2	119	5	5	< 0.5	< 0.2	2	< 0.5	42.1	1045	< 0.4	3.1	1.1	< 1	2.7	13	1.2	1.2	
546793 Split PREP DUP	< 1	< 5	178	914	< 2	113	5	4	< 0.5	< 0.2	2	< 0.5	45.2	1041	< 0.4	3.0	1.2	< 1	2.0	13	1.2	1.1	
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							1.00
Method Blank	< 1	< 5	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	
Method Blank				< 2	< 2	< 4								< 3									
Method Blank				< 2	< 2	< 4								< 3									
Method Blank																							

Quality Analysis ... *Innovative Technologies*

Date Submitted: 20-Sep-17
Invoice No.: A17-10253
Invoice Date: 08-Nov-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

94 Rock samples were submitted for analysis.

The following analytical package(s) were requested: Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

REPORT **A17-10253**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546921	0.05	0.02	70.05	17.26	0.60	0.044	0.06	0.60	5.28	3.94	0.029	0.01	1.16	99.05	< 1	422	< 5	60	< 1	< 20	< 10	40	46
546922	0.05	0.02	80.34	11.29	0.87	0.034	0.06	0.53	3.59	1.82	0.027	< 0.01	0.79	99.35	< 1	199	< 5	< 20	< 1	< 20	< 10	< 30	34
546923	0.09	0.04	69.71	17.45	1.00	0.078	0.14	1.27	7.25	1.37	0.060	0.23	0.92	99.48	< 1	25	10	< 20	< 1	< 20	< 10	110	47
546924	0.06	0.03	71.08	16.41	1.00	0.168	0.08	0.89	6.82	1.68	0.027	0.17	0.50	98.81	< 1	19	6	< 20	< 1	< 20	< 10	30	39
546925	0.11	0.05	69.59	17.88	1.20	0.019	0.22	2.75	6.25	1.06	0.150	0.04	0.33	99.48	1	4	15	< 20	1	< 20	< 10	50	26
546926	0.14	0.07	68.65	17.98	1.05	0.023	0.19	2.67	6.44	1.12	0.144	0.03	0.43	98.73	< 1	8	11	< 20	< 1	< 20	10	60	29
546927	0.18	0.08	70.21	17.81	0.93	0.167	0.11	1.26	7.89	0.72	0.070	0.16	0.41	99.73	< 1	37	9	< 20	< 1	< 20	< 10	80	40
546928	0.20	0.09	70.70	17.66	1.16	0.054	0.19	0.93	7.09	1.46	0.127	0.05	0.73	100.2	< 1	16	13	< 20	< 1	< 20	< 10	110	44
546929	0.19	0.09	70.33	16.89	1.27	0.513	0.04	0.74	8.06	0.44	0.011	0.18	0.14	98.62	< 1	29	< 5	< 20	< 1	< 20	< 10	< 30	43
546930	< 0.01	< 0.01	97.07	0.31	2.26	0.025	0.02	0.02	0.05	0.02	0.013	< 0.01	-0.23	99.56	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1
546878	0.12	0.06	75.03	14.42	1.16	0.082	0.16	0.83	5.03	1.49	0.061	0.05	0.93	99.25	< 1	36	7	20	< 1	< 20	< 10	80	42
546879	0.10	0.04	78.75	12.56	0.94	0.070	0.10	0.67	4.74	1.14	0.040	< 0.01	0.94	99.96	< 1	35	5	30	< 1	< 20	< 10	50	37
546880	1.06	0.49	76.94	10.06	4.24	0.049	0.74	1.21	1.14	1.88	0.567	0.31	1.21	98.34	8	40	58	70	6	20	300	130	31
546901	0.24	0.11	57.76	25.86	1.71	0.104	0.38	0.83	5.80	4.79	0.180	< 0.01	2.64	100.0	1	27	18	< 20	2	< 20	< 10	150	108
546902	0.13	0.06	61.58	22.35	1.05	0.232	0.16	1.14	8.22	2.28	0.065	0.02	1.89	98.99	< 1	21	8	< 20	< 1	< 20	< 10	50	68
546903	0.19	0.09	60.03	23.70	1.46	0.102	0.28	1.03	6.78	3.60	0.142	0.12	2.10	99.35	1	51	18	< 20	1	< 20	< 10	130	86
546904	0.16	0.08	70.23	17.39	1.05	0.081	0.21	1.16	6.78	1.64	0.067	0.32	0.91	99.85	< 1	34	12	< 20	1	< 20	< 10	100	51
546905	0.07	0.03	72.19	16.38	0.84	0.340	0.04	0.82	8.26	0.47	0.011	0.30	0.30	99.93	< 1	10	< 5	< 20	< 1	< 20	< 10	< 30	38
546871	0.02	0.01	73.62	14.79	1.50	0.191	0.27	0.56	5.94	1.54	0.050	0.08	0.68	99.23	1	11	11	40	2	< 20	< 10	60	38
546872	0.08	0.04	63.49	15.32	6.64	0.102	3.10	2.97	3.17	2.71	0.591	0.13	1.13	99.36	14	6	113	250	22	90	50	70	19
546873	0.07	0.03	63.63	15.53	6.32	0.088	3.34	3.12	3.32	2.60	0.614	0.12	0.90	99.59	14	2	112	240	22	90	40	70	17
546874	0.09	0.04	63.41	15.32	5.95	0.075	3.28	2.79	3.47	2.82	0.578	0.13	0.95	98.77	14	16	105	240	22	90	50	70	20
546875	0.09	0.04	63.56	15.15	6.01	0.076	3.35	2.84	3.46	2.87	0.581	0.13	1.09	99.09	14	15	110	240	22	90	50	70	20
546876	0.02	< 0.01	73.20	15.24	1.38	0.199	0.36	0.82	6.80	0.95	0.067	0.13	0.61	99.76	2	24	14	40	2	< 20	< 10	60	37
546877	0.15	0.07	61.03	15.61	8.37	0.124	3.16	2.40	3.11	3.41	0.567	0.14	1.10	99.02	16	29	117	250	24	100	60	90	21
546951	0.13	0.06	69.57	17.78	1.07	0.025	0.19	2.55	6.40	1.44	0.133	0.04	0.45	99.65	< 1	5	9	< 20	< 1	< 20	< 10	60	27
546952	0.12	0.05	69.73	17.59	1.07	0.050	0.16	2.31	6.42	1.56	0.120	0.03	0.35	99.40	< 1	4	10	< 20	< 1	< 20	< 10	60	28
546953	0.08	0.04	70.15	17.08	1.16	0.147	0.10	1.43	6.14	3.12	0.068	0.04	0.28	99.72	< 1	3	5	< 20	< 1	< 20	< 10	70	31
546954	0.07	0.03	70.20	17.04	1.03	0.023	0.19	2.65	6.56	1.15	0.139	0.04	0.35	99.37	< 1	6	10	< 20	< 1	< 20	< 10	70	27
546955	0.07	0.03	69.54	17.16	1.06	0.020	0.19	2.76	6.45	1.13	0.142	0.03	0.31	98.78	< 1	5	12	< 20	< 1	< 20	< 10	60	26
546956	0.05	0.02	71.57	16.27	0.99	0.113	0.15	1.57	6.23	1.95	0.089	0.04	0.57	99.54	< 1	5	7	< 20	< 1	< 20	< 10	50	30
546957	0.07	0.03	70.16	17.27	1.27	0.037	0.22	2.43	6.14	1.46	0.136	0.05	0.48	99.66	< 1	5	10	< 20	< 1	< 20	< 10	60	27
546958	0.08	0.04	70.57	17.19	1.04	0.016	0.20	2.64	6.32	1.11	0.145	0.03	0.37	99.64	< 1	3	11	< 20	< 1	< 20	< 10	100	26
546959	0.03	0.01	74.07	15.23	0.91	0.364	0.04	0.34	6.15	2.79	0.013	0.06	0.35	100.3	< 1	27	8	< 20	< 1	< 20	< 10	60	37
546960	0.49	0.23	76.52	9.62	4.74	0.054	0.89	1.56	1.26	2.05	0.827	0.37	1.23	99.12	11	35	67	70	6	30	290	110	26
546931	0.09	0.04	72.16	17.12	1.04	0.775	0.01	0.73	8.22	0.28	0.006	0.12	0.15	100.6	< 1	13	< 5	< 20	< 1	< 20	< 10	< 30	37
546932	0.17	0.08	70.35	16.92	1.13	0.036	0.17	2.50	6.25	0.83	0.134	0.05	0.48	98.86	< 1	11	9	< 20	< 1	< 20	< 10	60	27
546933	1.08	0.50	72.29	17.19	0.93	0.516	0.02	0.72	6.65	0.61	0.012	0.04	0.42	99.39	< 1	55	< 5	20	< 1	< 20	< 10	50	42
546934	0.15	0.07	69.93	17.55	1.08	0.023	0.19	2.49	6.42	0.94	0.140	0.03	0.49	99.27	< 1	9	12	< 20	1	< 20	< 10	70	27
546935	0.15	0.07	70.22	17.87	1.09	0.020	0.20	2.69	6.41	0.95	0.141	0.05	0.48	100.1	< 1	7	11	< 20	1	< 20	< 10	60	26
546936	0.14	0.06	70.42	17.51	1.28	0.112	0.14	2.02	6.73	1.07	0.102	0.04	0.37	99.78	< 1	16	7	< 20	< 1	< 20	< 10	70	29

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546937	0.10	0.05	70.13	17.39	1.06	0.013	0.19	2.76	6.27	1.10	0.140	0.04	0.37	99.45	< 1	3	10	< 20	1	< 20	< 10	60	25
546938	0.07	0.03	73.29	15.43	0.87	0.256	0.02	0.33	5.30	3.84	0.010	0.05	0.45	99.83	< 1	7	< 5	< 20	< 1	< 20	< 10	70	34
546939	0.13	0.06	70.10	17.14	1.12	0.022	0.22	2.71	6.22	1.16	0.133	0.06	0.47	99.36	< 1	4	10	< 20	1	< 20	< 10	80	26
546940	1.05	0.49	76.15	9.99	4.22	0.048	0.75	1.24	1.15	1.85	0.551	0.29	1.31	97.55	8	39	58	80	6	20	330	140	30
546891	0.28	0.13	78.34	11.62	2.19	0.090	0.32	0.54	2.81	2.14	0.102	0.09	1.10	99.35	1	24	14	40	2	< 20	< 10	180	46
546892	0.19	0.09	75.57	14.16	1.45	0.157	0.21	0.79	4.30	1.77	0.076	0.16	0.97	99.61	< 1	30	11	30	2	< 20	< 10	150	47
546893	0.08	0.04	70.61	16.23	1.02	0.016	0.17	2.20	5.51	1.89	0.106	0.02	0.54	98.32	< 1	3	9	20	< 1	< 20	< 10	70	27
546894	0.05	0.02	63.80	22.45	0.61	0.107	0.10	1.12	9.47	1.24	0.052	0.05	1.18	100.2	< 1	23	6	< 20	< 1	< 20	< 10	< 30	54
546895	0.04	0.02	64.32	20.88	1.09	0.109	0.09	1.14	9.53	0.94	0.035	0.02	0.97	99.13	< 1	25	< 5	< 20	< 1	< 20	< 10	< 30	52
546896	0.04	0.02	64.19	21.66	0.48	0.068	0.06	1.23	9.44	0.86	0.027	0.01	1.08	99.11	< 1	23	< 5	< 20	< 1	< 20	< 10	50	50
546897	0.06	0.03	71.11	16.32	1.04	0.017	0.16	2.23	5.75	1.89	0.113	0.03	0.36	99.02	< 1	3	10	< 20	< 1	< 20	< 10	60	29
546898	0.13	0.06	71.08	17.12	0.93	0.013	0.16	2.16	5.51	2.03	0.109	0.01	0.41	99.54	< 1	2	5	< 20	< 1	< 20	< 10	70	29
546899	0.09	0.04	70.76	17.05	1.22	0.031	0.17	1.97	6.04	1.45	0.106	0.05	0.84	99.68	< 1	5	8	< 20	< 1	< 20	< 10	80	29
546900	0.51	0.24	75.72	9.59	4.51	0.050	0.87	1.52	1.24	2.06	0.797	0.34	1.27	97.98	11	34	67	70	7	20	300	140	26
546859	0.12	0.05	70.83	16.01	1.83	0.023	0.46	2.55	5.12	1.94	0.207	0.07	0.52	99.56	1	13	20	< 20	2	< 20	20	100	30
546860	0.49	0.23	75.95	9.54	4.61	0.052	0.89	1.56	1.26	2.07	0.811	0.36	1.26	98.35	11	35	68	70	7	20	310	130	27
546861	0.11	0.05	69.40	16.30	1.16	0.219	0.13	1.77	7.19	1.21	0.037	1.04	0.61	99.07	< 1	13	8	< 20	< 1	< 20	< 10	360	46
546862	0.07	0.03	66.33	18.19	0.78	0.126	0.08	2.77	8.48	0.85	0.025	1.74	0.43	99.80	< 1	15	6	< 20	< 1	< 20	< 10	50	46
546863	0.04	0.02	70.11	16.76	1.26	0.172	0.05	1.48	8.16	0.77	0.018	0.72	0.13	99.64	< 1	12	< 5	< 20	< 1	< 20	< 10	50	43
546864	0.14	0.06	69.55	16.51	1.46	0.152	0.22	1.52	5.87	1.72	0.094	0.58	0.70	98.39	< 1	20	12	< 20	1	< 20	< 10	140	44
546865	0.04	0.02	69.38	15.80	0.74	0.114	0.08	3.10	6.72	0.89	0.030	1.77	0.45	99.07	< 1	19	6	< 20	< 1	< 20	< 10	60	41
546866	0.12	0.06	63.52	16.25	6.45	0.081	2.84	3.26	3.73	2.40	0.571	0.16	0.90	100.2	14	5	106	170	21	70	40	100	21
546867	0.14	0.07	58.32	15.21	12.76	0.148	3.29	2.86	1.82	3.39	0.591	0.17	0.94	99.50	19	10	137	250	28	110	60	200	20
546868	0.02	0.01	70.75	16.77	1.26	0.100	0.15	1.33	6.04	1.52	0.045	0.35	0.71	99.02	< 1	56	8	20	< 1	< 20	< 10	60	47
546869	0.13	0.06	57.14	15.80	7.20	0.115	5.11	4.83	2.88	3.05	0.609	0.52	1.55	98.79	17	22	129	280	29	130	80	210	29
546870	< 0.01	< 0.01	95.40	0.61	4.22	0.040	0.09	0.05	0.11	0.08	0.044	< 0.01	-0.15	100.5	< 1	< 1	10	30	2	< 20	< 10	< 30	2
546918	0.11	0.05	69.51	17.32	1.55	0.042	0.20	2.35	6.37	1.24	0.136	0.04	0.35	99.11	< 1	7	10	< 20	< 1	< 20	< 10	70	27
546919	0.10	0.05	67.84	18.62	1.10	0.090	0.11	1.09	5.49	3.06	0.064	0.28	1.47	99.23	< 1	171	8	< 20	< 1	< 20	< 10	90	66
546920	0.49	0.23	76.35	9.51	4.70	0.054	0.92	1.58	1.27	1.98	0.814	0.33	1.24	98.74	11	35	70	70	7	< 20	300	160	32
546961	0.07	0.03	69.66	17.53	1.12	0.014	0.19	2.67	6.20	1.04	0.119	0.04	0.33	98.91	< 1	4	9	< 20	< 1	< 20	< 10	70	26
546962	0.11	0.05	68.80	17.67	1.07	0.128	0.24	1.10	5.20	4.34	0.051	0.27	0.97	99.82	< 1	23	9	< 20	< 1	< 20	< 10	80	44
546963	0.04	0.02	73.21	15.02	1.50	0.146	0.05	0.64	4.89	4.54	0.022	0.37	0.13	100.5	< 1	6	7	20	< 1	< 20	< 10	60	34
546964	0.05	0.02	74.21	13.91	0.99	0.220	0.07	0.23	3.30	5.52	0.023	0.06	0.51	99.05	< 1	37	7	< 20	< 1	< 20	< 10	120	40
546941	0.12	0.06	68.59	17.46	1.34	0.017	0.26	2.75	6.35	1.22	0.174	0.05	0.37	98.58	< 1	5	13	< 20	1	< 20	< 10	80	27
546942	0.07	0.03	72.45	15.73	0.64	0.158	0.05	0.33	5.09	4.85	0.011	0.10	0.44	99.86	< 1	50	6	< 20	< 1	< 20	< 10	80	41
546943	0.12	0.05	69.95	17.75	1.79	0.026	0.21	2.69	6.26	0.81	0.181	0.04	0.21	99.93	1	7	11	20	1	< 20	< 10	70	27
546944	0.06	0.03	72.97	15.71	1.31	0.439	0.02	0.27	6.58	2.03	0.005	0.05	0.24	99.62	< 1	19	< 5	< 20	< 1	< 20	< 10	50	42
546945	0.12	0.05	69.53	16.97	1.03	0.015	0.19	2.71	6.18	1.14	0.130	0.06	0.00	98.91	< 1	5	14	< 20	< 1	< 20	< 10	70	28
546946	0.11	0.05	69.19	18.20	0.95	0.021	0.18	2.60	6.11	1.28	0.121	0.04	0.39	99.09	< 1	4	9	20	< 1	< 20	< 10	60	27
546947	0.07	0.03	72.92	15.12	1.78	0.319	0.04	0.21	5.01	3.82	0.007	0.03	0.13	99.40	< 1	11	< 5	< 20	< 1	< 20	< 10	340	37
546948	0.14	0.06	69.55	18.70	1.47	0.026	0.19	2.59	6.15	0.85	0.147	0.05	0.32	100.1	< 1	7	11	20	< 1	< 20	< 10	70	27

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546949	0.05	0.02	72.12	16.24	1.37	0.481	0.04	0.27	6.35	2.70	0.005	0.06	0.14	99.77	< 1	10	< 5	< 20	< 1	< 20	< 10	90	38
546950	< 0.01	< 0.01	95.39	0.76	4.19	0.046	0.01	0.04	0.19	0.18	0.019	< 0.01	-0.76	100.1	< 1	< 1	< 5	30	< 1	< 20	< 10	< 30	1
546881	0.15	0.07	75.94	13.49	1.50	0.096	0.18	0.55	4.97	1.54	0.060	0.14	0.69	99.15	< 1	61	10	20	1	< 20	< 10	110	47
546882	0.13	0.06	84.47	7.80	1.76	0.066	0.23	0.39	1.62	1.60	0.075	0.10	0.78	98.90	< 1	26	12	40	1	< 20	< 10	180	34
546883	0.19	0.09	84.55	9.23	1.29	0.055	0.16	0.31	1.78	1.84	0.065	0.01	0.94	100.2	< 1	14	8	30	1	< 20	< 10	110	38
546884	0.05	0.02	89.87	6.40	0.79	0.029	0.06	0.32	2.02	0.76	0.024	< 0.01	0.52	100.8	< 1	14	< 5	40	< 1	< 20	< 10	50	20
546885	0.05	0.03	78.30	12.17	1.38	0.175	0.05	0.50	4.16	1.90	0.030	0.02	0.73	99.42	< 1	20	< 5	30	< 1	< 20	< 10	80	34
546886	0.05	0.02	79.21	12.15	1.21	0.542	0.08	0.49	4.56	1.17	0.031	0.02	0.68	100.2	< 1	36	8	30	< 1	< 20	< 10	70	41
546887	0.05	0.02	83.52	9.10	0.87	0.173	0.05	0.39	3.67	0.78	0.018	0.02	0.62	99.20	< 1	18	< 5	< 20	< 1	< 20	40	80	27
546888	0.05	0.02	83.74	9.13	1.11	0.102	0.05	0.45	3.85	0.62	0.015	< 0.01	0.57	99.64	< 1	15	< 5	30	< 1	< 20	< 10	< 30	25
546889	0.19	0.09	79.63	11.91	1.77	0.088	0.22	0.51	2.97	1.93	0.082	0.07	1.11	100.3	< 1	37	13	50	2	< 20	< 10	190	57
546890	0.50	0.23	94.07	0.48	5.46	0.061	< 0.01	0.02	0.10	0.09	0.014	< 0.01	-0.66	99.62	< 1	< 1	< 5	30	< 1	< 20	< 10	< 30	1

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546921	2	< 5	1540	176	< 2	6	60	< 2	< 0.5	< 0.2	15	< 0.5	190	128	< 0.4	1.6	154	< 1	9.4	26	2.0	3.4	
546922	2	< 5	775	171	< 2	4	44	< 2	< 0.5	< 0.2	13	< 0.5	104	105	1.1	0.7	83.0	< 1	5.6	9	2.5	3.7	
546923	2	< 5	731	302	< 2	80	54	< 2	< 0.5	< 0.2	22	< 0.5	104	62	< 0.4	5.4	83.4	1	4.9	31	5.4	7.2	
546924	2	< 5	704	229	< 2	59	60	< 2	< 0.5	< 0.2	12	< 0.5	73.0	78	< 0.4	4.6	131	< 1	5.3	11	4.2	7.8	
546925	< 1	< 5	131	1132	< 2	138	4	3	0.7	< 0.2	2	< 0.5	30.5	683	< 0.4	3.4	0.7	83	1.7	10	1.5	0.8	
546926	< 1	< 5	238	1057	< 2	142	8	< 2	0.6	< 0.2	4	< 0.5	57.4	665	< 0.4	3.7	7.3	1	1.9	11	1.6	1.1	
546927	2	< 5	384	387	< 2	115	32	8	< 0.5	< 0.2	11	< 0.5	104	156	< 0.4	5.8	25.8	9	2.4	14	2.6	5.5	
546928	2	< 5	911	326	< 2	148	30	< 2	0.6	< 0.2	29	< 0.5	186	162	< 0.4	4.3	17.7	1	5.1	6	1.5	1.8	
546929	3	< 5	148	158	< 2	68	44	< 2	< 0.5	< 0.2	6	< 0.5	63.8	17	< 0.4	8.4	47.7	< 1	1.5	13	6.2	17.9	
546930	< 1	< 5	4	2	3	42	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.0	< 3	< 0.4	1.2	0.4	< 1	< 0.1	< 5	1.4	0.6	
546878	2	< 5	839	243	< 2	51	97	< 2	< 0.5	< 0.2	27	< 0.5	120	139	< 0.4	6.8	266	< 1	4.3	14	8.5	9.5	2.73
546879	2	< 5	646	186	< 2	17	80	< 2	< 0.5	< 0.2	19	< 0.5	118	48	< 0.4	3.5	334	1	3.9	15	5.6	10.5	
546880	4	48	1330	208	19	147	1140	8	0.7	3.9	1050	11.9	295	1082	15.0	3.4	22.2	6	10.6	26	46.4	7.9	
546901	2	< 5	2750	220	< 2	25	156	< 2	< 0.5	< 0.2	77	< 0.5	584	242	< 0.4	3.7	209	3	17.9	14	3.6	1.6	
546902	3	< 5	1130	231	2	69	64	< 2	< 0.5	< 0.2	31	< 0.5	183	110	< 0.4	13.6	137	4	8.6	20	3.0	4.3	
546903	3	< 5	2090	245	< 2	92	93	< 2	< 0.5	< 0.2	66	< 0.5	316	180	< 0.4	6.0	82.0	2	13.0	16	5.5	5.0	
546904	2	< 5	1040	251	2	86	57	< 2	< 0.5	< 0.2	39	< 0.5	232	85	< 0.4	5.0	37.8	< 1	7.8	10	2.7	6.0	
546905	3	< 5	189	123	2	44	23	< 2	< 0.5	< 0.2	7	< 0.5	85.4	21	< 0.4	4.6	21.5	< 1	2.5	8	2.2	8.2	
546871	2	< 5	419	102	3	30	44	9	< 0.5	< 0.2	16	< 0.5	25.4	96	0.6	2.6	22.6	1	2.6	21	3.8	5.6	
546872	1	< 5	679	404	11	118	9	< 2	< 0.5	< 0.2	3	< 0.5	242	578	< 0.4	2.8	2.4	< 1	4.4	7	3.7	1.8	
546873	1	< 5	490	417	10	113	4	< 2	< 0.5	< 0.2	1	< 0.5	217	545	< 0.4	2.4	0.8	< 1	3.1	8	3.7	1.1	2.77
546874	1	< 5	637	409	9	115	6	2	< 0.5	< 0.2	4	< 0.5	223	567	< 0.4	2.6	1.1	< 1	3.9	8	3.6	4.6	
546875	1	< 5	658	406	9	120	5	< 2	< 0.5	< 0.2	5	< 0.5	226	568	< 0.4	2.6	1.1	< 1	4.2	8	3.5	3.9	
546876	2	< 5	314	175	3	35	47	< 2	< 0.5	< 0.2	12	< 0.5	38.8	80	1.0	3.2	29.2	< 1	2.3	22	4.4	4.5	
546877	2	< 5	1600	389	9	107	7	< 2	< 0.5	< 0.2	14	< 0.5	371	534	< 0.4	2.5	1.6	< 1	12.2	8	3.4	1.7	
546951	< 1	< 5	270	1013	< 2	133	9	< 2	0.5	< 0.2	3	< 0.5	32.6	706	< 0.4	3.6	2.6	< 1	3.4	10	1.5	1.0	
546952	< 1	< 5	233	922	< 2	117	11	< 2	< 0.5	< 0.2	7	< 0.5	21.8	645	< 0.4	3.3	3.7	< 1	2.1	11	1.8	1.7	
546953	2	< 5	677	525	< 2	78	28	< 2	< 0.5	< 0.2	9	< 0.5	29.2	400	< 0.4	3.1	8.4	< 1	4.3	15	2.5	5.0	
546954	< 1	< 5	136	1002	< 2	135	6	< 2	0.6	< 0.2	4	< 0.5	25.2	687	< 0.4	3.5	1.5	< 1	1.4	11	1.5	1.0	
546955	< 1	< 5	111	1015	< 2	139	5	< 2	0.6	< 0.2	3	< 0.5	21.0	703	< 0.4	3.4	1.4	< 1	0.9	10	1.5	0.8	
546956	1	< 5	374	612	3	92	28	< 2	< 0.5	< 0.2	6	< 0.5	19.6	461	< 0.4	3.3	12.0	< 1	2.1	12	2.4	4.3	2.72
546957	< 1	< 5	222	974	< 2	130	7	< 2	< 0.5	< 0.2	3	< 0.5	17.5	692	< 0.4	3.5	3.5	< 1	1.3	12	1.5	1.4	
546958	< 1	< 5	141	1083	< 2	140	4	< 2	0.6	< 0.2	5	< 0.5	21.9	729	< 0.4	3.5	0.8	< 1	0.8	10	1.4	0.7	
546959	3	< 5	792	100	4	47	44	3	1.1	< 0.2	21	< 0.5	44.1	111	< 0.4	6.7	25.5	1	5.0	8	3.6	9.7	
546960	3	37	1150	295	25	199	783	8	0.9	2.5	675	8.4	222	2056	10.7	4.6	16.7	4	9.1	27	87.3	15.1	
546931	4	< 5	41	179	< 2	110	47	< 2	< 0.5	< 0.2	4	< 0.5	20.9	13	< 0.4	12.7	27.8	< 1	1.8	35	5.5	21.9	
546932	< 1	< 5	421	1007	< 2	137	6	< 2	0.5	< 0.2	6	< 0.5	237	573	< 0.4	4.0	2.0	< 1	3.6	14	1.7	1.6	
546933	4	< 5	228	199	3	55	53	< 2	< 0.5	< 0.2	11	< 0.5	207	43	< 0.4	6.5	162	< 1	2.1	29	10.6	17.2	
546934	< 1	< 5	344	1064	< 2	140	7	< 2	0.6	< 0.2	6	< 0.5	153	642	< 0.4	3.8	3.0	< 1	3.0	11	1.5	0.8	
546935	< 1	< 5	301	1046	2	145	5	< 2	0.5	< 0.2	4	< 0.5	141	727	< 0.4	3.7	1.3	< 1	2.8	10	1.4	0.8	
546936	1	< 5	264	763	< 2	107	14	< 2	< 0.5	< 0.2	7	< 0.5	88.6	466	< 0.4	3.4	10.4	< 1	2.1	10	2.0	2.2	2.68

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546937	< 1	< 5	104	1074	< 2	141	4	< 2	0.5	< 0.2	2	< 0.5	28.9	766	< 0.4	3.6	0.8	< 1	0.9	9	1.5	0.7	
546938	2	< 5	1110	114	< 2	32	53	< 2	< 0.5	< 0.2	10	< 0.5	138	123	0.7	3.2	24.5	< 1	6.9	18	3.2	10.0	
546939	< 1	< 5	165	1066	< 2	129	7	< 2	< 0.5	< 0.2	2	< 0.5	60.4	768	< 0.4	3.3	1.9	< 1	2.1	10	1.5	1.2	
546940	4	56	1240	206	19	165	1280	8	0.7	3.7	1100	13.2	297	1083	16.6	3.7	21.9	6	10.4	25	45.7	7.7	
546891	2	< 5	1580	167	< 2	41	76	2	< 0.5	< 0.2	66	< 0.5	474	137	< 0.4	2.1	27.3	3	11.5	6	0.7	1.2	
546892	2	< 5	1160	192	< 2	52	63	< 2	< 0.5	< 0.2	37	< 0.5	340	137	< 0.4	3.4	117	< 1	8.8	48	2.8	5.2	
546893	< 1	< 5	162	785	< 2	105	5	< 2	< 0.5	< 0.2	2	< 0.5	30.5	1065	< 0.4	3.1	0.7	< 1	2.7	15	1.1	1.7	
546894	4	< 5	570	376	3	35	35	< 2	< 0.5	< 0.2	16	< 0.5	113	142	< 0.4	6.7	326	< 1	3.3	37	6.7	46.9	
546895	4	< 5	410	370	< 2	39	33	< 2	< 0.5	< 0.2	12	< 0.5	75.6	113	< 0.4	7.0	297	< 1	2.6	33	8.3	43.3	
546896	3	< 5	358	369	< 2	31	18	< 2	< 0.5	< 0.2	9	< 0.5	55.5	97	< 0.4	6.1	81.5	< 1	2.3	17	6.8	15.1	2.79
546897	< 1	< 5	129	796	< 2	103	4	< 2	0.6	< 0.2	1	< 0.5	18.0	1035	< 0.4	3.2	1.1	3	1.1	9	1.1	2.0	
546898	< 1	< 5	55	854	< 2	106	4	< 2	0.6	< 0.2	< 1	< 0.5	6.5	1061	< 0.4	3.2	0.6	< 1	0.3	11	1.1	1.1	
546899	< 1	< 5	246	728	< 2	101	5	< 2	< 0.5	< 0.2	4	< 0.5	32.3	769	< 0.4	3.1	1.2	< 1	1.3	9	1.1	1.6	
546900	4	31	1170	293	24	186	723	8	0.9	2.8	622	6.2	210	2050	9.1	4.1	16.2	4	8.2	23	88.2	15.5	
546859	1	< 5	212	1066	< 2	131	9	< 2	1.1	< 0.2	4	< 0.5	41.5	1724	< 0.4	3.6	0.9	< 1	2.5	16	3.5	4.8	
546860	4	37	1210	301	26	189	787	8	1.1	3.0	668	7.5	216	2054	10.4	4.7	16.5	4	9.5	25	90.0	15.6	
546861	3	< 5	530	164	6	72	56	< 2	< 0.5	< 0.2	27	< 0.5	39.1	73	< 0.4	6.0	10.9	< 1	3.8	67	15.2	26.1	
546862	3	< 5	335	218	4	76	22	< 2	< 0.5	< 0.2	15	< 0.5	25.9	50	< 0.4	6.7	5.3	< 1	2.2	7	6.2	19.0	
546863	3	< 5	258	197	3	68	32	< 2	< 0.5	< 0.2	11	< 0.5	19.3	110	< 0.4	6.7	16.4	< 1	1.5	18	5.2	12.3	
546864	3	< 5	835	305	3	82	32	< 2	< 0.5	< 0.2	30	< 0.5	72.5	366	< 0.4	3.8	12.6	< 1	3.9	17	3.4	7.9	2.71
546865	3	< 5	385	280	4	53	29	< 2	< 0.5	< 0.2	16	< 0.5	30.8	62	< 0.4	3.9	16.4	< 1	2.0	13	9.6	7.3	
546866	1	< 5	803	658	11	132	5	< 2	0.5	< 0.2	3	< 0.5	330	869	< 0.4	3.3	1.4	< 1	5.1	7	4.8	4.1	
546867	3	< 5	915	238	13	107	7	4	< 0.5	< 0.2	5	< 0.5	378	429	< 0.4	2.5	2.4	< 1	6.3	7	3.4	3.2	
546868	3	< 5	582	338	3	36	41	< 2	< 0.5	< 0.2	22	< 0.5	48.4	91	< 0.4	2.9	33.8	< 1	3.2	18	5.5	2.8	
546869	2	< 5	917	897	17	189	17	< 2	0.7	< 0.2	8	< 0.5	264	1126	< 0.4	4.4	2.4	< 1	5.9	8	4.6	3.4	
546870	1	< 5	11	4	5	53	< 1	< 2	0.9	< 0.2	< 1	< 0.5	3.6	25	< 0.4	2.3	0.2	< 1	0.2	< 5	2.8	0.8	
546918	< 1	< 5	260	968	< 2	130	9	< 2	< 0.5	< 0.2	4	< 0.5	40.6	608	< 0.4	3.6	2.9	< 1	1.8	5	1.7	1.5	
546919	3	< 5	1420	242	< 2	30	44	< 2	< 0.5	< 0.2	30	< 0.5	201	128	0.7	2.6	53.6	2	8.1	< 5	2.5	2.3	
546920	5	36	1160	295	28	205	829	8	0.9	2.7	781	9.0	223	2013	9.9	5.6	16.4	5	9.9	25	93.6	16.2	
546961	< 1	< 5	158	1039	< 2	107	5	< 2	< 0.5	< 0.2	2	< 0.5	22.3	714	< 0.4	2.9	1.2	< 1	2.5	< 5	1.2	0.7	2.77
546962	3	< 5	1520	348	3	56	32	2	1.1	< 0.2	25	< 0.5	108	454	< 0.4	3.8	29.0	2	9.3	31	3.6	3.8	
546963	3	< 5	1340	170	< 2	24	56	< 2	1.1	< 0.2	18	< 0.5	101	309	< 0.4	3.7	54.6	< 1	9.0	12	2.7	3.7	
546964	3	< 5	1700	139	2	28	57	3	1.1	< 0.2	42	< 0.5	79.9	351	< 0.4	2.9	20.5	3	10.6	159	1.8	4.4	
546941	< 1	< 5	169	1119	< 2	129	4	< 2	< 0.5	< 0.2	3	< 0.5	50.5	814	< 0.4	3.4	1.8	< 1	2.7	5	1.6	1.0	
546942	3	< 5	1490	122	< 2	25	53	< 2	1.1	< 0.2	19	< 0.5	157	295	< 0.4	2.9	38.7	< 1	10.2	18	3.2	9.3	
546943	< 1	< 5	279	1099	< 2	166	6	< 2	0.6	< 0.2	5	< 0.5	79.6	677	< 0.4	4.4	2.3	< 1	3.3	6	1.8	1.1	
546944	4	< 5	569	72	< 2	35	74	< 2	< 0.5	< 0.2	21	< 0.5	46.5	115	< 0.4	4.6	39.8	< 1	3.8	14	4.0	10.5	
546945	< 1	< 5	168	1115	< 2	132	5	< 2	< 0.5	< 0.2	3	< 0.5	36.7	721	< 0.4	3.3	2.9	< 1	1.4	11	1.3	0.9	
546946	< 1	< 5	161	1086	< 2	123	5	< 2	< 0.5	< 0.2	3	< 0.5	23.8	734	< 0.4	3.3	1.3	< 1	1.0	6	1.3	1.1	
546947	3	< 5	1120	73	3	24	58	< 2	< 0.5	< 0.2	23	< 0.5	68.3	85	< 0.4	2.8	23.3	< 1	6.2	54	3.0	10.1	2.76
546948	< 1	< 5	301	1087	< 2	139	7	< 2	< 0.5	< 0.2	5	< 0.5	53.6	644	< 0.4	3.8	1.8	< 1	2.5	5	1.5	0.9	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546949	3	< 5	758	69	5	40	65	< 2	< 0.5	< 0.2	11	< 0.5	39.9	63	< 0.4	5.5	27.1	< 1	4.7	25	3.9	15.1	
546950	1	< 5	11	6	2	52	2	< 2	< 0.5	< 0.2	< 1	< 0.5	0.9	32	< 0.4	1.7	0.4	< 1	0.5	< 5	2.0	0.7	
546881	3	< 5	941	106	< 2	43	49	< 2	< 0.5	< 0.2	31	< 0.5	130	79	< 0.4	2.8	67.5	< 1	4.8	< 5	2.0	3.8	
546882	3	< 5	1030	97	< 2	23	58	2	< 0.5	< 0.2	42	< 0.5	127	104	< 0.4	1.3	26.9	< 1	5.4	< 5	0.8	1.1	
546883	3	< 5	1080	101	< 2	9	36	< 2	< 0.5	< 0.2	29	< 0.5	152	79	< 0.4	0.9	40.8	< 1	6.7	< 5	2.5	1.7	
546884	2	< 5	380	74	< 2	10	42	2	< 0.5	< 0.2	10	< 0.5	50.1	29	< 0.4	1.3	79.5	< 1	3.0	5	3.9	5.6	
546885	3	< 5	836	107	2	18	64	< 2	< 0.5	< 0.2	13	< 0.5	138	128	< 0.4	6.1	558	1	6.0	26	4.2	7.2	
546886	5	< 5	682	78	4	34	105	2	1.1	< 0.2	18	< 0.5	136	72	< 0.4	21.1	240	1	4.7	28	9.4	13.8	
546887	3	< 5	404	54	< 2	17	74	< 2	< 0.5	< 0.2	9	< 0.5	57.5	18	< 0.4	6.0	366	< 1	2.9	14	5.8	7.3	2.71
546888	3	< 5	292	94	< 2	21	121	2	< 0.5	< 0.2	7	< 0.5	40.1	18	< 0.4	4.5	295	1	2.0	10	6.5	10.6	
546889	3	< 5	1430	145	< 2	26	93	< 2	1.1	< 0.2	49	< 0.5	242	98	< 0.4	3.0	62.3	2	9.2	9	2.9	3.3	
546890	1	< 5	17	2	2	37	2	< 2	< 0.5	< 0.2	< 1	< 0.5	3.2	9	< 0.4	1.4	6.0	< 1	0.6	< 5	1.0	0.7	

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
DNC-1 Meas			47.23	18.19	9.59	0.150	9.86	11.20	1.91	0.23	0.470	0.07			31		157	290	55	230	110	60	14
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15
LKSD-3 Meas																		80	28	40	40	150	
LKSD-3 Cert																		87.0	30.0	47.0	35.0	152	
TDB-1 Meas																		250		90	350	150	
TDB-1 Cert																		251		92	323	155	
TDB-1 Meas																		250		90	350	150	
TDB-1 Cert																		251		92	323	155	
W-2a Meas			53.36	15.61	10.69	0.170	6.23	10.92	2.25	0.65	1.100	0.16			36	< 1	281	100	44	70	110	80	18
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0
SY-4 Meas			50.06	20.39	6.29	0.110	0.50	8.03	6.98	1.72	0.290	0.14			< 1	3	7						
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0						
CTA-AC-1 Meas																					60	40	
CTA-AC-1 Cert																					54.0	38.0	
BIR-1a Meas			47.86	15.75	11.21	0.180	9.45	13.30	1.79	0.02	0.990	0.03			43	< 1	337	400	50	170	130	70	16
BIR-1a Cert			47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16
NCS DC86312 Meas																							
NCS DC86312 Cert																							
ZW-C Meas																						1100	98
ZW-C Cert																						1050.000	99
NCS DC70009 (GBW07241) Meas																			4		1010	90	17
NCS DC70009 (GBW07241) Cert																			3.7		960	100	16.5
OREAS 100a (Fusion) Meas																			17		170		
OREAS 100a (Fusion) Cert																			18.1		169		
OREAS 101a (Fusion) Meas																			45		440		
OREAS 101a (Fusion) Cert																			48.8		430		
OREAS 101b (Fusion) Meas																			45	< 20	430		
OREAS 101b (Fusion) Cert																			47	9	420		
OREAS 101b (Fusion) Meas																			45	< 20	430		
OREAS 101b (Fusion) Cert																			47	9	420		

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
JR-1 Meas																				< 20		30	17
JR-1 Cert																				1.67		30.6	16.1
NCS DC86303 Meas	0.47	0.22																					
NCS DC86303 Cert	0.460	0.21																					
NCS DC86303 Meas	0.46	0.21																					
NCS DC86303 Cert	0.460	0.21																					
NCS DC86303 Meas	0.45	0.21																					
NCS DC86303 Cert	0.460	0.21																					
NCS DC86303 Meas	0.45	0.21																					
NCS DC86303 Cert	0.460	0.21																					
NCS DC86303 Meas	0.45	0.21																					
NCS DC86303 Cert	0.460	0.21																					
NCS DC86304 Meas	2.31	1.07																					
NCS DC86304 Cert	2.29	1.06																					
NCS DC86304 Meas	2.37	1.10																					
NCS DC86304 Cert	2.29	1.06																					
NCS DC86304 Meas	2.31	1.07																					
NCS DC86304 Cert	2.29	1.06																					
NCS DC86304 Meas	2.35	1.09																					
NCS DC86304 Cert	2.29	1.06																					
NCS DC86314 Meas	3.89	1.81																					
NCS DC86314 Cert	3.89	1.81																					
NCS DC86314 Meas	3.79	1.76																					
NCS DC86314 Cert	3.89	1.81																					

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas	3.84	1.78																					
NCS DC86314 Cert	3.89	1.81																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.36																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.06																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.15																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.09																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas		8.11																					
Lithium Tetraborate FX-LT 100 lot#220610B Cert		8																					
546928 Orig	0.20	0.09																					
546928 Dup	0.20	0.09																					
546902 Orig			61.41	22.40	1.04	0.234	0.16	1.14	8.16	2.27	0.065	0.03	1.89	98.78	< 1	21	8	< 20	< 1	< 20	< 10	40	68
546902 Dup			61.76	22.29	1.07	0.230	0.16	1.14	8.28	2.29	0.064	0.02	1.89	99.19	< 1	21	8	< 20	< 1	< 20	< 10	50	68

Analyte Symbol	Li2O	Li	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546904 Orig	0.16	0.08																					
546904 Dup	0.16	0.08																					
546953 Orig	0.08	0.04																					
546953 Dup	0.07	0.03																					
546957 Orig			70.03	17.20	1.27	0.037	0.22	2.43	6.14	1.45	0.136	0.05	0.48	99.45	< 1	5	9	< 20	< 1	< 20	< 10	60	27
546957 Dup			70.28	17.35	1.27	0.037	0.22	2.43	6.15	1.47	0.135	0.05	0.48	99.88	< 1	5	11	< 20	1	< 20	< 10	60	26
546932 Orig	0.17	0.08																					
546932 Dup	0.17	0.08																					
546893 Orig	0.08	0.04																					
546893 Dup	0.08	0.04																					
546895 Orig	0.04	0.02	64.32	20.88	1.09	0.109	0.09	1.14	9.53	0.94	0.035	0.02	0.97	99.13	< 1	25	< 5	< 20	< 1	< 20	< 10	< 30	52
546895 Split PREP DUP	0.05	0.02	65.14	21.69	0.60	0.104	0.10	1.11	9.32	1.05	0.042	0.01	1.06	100.2	< 1	25	< 5	< 20	< 1	< 20	< 10	40	54
546863 Orig			70.78	16.42	1.25	0.169	0.06	1.48	8.21	0.78	0.018	0.72	0.13	100.0	< 1	12	< 5	< 20	< 1	< 20	< 10	50	42
546863 Dup			69.45	17.09	1.28	0.175	0.04	1.48	8.10	0.77	0.017	0.72	0.13	99.26	< 1	12	< 5	< 20	< 1	< 20	< 10	60	44
546919 Orig	0.10	0.05																					
546919 Dup	0.10	0.05																					
546944 Orig	0.06	0.03																					
546944 Dup	0.06	0.03																					
546945 Orig																		< 20	< 1	< 20	< 10	70	27
546945 Dup			69.53	17.53	1.03	0.015	0.19	2.71	6.18	1.18	0.130	0.08	0.34	98.91	< 1	5	9	< 20	< 1	< 20	< 10	70	28
546886 Orig	0.05	0.02																					
546886 Dup	0.05	0.02																					
546890 Orig			94.37	0.49	5.35	0.060	< 0.01	0.02	0.10	0.09	0.014	< 0.01	-0.66	99.84	< 1	< 1	< 5	30	< 1	< 20	< 10	< 30	1
546890 Dup			93.76	0.47	5.57	0.063	< 0.01	0.02	0.09	0.09	0.014	< 0.01	-0.66	99.40	< 1	< 1	< 5	30	< 1	< 20	< 10	< 30	1
Method Blank			< 0.01	0.01	< 0.01	0.003	< 0.01	0.02	< 0.01	< 0.01	0.004	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1
Method Blank			< 0.01	< 0.01	0.03	0.002	0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5						
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank																							
Method Blank																							
Method Blank																		< 20	< 1	< 20	< 10	< 30	< 1

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
DNC-1 Meas			4	143	15	34						1.0		109									
DNC-1 Cert			5	144.0	18.0	38						0.96		118									
LKSD-3 Meas		26	76					< 2			2	1.2	2.5			4.7	0.7				11.7	4.6	
LKSD-3 Cert		27.0	78.0					2.00			3.00	1.30	2.30			4.80	0.700				11.4	4.60	
TDB-1 Meas																					2.7		
TDB-1 Cert																					2.7		
TDB-1 Meas																					2.7		
TDB-1 Cert																					2.7		
W-2a Meas	2	< 5	20	198	20	92		< 2				0.8	1.0	176	< 0.4	2.4		1	< 0.1		2.3	0.6	
W-2a Cert	1.00	1.20	21.0	190	24.0	94.0		0.600				0.790	0.990	182	0.0300	2.60		0.300	0.200		2.40	0.530	
SY-4 Meas				1206	114	529								356									
SY-4 Cert				1191	119	517								340									
CTA-AC-1 Meas																1.2	2.5				23.6	4.3	
CTA-AC-1 Cert																1.13	2.65				21.8	4.4	
BIR-1a Meas				108	14	14								7		0.6							
BIR-1a Cert				110	16	18								6		0.60							
NCS DC86312 Meas																					23.5		
NCS DC86312 Cert																					23.6		
ZW-C Meas			8680				201				1290		265				82.5	332	35.0				
ZW-C Cert			8500				198				1300.000		260				82	320	34				
NCS DC70009 (GBW07241) Meas	11	65	470						1.7	1.0	1710	3.4	38.2					2230			28.2		
NCS DC70009 (GBW07241) Cert	11.2	69.9	500						1.8	1.3	1700	3.1	41					2200			28.3		
OREAS 100a (Fusion) Meas								25													51.7	145	
OREAS 100a (Fusion) Cert								24.1													51.6	135	
OREAS 101a (Fusion) Meas								20													36.2	448	
OREAS 101a (Fusion) Cert								21.9													36.6	422	
OREAS 101b (Fusion) Meas								19													37.2	409	
OREAS 101b (Fusion) Cert								21													37.1	396	
OREAS 101b (Fusion) Meas								19													37.2	409	
OREAS 101b (Fusion) Cert								21													37.1	396	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
JR-1 Meas	2	17	248				15	3		< 0.2	3	1.3	19.1		0.6	4.1	1.9	2	1.6	18	27.8	9.1	
JR-1 Cert	1.88	16.3	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59	1.56	19.3	26.7	8.88	
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NCS DC86314 Meas																							
NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
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Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
546928 Orig																							
546928 Dup																							
546902 Orig	3	< 5	1120	233	3	68	64	< 2	< 0.5	< 0.2	31	< 0.5	183	110	< 0.4	13.2	137	1	9.0	19	3.0	4.3	
546902 Dup	3	< 5	1130	230	2	71	64	< 2	< 0.5	< 0.2	31	< 0.5	184	111	< 0.4	14.1	138	6	8.1	21	3.0	4.3	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
546904 Orig																							
546904 Dup																							
546953 Orig																							
546953 Dup																							
546957 Orig	< 1	< 5	222	966	< 2	132	7	< 2	< 0.5	< 0.2	3	< 0.5	17.2	690	< 0.4	3.5	3.2	< 1	1.4	12	1.5	1.4	
546957 Dup	< 1	< 5	222	983	< 2	128	7	< 2	< 0.5	< 0.2	2	< 0.5	17.9	694	< 0.4	3.4	3.7	< 1	1.3	12	1.5	1.4	
546932 Orig																							
546932 Dup																							
546893 Orig																							
546893 Dup																							
546895 Orig	4	< 5	410	370	< 2	39	33	< 2	< 0.5	< 0.2	12	< 0.5	75.6	113	< 0.4	7.0	297	< 1	2.6	33	8.3	43.3	
546895 Split PREP DUP	4	< 5	488	380	< 2	36	35	< 2	< 0.5	< 0.2	14	< 0.5	92.9	121	< 0.4	6.8	354	< 1	2.9	40	7.9	50.3	
546863 Orig	3	< 5	254	196	3	69	33	< 2	< 0.5	< 0.2	10	< 0.5	19.0	111	< 0.4	6.8	16.2	< 1	1.5	17	5.0	12.1	
546863 Dup	3	< 5	261	199	3	67	30	< 2	< 0.5	< 0.2	11	< 0.5	19.6	109	< 0.4	6.6	16.6	< 1	1.4	18	5.3	12.5	
546919 Orig																							
546919 Dup																							
546944 Orig																							
546944 Dup																							
546945 Orig	< 1	< 5	167				5	< 2	< 0.5	< 0.2	3	< 0.5	36.6		< 0.4	3.0	3.0	< 1	1.5	5	1.3	0.9	
546945 Dup	< 1	< 5	169	1115	< 2	135	5	< 2	< 0.5	< 0.2	3	< 0.5	36.7	758	< 0.4	3.6	3.2	< 1	1.2	5	1.3	0.9	
546886 Orig																							
546886 Dup																							
546890 Orig	1	< 5	18	2	2	36	2	< 2	< 0.5	< 0.2	< 1	< 0.5	3.3	9	< 0.4	1.4	6.1	< 1	0.9	< 5	1.0	0.7	
546890 Dup	1	< 5	16	2	2	37	2	< 2	< 0.5	< 0.2	< 1	< 0.5	3.1	8	< 0.4	1.4	5.9	< 1	0.2	< 5	1.0	0.7	
Method Blank	< 1	< 5	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	
Method Blank				< 2	< 2	< 4								< 3									
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							1.00
Method Blank																							1.00
Method Blank	< 1	< 5	< 2				< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5		< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 28-Sep-17
Invoice No.: A17-10646
Invoice Date: 16-Nov-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

130 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-10646**

Notes:

Total includes all elements in % oxide to the left of total.

For Sample 529420 there was no enough material for Specific Gravity analysis

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546975	70.89	16.35	0.73	0.194	0.13	1.10	7.83	0.61	0.018	0.21	0.80	98.86	< 1	17	< 5	< 20	< 1	< 20	< 10	80	38	3	< 5
546976	71.29	15.75	1.64	0.076	0.40	1.74	4.98	1.86	0.155	0.10	1.08	99.07	1	17	18	< 20	2	< 20	< 10	120	34	2	< 5
546977	75.65	14.10	1.45	0.339	0.06	0.40	5.93	1.30	0.013	0.03	0.32	99.59	< 1	7	< 5	< 20	< 1	< 20	10	60	34	3	< 5
546978	69.14	16.51	2.17	0.036	0.57	2.75	5.11	1.49	0.226	0.08	0.56	98.65	2	10	25	< 20	3	< 20	< 10	80	27	1	< 5
546979	69.19	17.22	1.65	0.038	0.47	2.37	5.26	1.87	0.183	0.09	0.81	99.14	2	9	27	< 20	3	< 20	< 10	90	35	1	< 5
546980	77.52	10.28	4.19	0.049	0.76	1.26	1.19	1.81	0.584	0.31	1.26	99.23	8	40	56	70	6	20	330	150	30	5	50
546981	66.26	20.04	0.71	0.474	0.05	0.90	9.96	0.57	0.020	0.01	0.85	99.85	< 1	23	< 5	< 20	< 1	< 20	< 10	< 30	49	4	< 5
546982	64.99	20.41	0.86	0.366	0.05	0.96	9.90	0.51	0.017	0.02	0.92	98.99	< 1	17	< 5	< 20	< 1	< 20	< 10	< 30	46	4	< 5
546983	58.19	25.12	1.78	0.083	0.44	1.37	5.84	4.19	0.206	0.06	2.18	99.45	2	29	19	< 20	2	< 20	< 10	200	95	3	< 5
546984	64.91	20.34	0.98	0.491	0.10	0.99	8.88	1.35	0.038	0.06	0.65	98.80	< 1	18	< 5	< 20	< 1	< 20	< 10	40	46	4	< 5
529443	69.69	14.86	2.94	0.124	1.34	1.79	5.79	0.95	0.235	0.06	0.97	98.76	7	454	49	110	10	50	< 10	80	32	3	< 5
529444	61.14	16.88	6.53	0.088	3.30	2.33	4.32	2.44	0.555	0.14	0.91	98.65	16	8	110	210	24	120	50	80	21	2	< 5
529445	60.88	16.94	8.14	0.125	3.70	2.94	3.18	2.46	0.659	0.14	0.82	99.98	22	2	148	290	32	160	70	100	21	2	< 5
529446	70.85	16.92	3.69	0.161	1.20	1.43	2.40	2.04	0.235	0.10	1.23	100.3	8	72	49	110	11	50	20	270	39	3	< 5
529447	60.97	16.78	7.61	0.128	3.48	2.85	3.40	2.46	0.638	0.13	1.10	99.54	21	15	141	270	30	140	40	90	21	2	< 5
529448	59.58	16.84	7.80	0.137	3.97	3.29	2.83	2.89	0.619	0.11	1.92	100.0	22	10	146	300	33	160	70	230	21	2	< 5
529449	73.32	15.22	1.68	0.128	0.37	0.54	4.72	2.34	0.064	0.06	0.94	99.39	2	14	13	40	3	< 20	< 10	120	42	3	< 5
529450	94.86	0.33	3.39	0.035	0.03	0.02	0.03	0.03	0.014	< 0.01	-0.16	98.59	< 1	< 1	< 5	20	2	< 20	< 10	< 30	1	1	< 5
548051	74.90	13.85	1.04	0.155	0.16	0.28	5.19	2.47	0.026	0.04	0.71	98.80	< 1	8	6	30	2	< 20	< 10	180	36	3	< 5
548052	63.45	15.55	5.81	0.100	3.41	2.08	2.97	2.81	0.503	0.14	1.56	98.40	14	11	98	180	21	100	50	90	22	2	< 5
529433	61.59	16.69	7.06	0.130	3.27	2.57	3.34	2.97	0.563	0.12	1.40	99.71	19	18	126	250	28	130	60	100	25	2	< 5
529434	77.04	13.55	1.00	0.096	0.06	0.24	4.64	1.72	0.007	0.06	0.86	99.27	< 1	9	< 5	< 20	< 1	< 20	< 10	140	46	3	< 5
529435	76.77	13.85	1.10	0.107	0.05	0.23	4.96	1.66	0.006	0.07	0.93	99.74	< 1	9	< 5	40	1	< 20	< 10	140	43	3	< 5
529436	76.20	14.26	1.18	0.179	0.05	0.28	5.92	1.39	0.004	0.05	0.80	100.3	< 1	5	< 5	30	2	< 20	< 10	410	41	3	< 5
529437	67.30	17.53	2.94	0.218	1.16	1.34	5.29	2.10	0.200	0.13	1.94	100.2	6	11	38	80	8	40	< 10	200	45	3	< 5
529438	74.18	15.32	1.64	0.198	0.33	0.69	5.20	1.71	0.049	0.05	1.10	100.5	2	7	14	60	4	< 20	< 10	110	35	3	< 5
529439	60.25	17.12	7.42	0.130	3.74	2.87	3.11	3.11	0.641	0.14	1.75	100.3	21	3	143	270	31	150	60	90	20	1	< 5
529440	77.18	9.98	4.37	0.052	0.78	1.28	1.18	1.79	0.588	0.31	1.24	98.73	8	38	56	90	7	30	330	160	30	5	54
529441	80.21	8.83	3.15	0.036	1.26	2.12	1.99	1.07	0.217	0.05	0.93	99.86	5	2	43	110	8	40	20	40	10	< 1	< 5
529442	64.36	14.54	5.91	0.099	3.31	3.49	3.27	2.17	0.456	0.12	1.02	98.73	14	7	102	270	23	110	70	80	20	2	< 5
546965	61.57	16.39	4.99	0.056	2.02	3.52	4.43	2.26	0.683	0.40	1.52	97.83	2	8	79	20	11	< 20	20	320	33	1	< 5
546966	60.28	21.75	1.57	0.280	0.31	2.28	7.38	2.75	0.100	1.01	1.86	99.56	1	22	17	< 20	2	< 20	< 10	180	76	3	< 5
546967	58.40	21.61	3.09	0.142	0.91	2.09	3.59	4.81	0.350	0.57	2.97	98.53	2	29	41	< 20	5	< 20	< 10	320	88	2	< 5
546968	60.27	23.59	1.55	0.092	0.33	1.18	6.64	3.61	0.136	0.10	2.01	99.51	1	28	14	< 20	2	< 20	< 10	200	93	3	< 5
546969	61.40	22.48	1.38	0.217	0.27	1.14	7.10	3.01	0.113	0.12	1.84	99.07	1	30	12	< 20	1	< 20	< 10	220	81	3	< 5
546970	94.66	0.38	4.37	0.045	0.03	0.06	0.05	0.04	0.017	0.01	-0.32	99.34	< 1	< 1	< 5	40	2	< 20	< 10	< 30	1	1	< 5
546971	68.64	16.17	2.08	0.034	0.59	2.93	5.30	1.27	0.250	0.11	0.78	98.16	1	15	28	< 20	3	< 20	10	130	30	1	< 5
546972	70.18	16.67	2.16	0.039	0.57	2.90	5.37	1.31	0.250	0.10	0.63	100.2	1	6	27	< 20	3	< 20	10	130	29	< 1	< 5
546973	63.52	20.69	1.02	0.207	0.18	1.09	8.07	2.08	0.067	0.10	1.59	98.61	< 1	20	10	< 20	< 1	< 20	< 10	100	68	3	< 5
546974	71.78	16.31	0.75	0.193	0.07	1.03	8.13	0.63	0.021	0.20	0.79	99.91	< 1	89	< 5	30	2	< 20	< 10	80	37	3	< 5
529420	76.45	9.27	4.66	0.054	0.92	1.60	1.30	1.94	0.797	0.37	1.25	98.62	11	33	65	90	8	30	300	140	27	4	39

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
529421	63.77	16.09	5.75	0.110	3.20	2.98	3.74	2.23	0.527	0.12	1.37	99.89	13	8	97	260	22	110	70	90	23	2	< 5
546637	70.42	16.27	1.01	0.012	0.19	2.82	6.17	1.24	0.134	0.01	0.50	98.78	< 1	4	10	< 20	< 1	< 20	< 10	60	27	< 1	< 5
546638	69.96	16.94	0.81	0.023	0.15	2.17	7.14	0.87	0.113	0.02	0.63	98.82	< 1	11	7	< 20	< 1	< 20	< 10	50	31	1	< 5
546639	69.82	17.02	1.11	0.012	0.19	2.81	6.29	1.20	0.141	0.04	0.37	99.00	< 1	3	9	< 20	< 1	< 20	< 10	60	27	< 1	< 5
546640	75.97	9.41	4.75	0.053	0.91	1.62	1.29	2.01	0.822	0.36	1.24	98.45	11	36	70	70	7	30	300	130	26	4	34
546641	67.26	18.46	1.12	0.019	0.27	2.61	6.72	1.34	0.147	0.03	0.66	98.62	1	10	11	< 20	1	< 20	< 10	50	29	< 1	< 5
546642	68.50	17.65	1.21	0.016	0.23	2.70	6.43	1.27	0.147	0.03	0.56	98.75	< 1	7	9	< 20	1	< 20	< 10	60	28	< 1	< 5
546643	67.49	17.29	1.10	0.096	0.18	2.47	6.54	1.81	0.111	0.93	0.75	98.77	< 1	12	9	< 20	< 1	< 20	< 10	140	44	2	< 5
546644	64.61	18.91	1.22	0.148	0.16	2.24	7.51	1.77	0.093	1.38	0.85	98.89	< 1	13	17	< 20	< 1	< 20	< 10	170	56	3	< 5
546665	65.97	19.29	1.44	0.020	0.18	2.88	7.06	1.48	0.138	0.05	0.29	98.80	< 1	21	8	20	< 1	< 20	20	40	36	< 1	< 5
546666	69.57	17.29	1.59	0.017	0.17	2.67	6.13	1.37	0.122	0.03	0.34	99.29	< 1	2	8	20	< 1	< 20	< 10	60	27	< 1	< 5
546667	70.84	17.20	1.11	0.015	0.20	2.59	6.02	1.40	0.129	0.05	0.37	99.92	< 1	3	9	20	< 1	< 20	< 10	70	27	< 1	< 5
546668	73.53	14.85	1.03	0.347	0.02	0.20	5.49	3.54	0.006	0.04	0.31	99.36	< 1	7	< 5	100	< 1	< 20	30	120	39	3	< 5
546669	70.78	17.00	1.10	0.028	0.25	2.46	5.97	1.78	0.137	0.05	0.49	100.1	< 1	6	10	< 20	1	< 20	< 10	80	28	< 1	< 5
546670	90.69	0.45	9.12	0.094	0.02	0.03	0.10	0.04	0.022	< 0.01	-1.82	98.76	< 1	< 1	< 5	60	2	< 20	10	< 30	2	2	< 5
546671	70.34	16.86	1.48	0.052	0.36	1.59	6.38	1.70	0.138	0.08	0.76	99.74	< 1	4	10	20	1	< 20	< 10	60	30	1	< 5
546672	70.25	17.26	0.87	0.071	0.17	1.77	6.21	2.22	0.095	0.05	0.68	99.65	< 1	7	8	< 20	< 1	< 20	< 10	40	32	1	< 5
546673	72.12	16.20	0.82	0.093	0.11	1.38	5.88	2.36	0.065	0.04	0.41	99.48	< 1	6	5	< 20	< 1	< 20	< 10	110	32	2	< 5
529401	70.42	16.71	1.90	0.023	0.18	2.61	5.78	1.34	0.127	0.04	0.15	99.28	< 1	3	9	20	< 1	< 20	< 10	60	26	< 1	< 5
546655	70.71	16.84	1.18	0.013	0.19	2.84	5.92	1.10	0.142	0.03	0.34	99.31	< 1	3	8	< 20	< 1	< 20	< 10	60	27	< 1	< 5
546656	69.29	17.01	1.63	0.035	0.35	2.28	5.97	1.53	0.193	0.11	0.48	98.89	< 1	14	14	< 20	2	< 20	< 10	130	32	1	< 5
546657	74.68	16.42	0.56	0.086	0.05	0.69	4.99	1.54	0.018	0.05	0.54	99.62	< 1	91	< 5	30	< 1	< 20	< 10	< 30	38	3	< 5
546658	71.26	17.60	1.00	0.260	0.02	1.02	8.35	0.32	0.007	0.12	0.34	100.3	< 1	18	< 5	< 20	< 1	< 20	< 10	< 30	40	4	< 5
546659	73.98	16.22	1.06	0.455	0.04	0.51	5.72	0.56	0.015	0.16	0.25	98.98	< 1	42	< 5	50	2	< 20	< 10	< 30	41	4	< 5
546660	77.61	10.16	4.46	0.050	0.79	1.30	1.15	1.79	0.607	0.31	1.19	99.41	9	39	58	80	6	30	340	150	31	5	48
546661	71.49	16.58	1.14	0.020	0.20	2.53	6.13	1.17	0.118	< 0.01	0.34	99.70	< 1	7	6	40	2	< 20	< 10	70	20	< 1	< 5
546662	69.90	17.07	1.18	0.027	0.21	2.50	5.78	1.59	0.133	0.05	0.38	98.83	< 1	6	9	20	< 1	< 20	< 10	70	28	< 1	< 5
546663	65.67	19.08	2.32	0.035	0.34	2.93	6.86	1.27	0.190	0.06	0.31	99.08	1	16	14	< 20	1	< 20	20	80	36	1	< 5
546664	72.89	16.22	0.78	0.111	0.08	1.34	6.23	1.07	0.051	0.04	0.43	99.24	< 1	70	< 5	< 20	< 1	< 20	< 10	40	35	2	< 5
546995	71.27	15.59	1.64	0.152	0.47	2.03	3.68	2.13	0.100	0.24	1.73	99.03	3	34	24	40	3	< 20	10	60	37	3	< 5
546996	64.51	15.47	6.88	0.099	2.56	2.45	3.44	2.00	0.628	0.15	1.30	99.50	14	9	107	170	22	90	60	110	23	2	< 5
546997	60.19	14.66	13.89	0.118	3.60	2.88	1.91	2.24	0.549	0.11	0.56	100.7	19	3	126	260	27	120	50	90	12	2	< 5
546998	75.09	14.98	1.41	0.133	0.10	0.60	5.86	0.98	0.013	0.05	0.73	99.95	< 1	7	< 5	20	< 1	< 20	< 10	110	41	3	< 5
546999	60.47	15.36	11.03	0.151	3.49	2.60	2.45	2.79	0.570	0.15	1.43	100.5	19	7	129	250	28	140	60	90	21	2	< 5
547000	77.24	9.50	4.71	0.054	0.91	1.56	1.30	1.96	0.753	0.36	1.19	99.54	11	34	62	100	8	40	300	140	22	4	38
529416	76.56	13.86	0.87	0.052	0.15	0.71	4.70	1.49	0.015	0.04	1.16	99.60	< 1	212	8	30	2	< 20	< 10	240	44	3	< 5
529417	62.90	15.32	6.95	0.112	3.26	2.73	3.49	2.54	0.526	0.16	1.20	99.19	13	11	100	210	21	100	50	160	21	2	< 5
529418	60.74	16.35	7.11	0.108	3.72	3.05	3.59	2.54	0.616	0.13	1.19	99.15	20	3	140	270	30	150	60	80	21	1	< 5
529419	76.51	14.67	0.75	0.151	0.11	0.36	5.68	1.19	0.017	0.03	0.77	100.3	< 1	27	6	< 20	< 1	< 20	< 10	90	39	3	< 5
546645	66.31	18.77	1.19	0.166	0.20	1.74	7.40	1.88	0.108	1.00	0.98	99.74	< 1	16	13	< 20	< 1	< 20	< 10	190	63	3	< 5
546646	67.94	17.84	0.84	0.137	0.13	1.35	8.19	1.14	0.051	0.47	0.65	98.73	< 1	28	7	< 20	< 1	< 20	< 10	70	49	3	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546647	72.84	15.89	0.71	0.049	0.10	0.87	4.93	2.53	0.049	0.03	1.03	99.03	< 1	20	7	30	< 1	< 20	< 10	40	46	3	< 5
546648	68.71	18.48	0.66	0.083	0.13	2.09	7.85	1.05	0.048	0.59	0.75	100.4	< 1	33	9	< 20	< 1	< 20	< 10	60	47	3	< 5
546649	67.77	19.22	0.85	0.075	0.14	1.94	7.67	0.97	0.044	0.47	0.82	99.98	< 1	31	7	20	< 1	< 20	< 10	50	46	3	< 5
546650	69.25	18.00	0.73	0.068	0.12	1.94	7.73	0.87	0.044	0.49	0.72	99.95	< 1	30	7	< 20	< 1	< 20	< 10	60	43	3	< 5
546651	67.36	18.70	0.77	0.080	0.17	1.81	7.50	1.16	0.062	0.39	0.89	98.89	< 1	62	7	< 20	< 1	< 20	< 10	90	48	3	< 5
546652	70.04	17.22	0.99	0.204	0.17	1.31	6.79	1.53	0.054	0.41	0.65	99.37	< 1	50	12	< 20	< 1	< 20	< 10	100	48	3	< 5
546653	70.12	17.40	1.19	0.015	0.21	2.82	6.06	1.05	0.159	0.04	0.30	99.36	< 1	3	9	20	< 1	< 20	< 10	60	27	< 1	< 5
546654	70.75	17.59	0.86	0.009	0.20	2.85	6.04	1.15	0.145	0.04	0.42	100.1	< 1	3	10	< 20	< 1	< 20	< 10	70	27	< 1	< 5
546985	70.39	16.38	1.37	0.023	0.33	1.84	4.45	3.44	0.123	0.04	0.41	98.79	< 1	5	13	20	1	< 20	< 10	70	28	1	< 5
546986	61.99	16.17	5.77	0.038	2.36	3.28	4.35	2.70	0.773	0.47	1.01	98.90	2	4	91	< 20	13	< 20	20	330	34	< 1	< 5
546987	75.20	14.37	0.94	0.240	0.07	0.64	6.26	2.10	0.016	0.18	0.08	100.1	< 1	15	< 5	< 20	< 1	< 20	< 10	110	31	3	< 5
546988	70.03	16.55	1.90	0.029	0.56	2.77	4.98	1.82	0.231	0.09	0.55	99.50	1	9	24	30	2	< 20	< 10	90	28	1	< 5
546989	69.70	16.23	1.73	0.029	0.50	2.70	5.16	1.72	0.202	0.07	0.80	98.85	1	6	22	30	2	< 20	< 10	80	27	1	< 5
546990	94.81	0.60	3.04	0.030	0.04	0.03	0.13	0.07	0.035	< 0.01	-0.16	98.61	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	1	< 5
546991	72.65	15.07	1.21	0.134	0.14	1.01	5.23	3.43	0.052	0.06	0.36	99.35	< 1	8	7	< 20	< 1	< 20	< 10	50	31	2	< 5
546992	68.95	16.30	2.81	0.085	1.26	2.37	4.86	1.86	0.275	0.13	0.80	99.68	5	14	40	60	7	30	20	110	28	2	< 5
546993	62.42	16.92	6.39	0.098	2.60	3.59	3.90	1.92	0.691	0.14	0.96	99.64	14	3	111	160	20	90	40	160	19	1	< 5
546994	70.39	16.87	1.73	0.137	0.49	1.63	3.66	2.32	0.110	0.22	1.70	99.25	3	59	24	40	3	< 20	20	100	37	2	< 5
529407	74.44	13.89	0.72	0.070	0.06	0.40	4.03	4.33	0.023	0.12	0.66	98.74	< 1	24	10	30	< 1	< 20	< 10	110	42	3	< 5
529408	70.81	16.16	1.24	0.063	0.30	1.71	6.20	1.36	0.142	0.05	1.01	99.03	< 1	8	10	< 20	< 1	< 20	< 10	100	28	1	< 5
529409	77.70	12.40	0.87	0.091	0.05	0.24	3.83	3.79	0.014	0.05	0.46	99.50	< 1	23	< 5	< 20	< 1	< 20	< 10	50	32	3	< 5
529410	97.89	0.50	1.79	0.020	0.02	0.03	0.10	0.06	0.019	0.03	-0.24	100.2	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	1	< 5
529411	71.14	16.92	1.00	0.018	0.20	2.60	6.10	1.24	0.128	0.05	0.39	99.80	< 1	5	8	< 20	< 1	< 20	< 10	60	27	< 1	< 5
529412	73.12	14.95	1.11	0.301	0.07	0.29	5.17	3.54	0.025	0.03	0.59	99.19	< 1	34	< 5	40	2	< 20	< 10	80	39	3	< 5
529413	73.62	14.99	0.93	0.248	0.03	0.42	5.50	2.86	0.014	0.09	0.24	98.95	< 1	17	< 5	20	< 1	< 20	< 10	30	36	3	< 5
529414	70.69	17.22	1.08	0.013	0.18	2.54	6.00	1.46	0.119	0.03	0.29	99.62	< 1	3	7	< 20	< 1	< 20	< 10	60	26	< 1	< 5
529415	71.40	16.63	1.10	0.014	0.19	2.60	5.92	1.42	0.120	0.03	0.36	99.78	< 1	3	8	< 20	< 1	< 20	< 10	60	27	< 1	< 5
529422	64.37	15.50	5.36	0.108	3.11	2.76	3.36	2.37	0.509	0.12	1.77	99.34	13	10	93	200	20	90	50	100	19	2	< 5
529423	74.25	14.91	1.26	0.140	0.15	0.34	4.92	2.52	0.026	0.06	0.88	99.44	< 1	20	< 5	30	1	< 20	< 10	80	46	3	< 5
529424	75.25	14.24	0.96	0.172	0.03	0.28	5.73	1.43	0.005	0.07	0.70	98.87	< 1	6	< 5	< 20	< 1	< 20	< 10	120	41	3	< 5
529425	60.70	16.75	6.59	0.191	3.49	2.31	3.99	2.94	0.584	0.19	1.76	99.49	18	23	123	250	27	130	40	150	24	2	< 5
529426	73.59	15.44	0.98	0.216	0.06	0.50	6.92	0.86	0.010	0.03	0.58	99.19	< 1	10	< 5	< 20	< 1	< 20	< 10	70	40	3	< 5
529427	63.92	15.61	6.09	0.112	3.47	2.81	3.04	2.79	0.550	0.13	1.50	100.0	15	8	103	290	25	120	60	100	13	1	< 5
529428	73.15	15.80	1.11	0.274	0.19	0.92	7.08	0.85	0.020	0.17	0.62	100.2	< 1	9	6	50	2	< 20	< 10	110	34	2	< 5
529429	65.74	15.05	5.12	0.106	3.11	4.06	2.82	2.25	0.456	0.18	1.63	100.5	13	6	103	240	20	110	40	70	19	1	< 5
529430	98.26	0.49	0.98	0.014	0.04	0.04	0.04	0.08	0.022	< 0.01	0.05	100.0	< 1	< 1	< 5	30	2	< 20	< 10	< 30	< 1	< 1	< 5
529431	63.36	15.04	5.98	0.080	3.28	3.55	3.48	1.83	0.524	0.13	1.66	98.93	13	2	99	250	21	100	60	70	18	1	< 5
529432	88.79	4.38	1.84	0.043	0.68	2.32	0.81	0.14	0.107	0.10	0.30	99.50	3	1	33	70	4	< 20	< 10	< 30	7	< 1	< 5
546674	70.62	17.19	1.26	0.030	0.27	2.38	5.83	1.67	0.142	0.05	0.48	99.93	< 1	5	9	< 20	1	< 20	< 10	100	27	< 1	< 5
546675	70.69	17.08	1.00	0.025	0.22	2.39	5.88	1.63	0.126	0.05	0.46	99.54	< 1	5	9	< 20	< 1	< 20	< 10	70	27	< 1	< 5
546676	70.06	16.60	1.57	0.090	0.18	2.09	6.13	1.36	0.114	0.06	0.38	98.64	< 1	18	7	< 20	< 1	< 20	< 10	80	29	1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546677	71.95	16.53	1.29	0.112	0.23	1.57	5.97	1.88	0.114	0.10	0.43	100.2	< 1	18	10	< 20	1	< 20	< 10	90	31	2	< 5
546678	70.53	17.01	1.25	0.014	0.17	2.60	5.77	1.41	0.125	0.03	0.34	99.25	< 1	2	9	< 20	< 1	< 20	< 10	60	26	< 1	< 5
529402	75.13	14.28	0.91	0.260	0.05	0.31	5.36	3.71	0.010	0.03	0.40	100.4	< 1	5	< 5	50	2	< 20	< 10	80	30	3	< 5
529403	70.86	16.25	1.43	0.976	0.02	0.44	7.17	1.17	0.004	0.10	0.11	98.51	< 1	14	< 5	< 20	< 1	< 20	< 10	< 30	36	4	< 5
529404	72.92	15.41	0.92	0.431	0.03	0.34	6.07	2.84	0.006	0.09	0.40	99.43	< 1	32	< 5	20	< 1	< 20	< 10	70	39	3	< 5
529405	72.11	14.94	0.84	0.205	0.03	0.29	4.06	6.58	0.011	0.04	0.20	99.32	< 1	7	< 5	< 20	< 1	< 20	< 10	< 30	26	3	< 5
529406	69.44	17.45	1.00	0.027	0.17	2.54	6.20	1.45	0.114	0.14	0.40	98.93	< 1	8	8	< 20	< 1	< 20	< 10	70	28	< 1	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
546975	254	192	4	32	34	< 2	< 0.5	< 0.2	9	< 0.5	29.9	58	< 0.4	3.0	14.3	1	1.1	21	6.0	13.1	0.03	0.06	
546976	869	610	3	102	22	< 2	< 0.5	< 0.2	26	< 0.5	129	1242	< 0.4	3.5	7.7	1	4.7	14	3.3	4.4	0.11	0.23	
546977	346	89	3	33	48	< 2	< 0.5	< 0.2	6	< 0.5	31.1	72	< 0.4	4.2	22.7	1	2.3	27	4.9	14.8	0.03	0.06	
546978	348	1176	4	122	6	< 2	< 0.5	< 0.2	3	< 0.5	94.9	1314	< 0.4	3.4	2.7	1	2.5	20	4.5	3.1	0.07	0.15	
546979	699	894	2	105	12	< 2	< 0.5	< 0.2	12	< 0.5	132	1136	< 0.4	3.4	17.5	1	5.0	20	3.5	3.1	0.07	0.16	
546980	1290	208	20	157	1260	9	0.7	4.0	1140	12.1	292	1061	16.1	3.9	25.8	7	10.7	24	47.2	8.2	0.48	1.03	
546981	242	206	3	67	24	< 2	< 0.5	< 0.2	12	< 0.5	25.9	48	< 0.4	8.8	119	1	3.1	32	6.8	17.7	0.03	0.06	
546982	211	191	3	53	15	< 2	< 0.5	< 0.2	9	< 0.5	20.5	45	< 0.4	6.8	82.4	3	1.8	49	4.4	17.3	0.03	0.07	
546983	2610	456	< 2	142	80	< 2	0.6	< 0.2	90	< 0.5	468	612	< 0.4	7.3	149	3	15.3	18	5.5	7.1	0.12	0.25	
546984	519	250	4	61	24	< 2	< 0.5	< 0.2	16	< 0.5	49.5	277	< 0.4	6.6	51.0	1	5.2	16	2.8	8.0	0.04	0.09	
529443	125	251	6	50	76	137	< 0.5	< 0.2	4	< 0.5	53.6	380	9.7	3.5	53.7	2	1.7	23	2.8	6.7	0.01	0.03	2.69
529444	269	382	10	114	7	8	< 0.5	< 0.2	3	< 0.5	112	767	0.8	3.3	3.4	1	1.9	11	5.3	2.1	0.03	0.05	
529445	181	424	13	116	5	< 2	< 0.5	< 0.2	4	< 0.5	75.7	469	< 0.4	3.1	0.6	< 1	1.2	10	4.1	1.2	0.03	0.06	
529446	407	234	6	52	53	< 2	< 0.5	< 0.2	20	< 0.5	67.0	225	1.2	3.1	49.7	< 1	1.8	16	3.8	6.4	0.02	0.04	
529447	444	427	14	113	8	2	< 0.5	< 0.2	8	< 0.5	203	467	< 0.4	3.1	6.8	< 1	3.2	10	4.1	1.5	0.03	0.07	
529448	360	486	13	108	5	< 2	< 0.5	< 0.2	4	< 0.5	95.6	618	0.8	3.0	0.6	< 1	2.5	16	4.7	1.3	0.05	0.10	
529449	712	74	< 2	24	55	< 2	< 0.5	< 0.2	16	< 0.5	36.9	61	3.1	1.9	24.6	1	3.5	16	3.1	8.5	< 0.01	0.02	
529450	5	2	3	33	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.9	7	< 0.4	1.1	0.5	< 1	0.2	< 5	1.1	0.5	< 0.01	< 0.01	
548051	577	29	< 2	23	54	< 2	< 0.5	< 0.2	10	< 0.5	18.9	20	5.1	2.5	26.9	2	2.9	16	3.9	10.1	< 0.01	< 0.01	
548052	477	407	9	108	6	< 2	< 0.5	< 0.2	6	< 0.5	212	407	< 0.4	3.0	4.8	< 1	2.8	12	6.3	2.1	0.05	0.10	
529433	738	415	13	109	11	7	< 0.5	< 0.2	8	< 0.5	159	421	2.6	3.1	6.7	1	4.9	20	4.4	2.0	0.04	0.08	2.81
529434	549	23	< 2	14	88	3	< 0.5	< 0.2	17	< 0.5	17.7	17	21.6	1.7	52.4	< 1	2.8	22	3.4	4.0	< 0.01	< 0.01	
529435	541	22	5	21	81	2	< 0.5	< 0.2	17	< 0.5	17.8	17	15.4	2.0	31.8	1	2.3	25	4.3	4.4	< 0.01	< 0.01	
529436	474	14	6	32	84	< 2	< 0.5	< 0.2	19	< 0.5	15.0	5	10.6	3.2	21.4	2	1.9	36	4.7	6.5	< 0.01	< 0.01	
529437	574	153	6	66	58	3	< 0.5	< 0.2	19	< 0.5	31.0	102	5.3	3.7	18.4	1	2.9	33	5.3	10.8	0.02	0.04	
529438	435	74	8	37	65	11	< 0.5	< 0.2	14	< 0.5	22.1	60	17.5	3.4	18.4	< 1	2.0	50	4.6	12.1	< 0.01	< 0.01	
529439	572	447	14	112	5	< 2	< 0.5	< 0.2	2	< 0.5	142	495	< 0.4	3.0	0.6	1	3.0	13	3.9	1.4	0.04	0.08	
529440	1350	217	21	158	1350	10	0.8	4.2	1130	13.1	303	1043	14.8	4.0	21.6	6	11.6	25	47.3	8.5	0.48	1.04	
529441	48	257	4	43	2	3	< 0.5	< 0.2	< 1	< 0.5	6.9	481	0.4	1.0	0.5	< 1	1.4	< 5	2.0	0.6	< 0.01	< 0.01	
529442	207	316	11	127	5	2	< 0.5	< 0.2	2	< 0.5	97.3	597	1.0	3.2	0.7	< 1	1.5	8	4.9	1.6	0.02	0.05	
546965	568	1016	3	175	6	< 2	0.6	< 0.2	7	< 0.5	128	1770	< 0.4	4.2	1.9	< 1	4.0	8	3.8	3.2	0.12	0.26	2.75
546966	1530	235	3	48	115	< 2	< 0.5	< 0.2	60	< 0.5	170	167	< 0.4	5.8	65.2	3	9.1	25	4.3	3.8	0.07	0.16	
546967	2920	373	3	151	97	< 2	< 0.5	< 0.2	77	< 0.5	611	665	< 0.4	5.5	102	3	19.5	18	4.2	21.5	0.18	0.39	
546968	2190	308	< 2	54	90	< 2	< 0.5	< 0.2	62	< 0.5	478	190	2.1	4.6	104	3	15.1	12	3.0	2.1	0.09	0.19	
546969	1700	294	2	48	87	< 2	< 0.5	< 0.2	50	< 0.5	270	170	< 0.4	4.0	96.8	2	12.0	12	2.1	3.1	0.07	0.16	
546970	11	< 2	5	35	1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.5	9	< 0.4	1.2	0.4	< 1	0.3	< 5	1.3	0.4	< 0.01	< 0.01	
546971	493	1122	< 2	136	8	< 2	< 0.5	< 0.2	9	< 0.5	112	1010	< 0.4	3.7	6.6	11	4.0	11	4.0	3.9	0.09	0.19	
546972	308	1124	2	142	13	< 2	< 0.5	< 0.2	6	< 0.5	75.1	1032	< 0.4	4.1	5.8	< 1	2.7	15	4.0	4.5	0.08	0.16	
546973	958	257	3	47	71	< 2	< 0.5	< 0.2	32	< 0.5	93.0	131	< 0.4	4.8	65.4	2	5.7	23	5.7	9.4	0.07	0.16	
546974	290	208	6	40	41	< 2	< 0.5	< 0.2	11	< 0.5	39.5	69	< 0.4	4.2	12.8	1	1.5	17	6.8	11.9	0.02	0.05	
529420	1230	299	29	209	919	9	1.1	2.9	753	9.1	239	1989	9.1	5.4	17.4	5	10.4	27	92.8	17.5	0.23	0.50	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
529421	249	461	9	116	15	< 2	< 0.5	< 0.2	2	< 0.5	56.9	822	3.8	3.8	10.2	< 1	2.9	13	5.0	3.3	0.04	0.08	
546637	52	1030	2	124	5	< 2	< 0.5	< 0.2	< 1	< 0.5	22.1	758	< 0.4	3.6	5.6	< 1	0.8	8	1.6	1.0	0.04	0.08	
546638	262	779	< 2	115	13	< 2	< 0.5	< 0.2	7	< 0.5	53.3	480	< 0.4	4.5	21.0	< 1	1.7	7	2.1	1.0	0.04	0.08	
546639	51	1056	< 2	136	4	< 2	< 0.5	< 0.2	< 1	< 0.5	10.8	772	< 0.4	3.8	0.6	< 1	0.4	11	1.6	1.0	0.04	0.08	
546640	1170	299	26	182	906	8	0.7	2.7	654	7.1	219	1987	11.7	4.7	21.1	5	9.8	29	97.9	17.6	0.25	0.53	
546641	138	982	< 2	126	7	< 2	< 0.5	< 0.2	2	< 0.5	21.1	651	< 0.4	3.6	2.4	< 1	1.9	9	1.6	1.1	0.03	0.05	
546642	109	1041	< 2	130	5	< 2	< 0.5	< 0.2	2	< 0.5	24.9	759	< 0.4	3.8	1.3	< 1	0.9	12	1.6	1.2	0.04	0.08	
546643	810	643	3	137	37	< 2	0.7	< 0.2	25	< 0.5	71.4	446	< 0.4	4.6	12.3	< 1	3.5	13	1.4	2.7	0.07	0.14	
546644	979	222	3	144	52	< 2	0.7	< 0.2	37	< 0.5	93.9	171	< 0.4	6.0	10.4	< 1	5.5	6	1.2	3.1	0.08	0.17	
546665	201	1104	2	145	11	< 2	0.7	< 0.2	3	< 0.5	49.0	977	< 0.4	4.0	3.4	< 1	1.9	11	1.5	1.3	0.08	0.17	2.74
546666	39	1017	< 2	122	3	< 2	0.6	< 0.2	1	< 0.5	5.5	945	< 0.4	3.2	0.4	< 1	0.4	10	1.2	0.7	0.03	0.06	
546667	125	995	2	136	5	< 2	0.6	< 0.2	2	< 0.5	13.4	992	< 0.4	3.6	0.9	< 1	0.6	12	1.3	0.9	0.03	0.07	
546668	995	42	2	38	59	< 2	< 0.5	< 0.2	19	< 0.5	29.3	60	< 0.4	4.2	22.7	< 1	5.2	30	4.0	12.3	0.02	0.03	
546669	178	928	2	126	8	< 2	0.5	< 0.2	3	< 0.5	25.8	859	< 0.4	3.5	3.9	< 1	1.4	12	1.5	1.3	0.04	0.09	
546670	9	5	3	40	< 1	3	< 0.5	< 0.2	< 1	< 0.5	1.0	11	< 0.4	1.3	0.2	< 1	< 0.1	< 5	1.2	0.5	< 0.01	< 0.01	
546671	241	666	2	112	15	< 2	< 0.5	< 0.2	5	< 0.5	18.7	602	< 0.4	3.5	7.8	1	1.1	16	1.6	1.9	0.02	0.05	
546672	495	748	3	103	25	< 2	< 0.5	< 0.2	8	< 0.5	34.5	709	< 0.4	4.1	12.1	< 1	2.8	11	1.8	2.4	0.01	0.03	
546673	656	545	< 2	76	33	< 2	< 0.5	< 0.2	9	< 0.5	48.3	473	< 0.4	3.3	18.6	< 1	4.2	18	1.9	4.2	0.02	0.04	
529401	123	1034	2	126	5	< 2	0.6	< 0.2	2	< 0.5	15.8	923	< 0.4	3.5	1.5	< 1	1.1	10	1.4	1.1	0.04	0.09	
546655	79	1124	2	151	4	< 2	0.7	< 0.2	1	< 0.5	20.9	750	< 0.4	4.0	1.2	< 1	0.5	9	1.5	0.9	0.09	0.18	2.66
546656	708	827	2	153	13	< 2	0.7	< 0.2	14	< 0.5	170	720	< 0.4	4.0	6.1	< 1	4.8	9	1.6	1.2	0.12	0.25	
546657	707	192	< 2	61	51	< 2	< 0.5	< 0.2	11	< 0.5	92.8	82	6.8	6.2	110	1	5.5	31	5.6	8.7	0.47	1.01	
546658	113	253	< 2	57	26	< 2	< 0.5	< 0.2	3	< 0.5	22.4	14	< 0.4	6.1	37.8	< 1	1.3	18	5.8	13.4	0.07	0.16	
546659	214	121	3	45	57	< 2	< 0.5	< 0.2	12	< 0.5	50.0	53	< 0.4	7.8	114	< 1	1.7	13	5.4	15.0	0.62	1.32	
546660	1320	220	18	159	1130	9	0.8	4.1	1080	12.8	292	1057	15.2	3.7	25.9	6	10.0	25	47.4	8.4	0.50	1.08	
546661	175	1009	3	111	7	< 2	0.9	< 0.2	3	< 0.5	69.6	819	< 0.4	3.4	2.1	< 1	1.7	11	1.4	1.1	0.06	0.14	
546662	130	957	3	121	10	< 2	0.5	< 0.2	3	< 0.5	26.5	859	< 0.4	3.6	5.9	17	1.3	11	1.5	1.8	0.06	0.13	
546663	324	1112	2	159	11	< 2	0.7	< 0.2	8	< 0.5	88.6	801	< 0.4	4.8	2.7	< 1	2.4	13	1.7	1.3	0.10	0.21	
546664	409	442	< 2	72	33	< 2	< 0.5	< 0.2	6	< 0.5	106	312	< 0.4	3.7	26.2	< 1	3.0	17	3.6	6.3	0.28	0.60	
546995	441	199	6	28	48	9	< 0.5	< 0.2	8	< 0.5	24.0	196	15.7	2.0	23.8	< 1	2.0	14	2.9	8.4	< 0.01	0.02	2.74
546996	238	389	11	123	11	< 2	0.6	< 0.2	3	< 0.5	40.1	409	1.4	3.1	2.8	< 1	1.5	19	3.7	1.5	0.04	0.08	
546997	164	240	18	98	5	< 2	0.6	< 0.2	2	< 0.5	31.2	356	< 0.4	2.8	0.4	2	1.2	8	3.9	1.1	0.03	0.07	
546998	320	59	3	24	84	50	< 0.5	< 0.2	13	< 0.5	11.1	22	23.9	2.5	63.4	< 1	1.2	14	3.7	9.7	< 0.01	< 0.01	
546999	456	304	13	105	10	4	< 0.5	< 0.2	5	< 0.5	124	404	1.1	2.7	2.7	< 1	2.6	9	3.6	2.0	0.04	0.09	
547000	1170	299	27	197	901	8	1.3	3.1	719	8.7	233	1963	9.9	5.1	16.9	4	10.4	27	96.7	16.7	0.24	0.52	
529416	443	100	< 2	16	65	38	< 0.5	< 0.2	19	< 0.5	20.3	136	20.5	2.1	48.5	< 1	3.1	23	3.5	6.4	< 0.01	0.01	
529417	512	457	9	112	12	12	< 0.5	< 0.2	6	< 0.5	112	516	1.4	2.8	6.2	< 1	3.8	13	3.7	1.9	0.04	0.09	
529418	244	465	13	125	5	< 2	0.6	< 0.2	1	< 0.5	78.3	587	0.6	3.0	0.5	< 1	1.8	10	4.8	1.3	0.04	0.09	
529419	392	49	3	24	75	2	< 0.5	< 0.2	9	< 0.5	14.5	44	10.7	2.8	38.3	< 1	1.8	21	3.3	9.2	< 0.01	< 0.01	
546645	1120	189	4	154	74	< 2	0.7	< 0.2	42	< 0.5	130	147	< 0.4	7.2	21.1	< 1	5.8	< 5	1.8	4.5	0.10	0.20	2.72
546646	673	228	< 2	100	51	< 2	< 0.5	< 0.2	19	< 0.5	108	72	< 0.4	6.2	42.3	3	4.2	12	4.1	8.0	0.05	0.11	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
546647	1070	311	< 2	33	24	< 2	< 0.5	< 0.2	18	< 0.5	96.6	366	< 0.4	2.2	30.0	< 1	7.2	11	3.6	3.4	0.04	0.09	
546648	586	402	< 2	137	37	< 2	0.5	< 0.2	20	< 0.5	68.1	66	< 0.4	7.9	27.6	< 1	4.1	15	7.5	7.6	0.05	0.11	
546649	557	421	< 2	103	30	< 2	< 0.5	< 0.2	19	< 0.5	67.1	61	< 0.4	6.0	15.8	< 1	3.6	13	8.7	7.9	0.11	0.24	
546650	508	413	2	111	27	< 2	< 0.5	< 0.2	16	< 0.5	61.1	54	< 0.4	6.2	19.1	< 1	3.0	29	8.0	8.9	0.04	0.09	
546651	727	401	< 2	116	52	< 2	< 0.5	< 0.2	24	< 0.5	112	65	< 0.4	6.7	35.0	< 1	4.4	38	7.6	10.7	0.11	0.25	
546652	783	258	3	97	61	< 2	0.7	< 0.2	25	< 0.5	130	109	< 0.4	6.5	42.4	< 1	5.0	15	3.9	8.3	0.13	0.29	
546653	146	1111	2	158	4	< 2	0.6	< 0.2	2	< 0.5	46.8	738	< 0.4	4.0	0.4	< 1	1.7	9	1.6	1.4	0.07	0.15	
546654	79	1110	3	150	4	< 2	0.6	< 0.2	1	< 0.5	21.6	788	< 0.4	3.8	1.0	< 1	0.7	14	1.5	0.9	0.07	0.16	
546985	618	733	< 2	63	5	< 2	< 0.5	< 0.2	2	< 0.5	87.3	1972	< 0.4	2.0	4.8	< 1	4.7	26	1.4	1.8	0.06	0.12	2.73
546986	494	965	3	209	7	< 2	0.8	< 0.2	4	< 0.5	92.3	2011	< 0.4	5.0	0.9	< 1	3.7	10	3.8	1.5	0.09	0.19	
546987	508	159	4	44	27	< 2	< 0.5	< 0.2	6	< 0.5	34.4	276	< 0.4	4.5	8.8	< 1	3.5	10	1.4	7.3	< 0.01	< 0.01	
546988	325	1121	3	152	6	< 2	0.7	< 0.2	5	< 0.5	65.2	1835	< 0.4	4.0	2.7	< 1	2.5	14	3.8	4.1	0.06	0.12	
546989	248	1078	3	135	7	< 2	0.5	< 0.2	3	< 0.5	43.3	1454	< 0.4	3.4	1.9	< 1	1.8	16	3.6	2.5	0.05	0.10	
546990	3	6	4	43	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	19	< 0.4	1.3	0.3	< 1	< 0.1	< 5	1.3	0.5	< 0.01	< 0.01	
546991	578	358	3	47	28	< 2	< 0.5	< 0.2	3	< 0.5	31.8	504	1.6	2.4	10.6	< 1	3.4	31	3.0	9.0	0.02	0.04	
546992	662	734	6	123	26	< 2	0.7	< 0.2	6	< 0.5	129	796	0.9	4.0	9.1	< 1	4.9	16	4.7	5.7	0.08	0.18	
546993	192	467	14	138	5	< 2	0.7	< 0.2	2	< 0.5	55.8	368	< 0.4	3.2	0.4	1	1.7	12	4.0	1.2	0.03	0.07	
546994	502	215	6	30	47	8	< 0.5	< 0.2	7	< 0.5	25.1	255	26.4	2.4	21.3	1	2.2	14	2.9	8.1	< 0.01	0.02	
529407	1410	129	2	8	53	< 2	< 0.5	< 0.2	28	< 0.5	96.0	188	< 0.4	1.3	42.2	< 1	8.6	15	1.8	4.3	0.02	0.05	2.73
529408	360	647	< 2	121	32	< 2	0.6	< 0.2	5	< 0.5	24.3	785	< 0.4	3.3	11.8	< 1	3.3	9	1.4	1.0	0.05	0.10	
529409	1090	94	< 2	11	52	< 2	< 0.5	< 0.2	20	< 0.5	49.4	165	< 0.4	1.4	22.3	< 1	7.1	28	2.3	7.3	0.02	0.04	
529410	4	4	4	49	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	14	< 0.4	1.4	0.2	< 1	0.8	< 5	1.5	0.5	< 0.01	< 0.01	
529411	220	985	2	132	5	< 2	0.6	< 0.2	3	< 0.5	27.6	859	< 0.4	3.4	1.2	< 1	1.7	9	1.3	1.1	0.03	0.07	
529412	1130	109	4	35	90	< 2	< 0.5	< 0.2	40	< 0.5	62.5	177	< 0.4	6.1	40.4	1	7.0	67	2.8	8.3	0.03	0.06	
529413	775	130	2	20	62	< 2	< 0.5	< 0.2	14	< 0.5	33.8	151	< 0.4	2.5	36.7	< 1	5.4	7	2.9	10.1	0.01	0.03	
529414	117	995	3	123	3	< 2	0.5	< 0.2	1	< 0.5	17.2	1001	< 0.4	3.2	0.6	< 1	1.5	10	1.2	0.8	0.03	0.07	
529415	130	939	< 2	124	4	< 2	0.6	< 0.2	1	< 0.5	19.5	972	< 0.4	3.3	0.9	< 1	0.9	10	1.2	0.9	0.04	0.08	
529422	640	361	9	125	4	3	0.6	< 0.2	5	< 0.5	150	456	0.5	2.9	0.8	< 1	3.9	8	5.0	1.9	0.04	0.08	
529423	775	42	4	32	64	7	< 0.5	< 0.2	23	< 0.5	28.6	35	6.4	2.9	24.6	< 1	4.2	19	4.3	4.2	< 0.01	< 0.01	2.76
529424	430	19	3	26	65	7	< 0.5	< 0.2	16	< 0.5	12.8	13	5.3	2.6	22.2	< 1	2.4	19	4.2	9.3	< 0.01	< 0.01	
529425	1080	361	12	136	10	3	0.6	< 0.2	12	< 0.5	169	657	1.0	3.2	2.9	< 1	8.4	13	5.0	4.5	0.06	0.12	
529426	272	60	4	22	59	15	< 0.5	< 0.2	8	< 0.5	9.9	52	7.2	2.7	24.3	< 1	2.3	14	4.7	7.2	< 0.01	< 0.01	
529427	751	418	14	115	5	2	1.0	< 0.2	5	< 0.5	168	632	0.5	3.2	0.8	3	5.3	9	4.9	2.0	0.04	0.08	
529428	278	89	3	31	76	3	< 0.5	< 0.2	13	< 0.5	10.5	72	1.2	4.6	34.2	1	1.4	31	4.7	7.0	< 0.01	< 0.01	
529429	210	455	9	99	3	3	< 0.5	< 0.2	3	< 0.5	26.5	779	< 0.4	2.2	0.4	2	1.3	8	3.5	1.2	0.02	0.05	
529430	4	6	6	40	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	24	< 0.4	1.3	0.2	< 1	< 0.1	< 5	1.4	0.5	< 0.01	< 0.01	
529431	152	539	10	123	3	< 2	0.5	< 0.2	< 1	< 0.5	38.6	672	< 0.4	2.7	0.3	< 1	0.7	10	4.7	1.4	0.02	0.05	
529432	8	127	4	26	< 1	< 2	< 0.5	< 0.2	2	< 0.5	2.0	37	< 0.4	0.6	< 0.1	21	< 0.1	< 5	1.0	0.3	< 0.01	< 0.01	
546674	294	898	2	120	10	< 2	0.5	< 0.2	4	< 0.5	30.1	941	< 0.4	3.3	3.7	< 1	1.5	9	1.4	1.4	0.05	0.12	2.73
546675	248	923	2	117	8	< 2	0.5	< 0.2	3	< 0.5	23.1	920	< 0.4	3.3	2.7	< 1	1.4	9	1.6	1.3	0.04	0.10	
546676	386	749	2	115	14	< 2	0.5	< 0.2	7	< 0.5	71.3	760	< 0.4	4.5	10.3	< 1	2.3	10	1.9	3.3	0.06	0.13	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
546677	500	560	2	92	30	2	< 0.5	< 0.2	8	< 0.5	110	630	< 0.4	3.9	19.7	< 1	3.4	10	2.1	3.9	0.06	0.13	
546678	68	970	< 2	126	3	< 2	0.5	< 0.2	< 1	< 0.5	17.5	1018	< 0.4	3.3	0.5	< 1	0.6	8	1.3	0.7	0.22	0.48	
529402	915	104	4	35	61	< 2	< 0.5	< 0.2	24	< 0.5	48.0	120	< 0.4	4.5	16.8	3	5.9	21	3.8	9.8	0.04	0.09	
529403	293	99	9	74	61	< 2	< 0.5	< 0.2	5	< 0.5	19.9	107	< 0.4	9.1	32.6	< 1	2.7	19	5.3	24.7	0.03	0.06	
529404	864	86	3	45	53	< 2	< 0.5	< 0.2	20	< 0.5	130	103	< 0.4	6.3	30.0	< 1	6.0	11	3.2	10.3	0.03	0.06	
529405	1610	189	3	31	49	< 2	< 0.5	< 0.2	3	< 0.5	84.6	296	< 0.4	5.5	39.3	< 1	11.4	13	4.3	7.2	0.01	0.03	
529406	279	943	3	109	6	< 2	< 0.5	< 0.2	4	< 0.5	32.9	819	< 0.4	3.3	2.8	< 1	3.2	10	1.6	1.2	0.03	0.07	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.34	1.86	0.73	0.013	0.34	42.93	0.85	0.54	0.117	30.21					1605								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	46.30	18.16	9.72	0.146	9.95	11.44	1.92	0.22	0.476	0.07			31		151	260	54	240	100				
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100				
LKSD-3 Meas																80	32		40	150			26
LKSD-3 Cert																87.0	30.0		35.0	152			27.0
TDB-1 Meas																250		100	340	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.71	15.37	10.90	0.167	6.21	11.05	2.19	0.60	1.091	0.12			35	< 1	268	100	44	80	110	80	16	1	< 5
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20
SY-4 Meas	50.43	20.68	6.19	0.107	0.50	8.14	6.88	1.65	0.290	0.13			1	3	6								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																				40			
CTA-AC-1 Cert																				38.0			
BIR-1a Meas	48.08	15.45	11.31	0.173	9.54	13.53	1.81	0.02	0.960	0.03			43	< 1	328	370	50	170	120	70			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70			
NCS DC86312 Meas																							
NCS DC86312 Cert																							
ZW-C Meas																							
ZW-C Cert																							
NCS DC70009 (GBW07241) Meas																30			930	100	15	11	69
NCS DC70009 (GBW07241) Cert																30			960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		170				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	46		400				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	46		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20	< 10	< 30	14		16
JR-1 Cert																		1.67	2.68	30.6	16.1		16.3
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86303 Meas																							
NCS DC86303 Cert																							
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NCS DC86304 Meas																							
NCS DC86304 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
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NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
546981 Orig																							
546981 Dup																							
529447 Orig	60.90	16.87	7.73	0.131	3.45	2.85	3.39	2.45	0.638	0.13	1.10	99.64	21	15	141	270	30	140	40	90	21	2	< 5
529447 Dup	61.04	16.69	7.50	0.126	3.50	2.86	3.41	2.46	0.637	0.13	1.10	99.45	21	15	141	270	29	140	50	90	21	2	< 5
529441 Orig																							
529441 Dup																							
546966 Orig	60.06	22.17	1.57	0.282	0.31	2.28	7.32	2.73	0.101	1.00	1.86	99.68	1	22	18	< 20	2	< 20	< 10	180	76	3	< 5
546966 Dup	60.49	21.33	1.56	0.279	0.31	2.29	7.44	2.77	0.099	1.02	1.86	99.44	1	23	16	< 20	1	< 20	< 10	180	76	3	< 5
546971 Orig																							
546971 Dup																							
546644 Orig	64.61	18.91	1.22	0.148	0.16	2.24	7.51	1.77	0.093	1.38	0.85	98.89	< 1	13	17	< 20	< 1	< 20	< 10	170	56	3	< 5
546644 Split PREP DUP	66.25	18.57	1.32	0.149	0.16	2.28	7.48	1.78	0.094	1.40	0.85	100.3	< 1	12	14	< 20	< 1	< 20	< 10	170	58	3	< 5
546665 Orig																							
546665 Dup																							
546672 Orig																							
546672 Dup																							
546656 Orig	69.40	16.72	1.62	0.035	0.35	2.27	5.97	1.53	0.190	0.11	0.48	98.67	< 1	14	15	< 20	2	< 20	< 10	130	32	1	< 5
546656 Dup	69.18	17.31	1.64	0.035	0.35	2.30	5.98	1.52	0.197	0.12	0.48	99.11	< 1	14	14	20	1	< 20	< 10	130	31	1	< 5
546996 Orig																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
546996 Dup																							
529418 Orig	60.43	16.54	7.19	0.108	3.69	3.05	3.56	2.51	0.623	0.14	1.19	99.03	20	3	140	270	30	150	60	80	21	1	< 5
529418 Dup	61.05	16.17	7.03	0.107	3.74	3.05	3.62	2.56	0.609	0.13	1.19	99.27	21	3	141	260	30	150	60	80	21	1	< 5
529419 Orig																							
529419 Dup																							
546988 Orig																							
546988 Dup																							
546994 Orig	70.39	16.87	1.73	0.137	0.49	1.63	3.66	2.32	0.110	0.22	1.70	99.25	3	59	24	40	3	< 20	20	100	37	2	< 5
546994 Split PREP DUP	71.64	16.59	1.86	0.139	0.49	1.64	3.64	2.34	0.107	0.20	1.66	100.3	3	58	24	40	4	< 20	20	100	37	3	< 5
529407 Orig																							
529407 Dup																							
529415 Orig	71.35	16.43	1.12	0.014	0.19	2.59	5.87	1.41	0.121	0.03	0.36	99.48	< 1	3	8	< 20	< 1	< 20	< 10	60	27	< 1	< 5
529415 Dup	71.45	16.83	1.09	0.014	0.19	2.60	5.97	1.43	0.119	0.04	0.36	100.1	< 1	3	8	< 20	< 1	< 20	< 10	60	27	< 1	< 5
529427 Orig																							
529427 Dup																							
529402 Orig	74.92	14.37	0.90	0.264	0.04	0.31	5.39	3.74	0.010	0.04	0.40	100.4	< 1	5	< 5	30	1	< 20	< 10	80	30	2	< 5
529402 Dup	75.34	14.19	0.92	0.256	0.05	0.31	5.32	3.68	0.011	0.02	0.40	100.5	< 1	5	< 5	60	2	< 20	< 10	80	30	3	< 5
529406 Orig	69.44	17.45	1.00	0.027	0.17	2.54	6.20	1.45	0.114	0.14	0.40	98.93	< 1	8	8	< 20	< 1	< 20	< 10	70	28	< 1	< 5
529406 Split PREP DUP	70.46	16.55	1.13	0.030	0.17	2.50	6.10	1.42	0.116	0.12	0.42	99.01	< 1	8	7	20	< 1	< 20	< 10	70	27	< 1	< 5
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.01	< 0.01	0.01	0.002	0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	< 0.01	0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							
Method Blank																							

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas	3	142	16	40						0.9		108											
DNC-1 Cert	5	144.0	18.0	38						0.96		118											
LKSD-3 Meas	72					< 2	2.5			1.0	2.4			4.7	0.7				10.9	4.4			
LKSD-3 Cert	78.0					2.00	2.70			1.30	2.30			4.80	0.700				11.4	4.60			
TDB-1 Meas	25																		2.8				
TDB-1 Cert	23																		2.7				
W-2a Meas	20	194	21	95	8	< 2					0.9	170	< 0.4	2.5	0.5	1	0.1	9	2.4	0.6			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600					0.990	182	0.0300	2.60	0.500	0.300	0.200	9.30	2.40	0.530			
SY-4 Meas		1212	115	541								341											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas														1.2	2.6				21.3	4.2			
CTA-AC-1 Cert														1.13	2.65				21.8	4.4			
BIR-1a Meas		107	14	15	< 1							8		0.6									
BIR-1a Cert		110	16	18	0.6							6		0.60									
NCS DC86312 Meas																			23.5				
NCS DC86312 Cert																			23.6				
ZW-C Meas	8480				199						264				84.2	332	34.3						
ZW-C Cert	8500				198						260				82	320	34						
NCS DC70009 (GBW07241) Meas	458						1.6	1.0	1680	3.2	40.9					2290			28.8				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200			28.3				
OREAS 100a (Fusion) Meas						23													49.0	133			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						21													33.5	395			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						20													38.9	412			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	254				15	3		< 0.2	3		19.4		0.6	4.3	1.7	2	1.5	19	25.1	8.6			
JR-1 Cert	257				15.2	3.25		0.028	2.86		20.8		0.56	4.51	1.86	1.59	1.56	19.3	26.7	8.88			
NCS DC86303 Meas																					0.23	0.49	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.22	0.47	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.15	2.47	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.12	2.42	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.10	2.38	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.28	
NCS DC86304 Cert																					1.06	2.29	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Meas																					1.88	4.05	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.87	4.03	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.93	4.16	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.84	3.96	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.76	3.78	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.74	3.74	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.57		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.37		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.92		
Lithium Tetraborate FX-LT 100 lot#220610B																					8		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.23		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.14		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.97		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
546981 Orig																					0.03	0.06	
546981 Dup																					0.03	0.06	
529447 Orig	447	429	14	112	7	2	< 0.5	< 0.2	8	< 0.5	203	465	< 0.4	3.1	7.2	< 1	3.1	10	4.1	1.5	0.03	0.07	
529447 Dup	441	426	14	114	8	2	< 0.5	< 0.2	8	< 0.5	203	469	0.4	3.1	6.3	1	3.2	10	4.1	1.5	0.03	0.07	
529441 Orig																					< 0.01	< 0.01	
529441 Dup																					< 0.01	< 0.01	
546966 Orig	1550	236	3	47	116	< 2	< 0.5	< 0.2	59	< 0.5	172	166	< 0.4	5.9	65.2	5	8.8	24	4.3	3.8			
546966 Dup	1510	234	3	49	114	< 2	< 0.5	< 0.2	60	< 0.5	169	167	< 0.4	5.7	65.2	1	9.5	25	4.2	3.7			
546971 Orig																					0.09	0.19	
546971 Dup																					0.09	0.18	
546644 Orig	979	222	3	144	52	< 2	0.7	< 0.2	37	< 0.5	93.9	171	< 0.4	6.0	10.4	< 1	5.5	6	1.2	3.1	0.08	0.17	
546644 Split PREP DUP	1010	222	3	131	57	< 2	0.8	< 0.2	40	< 0.5	97.8	173	< 0.4	7.2	10.7	1	5.7	5	1.4	3.3	0.08	0.17	
546665 Orig																					0.08	0.17	
546665 Dup																					0.08	0.18	
546672 Orig																					0.01	0.03	
546672 Dup																					0.01	0.03	
546656 Orig	721	821	2	157	13	< 2	0.7	< 0.2	14	< 0.5	170	719	< 0.4	4.0	5.8	< 1	4.6	9	1.6	1.2			
546656 Dup	695	834	2	149	13	< 2	0.7	< 0.2	14	< 0.5	169	720	< 0.4	3.9	6.3	< 1	5.0	9	1.6	1.2			
546996 Orig																					0.04	0.09	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
546996 Dup																					0.04	0.08	
529418 Orig	244	470	13	124	5	< 2	0.5	< 0.2	1	< 0.5	78.4	582	0.6	3.1	0.5	< 1	1.9	9	4.8	1.3			
529418 Dup	243	460	12	127	5	< 2	0.6	< 0.2	1	< 0.5	78.2	592	0.7	3.0	0.5	< 1	1.8	10	4.8	1.4			
529419 Orig																					< 0.01	< 0.01	
529419 Dup																					< 0.01	< 0.01	
546988 Orig																					0.06	0.12	
546988 Dup																					0.06	0.12	
546994 Orig	502	215	6	30	47	8	< 0.5	< 0.2	7	< 0.5	25.1	255	26.4	2.4	21.3	1	2.2	14	2.9	8.1	< 0.01	0.02	
546994 Split PREP DUP	516	219	6	35	49	8	< 0.5	< 0.2	7	< 0.5	25.1	256	32.7	2.7	22.1	< 1	2.4	16	3.1	8.1	< 0.01	0.02	
529407 Orig																					0.02	0.05	
529407 Dup																					0.02	0.05	
529415 Orig	130	922	2	125	4	< 2	0.6	< 0.2	1	< 0.5	19.4	968	< 0.4	3.3	0.9	< 1	1.0	10	1.2	0.9			
529415 Dup	129	955	< 2	124	4	< 2	0.5	< 0.2	1	< 0.5	19.6	976	< 0.4	3.3	0.8	< 1	0.8	10	1.2	0.8			
529427 Orig																					0.04	0.09	
529427 Dup																					0.04	0.08	
529402 Orig	915	107	5	35	59	< 2	< 0.5	< 0.2	24	< 0.5	47.9	121	< 0.4	4.4	16.7	2	5.8	21	4.0	9.7			
529402 Dup	915	101	4	36	62	6	< 0.5	< 0.2	24	< 0.5	48.0	120	< 0.4	4.6	16.8	4	5.9	20	3.7	9.9			
529406 Orig	279	943	3	109	6	< 2	< 0.5	< 0.2	4	< 0.5	32.9	819	< 0.4	3.3	2.8	< 1	3.2	10	1.6	1.2	0.03	0.07	
529406 Split PREP DUP	275	919	3	125	7	< 2	< 0.5	< 0.2	4	< 0.5	31.8	799	< 0.4	3.5	2.8	< 1	2.4	9	1.5	1.1	0.03	0.07	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																							1.00
Method Blank																							1.00

Quality Analysis ... *Innovative Technologies*

Date Submitted: 04-Oct-17
Invoice No.: A17-10897
Invoice Date: 23-Nov-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

100 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-10897**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548053	70.60	17.45	0.89	0.010	0.18	2.79	6.14	1.18	0.118	0.03	0.48	99.87	< 1	3	9	< 20	< 1	< 20	< 10	70	26	< 1	< 5
548054	84.53	8.44	0.91	0.047	0.16	0.56	2.79	1.03	0.058	0.10	0.68	99.30	< 1	10	7	40	1	< 20	< 10	140	27	2	< 5
548055	86.32	7.83	0.93	0.042	0.16	0.58	2.43	0.97	0.056	0.11	0.63	100.1	< 1	9	7	60	1	< 20	< 10	80	26	2	< 5
548056	75.84	13.50	1.37	0.071	0.27	1.01	3.91	1.71	0.083	0.30	1.04	99.10	< 1	46	11	40	2	< 20	< 10	200	45	3	< 5
548057	75.74	13.86	1.52	0.080	0.34	0.88	3.48	2.17	0.115	0.29	1.22	99.69	< 1	17	17	60	2	< 20	40	260	51	3	< 5
548058	71.85	16.18	1.27	0.090	0.27	1.36	5.57	1.84	0.083	0.43	1.08	100.0	< 1	71	12	40	2	< 20	< 10	210	51	3	< 5
548059	70.72	17.52	0.89	0.232	0.13	1.02	7.65	0.97	0.049	0.29	0.48	99.95	< 1	14	6	< 20	1	< 20	< 10	80	44	3	< 5
548060	76.25	9.76	4.76	0.052	0.89	1.60	1.27	1.94	0.811	0.36	1.25	98.94	11	33	64	70	7	20	320	150	29	4	37
548061	70.52	17.42	0.89	0.011	0.18	2.76	6.14	1.11	0.125	0.02	0.34	99.52	< 1	2	9	< 20	< 1	< 20	< 10	70	27	< 1	< 5
548062	70.42	17.42	1.02	0.012	0.23	2.82	6.05	1.20	0.158	0.04	0.38	99.74	< 1	4	9	30	1	< 20	< 10	90	27	< 1	< 5
548063	69.57	18.44	0.85	0.090	0.20	1.48	6.66	1.45	0.080	0.10	1.20	100.1	< 1	37	8	40	< 1	< 20	< 10	120	46	3	< 5
548064	69.92	17.01	1.03	0.012	0.22	2.75	5.99	1.38	0.142	0.04	0.23	98.71	< 1	2	10	20	1	< 20	< 10	80	27	< 1	< 5
548065	71.09	16.99	0.99	0.017	0.20	2.43	6.16	1.23	0.140	0.04	0.44	99.72	< 1	4	10	30	< 1	< 20	< 10	90	26	< 1	< 5
548066	69.13	17.80	0.61	0.248	0.08	1.41	7.96	0.79	0.032	0.12	1.22	99.40	< 1	110	< 5	30	< 1	30	< 10	60	42	4	< 5
548067	70.60	17.85	0.86	0.013	0.16	2.69	6.07	1.13	0.125	0.02	0.36	99.88	< 1	5	8	< 20	< 1	< 20	< 10	70	27	< 1	< 5
548068	68.21	19.02	0.69	0.113	0.09	0.86	5.91	3.07	0.049	0.12	0.52	98.64	< 1	72	5	30	< 1	< 20	< 10	80	48	3	< 5
548069	70.15	16.72	0.95	0.014	0.19	2.74	6.12	0.94	0.142	0.04	0.45	98.47	< 1	9	9	40	< 1	< 20	< 10	80	27	< 1	< 5
548070	98.82	0.34	0.82	0.009	0.02	0.02	0.03	0.04	0.014	< 0.01	0.03	100.1	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
548071	70.53	16.73	0.90	0.042	0.14	1.93	6.69	1.14	0.116	0.10	0.49	98.80	< 1	16	8	30	< 1	< 20	< 10	90	29	1	< 5
548072	72.45	16.06	0.85	0.091	0.15	0.66	5.44	2.29	0.053	0.06	0.63	98.74	< 1	33	6	30	< 1	< 20	< 10	110	46	3	< 5
548073	71.21	17.04	0.72	0.230	0.10	0.88	7.41	1.41	0.058	0.12	0.45	99.63	< 1	65	5	30	< 1	< 20	120	110	39	3	< 5
548074	71.13	16.35	0.95	0.657	0.01	0.44	8.46	0.46	0.005	0.11	0.06	98.64	< 1	36	< 5	< 20	< 1	< 20	< 10	30	41	4	< 5
548075	71.83	17.13	0.80	0.615	0.02	0.41	8.57	0.60	0.006	0.09	0.11	100.2	< 1	89	< 5	< 20	< 1	< 20	< 10	30	40	4	< 5
548076	75.03	15.32	0.60	0.504	< 0.01	0.37	8.09	0.32	0.002	0.10	0.03	100.4	< 1	6	< 5	< 20	< 1	< 20	< 10	< 30	37	4	< 5
548077	72.74	16.15	0.65	0.374	0.02	0.47	7.70	0.88	0.016	0.07	0.16	99.23	< 1	8	< 5	< 20	< 1	< 20	< 10	30	38	4	< 5
548078	70.34	16.67	0.86	0.024	0.14	2.24	5.86	1.88	0.112	0.06	0.36	98.55	< 1	12	8	30	< 1	< 20	< 10	70	27	1	< 5
548079	71.58	16.69	0.83	0.031	0.16	2.50	6.19	1.26	0.118	0.04	0.38	99.77	< 1	6	8	20	< 1	< 20	< 10	80	27	< 1	< 5
548080	77.00	10.24	4.38	0.049	0.75	1.25	1.15	1.81	0.583	0.29	1.25	98.77	8	38	58	70	6	20	360	160	33	5	53
548081	70.71	16.82	0.82	0.009	0.17	2.72	6.01	1.42	0.133	0.03	0.36	99.20	< 1	2	8	40	< 1	< 20	< 10	70	26	< 1	< 5
548082	69.63	17.53	0.91	0.009	0.18	2.74	6.09	1.40	0.135	0.03	0.36	99.03	< 1	2	9	30	< 1	< 20	< 10	80	26	< 1	< 5
548083	69.85	17.39	0.89	0.009	0.18	2.78	6.11	1.43	0.137	0.04	0.34	99.15	< 1	2	9	30	< 1	< 20	< 10	80	26	< 1	< 5
548084	70.28	17.30	0.98	0.011	0.22	2.76	6.17	1.32	0.149	0.05	0.35	99.59	< 1	6	10	20	< 1	< 20	< 10	80	26	< 1	< 5
548085	71.34	16.65	0.72	0.134	0.09	1.15	7.50	0.93	0.054	0.06	0.31	98.94	< 1	28	< 5	20	< 1	< 20	< 10	70	36	3	< 5
548086	70.63	18.14	0.85	0.011	0.18	2.72	6.32	1.04	0.133	0.03	0.34	100.4	< 1	11	8	30	< 1	< 20	< 10	130	26	< 1	< 5
548087	74.27	15.15	0.56	0.117	0.05	0.86	6.06	2.41	0.030	0.05	0.25	99.82	< 1	14	< 5	20	< 1	< 20	< 10	60	31	3	< 5
548088	70.19	16.95	0.82	0.176	0.11	1.37	7.58	0.99	0.085	0.05	0.31	98.63	< 1	18	6	20	< 1	< 20	< 10	90	32	2	< 5
548089	69.81	17.95	0.94	0.011	0.17	2.73	5.99	1.27	0.134	0.02	0.31	99.35	< 1	2	8	30	< 1	< 20	< 10	70	25	< 1	< 5
548090	98.43	0.60	0.68	0.007	0.05	0.03	0.10	0.09	0.029	0.01	0.14	100.2	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
548091	70.33	18.15	0.87	0.035	0.14	2.26	5.91	1.85	0.106	0.10	0.34	100.1	< 1	12	8	20	< 1	< 20	< 10	70	31	1	< 5
548092	70.57	17.29	0.80	0.015	0.15	2.65	6.01	1.37	0.122	0.05	0.30	99.32	< 1	6	8	30	< 1	< 20	< 10	70	26	< 1	< 5
548093	70.08	17.74	0.87	0.010	0.18	2.73	6.01	1.44	0.136	0.03	0.30	99.53	< 1	2	10	30	< 1	< 20	< 10	80	27	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548094	69.92	16.98	0.92	0.019	0.16	2.60	5.91	1.53	0.127	0.03	0.27	98.46	< 1	4	9	30	< 1	< 20	< 10	70	26	< 1	< 5
548095	70.26	16.63	0.86	0.017	0.17	2.60	5.95	1.67	0.118	0.03	0.28	98.58	< 1	3	8	< 20	< 1	< 20	< 10	70	26	< 1	< 5
548096	70.20	17.58	0.85	0.020	0.16	2.61	6.04	1.45	0.120	0.04	0.26	99.33	< 1	4	8	30	< 1	< 20	< 10	60	27	< 1	< 5
548097	71.78	16.95	0.80	0.105	0.13	1.95	6.62	0.99	0.101	0.04	0.31	99.78	< 1	16	7	30	< 1	< 20	< 10	110	28	1	< 5
548098	71.44	17.44	0.62	0.253	0.05	0.95	8.03	0.52	0.031	0.17	0.16	99.66	< 1	13	< 5	< 20	< 1	< 20	< 10	40	35	3	< 5
548099	72.35	16.91	0.80	0.050	0.13	2.07	6.37	1.04	0.097	0.08	0.28	100.2	< 1	12	7	20	< 1	< 20	< 10	80	28	1	< 5
548100	74.89	10.42	4.95	0.052	0.88	1.58	1.27	1.96	0.869	0.35	1.09	98.31	11	34	65	60	7	20	310	140	28	4	37
548101	70.62	18.18	0.85	0.014	0.16	2.61	6.21	1.24	0.120	0.03	0.33	100.4	< 1	6	8	20	< 1	< 20	< 10	70	26	< 1	< 5
548102	72.08	16.77	0.78	0.037	0.14	2.26	5.68	2.05	0.100	0.04	0.33	100.3	< 1	4	7	20	< 1	< 20	< 10	70	25	< 1	< 5
548103	70.87	16.53	1.00	0.011	0.18	2.73	5.96	1.43	0.137	0.04	0.35	99.25	< 1	3	11	30	< 1	< 20	< 10	70	25	< 1	< 5
548104	71.24	17.10	0.76	0.112	0.10	1.61	6.11	2.28	0.072	0.09	0.27	99.73	< 1	6	5	30	< 1	< 20	< 10	70	29	2	< 5
548105	70.30	17.14	1.16	0.011	0.26	2.78	5.90	1.31	0.165	0.05	0.38	99.45	< 1	3	13	30	1	< 20	< 10	90	26	< 1	< 5
548106	72.99	14.72	0.78	0.330	0.06	0.55	5.17	3.58	0.022	0.05	0.33	98.57	< 1	108	< 5	30	< 1	< 20	< 10	50	32	3	< 5
548107	72.54	15.65	0.68	0.154	0.09	1.21	6.51	1.61	0.058	0.10	0.50	99.10	< 1	16	6	30	< 1	< 20	< 10	70	34	2	< 5
548108	71.01	16.60	0.86	0.017	0.18	2.69	5.96	1.35	0.122	0.04	0.32	99.16	< 1	4	9	30	< 1	< 20	< 10	70	26	< 1	< 5
548109	70.54	16.68	0.80	0.011	0.17	2.71	6.06	1.38	0.128	0.03	0.33	98.83	< 1	6	8	30	< 1	< 20	< 10	70	26	< 1	< 5
548110	98.90	0.31	0.77	0.008	0.02	0.02	0.03	0.03	0.018	< 0.01	0.08	100.2	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
548111	73.94	15.35	0.76	0.088	0.12	1.83	5.57	1.84	0.082	0.05	0.14	99.76	< 1	15	6	30	< 1	< 20	< 10	90	25	1	< 5
548112	69.84	17.33	0.88	0.015	0.16	2.53	5.99	1.63	0.122	0.04	0.26	98.80	< 1	7	7	30	< 1	< 20	< 10	70	27	< 1	< 5
548113	70.93	16.83	1.02	0.011	0.21	2.78	6.00	1.35	0.135	0.04	0.34	99.64	< 1	2	9	20	< 1	< 20	< 10	70	26	< 1	< 5
548114	70.61	16.81	0.79	0.054	0.16	1.86	5.89	2.53	0.101	0.05	0.38	99.23	< 1	10	8	< 20	< 1	< 20	< 10	260	28	1	< 5
548115	70.34	17.25	0.69	0.053	0.16	1.85	5.97	2.52	0.086	0.05	0.28	99.25	< 1	15	6	< 20	< 1	< 20	< 10	50	28	2	< 5
548116	70.50	16.31	1.00	0.011	0.19	2.71	5.99	1.32	0.124	0.04	0.36	98.56	< 1	2	9	30	< 1	< 20	< 10	70	25	< 1	< 5
548117	74.28	14.94	0.69	0.097	0.11	0.97	5.13	3.23	0.050	0.05	0.33	99.89	< 1	33	5	< 20	< 1	< 20	< 10	60	28	2	< 5
548118	69.01	15.74	2.04	0.092	0.68	2.30	5.43	1.92	0.255	0.13	0.78	98.39	< 1	5	22	20	3	< 20	10	170	29	1	< 5
548119	71.31	16.28	0.76	0.055	0.17	1.91	6.20	1.80	0.097	0.04	0.35	98.97	< 1	5	6	< 20	< 1	< 20	< 10	70	28	1	< 5
548120	75.85	9.69	4.65	0.051	0.89	1.59	1.26	1.96	0.827	0.36	1.17	98.30	11	33	67	70	7	20	290	140	28	4	34
548121	71.14	16.09	0.91	0.036	0.22	2.34	6.02	1.79	0.127	0.07	0.35	99.09	< 1	5	10	< 20	< 1	< 20	< 10	90	26	1	< 5
548122	70.09	16.88	0.93	0.012	0.23	2.59	6.13	1.25	0.139	0.04	0.45	98.75	< 1	3	11	30	< 1	< 20	< 10	70	26	< 1	< 5
548123	70.14	16.65	0.91	0.011	0.21	2.73	6.11	1.30	0.136	0.03	0.37	98.59	1	3	9	20	< 1	< 20	< 10	70	26	< 1	< 5
548124	70.61	16.73	0.97	0.021	0.22	2.55	6.07	1.34	0.133	0.05	0.35	99.06	< 1	5	11	< 20	< 1	< 20	< 10	80	26	< 1	< 5
548125	70.71	16.60	0.75	0.050	0.17	1.79	5.85	2.24	0.083	0.12	0.43	98.79	< 1	8	5	20	< 1	< 20	< 10	90	27	1	< 5
548126	72.24	15.89	0.65	0.242	0.09	1.13	6.80	1.44	0.046	0.07	0.45	99.04	< 1	84	< 5	< 20	< 1	< 20	< 10	60	32	2	< 5
548127	71.41	16.50	0.81	0.090	0.12	1.34	5.72	2.60	0.077	0.04	0.54	99.24	< 1	57	< 5	20	< 1	< 20	< 10	60	34	2	< 5
548128	73.87	15.58	0.66	0.148	0.08	0.68	4.94	3.60	0.037	0.07	0.37	100.0	< 1	45	6	< 20	< 1	< 20	< 10	700	28	2	< 5
548129	69.91	17.60	0.91	0.015	0.23	2.59	6.31	1.30	0.135	0.05	0.43	99.46	< 1	5	8	30	< 1	< 20	< 10	70	27	< 1	< 5
548130	98.28	0.37	1.25	0.013	0.02	0.02	0.06	0.04	0.022	0.01	-0.05	100.0	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
548131	69.46	18.21	0.92	0.021	0.27	2.15	6.33	1.49	0.127	0.04	0.65	99.66	< 1	5	9	30	< 1	< 20	< 10	90	26	< 1	< 5
548132	75.15	13.60	0.59	0.051	0.14	0.34	4.41	4.05	0.032	0.08	0.42	98.87	< 1	22	< 5	30	< 1	< 20	< 10	50	25	2	< 5
548133	73.11	15.50	0.74	0.233	0.09	0.30	6.38	2.70	0.013	0.05	0.40	99.50	< 1	33	< 5	20	< 1	< 20	< 10	< 30	37	3	< 5
548134	69.86	17.64	1.10	0.044	0.37	1.05	7.19	1.55	0.141	0.04	1.27	100.3	< 1	6	8	< 20	< 1	< 20	< 10	80	26	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548135	70.05	16.79	1.04	0.043	0.36	0.93	7.31	1.59	0.135	0.04	1.21	99.49	< 1	5	8	< 20	< 1	< 20	< 10	70	25	< 1	< 5
548136	72.39	15.41	1.14	0.140	0.25	0.69	4.95	4.16	0.084	0.24	0.70	100.2	< 1	14	6	20	< 1	< 20	< 10	220	32	2	< 5
548137	69.65	17.48	1.37	0.035	0.35	2.67	6.02	1.25	0.186	0.13	0.73	99.88	1	7	13	30	1	< 20	< 10	120	27	< 1	< 5
548138	71.82	16.93	0.79	0.046	0.15	1.86	5.86	2.35	0.088	0.07	0.38	100.3	< 1	6	7	< 20	< 1	< 20	< 10	70	26	1	< 5
548139	70.15	16.15	1.11	0.015	0.27	2.52	6.21	1.40	0.127	0.04	0.57	98.55	< 1	2	11	30	< 1	< 20	< 10	60	25	< 1	< 5
548140	76.16	10.37	4.37	0.048	0.75	1.26	1.16	1.83	0.581	0.30	1.20	98.02	8	37	58	70	6	< 20	320	160	31	5	53
548141	70.15	16.55	0.99	0.021	0.22	2.52	6.19	1.48	0.124	0.05	0.41	98.70	< 1	4	8	30	< 1	< 20	< 10	70	26	< 1	< 5
548142	69.77	16.92	0.91	0.016	0.27	2.33	6.18	1.57	0.129	0.04	0.69	98.81	< 1	6	11	20	1	< 20	< 10	100	27	< 1	< 5
548143	69.97	16.86	0.88	0.011	0.20	2.72	6.13	1.32	0.131	0.03	0.41	98.68	< 1	3	8	20	< 1	< 20	10	90	26	< 1	< 5
548144	72.48	16.00	0.76	0.051	0.16	1.45	5.99	2.44	0.078	0.04	0.42	99.88	< 1	4	6	< 20	< 1	< 20	< 10	80	29	1	< 5
548145	73.87	15.13	0.70	0.180	0.05	0.68	5.57	2.83	0.027	0.09	0.35	99.48	< 1	12	< 5	< 20	< 1	< 20	< 10	80	34	2	< 5
548146	73.02	15.87	0.82	0.186	0.12	1.47	6.28	1.61	0.067	0.07	0.37	99.89	< 1	10	< 5	< 20	< 1	< 20	< 10	60	33	2	< 5
548147	70.71	16.79	0.90	0.220	0.13	2.36	6.81	0.96	0.088	0.57	0.36	99.89	< 1	10	8	< 20	< 1	< 20	< 10	130	31	2	< 5
548148	70.83	16.23	0.82	0.049	0.11	1.04	6.66	1.49	0.077	0.43	0.64	98.38	< 1	24	11	< 20	< 1	< 20	< 10	120	43	2	< 5
548149	68.70	18.36	0.55	0.054	0.07	1.39	8.57	0.94	0.031	0.68	0.48	99.82	< 1	103	9	< 20	< 1	< 20	< 10	210	46	3	< 5
548150	98.79	0.35	0.65	0.008	0.01	0.01	0.05	0.03	0.019	< 0.01	0.23	100.2	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
548151	71.44	16.14	0.56	0.146	0.06	0.78	6.60	2.81	0.025	0.22	0.33	99.12	< 1	96	< 5	< 20	< 1	< 20	< 10	40	34	3	< 5
548152	70.50	17.35	0.86	0.028	0.21	2.48	6.07	1.32	0.120	0.08	0.47	99.47	< 1	5	11	30	< 1	< 20	< 10	60	26	< 1	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548053	89	1084	2	119	3	< 2	0.6	< 0.2	1	< 0.5	21.7	811	< 0.4	3.9	0.9	< 1	0.7	9	1.4	0.9	0.05	0.10	
548054	661	147	< 2	22	35	< 2	< 0.5	< 0.2	30	< 0.5	66.6	85	0.8	1.3	15.3	< 1	3.8	11	0.4	0.6	0.05	0.11	
548055	616	158	< 2	27	32	< 2	< 0.5	< 0.2	27	< 0.5	63.2	97	< 0.4	1.3	14.3	3	3.6	7	0.4	0.4	0.05	0.10	
548056	1080	217	< 2	35	65	< 2	< 0.5	< 0.2	48	< 0.5	105	104	0.4	2.5	52.4	< 1	6.4	12	2.3	3.1	0.10	0.23	
548057	1380	206	< 2	47	79	< 2	< 0.5	< 0.2	64	< 0.5	136	130	< 0.4	3.1	27.7	< 1	8.2	15	23.3	15.5	0.11	0.23	
548058	1170	289	< 2	55	66	< 2	< 0.5	< 0.2	51	< 0.5	145	108	< 0.4	3.6	34.2	< 1	6.8	7	3.2	3.4	0.11	0.23	
548059	505	231	< 2	70	56	< 2	< 0.5	< 0.2	23	< 0.5	83.4	92	< 0.4	5.5	38.0	< 1	3.2	8	2.2	7.2	0.06	0.12	
548060	1170	304	26	194	954	8	1.0	2.6	793	8.6	232	1936	10.8	5.5	20.3	5	10.9	43	94.8	15.8	0.21	0.46	
548061	117	1054	< 2	124	3	< 2	0.6	< 0.2	2	< 0.5	31.5	780	< 0.4	4.0	0.4	< 1	1.2	8	1.4	1.0	0.05	0.12	
548062	130	1093	< 2	136	4	< 2	0.7	< 0.2	2	< 0.5	39.4	844	< 0.4	4.4	1.6	< 1	1.1	10	1.6	1.0	0.06	0.12	
548063	799	408	< 2	61	50	< 2	< 0.5	< 0.2	29	< 0.5	105	173	< 0.4	3.5	41.6	1	4.9	16	3.4	4.7	0.19	0.41	2.76
548064	129	1072	< 2	127	4	< 2	0.6	< 0.2	2	< 0.5	34.4	848	< 0.4	4.1	1.2	< 1	1.2	8	1.4	0.8	0.07	0.15	
548065	184	955	2	129	6	< 2	0.5	< 0.2	4	< 0.5	65.0	835	< 0.4	4.4	2.5	< 1	1.6	10	1.5	1.8	0.06	0.12	
548066	473	225	< 2	69	38	< 2	< 0.5	< 0.2	16	< 0.5	115	54	< 0.4	12.7	131	< 1	3.3	23	3.8	8.9	0.10	0.21	
548067	242	1097	< 2	118	4	< 2	0.6	< 0.2	2	< 0.5	90.3	775	< 0.4	3.9	0.5	< 1	2.2	9	1.3	1.0	0.07	0.15	
548068	1500	293	< 2	62	52	< 2	< 0.5	< 0.2	21	< 0.5	295	203	< 0.4	4.9	72.7	< 1	12.2	16	4.5	5.4	0.43	0.93	
548069	319	1054	< 2	133	4	< 2	0.6	< 0.2	4	< 0.5	126	754	< 0.4	4.2	0.5	< 1	3.0	9	1.5	1.8	0.06	0.14	
548070	< 2	3	3	38	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	11	< 0.4	1.2	0.1	< 1	0.1	< 5	1.5	0.4	< 0.01	< 0.01	
548071	544	686	< 2	123	15	< 2	0.6	< 0.2	13	< 0.5	156	431	< 0.4	4.8	10.8	< 1	3.9	9	1.8	2.4	0.10	0.21	
548072	1090	210	< 2	25	86	< 2	< 0.5	< 0.2	34	< 0.5	205	141	< 0.4	3.4	59.8	< 1	7.4	15	3.0	6.6	0.29	0.63	
548073	652	268	< 2	116	28	< 2	0.5	< 0.2	24	< 0.5	159	138	0.4	10.7	21.7	< 1	4.4	36	3.7	10.7	0.07	0.16	2.77
548074	130	92	< 2	79	55	< 2	< 0.5	< 0.2	4	< 0.5	63.6	16	0.4	14.2	40.8	< 1	1.1	44	6.2	30.0	0.04	0.08	
548075	175	94	< 2	69	58	< 2	< 0.5	< 0.2	5	< 0.5	96.8	25	< 0.4	12.3	39.0	3	1.3	45	5.1	28.2	0.03	0.07	
548076	48	72	< 2	37	54	< 2	< 0.5	< 0.2	2	< 0.5	27.1	11	< 0.4	7.2	37.4	< 1	0.4	46	3.7	19.8	0.05	0.11	
548077	272	156	< 2	43	64	< 2	< 0.5	< 0.2	5	< 0.5	52.7	121	< 0.4	6.4	59.2	< 1	2.1	25	3.7	10.5	0.12	0.25	
548078	588	883	< 2	109	7	< 2	0.5	< 0.2	5	< 0.5	124	741	1.3	3.5	4.8	3	4.4	11	1.5	1.4	0.09	0.20	
548079	236	971	< 2	119	10	< 2	0.6	< 0.2	4	< 0.5	49.3	812	< 0.4	4.1	5.0	< 1	1.8	11	1.5	1.8	0.06	0.14	
548080	1320	217	20	162	1470	9	1.0	4.3	1210	13.0	312	1039	15.9	4.2	26.8	7	12.5	25	49.3	8.1	0.48	1.04	
548081	42	1040	2	122	4	< 2	0.6	< 0.2	< 1	< 0.5	10.5	928	< 0.4	4.0	0.8	< 1	0.6	10	1.4	0.8	0.06	0.12	
548082	35	1070	< 2	118	4	< 2	0.6	< 0.2	1	< 0.5	5.8	906	< 0.4	3.7	0.4	< 1	0.2	9	1.4	1.2	0.05	0.11	
548083	34	1072	< 2	129	4	< 2	0.7	< 0.2	1	< 0.5	5.9	914	< 0.4	3.8	0.6	< 1	0.2	9	1.5	0.8	0.05	0.11	2.76
548084	125	1064	< 2	127	5	< 2	0.6	< 0.2	3	< 0.5	30.8	897	< 0.4	3.9	1.3	< 1	0.9	9	1.5	1.0	0.06	0.14	
548085	343	364	< 2	56	44	< 2	< 0.5	< 0.2	12	< 0.5	73.7	161	< 0.4	4.8	44.9	< 1	2.2	14	3.2	6.6	0.07	0.15	
548086	342	1117	< 2	131	5	< 2	0.7	< 0.2	6	< 0.5	92.5	901	< 0.4	4.3	0.8	< 1	2.8	10	1.5	1.1	0.06	0.13	
548087	796	308	< 2	28	33	< 2	< 0.5	< 0.2	6	< 0.5	115	248	< 0.4	1.9	20.6	< 1	6.1	26	2.7	5.2	0.05	0.12	
548088	382	473	< 2	121	29	< 2	0.5	< 0.2	16	< 0.5	66.9	282	< 0.4	8.7	13.8	< 1	2.6	24	3.4	12.5	0.06	0.14	
548089	154	1104	< 2	124	3	< 2	0.6	< 0.2	1	< 0.5	43.4	898	< 0.4	4.0	0.4	< 1	1.3	9	1.4	0.9	0.06	0.12	
548090	3	6	3	43	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	26	< 0.4	1.3	0.1	< 1	< 0.1	< 5	1.2	0.5	< 0.01	< 0.01	
548091	419	866	< 2	105	14	< 2	0.6	< 0.2	5	< 0.5	85.5	716	< 0.4	4.1	11.9	< 1	3.0	11	1.6	1.7	0.08	0.18	
548092	129	1001	2	119	5	< 2	0.6	< 0.2	2	< 0.5	43.8	921	< 0.4	3.9	2.6	3	1.0	10	1.3	0.9	0.05	0.11	
548093	71	1040	2	123	4	< 2	0.6	< 0.2	1	< 0.5	16.2	921	< 0.4	4.0	1.2	< 1	0.5	10	1.5	0.9	0.05	0.11	2.72

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548094	96	978	< 2	117	7	< 2	0.6	< 0.2	2	< 0.5	16.1	866	< 0.4	3.8	2.1	< 1	0.6	10	1.5	1.2	0.05	0.12	
548095	102	949	< 2	111	7	< 2	0.5	< 0.2	2	< 0.5	16.8	913	< 0.4	3.4	2.7	1	0.6	10	1.4	1.2	0.06	0.12	
548096	181	1030	2	117	7	< 2	0.6	< 0.2	2	< 0.5	40.7	919	< 0.4	4.0	3.1	14	1.3	10	1.5	1.6	0.06	0.14	
548097	403	713	< 2	102	29	< 2	0.5	< 0.2	8	< 0.5	79.4	498	< 0.4	4.1	19.9	1	3.1	12	2.2	4.1	0.07	0.15	
548098	172	250	3	63	42	< 2	< 0.5	< 0.2	6	< 0.5	24.0	95	< 0.4	5.6	21.3	< 1	1.1	16	3.2	11.3	0.05	0.12	
548099	357	766	< 2	102	16	< 2	< 0.5	< 0.2	7	< 0.5	82.7	567	< 0.4	4.0	12.4	< 1	2.7	11	2.6	2.9	0.07	0.16	
548100	1180	323	27	202	1010	8	1.2	2.6	804	8.7	237	1924	10.9	5.6	20.6	5	10.7	27	94.7	15.8	0.23	0.49	
548101	176	1026	< 2	119	4	< 2	0.5	< 0.2	3	< 0.5	34.1	872	< 0.4	3.6	1.2	< 1	1.3	10	1.4	0.9	0.06	0.13	
548102	340	874	< 2	101	14	< 2	< 0.5	< 0.2	3	< 0.5	27.8	760	< 0.4	3.4	4.9	< 1	2.2	12	1.4	1.9	0.07	0.14	
548103	79	1031	< 2	127	4	< 2	0.7	< 0.2	1	< 0.5	18.6	955	< 0.4	3.9	1.1	< 1	0.6	10	1.4	1.1	0.06	0.13	2.71
548104	411	617	< 2	82	23	< 2	< 0.5	< 0.2	3	< 0.5	25.8	536	< 0.4	5.0	10.8	< 1	2.6	21	2.2	5.8	0.05	0.12	
548105	96	1054	2	135	4	< 2	0.6	< 0.2	2	< 0.5	22.8	890	< 0.4	4.1	1.4	< 1	0.7	10	1.5	1.6	0.06	0.14	
548106	1010	255	< 2	33	33	< 2	< 0.5	< 0.2	5	< 0.5	85.6	442	16.9	3.6	16.3	< 1	7.1	33	2.9	7.3	0.03	0.06	
548107	544	404	< 2	58	30	< 2	< 0.5	< 0.2	10	< 0.5	65.5	273	0.6	3.3	17.1	< 1	3.6	16	3.6	7.2	0.05	0.10	
548108	182	1005	< 2	124	6	< 2	0.5	< 0.2	2	< 0.5	32.0	880	< 0.4	4.0	2.3	< 1	1.4	9	1.4	1.5	0.05	0.11	
548109	196	1000	< 2	123	5	< 2	0.6	< 0.2	3	< 0.5	29.4	898	< 0.4	4.1	3.1	3	1.4	11	1.5	1.2	0.05	0.10	
548110	< 2	4	2	34	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	12	< 0.4	1.2	0.2	< 1	< 0.1	< 5	1.0	0.3	< 0.01	< 0.01	
548111	437	688	< 2	91	25	< 2	< 0.5	< 0.2	4	< 0.5	37.4	568	< 0.4	4.1	12.6	< 1	2.8	12	1.7	3.5	0.04	0.08	
548112	214	1018	< 2	116	7	< 2	0.7	< 0.2	3	< 0.5	34.8	857	< 0.4	3.9	5.8	1	1.5	11	1.5	1.1	0.04	0.09	
548113	80	1106	< 2	127	4	< 2	0.6	< 0.2	1	< 0.5	23.5	908	< 0.4	4.2	0.7	< 1	0.7	10	1.4	0.9	0.05	0.10	2.74
548114	678	745	< 2	90	29	< 2	< 0.5	< 0.2	3	< 0.5	93.0	655	< 0.4	3.5	42.4	< 1	5.1	13	3.3	2.4	0.04	0.09	
548115	685	751	< 2	86	24	< 2	< 0.5	< 0.2	3	< 0.5	100	627	< 0.4	3.8	30.2	< 1	5.3	13	2.1	2.3	0.04	0.08	
548116	88	1064	< 2	124	4	< 2	0.7	< 0.2	1	< 0.5	32.4	902	< 0.4	3.7	0.7	< 1	0.8	11	1.4	1.5	0.05	0.12	
548117	889	416	< 2	55	32	< 2	< 0.5	< 0.2	6	< 0.5	155	394	< 0.4	3.3	24.9	< 1	6.7	22	2.1	4.1	0.02	0.04	
548118	305	826	< 2	145	16	< 2	0.8	< 0.2	6	< 0.5	79.8	985	< 0.4	4.6	3.3	< 1	2.2	11	2.5	3.5	0.08	0.18	
548119	280	743	2	91	19	< 2	< 0.5	< 0.2	4	< 0.5	20.8	626	< 0.4	3.0	5.6	< 1	1.7	29	1.8	2.3	0.03	0.07	
548120	1140	312	26	207	1010	9	1.2	2.6	733	8.6	226	1920	10.7	5.7	20.4	6	10.4	27	93.7	16.1	0.23	0.49	
548121	262	889	< 2	120	10	< 2	0.7	< 0.2	3	< 0.5	27.0	806	< 0.4	4.2	3.8	< 1	1.9	12	1.5	2.2	0.03	0.06	
548122	75	1013	2	129	5	< 2	0.6	< 0.2	2	< 0.5	11.3	821	< 0.4	3.9	1.3	< 1	0.5	10	1.6	1.0	0.03	0.07	
548123	109	1056	2	129	4	< 2	0.6	< 0.2	2	< 0.5	23.8	883	< 0.4	3.8	1.2	< 1	0.8	11	1.4	1.1	0.03	0.07	2.74
548124	195	1001	2	128	8	< 2	0.6	< 0.2	3	< 0.5	36.7	804	< 0.4	4.2	6.6	< 1	1.4	10	1.6	1.3	0.04	0.08	
548125	488	679	< 2	84	22	< 2	< 0.5	< 0.2	6	< 0.5	38.0	539	< 0.4	3.2	13.6	< 1	3.4	43	2.1	3.3	0.02	0.05	
548126	405	405	< 2	62	30	< 2	< 0.5	< 0.2	7	< 0.5	39.4	306	0.4	4.8	19.6	< 1	2.9	10	2.8	8.4	0.02	0.03	
548127	898	490	< 2	74	42	< 2	< 0.5	< 0.2	12	< 0.5	101	422	< 0.4	4.2	49.2	< 1	6.3	11	3.8	5.3	0.03	0.06	
548128	1040	279	< 2	50	46	< 2	< 0.5	< 0.2	10	< 0.5	85.4	281	1.5	4.3	35.0	1	7.3	24	3.6	15.7	0.02	0.04	
548129	118	1054	< 2	130	6	< 2	0.6	< 0.2	3	< 0.5	21.6	856	< 0.4	4.1	2.7	< 1	0.9	12	1.5	4.2	0.03	0.07	
548130	2	4	4	46	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	15	< 0.4	1.6	0.2	< 1	< 0.1	< 5	1.5	0.5	< 0.01	< 0.01	
548131	178	913	< 2	119	8	< 2	0.6	< 0.2	3	< 0.5	14.6	788	< 0.4	3.8	3.1	< 1	1.1	11	1.4	2.4	0.02	0.04	
548132	996	157	< 2	39	37	< 2	< 0.5	< 0.2	9	< 0.5	50.4	255	0.5	3.0	27.9	< 1	6.6	14	3.1	7.1	< 0.01	0.02	
548133	698	102	2	27	62	< 2	< 0.5	< 0.2	9	< 0.5	48.9	131	0.6	4.3	49.4	< 1	4.7	12	3.0	9.1	< 0.01	0.01	2.73
548134	210	544	< 2	127	5	< 2	0.7	< 0.2	3	< 0.5	13.7	575	1.1	3.8	1.1	< 1	1.3	27	1.5	2.5	0.02	0.04	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548135	208	500	< 2	130	5	< 2	0.6	< 0.2	3	< 0.5	13.3	578	0.4	4.1	1.2	< 1	1.2	19	1.4	2.7	0.02	0.04	
548136	1050	201	2	59	85	< 2	< 0.5	< 0.2	14	< 0.5	59.7	296	< 0.4	4.6	50.0	< 1	6.8	92	2.2	5.8	0.02	0.05	
548137	212	1017	2	136	13	< 2	0.8	< 0.2	5	< 0.5	29.3	848	< 0.4	4.4	5.5	< 1	1.6	11	1.6	2.0	0.04	0.08	
548138	461	757	2	86	27	< 2	0.6	< 0.2	4	< 0.5	23.3	594	< 0.4	4.2	8.9	< 1	3.2	10	2.0	4.7	0.02	0.05	
548139	60	974	< 2	122	3	3	0.6	< 0.2	< 1	< 0.5	7.8	841	< 0.4	3.8	0.4	14	0.4	10	1.4	0.9	0.03	0.05	
548140	1250	215	18	155	1470	9	0.9	4.1	1220	13.2	298	1035	17.4	4.2	26.1	7	11.8	25	49.2	8.4	0.47	1.01	
548141	158	951	< 2	118	8	< 2	0.6	< 0.2	2	< 0.5	21.7	802	< 0.4	4.1	3.3	< 1	1.2	11	1.5	1.5	0.03	0.06	
548142	118	904	< 2	120	7	2	0.6	< 0.2	3	< 0.5	19.1	823	< 0.4	3.9	4.7	< 1	0.8	12	1.6	1.2	0.03	0.06	
548143	108	1001	< 2	123	6	< 2	0.6	< 0.2	2	< 0.5	14.9	836	< 0.4	3.7	1.6	< 1	0.8	11	1.5	1.8	0.03	0.07	2.73
548144	506	575	2	77	63	3	< 0.5	< 0.2	4	< 0.5	18.8	477	1.9	3.3	21.8	< 1	3.2	50	2.6	5.0	0.02	0.04	
548145	801	241	4	37	54	< 2	< 0.5	< 0.2	9	< 0.5	43.6	199	< 0.4	3.5	30.6	< 1	5.2	9	4.9	8.2	0.01	0.03	
548146	473	534	3	84	48	< 2	< 0.5	< 0.2	8	< 0.5	39.2	432	< 0.4	5.5	21.1	< 1	3.1	11	3.5	11.5	0.02	0.04	
548147	262	659	3	131	34	< 2	0.6	< 0.2	7	< 0.5	40.9	436	< 0.4	9.6	15.1	< 1	1.8	14	4.1	19.5	0.03	0.07	
548148	653	150	< 2	198	45	< 2	0.9	< 0.2	31	< 0.5	63.4	85	< 0.4	8.9	29.8	< 1	3.4	7	1.9	5.3	0.04	0.10	
548149	380	131	< 2	181	41	< 2	0.8	< 0.2	18	< 0.5	54.1	26	< 0.4	9.9	43.5	2	2.1	12	2.1	5.7	0.02	0.05	
548150	< 2	2	2	43	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	14	< 0.4	1.2	0.1	< 1	< 0.1	< 5	1.2	0.4	< 0.01	< 0.01	
548151	862	210	2	76	29	< 2	< 0.5	< 0.2	8	< 0.5	132	188	< 0.4	5.7	50.2	< 1	6.3	10	2.8	7.0	0.05	0.12	
548152	223	998	< 2	122	5	< 2	0.7	< 0.2	2	< 0.5	45.6	776	< 0.4	3.8	1.4	2	1.6	9	1.7	3.2	0.05	0.10	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.31	1.81	0.75	0.010	0.34	42.92	0.85	0.55	0.120	30.26					1601								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.15	18.48	10.00	0.150	10.00	11.51	1.88	0.22	0.490	0.06			31		152	290	56	260	100	70	14		
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15		
GBW 07113 Meas	72.01	12.70	3.16	0.140	0.14	0.60	2.51	5.42	0.270	0.03			5	4	5								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																100	31		40	140			26
LKSD-3 Cert																87.0	30.0		35.0	152			27.0
TDB-1 Meas																250		90	330	160			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.65	15.82	11.17	0.170	6.09	11.02	2.17	0.61	1.090	0.13			35	< 1	267	90	43	70	110	80	18	2	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	
SY-4 Meas	50.22	20.31	6.25	0.110	0.50	8.10	6.88	1.66	0.280	0.11			1	3	6								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			60				
CTA-AC-1 Cert																			54.0				
BIR-1a Meas	48.19	15.33	11.33	0.170	9.53	13.52	1.80	0.02	0.980	0.01			44	< 1	326	380	50	180	120	80	16		
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16		
NCS DC70009 (GBW07241) Meas																		< 20	930	100	17	11	71
NCS DC70009 (GBW07241) Cert																		2.8	960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	18		180				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	50		440				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	46		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20		30	18	2	16
JR-1 Cert																		1.67		30.6	16.1	1.88	16.3
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
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Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
548059 Orig																							
548059 Dup																							
548067 Orig	70.45	17.66	0.86	0.013	0.16	2.68	6.05	1.13	0.125	0.01	0.36	99.50	< 1	5	8	< 20	< 1	< 20	< 10	70	27	< 1	< 5
548067 Dup	70.74	18.04	0.86	0.013	0.16	2.70	6.08	1.14	0.125	0.02	0.36	100.3	< 1	5	8	< 20	< 1	< 20	< 10	70	26	< 1	< 5
548081 Orig																							
548081 Dup																							
548084 Orig	70.43	17.64	0.97	0.011	0.22	2.75	6.23	1.33	0.146	0.05	0.35	100.1	< 1	6	10	20	< 1	< 20	< 10	80	26	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548084 Dup	70.14	16.97	0.98	0.011	0.22	2.76	6.12	1.31	0.152	0.04	0.35	99.06	< 1	6	11	30	< 1	< 20	< 10	80	26	< 1	< 5
548089 Orig																							
548089 Dup																							
548102 Orig	72.08	16.77	0.78	0.037	0.14	2.26	5.68	2.05	0.100	0.04	0.33	100.3	< 1	4	7	20	< 1	< 20	< 10	70	25	< 1	< 5
548102 Split PREP DUP	71.42	16.93	0.92	0.029	0.16	2.40	5.78	1.76	0.115	0.04	0.35	99.90	< 1	3	10	30	< 1	< 20	< 10	60	26	< 1	< 5
548103 Orig																							
548103 Dup																							
548110 Orig																							
548110 Dup																							
548114 Orig	70.36	16.92	0.78	0.054	0.15	1.86	5.87	2.53	0.099	0.05	0.38	99.05	< 1	10	8	< 20	< 1	< 20	< 10	70	28	1	< 5
548114 Dup	70.86	16.69	0.81	0.054	0.16	1.87	5.91	2.53	0.103	0.05	0.38	99.41	< 1	11	7	< 20	< 1	< 20	< 10	450	28	1	< 5
548124 Orig																							
548124 Dup																							
548131 Orig	69.49	18.21	0.92	0.021	0.26	2.14	6.28	1.48	0.127	0.04	0.65	99.63	< 1	5	10	30	< 1	< 20	< 10	80	26	< 1	< 5
548131 Dup	69.42	18.22	0.93	0.021	0.27	2.16	6.37	1.50	0.127	0.03	0.65	99.70	< 1	5	8	20	< 1	< 20	< 10	90	26	< 1	< 5
548132 Orig																							
548132 Dup																							
548146 Orig																							
548146 Dup																							
548152 Orig	70.50	17.35	0.86	0.028	0.21	2.48	6.07	1.32	0.120	0.08	0.47	99.47	< 1	5	11	30	< 1	< 20	< 10	60	26	< 1	< 5
548152 Split PREP DUP	70.72	17.63	0.88	0.030	0.20	2.48	6.16	1.34	0.119	0.07	0.43	100.1	< 1	5	7	20	< 1	< 20	< 10	70	26	< 1	< 5
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	0.01	< 0.01	0.002	< 0.01	0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas		147	15	34	3					1.0		107											
DNC-1 Cert		144.0	18.0	38	3					0.96		118											
GBW 07113 Meas		41	44	387								507											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	78					< 2	2.5			1.2	2.4			4.5	0.7				11.5	4.9			
LKSD-3 Cert	78.0					2.00	2.70			1.30	2.30			4.80	0.700				11.4	4.60			
TDB-1 Meas	21																		2.5				
TDB-1 Cert	23																		2.7				
W-2a Meas	20	195	19	87	8	< 2				0.8		173	< 0.4	2.4	0.4	< 1				0.6			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600				0.790		182	0.0300	2.60	0.500	0.300				0.530			
SY-4 Meas		1201	113	542								346											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.6				22.7				
CTA-AC-1 Cert															2.65				21.8				
BIR-1a Meas		110	13	14						0.6		7		0.6				< 5					
BIR-1a Cert		110	16	18						0.58		6		0.60				3					
NCS DC70009 (GBW07241) Meas	490						1.9	1.0	1580	3.0	39.2					2180	1.9		29.0				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						25																	
OREAS 100a (Fusion) Cert						24.1																	
OREAS 101a (Fusion) Meas						22													38.6	460			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						20													39.2	434			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	250				15	4		< 0.2	3	1.3	19.6		0.6	4.3	2.0	2	1.5	20	27.4	9.3			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59	1.56	19.3	26.7	8.88			
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.44	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.20	0.43	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.44	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.07	2.31	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.15	2.48	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.27	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.30	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.86	4.00	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.83	3.94	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.94	4.18	
NCS DC86314 Cert																					1.81	3.89	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Meas																					1.78	3.82	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.86	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.08		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.02		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.05		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.91		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
548059 Orig																					0.05	0.11	
548059 Dup																					0.06	0.13	
548067 Orig	243	1100	< 2	121	4	< 2	0.6	< 0.2	2	< 0.5	90.4	773	< 0.4	4.0	0.5	< 1	2.1	9	1.3	1.0	0.07	0.15	
548067 Dup	240	1094	< 2	115	4	< 2	0.6	< 0.2	2	< 0.5	90.1	778	< 0.4	3.8	0.5	< 1	2.2	8	1.3	1.0	0.07	0.15	
548081 Orig																					0.06	0.13	
548081 Dup																					0.05	0.11	
548084 Orig	123	1081	< 2	125	5	< 2	0.6	< 0.2	3	< 0.5	30.3	903	< 0.4	3.6	1.4	< 1	0.8	8	1.5	1.0			

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548084 Dup	126	1047	< 2	129	5	< 2	0.7	< 0.2	3	< 0.5	31.4	891	< 0.4	4.2	1.2	< 1	0.9	10	1.5	1.0			
548089 Orig																					0.06	0.13	
548089 Dup																					0.06	0.12	
548102 Orig	340	874	< 2	101	14	< 2	< 0.5	< 0.2	3	< 0.5	27.8	760	< 0.4	3.4	4.9	< 1	2.2	12	1.4	1.9	0.07	0.14	
548102 Split PREP DUP	270	887	< 2	107	9	2	0.5	< 0.2	2	< 0.5	23.9	800	< 0.4	3.6	2.4	< 1	1.7	10	1.4	1.4	0.06	0.14	
548103 Orig																					0.06	0.13	
548103 Dup																					0.06	0.13	
548110 Orig																					< 0.01	< 0.01	
548110 Dup																					< 0.01	< 0.01	
548114 Orig	677	741	< 2	88	28	< 2	< 0.5	< 0.2	3	< 0.5	92.9	654	< 0.4	3.5	40.9	< 1	5.1	13	3.3	2.5			
548114 Dup	679	749	< 2	92	30	< 2	< 0.5	< 0.2	3	< 0.5	93.1	657	< 0.4	3.4	43.9	< 1	5.0	12	3.2	2.3			
548124 Orig																					0.04	0.09	
548124 Dup																					0.04	0.08	
548131 Orig	178	911	< 2	119	9	< 2	0.5	< 0.2	3	< 0.5	14.7	784	< 0.4	3.8	3.4	< 1	1.1	10	1.4	2.4			
548131 Dup	177	916	2	120	7	< 2	0.6	< 0.2	3	< 0.5	14.5	793	< 0.4	3.7	2.7	< 1	1.1	12	1.4	2.4			
548132 Orig																					< 0.01	0.02	
548132 Dup																					< 0.01	0.02	
548146 Orig																					0.02	0.04	
548146 Dup																					0.02	0.04	
548152 Orig	223	998	< 2	122	5	< 2	0.7	< 0.2	2	< 0.5	45.6	776	< 0.4	3.8	1.4	2	1.6	9	1.7	3.2	0.05	0.10	
548152 Split PREP DUP	225	974	< 2	121	6	< 2	0.5	< 0.2	2	< 0.5	45.8	768	< 0.4	3.7	1.6	< 1	1.7	11	1.6	3.3	0.05	0.10	
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00

Quality Analysis ... *Innovative Technologies*

Date Submitted: 10-Oct-17
Invoice No.: A17-11102
Invoice Date: 30-Nov-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

120 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-11102**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548153	70.25	17.37	1.01	0.012	0.21	2.69	6.03	1.20	0.125	0.02	0.51	99.44	< 1	7	8	< 20	< 1	< 20	< 10	60	24	< 1	< 5
548154	70.09	17.14	1.25	0.014	0.27	2.83	6.10	1.09	0.141	0.03	0.64	99.60	< 1	6	9	< 20	< 1	< 20	< 10	70	23	< 1	< 5
548155	71.02	17.28	1.08	0.014	0.20	2.69	6.03	1.13	0.140	0.03	0.49	100.1	< 1	5	9	< 20	< 1	20	< 10	110	24	< 1	< 5
548156	70.90	16.18	1.12	0.517	0.07	0.58	7.09	1.89	0.019	0.09	0.32	98.78	< 1	229	< 5	< 20	< 1	< 20	< 10	60	36	3	< 5
548157	71.18	16.85	0.83	0.026	0.22	2.43	6.17	1.44	0.122	0.02	0.50	99.80	< 1	5	9	< 20	< 1	< 20	< 10	130	24	< 1	< 5
548158	69.89	17.73	1.35	0.014	0.23	2.73	6.00	1.33	0.152	0.02	0.44	99.89	< 1	4	10	< 20	< 1	< 20	< 10	80	24	< 1	< 5
548159	69.71	16.64	1.24	0.014	0.24	2.71	6.28	1.22	0.152	0.02	0.41	98.65	< 1	3	12	< 20	< 1	< 20	< 10	80	24	< 1	< 5
548160	76.89	9.13	4.70	0.053	0.93	1.62	1.29	2.00	0.780	0.34	1.21	98.95	11	35	67	60	6	< 20	300	140	26	3	39
548161	73.26	15.69	1.04	0.057	0.16	2.10	5.97	1.66	0.097	0.04	0.30	100.4	< 1	3	9	< 20	< 1	< 20	< 10	100	25	1	< 5
548162	70.10	16.77	1.19	0.015	0.28	2.29	5.82	2.21	0.146	0.05	0.45	99.33	< 1	4	12	< 20	1	< 20	< 10	80	25	1	< 5
548163	70.92	16.46	1.13	0.018	0.19	2.55	6.14	1.45	0.125	0.03	0.37	99.38	< 1	8	10	< 20	< 1	< 20	< 10	70	24	< 1	< 5
548164	70.18	16.43	1.17	0.014	0.22	2.75	6.14	1.19	0.134	0.03	0.36	98.61	< 1	4	11	< 20	< 1	< 20	< 10	70	24	< 1	< 5
548165	73.49	15.25	1.01	0.115	0.10	1.13	5.52	2.86	0.058	0.03	0.27	99.84	< 1	5	5	20	< 1	< 20	10	100	27	2	< 5
548166	70.50	16.46	1.20	0.109	0.26	2.37	5.92	1.70	0.146	0.04	0.51	99.22	< 1	4	10	< 20	< 1	< 20	< 10	120	25	1	< 5
548167	70.80	16.65	1.14	0.011	0.19	2.81	6.14	1.22	0.137	< 0.01	0.33	99.44	< 1	2	10	< 20	< 1	< 20	< 10	60	24	< 1	< 5
548168	71.13	16.44	1.06	0.012	0.20	2.78	6.15	1.21	0.131	0.03	0.43	99.57	< 1	2	10	20	< 1	< 20	< 10	70	23	< 1	< 5
548169	71.75	16.14	0.99	0.164	0.11	1.26	6.85	1.53	0.068	0.14	0.35	99.34	< 1	61	7	< 20	< 1	< 20	< 10	80	30	2	< 5
548170	95.99	0.44	3.99	0.039	0.02	0.02	0.07	0.06	0.024	< 0.01	-0.38	100.3	< 1	< 1	< 5	20	2	20	10	< 30	1	1	< 5
548171	71.27	16.76	1.09	0.062	0.14	1.94	6.21	2.01	0.094	0.09	0.26	99.92	< 1	10	8	< 20	< 1	< 20	< 10	60	25	1	< 5
548172	70.19	16.67	1.10	0.013	0.19	2.71	6.16	1.21	0.131	0.06	0.32	98.76	< 1	4	9	< 20	< 1	< 20	< 10	80	24	< 1	< 5
548173	70.22	16.86	1.13	0.020	0.19	2.12	6.44	1.30	0.133	0.02	0.39	98.83	< 1	6	8	< 20	< 1	< 20	< 10	90	25	< 1	< 5
548174	72.33	15.77	0.92	0.385	0.03	0.41	7.33	1.72	0.018	0.12	0.28	99.32	< 1	22	< 5	< 20	< 1	< 20	< 10	200	35	3	< 5
548175	72.48	15.45	1.05	0.411	0.02	0.40	7.39	1.73	0.013	0.12	0.22	99.28	< 1	7	5	< 20	< 1	< 20	< 10	90	36	3	< 5
548176	73.64	14.77	1.03	0.462	0.03	0.50	6.65	1.99	0.016	0.16	0.27	99.52	< 1	20	< 5	< 20	< 1	< 20	< 10	110	35	3	< 5
548177	70.91	16.11	1.17	0.014	0.20	2.55	6.00	1.29	0.132	0.02	0.32	98.72	< 1	6	10	< 20	< 1	< 20	< 10	70	25	< 1	< 5
548178	70.54	16.34	1.59	0.080	0.34	1.03	5.16	2.19	0.106	0.23	1.11	98.71	< 1	35	15	20	2	< 20	< 10	210	51	3	< 5
548179	70.24	17.46	1.26	0.054	0.21	1.85	6.64	1.18	0.105	0.17	0.54	99.70	< 1	18	9	< 20	1	< 20	< 10	110	34	1	< 5
548180	77.04	10.17	4.36	0.049	0.80	1.27	1.16	1.80	0.603	0.31	1.19	98.74	8	39	56	70	6	20	340	150	29	4	52
548181	69.26	16.91	1.62	0.108	0.31	1.56	5.76	1.75	0.117	0.32	0.87	98.58	< 1	17	13	20	1	< 20	< 10	150	46	2	< 5
548182	70.01	16.73	1.10	0.104	0.18	1.86	6.89	1.07	0.095	0.21	0.49	98.73	< 1	21	8	< 20	< 1	< 20	< 10	100	34	2	< 5
548183	70.10	17.22	0.98	0.107	0.20	1.43	6.89	1.33	0.071	0.26	0.74	99.33	< 1	213	8	< 20	1	< 20	< 10	130	42	3	< 5
548184	70.48	16.86	1.19	0.012	0.18	2.72	6.11	1.21	0.119	< 0.01	0.25	99.13	< 1	2	8	20	< 1	< 20	< 10	60	24	< 1	< 5
548185	70.21	16.72	1.16	0.012	0.19	2.71	6.08	1.36	0.136	0.02	0.30	98.90	< 1	2	8	< 20	< 1	< 20	< 10	70	24	< 1	< 5
548186	70.33	16.90	1.08	0.013	0.20	2.71	6.15	1.21	0.141	0.03	0.37	99.13	< 1	3	8	30	< 1	< 20	< 10	70	24	< 1	< 5
548187	70.91	17.53	0.91	0.066	0.16	1.10	6.91	1.31	0.053	0.17	0.76	99.89	< 1	98	6	20	< 1	< 20	< 10	130	43	3	< 5
548188	70.79	17.14	1.23	0.021	0.18	2.56	6.22	1.15	0.125	0.02	0.29	99.73	< 1	6	8	20	< 1	< 20	< 10	70	24	< 1	< 5
548189	70.65	17.03	0.95	0.012	0.17	2.71	6.14	1.31	0.124	0.02	0.36	99.47	< 1	4	7	< 20	< 1	< 20	< 10	70	24	< 1	< 5
548190	95.85	0.44	4.01	0.040	0.04	0.02	0.07	0.05	0.023	< 0.01	-0.40	100.1	< 1	< 1	5	20	1	20	< 10	< 30	1	1	< 5
548191	70.30	17.22	0.86	0.239	0.08	0.87	7.22	1.42	0.039	0.09	0.65	98.99	< 1	69	5	< 20	< 1	< 20	< 10	80	41	3	< 5
548192	71.23	17.02	1.14	0.017	0.17	2.62	6.18	1.09	0.122	0.01	0.34	99.94	< 1	6	7	< 20	< 1	< 20	< 10	70	25	< 1	< 5
548193	71.62	16.62	0.95	0.173	0.11	1.12	7.25	1.02	0.055	0.05	0.62	99.59	< 1	73	< 5	< 20	< 1	< 20	< 10	80	34	2	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548194	70.75	16.98	1.10	0.015	0.18	2.70	6.08	1.03	0.119	< 0.01	0.41	99.38	< 1	10	8	< 20	< 1	< 20	< 10	70	25	< 1	< 5
548195	70.17	17.42	1.18	0.015	0.18	2.69	6.07	1.07	0.124	0.01	0.34	99.27	< 1	10	10	< 20	< 1	< 20	< 10	60	23	< 1	< 5
548196	72.86	15.97	1.14	0.607	0.03	0.48	7.33	0.94	0.020	0.10	0.19	99.67	< 1	29	< 5	< 20	< 1	< 20	< 10	50	35	4	< 5
548197	72.71	16.10	0.94	0.393	0.03	0.43	7.68	0.64	0.009	0.05	0.15	99.11	< 1	47	< 5	< 20	< 1	< 20	< 10	< 30	36	3	< 5
548198	73.44	15.93	1.04	0.648	0.02	0.42	8.02	0.60	0.009	0.08	0.13	100.3	< 1	7	< 5	< 20	< 1	< 20	< 10	< 30	34	4	< 5
548199	72.19	15.61	1.27	0.023	0.26	2.44	5.59	1.55	0.139	0.04	0.38	99.50	< 1	5	12	30	1	< 20	< 10	90	25	< 1	< 5
548200	76.64	9.30	4.60	0.052	0.93	1.60	1.29	1.99	0.792	0.36	1.24	98.79	11	34	68	70	7	< 20	300	130	26	4	37
548201	71.57	16.43	1.28	0.019	0.19	2.64	6.01	1.47	0.120	0.03	0.32	100.1	< 1	6	8	20	< 1	< 20	< 10	70	26	< 1	< 5
548202	70.72	16.50	1.14	0.027	0.16	2.47	6.10	1.43	0.112	0.05	0.33	99.03	< 1	9	9	30	< 1	< 20	< 10	70	26	< 1	< 5
548203	71.18	16.60	0.89	0.133	0.08	0.90	5.90	1.67	0.037	0.04	0.55	97.98	< 1	12	< 5	20	< 1	< 20	< 10	60	39	2	< 5
548204	72.03	16.73	1.39	0.026	0.22	2.35	5.62	1.07	0.157	0.05	0.57	100.2	< 1	9	10	20	< 1	< 20	< 10	90	24	< 1	< 5
548205	73.69	15.23	0.93	0.102	0.09	0.78	5.08	1.58	0.042	0.02	0.79	98.33	< 1	129	5	30	< 1	< 20	< 10	80	37	2	< 5
548206	71.60	16.31	0.84	0.324	0.06	0.73	7.86	0.56	0.024	0.05	0.43	98.78	< 1	19	< 5	< 20	< 1	< 20	< 10	50	35	3	< 5
548207	71.10	17.10	1.16	0.015	0.17	2.63	5.88	1.31	0.126	0.03	0.39	99.92	< 1	3	8	30	< 1	< 20	< 10	70	25	< 1	< 5
548208	71.78	17.07	0.87	0.016	0.16	2.53	5.69	1.58	0.117	0.01	0.48	100.3	< 1	4	8	30	< 1	< 20	< 10	70	24	< 1	< 5
548209	71.22	15.98	1.10	0.078	0.13	1.93	6.24	1.21	0.092	0.05	0.54	98.57	< 1	26	7	20	< 1	< 20	< 10	70	26	1	< 5
548210	96.06	0.38	3.73	0.038	0.01	0.02	0.08	0.06	0.011	< 0.01	-0.49	99.89	< 1	< 1	< 5	30	< 1	< 20	< 10	< 30	< 1	< 1	< 5
548211	71.55	16.21	1.10	0.017	0.17	2.56	5.97	1.36	0.118	0.03	0.47	99.56	< 1	3	7	20	< 1	< 20	< 10	70	25	< 1	< 5
548212	69.69	16.88	1.68	0.021	0.40	2.53	5.49	1.73	0.203	0.10	0.54	99.26	< 1	3	15	20	2	< 20	< 10	170	26	< 1	< 5
548213	71.71	15.92	0.96	0.339	0.05	1.08	7.08	1.20	0.026	0.12	0.33	98.81	< 1	76	< 5	30	< 1	< 20	< 10	40	31	3	< 5
548214	70.88	16.79	1.03	0.014	0.17	2.60	5.81	1.26	0.121	0.02	0.36	99.06	< 1	3	8	< 20	< 1	< 20	< 10	80	24	< 1	< 5
548215	70.42	16.54	1.11	0.014	0.15	2.62	5.92	1.26	0.117	0.02	0.29	98.46	< 1	3	7	20	< 1	< 20	< 10	60	23	< 1	< 5
548216	70.80	16.64	0.95	0.033	0.17	2.29	5.75	1.68	0.117	0.06	0.44	98.92	< 1	5	8	< 20	< 1	< 20	< 10	80	26	< 1	< 5
548217	71.09	17.07	1.10	0.017	0.16	2.58	5.80	1.61	0.120	0.04	0.27	99.84	< 1	3	7	20	< 1	< 20	< 10	70	24	< 1	< 5
548218	71.02	17.25	1.00	0.030	0.15	2.37	5.82	1.73	0.108	0.06	0.26	99.81	< 1	9	6	20	< 1	< 20	< 10	70	25	< 1	< 5
548219	72.84	15.55	0.62	0.302	0.02	0.46	6.49	1.76	0.008	0.05	0.28	98.37	< 1	236	< 5	20	< 1	< 20	< 10	< 30	33	3	< 5
548220	75.21	10.28	4.43	0.051	0.76	1.27	1.16	1.80	0.565	0.28	1.11	96.91	8	39	56	100	7	< 20	340	160	29	4	47
548221	71.48	16.99	1.13	0.017	0.17	2.56	5.92	1.34	0.123	0.04	0.25	100.0	< 1	5	8	30	< 1	< 20	< 10	70	24	< 1	< 5
548222	71.90	15.75	1.10	0.244	0.13	1.08	6.23	2.13	0.063	0.05	0.31	98.98	< 1	29	< 5	20	< 1	< 20	< 10	70	30	2	< 5
548223	69.89	16.86	1.17	0.013	0.17	2.64	5.90	1.38	0.122	0.02	0.26	98.41	< 1	2	8	20	< 1	< 20	< 10	70	23	< 1	< 5
548224	69.79	16.75	0.99	0.011	0.19	2.63	5.92	1.48	0.126	0.03	0.27	98.19	< 1	4	8	30	< 1	< 20	< 10	70	24	< 1	< 5
548225	70.24	16.63	1.05	0.023	0.30	1.95	5.83	2.05	0.124	0.05	0.54	98.78	< 1	4	8	30	1	< 20	< 10	70	24	< 1	< 5
548226	73.42	15.47	0.72	0.135	0.13	0.76	6.27	2.69	0.037	0.07	0.35	100.1	< 1	83	5	< 20	< 1	< 20	< 10	110	30	2	< 5
548227	70.80	16.56	0.68	0.105	0.10	1.51	6.26	1.93	0.067	0.09	0.30	98.41	< 1	15	< 5	30	< 1	< 20	< 10	210	29	2	< 5
548228	69.88	17.30	0.89	0.239	0.11	1.62	5.94	2.16	0.074	0.03	0.30	98.54	< 1	43	6	30	< 1	20	< 10	100	29	2	< 5
548229	71.40	17.28	0.95	0.023	0.17	2.53	6.00	1.49	0.116	0.04	0.28	100.3	< 1	5	8	20	< 1	< 20	< 10	70	24	< 1	< 5
548230	95.93	0.72	2.85	0.027	0.02	0.04	0.19	0.09	0.032	< 0.01	-0.37	99.54	< 1	< 1	< 5	20	2	< 20	< 10	< 30	2	< 1	< 5
548231	71.42	17.08	1.00	0.024	0.17	2.56	6.22	1.31	0.122	0.06	0.27	100.2	< 1	6	8	20	< 1	< 20	< 10	80	26	< 1	< 5
548232	69.00	17.50	1.92	0.021	0.46	2.72	5.70	1.64	0.229	0.12	0.37	99.69	< 1	5	15	20	2	< 20	< 10	140	27	< 1	< 5
548233	70.88	16.24	1.10	0.013	0.18	2.68	6.11	1.40	0.128	0.02	0.27	99.01	< 1	3	9	20	< 1	< 20	< 10	70	25	< 1	< 5
548234	70.26	16.54	1.03	0.015	0.19	2.61	5.99	1.40	0.121	0.06	0.26	98.47	< 1	3	8	30	< 1	< 20	< 10	160	24	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548235	71.12	17.11	0.92	0.013	0.19	2.67	6.09	1.39	0.128	0.05	0.36	100.1	< 1	3	9	< 20	1	< 20	< 10	70	25	< 1	< 5
548236	71.70	15.60	0.86	0.115	0.12	1.62	6.48	1.51	0.067	0.05	0.29	98.39	< 1	8	< 5	30	< 1	< 20	< 10	80	28	2	< 5
548237	73.20	14.77	0.87	0.280	0.03	0.25	4.86	4.38	0.009	0.04	0.30	99.00	< 1	41	< 5	30	< 1	< 20	< 10	100	32	3	< 5
548238	74.71	14.75	0.64	0.167	0.05	0.34	5.88	2.62	0.011	0.02	0.31	99.51	< 1	159	< 5	20	< 1	< 20	< 10	50	33	2	< 5
548239	68.93	15.84	1.16	0.201	1.30	1.14	6.51	2.27	0.011	0.03	1.50	98.87	< 1	276	< 5	20	< 1	< 20	< 10	60	34	2	< 5
548240	75.61	10.11	4.37	0.049	0.76	1.28	1.16	1.79	0.591	0.31	1.15	97.17	9	39	55	90	7	< 20	350	160	29	4	48
548241	72.83	14.87	0.77	0.299	0.03	0.26	6.24	3.20	0.003	0.04	0.19	98.72	< 1	8	< 5	20	< 1	< 20	< 10	70	28	2	< 5
548242	69.89	16.86	1.07	0.027	0.33	1.79	6.33	1.58	0.114	0.02	0.81	98.82	< 1	4	8	30	< 1	< 20	< 10	80	24	< 1	< 5
548243	69.81	16.96	0.94	0.016	0.29	2.37	6.04	1.53	0.115	0.03	0.75	98.85	< 1	3	9	20	< 1	< 20	< 10	70	25	< 1	< 5
548244	70.29	17.02	0.91	0.037	0.29	1.85	6.39	1.85	0.110	0.07	0.77	99.59	< 1	8	7	30	< 1	< 20	< 10	70	25	< 1	< 5
548245	70.52	16.78	0.95	0.089	0.24	1.71	6.31	1.86	0.094	0.08	0.64	99.28	< 1	7	6	20	< 1	< 20	< 10	100	26	1	< 5
548246	71.76	16.15	0.85	0.106	0.20	0.69	6.19	2.87	0.057	0.07	0.69	99.62	< 1	9	< 5	20	< 1	< 20	< 10	120	29	2	< 5
548247	71.42	15.54	0.96	0.255	0.06	0.36	6.44	2.84	0.015	0.10	0.38	98.36	< 1	37	< 5	20	< 1	< 20	< 10	210	34	2	< 5
548248	69.25	17.55	1.02	0.030	0.27	2.05	6.41	1.56	0.123	0.03	0.76	99.05	< 1	5	7	20	< 1	< 20	< 10	110	29	< 1	< 5
548249	68.81	17.04	1.37	0.013	0.30	2.65	5.89	1.55	0.166	0.05	0.41	98.24	< 1	2	11	20	1	< 20	< 10	100	29	< 1	< 5
548250	95.79	0.73	3.56	0.035	0.04	0.05	0.15	0.13	0.027	0.01	-0.34	100.2	< 1	< 1	6	< 20	2	< 20	10	< 30	2	1	< 5
548251	72.31	16.02	1.05	0.085	0.20	1.58	6.14	2.31	0.092	0.06	0.40	100.3	< 1	4	8	< 20	< 1	< 20	< 10	90	30	2	< 5
548252	71.33	16.38	0.95	0.066	0.42	1.38	6.40	2.26	0.092	0.11	0.79	100.2	< 1	12	8	< 20	< 1	< 20	< 10	70	31	1	< 5
548253	69.65	17.15	0.94	0.126	0.15	1.68	5.97	2.57	0.089	0.07	0.42	98.82	< 1	10	6	< 20	< 1	< 20	< 10	70	29	2	< 5
548254	69.54	16.94	0.94	0.177	0.12	1.58	6.01	2.61	0.075	0.11	0.34	98.45	< 1	8	< 5	20	< 1	< 20	< 10	130	30	2	< 5
548255	69.42	17.88	0.78	0.020	0.17	2.60	6.13	1.49	0.128	0.04	0.44	99.12	< 1	4	8	20	< 1	< 20	< 10	70	27	< 1	< 5
548256	71.09	17.33	1.01	0.023	0.17	2.56	6.04	1.51	0.122	0.04	0.36	100.3	< 1	4	8	20	< 1	< 20	< 10	80	28	< 1	< 5
548257	69.73	17.48	1.02	0.056	0.16	2.16	5.97	1.92	0.105	0.04	0.35	99.00	< 1	4	7	20	< 1	< 20	< 10	50	28	1	< 5
548258	70.34	17.49	0.91	0.016	0.17	2.65	6.11	1.40	0.127	0.07	0.35	99.64	< 1	6	7	< 20	< 1	< 20	< 10	60	28	< 1	< 5
548259	70.70	17.07	1.14	0.012	0.19	2.68	6.04	1.31	0.140	0.03	0.39	99.70	< 1	2	9	< 20	< 1	< 20	< 10	70	28	< 1	< 5
548260	75.32	9.60	4.83	0.052	0.88	1.63	1.29	1.98	0.832	0.35	1.20	97.97	11	34	63	80	7	30	300	130	26	4	36
548261	70.03	17.48	1.17	0.014	0.17	2.70	6.17	1.25	0.125	0.03	0.33	99.46	< 1	4	8	20	< 1	< 20	< 10	60	27	< 1	< 5
548262	69.43	17.08	1.03	0.421	0.13	1.88	6.97	1.05	0.099	0.04	0.37	98.49	< 1	7	7	< 20	< 1	< 20	< 10	60	33	2	< 5
548263	70.55	17.34	1.10	0.111	0.16	2.37	6.46	1.27	0.116	0.06	0.31	99.86	< 1	7	8	20	< 1	< 20	< 10	70	29	1	< 5
548264	70.83	16.30	1.04	0.152	0.13	1.71	6.98	1.06	0.094	0.04	0.26	98.61	< 1	11	6	20	< 1	< 20	< 10	70	31	2	< 5
548265	71.47	16.32	0.97	0.100	0.16	2.31	6.48	1.24	0.119	0.08	0.30	99.55	< 1	5	7	< 20	< 1	< 20	< 10	60	29	1	< 5
548266	70.41	17.09	0.89	0.046	0.14	1.72	6.06	2.41	0.087	0.05	0.40	99.31	< 1	13	6	< 20	< 1	< 20	< 10	60	32	2	< 5
548267	71.41	16.77	0.83	0.071	0.11	1.21	5.82	1.56	0.063	0.04	0.41	98.28	< 1	29	< 5	20	< 1	< 20	< 10	50	39	2	< 5
548268	72.59	15.23	0.86	0.268	0.11	1.15	5.55	1.64	0.037	0.41	0.63	98.49	< 1	135	5	< 20	< 1	< 20	< 10	80	41	3	< 5
548269	68.62	16.94	0.74	0.037	0.11	0.22	2.27	9.52	0.050	0.02	0.53	99.06	< 1	20	< 5	20	< 1	< 20	< 10	60	35	3	< 5
548270	97.31	0.29	1.81	0.019	< 0.01	0.02	0.04	0.03	0.014	< 0.01	-0.19	99.34	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
548271	68.10	20.00	0.83	0.090	0.08	0.73	4.81	2.07	0.034	< 0.01	0.94	97.67	< 1	3438	< 5	20	< 1	< 20	< 10	60	55	3	< 5
548272	74.03	15.18	1.13	0.062	0.20	0.70	3.83	3.63	0.082	0.02	0.83	99.69	< 1	35	6	30	1	< 20	< 10	710	41	3	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548153	102	1058	2	123	5	< 2	0.7	< 0.2	3	< 0.5	47.2	849	< 0.4	3.7	1.7	< 1	0.6	9	1.4	0.7	0.06	0.13	
548154	177	1083	3	128	5	< 2	0.7	< 0.2	3	< 0.5	124	798	< 0.4	4.1	1.4	< 1	1.3	9	1.5	1.0	0.06	0.13	
548155	182	1049	2	126	6	< 2	0.8	< 0.2	3	< 0.5	126	815	< 0.4	4.0	1.7	< 1	1.3	11	1.6	0.9	0.06	0.13	
548156	598	150	3	98	65	< 2	0.6	< 0.2	11	< 0.5	306	137	0.5	16.9	107	< 1	4.3	10	4.9	11.8	0.04	0.08	
548157	262	913	3	110	9	< 2	0.6	< 0.2	3	< 0.5	120	723	< 0.4	3.4	4.8	< 1	2.0	12	1.5	1.2	0.05	0.10	
548158	93	1080	3	125	5	< 2	0.8	< 0.2	2	< 0.5	48.2	849	< 0.4	3.7	2.8	< 1	0.7	9	1.6	0.9	0.06	0.13	
548159	86	1055	3	126	4	< 2	0.7	< 0.2	2	< 0.5	12.9	815	< 0.4	3.9	0.8	< 1	0.5	9	1.5	0.7	0.03	0.07	
548160	1130	291	29	200	1110	8	1.3	2.7	755	7.6	215	2022	11.4	5.1	16.9	6	10.2	27	95.1	16.3	0.25	0.54	
548161	284	791	2	99	22	< 2	0.6	< 0.2	9	< 0.5	16.8	607	< 0.4	3.7	6.7	< 1	1.9	10	1.8	2.1	0.03	0.06	
548162	362	857	< 2	110	12	< 2	0.6	< 0.2	2	< 0.5	28.3	757	< 0.4	3.5	3.6	2	2.4	9	2.2	0.9	0.04	0.08	
548163	145	946	2	120	11	< 2	0.7	< 0.2	4	< 0.5	21.2	760	< 0.4	4.0	5.9	< 1	0.9	9	1.6	1.3	0.04	0.08	2.71
548164	94	1038	2	126	4	2	0.6	< 0.2	2	< 0.5	15.9	800	< 0.4	4.0	0.9	< 1	0.6	9	1.5	0.8	0.04	0.08	
548165	699	429	3	62	36	< 2	< 0.5	< 0.2	18	< 0.5	30.0	356	< 0.4	3.8	11.8	< 1	4.2	13	1.8	2.8	0.02	0.05	
548166	238	912	4	127	12	< 2	0.6	< 0.2	4	< 0.5	24.5	708	< 0.4	4.3	3.2	< 1	1.5	87	2.3	3.5	0.04	0.08	
548167	48	1068	3	133	4	< 2	0.7	< 0.2	< 1	< 0.5	8.3	796	< 0.4	3.9	0.4	< 1	0.3	8	1.5	0.6	0.04	0.08	
548168	77	1052	< 2	127	4	< 2	0.6	< 0.2	1	< 0.5	11.5	794	< 0.4	3.7	0.6	< 1	0.5	9	1.6	0.7	0.04	0.08	
548169	453	434	2	78	33	< 2	< 0.5	< 0.2	15	< 0.5	30.7	295	< 0.4	4.6	16.7	< 1	2.4	9	2.0	4.7	0.03	0.07	
548170	2	4	5	40	< 1	3	< 0.5	< 0.2	1	< 0.5	< 0.5	20	< 0.4	1.2	0.1	10	< 0.1	< 5	1.5	0.4	< 0.01	< 0.01	
548171	538	750	< 2	95	24	< 2	0.6	< 0.2	8	< 0.5	34.2	591	< 0.4	3.5	8.5	< 1	3.3	8	2.2	3.8	0.04	0.08	
548172	110	1063	4	125	5	< 2	0.7	< 0.2	2	< 0.5	20.3	784	< 0.4	4.1	1.3	< 1	0.8	10	1.5	0.8	0.04	0.08	
548173	286	850	< 2	123	8	< 2	0.7	< 0.2	16	< 0.5	35.1	627	< 0.4	4.0	1.2	< 1	1.5	8	1.5	1.0	0.05	0.10	2.73
548174	518	101	3	66	61	< 2	< 0.5	< 0.2	15	< 0.5	39.3	68	< 0.4	7.9	25.5	< 1	3.1	8	2.2	12.8	0.02	0.04	
548175	517	94	2	63	59	< 2	< 0.5	< 0.2	13	< 0.5	37.6	64	< 0.4	7.8	21.7	< 1	2.9	6	2.0	12.8	0.01	0.03	
548176	601	127	3	46	72	< 2	< 0.5	< 0.2	16	< 0.5	46.1	90	< 0.4	6.2	26.7	< 1	3.6	8	2.9	12.2	0.02	0.04	
548177	140	999	2	119	5	< 2	0.6	< 0.2	3	< 0.5	26.8	938	< 0.4	3.8	0.3	< 1	1.0	12	1.4	0.8	0.04	0.08	
548178	1340	296	< 2	42	90	< 2	< 0.5	< 0.2	61	< 0.5	133	140	< 0.4	2.6	34.1	< 1	7.5	18	2.4	1.6	0.14	0.30	
548179	625	660	3	103	33	< 2	0.5	< 0.2	23	< 0.5	77.8	388	< 0.4	4.2	11.1	< 1	3.7	8	2.3	3.2	0.08	0.18	
548180	1290	223	20	151	1500	9	1.0	4.0	1130	11.7	290	1023	15.2	3.9	22.0	6	11.2	24	50.3	8.6	0.48	1.04	
548181	1020	453	3	71	65	< 2	< 0.5	< 0.2	45	< 0.5	103	279	< 0.4	3.6	16.7	< 1	5.8	7	2.5	3.1	0.10	0.23	
548182	548	598	3	103	34	< 2	0.5	< 0.2	18	< 0.5	79.1	453	< 0.4	5.7	13.9	2	3.3	9	1.6	3.9	0.07	0.14	
548183	699	404	< 2	82	55	< 2	< 0.5	< 0.2	31	< 0.5	98.2	147	< 0.4	5.3	27.4	3	3.9	10	3.1	4.5	0.09	0.20	2.73
548184	73	1091	2	113	3	< 2	0.6	< 0.2	1	< 0.5	18.5	813	< 0.4	3.4	0.6	< 1	0.6	9	1.3	1.0	0.06	0.13	
548185	34	1087	3	120	4	< 2	0.7	< 0.2	1	< 0.5	9.1	861	< 0.4	3.8	0.7	< 1	0.2	9	1.5	0.8	0.05	0.11	
548186	90	1075	3	132	4	< 2	0.7	< 0.2	1	< 0.5	18.8	850	< 0.4	4.1	0.3	< 1	0.6	9	1.5	1.3	0.15	0.33	
548187	726	317	< 2	43	61	< 2	< 0.5	< 0.2	27	< 0.5	90.7	86	< 0.4	3.4	43.5	< 1	4.2	10	3.8	4.2	0.15	0.33	
548188	186	1021	2	122	6	< 2	0.7	< 0.2	3	< 0.5	40.2	779	< 0.4	3.9	3.6	< 1	1.5	8	1.7	1.4	0.06	0.12	
548189	114	1079	< 2	119	4	< 2	0.6	< 0.2	2	< 0.5	35.8	850	< 0.4	3.7	1.0	< 1	0.8	10	1.4	1.9	0.06	0.12	
548190	2	5	5	45	< 1	2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	16	< 0.4	1.4	0.1	< 1	< 0.1	< 5	1.8	0.6	< 0.01	< 0.01	
548191	713	233	2	43	75	3	< 0.5	< 0.2	18	< 0.5	133	90	< 0.4	4.7	108	4	4.9	14	2.3	5.5	0.27	0.57	
548192	280	999	< 2	118	4	< 2	0.6	< 0.2	4	< 0.5	90.4	796	< 0.4	3.6	0.9	< 1	2.3	9	1.4	2.1	0.07	0.15	
548193	539	350	< 2	64	38	< 2	< 0.5	< 0.2	18	< 0.5	132	152	1.5	4.7	31.7	< 1	3.3	11	2.9	4.1	0.08	0.18	2.72

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548194	313	1068	4	119	4	< 2	0.6	< 0.2	4	< 0.5	106	819	< 0.4	3.7	0.4	< 1	2.6	9	1.4	1.5	0.08	0.17	
548195	308	1114	2	117	4	< 2	0.5	< 0.2	4	< 0.5	103	854	< 0.4	3.4	0.5	< 1	2.5	9	1.3	1.6	0.08	0.17	
548196	322	123	< 2	50	46	< 2	< 0.5	< 0.2	8	< 0.5	67.6	79	< 0.4	7.5	35.2	< 1	2.2	22	3.3	14.3	0.11	0.23	
548197	205	105	3	39	63	< 2	< 0.5	< 0.2	5	< 0.5	50.9	20	< 0.4	6.7	57.1	< 1	1.4	31	3.9	13.7	0.09	0.19	
548198	136	96	2	55	50	< 2	< 0.5	< 0.2	3	< 0.5	30.9	40	< 0.4	9.2	34.5	< 1	1.0	22	3.4	17.6	0.07	0.14	
548199	456	866	2	113	6	< 2	0.6	< 0.2	3	< 0.5	127	879	< 0.4	3.5	1.5	< 1	3.5	10	1.4	1.8	0.10	0.21	
548200	1140	299	27	201	1080	7	1.2	2.8	729	7.8	219	2005	10.3	5.5	17.3	5	10.2	26	97.1	16.3	0.24	0.51	
548201	121	974	3	115	4	< 2	0.7	< 0.2	2	< 0.5	42.0	890	< 0.4	3.1	3.4	< 1	0.6	10	1.2	1.0	0.08	0.17	
548202	220	923	3	108	7	< 2	0.7	< 0.2	4	< 0.5	77.2	906	< 0.4	3.4	3.9	2	1.5	11	1.4	1.5	0.07	0.15	
548203	737	317	< 2	34	36	< 2	< 0.5	< 0.2	15	< 0.5	191	223	1.4	2.7	73.5	< 1	5.6	21	2.7	3.4	0.49	1.05	2.77
548204	490	893	3	108	7	< 2	0.9	< 0.2	9	< 0.5	223	851	< 0.4	5.7	3.9	4	4.2	9	1.7	1.5	0.08	0.17	
548205	890	238	< 2	10	22	< 2	< 0.5	< 0.2	16	< 0.5	256	94	2.7	1.4	56.7	4	6.5	31	4.3	5.6	0.31	0.67	
548206	260	210	< 2	29	47	< 2	< 0.5	< 0.2	10	< 0.5	77.6	85	< 0.4	5.2	30.7	5	1.9	16	5.5	11.5	0.02	0.05	
548207	190	998	< 2	88	2	< 2	< 0.5	< 0.2	2	< 0.5	79.4	927	< 0.4	2.7	0.7	3	1.7	11	1.4	1.7	0.07	0.16	
548208	128	967	< 2	81	4	2	< 0.5	< 0.2	2	< 0.5	34.3	869	< 0.4	2.4	2.2	3	0.9	11	1.4	1.2	0.08	0.16	
548209	362	695	< 2	71	10	< 2	0.6	< 0.2	8	< 0.5	160	566	< 0.4	4.6	49.0	3	2.9	11	2.8	2.7	0.06	0.13	
548210	2	2	3	32	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	16	< 0.4	1.2	0.1	3	< 0.1	< 5	1.1	0.4	< 0.01	< 0.01	
548211	131	931	< 2	88	3	< 2	0.7	< 0.2	2	< 0.5	53.8	857	< 0.4	3.2	1.6	3	1.1	12	1.5	1.2	0.06	0.12	
548212	319	934	< 2	103	6	5	0.6	< 0.2	4	< 0.5	93.1	1027	< 0.4	3.2	1.5	3	2.4	11	1.6	2.6	0.10	0.21	
548213	353	314	3	40	28	< 2	< 0.5	< 0.2	3	< 0.5	62.8	183	4.1	5.4	21.8	6	2.8	28	5.8	11.3	0.06	0.12	2.71
548214	202	996	< 2	94	3	< 2	< 0.5	< 0.2	2	< 0.5	53.0	858	< 0.4	2.7	0.3	7	1.8	11	1.3	1.1	0.08	0.16	
548215	193	975	< 2	90	2	< 2	< 0.5	< 0.2	1	< 0.5	49.1	872	< 0.4	2.8	0.3	4	1.7	10	1.3	1.1	0.06	0.13	
548216	324	847	< 2	84	5	< 2	0.5	< 0.2	2	< 0.5	67.0	811	0.4	2.7	2.6	6	2.5	13	1.7	1.9	0.09	0.20	
548217	104	986	2	96	3	< 2	0.5	< 0.2	2	< 0.5	18.7	867	< 0.4	2.9	0.8	3	0.7	10	1.4	1.0	0.08	0.17	
548218	317	878	< 2	89	8	< 2	< 0.5	< 0.2	4	< 0.5	86.5	824	< 0.4	2.9	4.6	4	2.3	11	2.0	2.3	0.08	0.17	
548219	572	129	< 2	23	65	< 2	< 0.5	< 0.2	4	< 0.5	287	148	< 0.4	3.4	97.8	4	4.4	21	8.9	14.2	0.16	0.34	
548220	1270	213	20	123	1050	9	1.0	4.1	998	11.7	298	1034	14.9	3.3	22.2	9	11.7	24	50.9	8.4	0.48	1.03	
548221	209	963	< 2	102	5	< 2	0.6	< 0.2	3	< 0.5	80.0	864	< 0.4	3.1	1.2	3	1.9	10	1.4	1.3	0.07	0.15	
548222	637	386	3	41	25	< 2	< 0.5	< 0.2	5	< 0.5	184	387	< 0.4	2.9	12.4	3	4.8	17	4.0	8.1	0.06	0.13	
548223	101	1032	< 2	104	3	< 2	0.8	< 0.2	1	< 0.5	39.9	944	< 0.4	3.4	0.3	3	0.9	10	1.3	1.2	0.06	0.12	2.69
548224	84	1018	< 2	101	4	< 2	0.8	< 0.2	2	< 0.5	16.9	972	< 0.4	3.4	1.1	4	0.6	10	1.4	1.0	0.05	0.10	
548225	328	806	2	87	9	< 2	0.6	< 0.2	2	< 0.5	38.7	811	< 0.4	3.2	3.4	4	2.2	13	1.3	1.8	0.04	0.09	
548226	1050	294	< 2	48	38	< 2	< 0.5	< 0.2	5	< 0.5	262	269	< 0.4	4.3	56.6	1	8.0	25	4.5	7.8	0.03	0.07	
548227	625	542	< 2	63	40	< 2	< 0.5	< 0.2	5	< 0.5	150	435	< 0.4	4.1	68.9	3	5.0	14	2.9	5.5	0.06	0.13	
548228	660	638	< 2	70	33	< 2	< 0.5	< 0.2	7	< 0.5	104	515	< 0.4	3.4	17.5	3	5.0	13	4.2	5.9	0.07	0.15	
548229	194	1004	< 2	102	6	< 2	0.7	< 0.2	2	< 0.5	33.6	808	< 0.4	3.6	2.0	4	1.6	11	1.5	1.7	0.06	0.13	
548230	5	5	4	40	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.8	15	< 0.4	1.5	0.4	3	< 0.1	< 5	1.8	0.6	< 0.01	< 0.01	
548231	226	975	< 2	104	7	< 2	0.6	< 0.2	3	< 0.5	43.8	787	< 0.4	3.3	4.0	3	1.7	10	1.7	1.4	0.05	0.11	
548232	164	1031	< 2	122	9	< 2	0.7	< 0.2	3	< 0.5	62.3	1050	< 0.4	3.9	3.0	3	1.3	11	1.6	1.0	0.06	0.14	
548233	81	1017	2	113	4	< 2	0.6	< 0.2	2	< 0.5	18.2	869	< 0.4	3.5	1.1	2	0.5	10	1.4	1.1	0.04	0.09	2.68
548234	190	986	< 2	113	4	< 2	0.7	< 0.2	2	< 0.5	81.1	910	< 0.4	3.5	0.7	3	1.5	13	1.4	1.5	0.04	0.09	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548235	200	1033	< 2	117	4	< 2	0.6	< 0.2	2	< 0.5	85.4	905	< 0.4	3.8	0.5	2	1.5	9	1.5	1.4	0.04	0.09	
548236	453	578	< 2	77	28	< 2	0.5	< 0.2	6	< 0.5	102	528	< 0.4	4.6	17.9	2	3.6	9	1.8	3.7	0.02	0.05	
548237	1300	95	< 2	17	49	< 2	< 0.5	< 0.2	16	< 0.5	86.9	156	0.6	2.3	36.6	4	9.0	14	3.0	8.9	0.01	0.02	
548238	863	108	< 2	16	72	< 2	< 0.5	< 0.2	7	< 0.5	71.0	110	2.8	3.0	65.9	5	6.4	19	4.7	8.0	0.01	0.02	
548239	546	130	2	39	84	< 2	< 0.5	< 0.2	6	< 0.5	57.6	113	4.6	5.9	78.6	4	4.1	34	7.6	30.7	0.02	0.03	
548240	1260	217	19	146	1390	9	1.0	4.2	1130	13.4	304	1033	15.2	3.8	23.4	7	11.8	24	51.3	8.7	0.47	1.02	
548241	769	88	< 2	37	70	< 2	< 0.5	< 0.2	2	< 0.5	42.1	170	< 0.4	5.6	38.6	3	6.1	28	6.2	13.8	< 0.01	< 0.01	
548242	138	757	2	110	7	< 2	0.7	< 0.2	3	< 0.5	14.9	825	< 0.4	3.8	2.5	4	1.1	18	1.5	1.9	0.02	0.05	
548243	79	924	2	113	4	< 2	0.7	< 0.2	1	< 0.5	11.0	911	< 0.4	3.4	0.6	10	0.6	9	1.4	0.9	0.03	0.06	2.71
548244	310	751	< 2	106	9	< 2	0.6	< 0.2	4	< 0.5	32.6	726	< 0.4	3.7	4.5	3	2.2	13	1.7	2.1	0.02	0.05	
548245	373	666	2	98	14	< 2	< 0.5	< 0.2	5	< 0.5	35.5	688	< 0.4	4.6	10.6	3	2.6	12	1.9	1.6	0.02	0.05	
548246	742	300	< 2	59	35	< 2	< 0.5	< 0.2	7	< 0.5	42.7	340	2.9	3.2	13.4	3	5.1	23	2.5	8.4	0.01	0.03	
548247	815	107	3	41	77	< 2	< 0.5	< 0.2	12	< 0.5	50.4	144	< 0.4	5.4	46.3	2	5.6	26	3.6	11.7	< 0.01	0.02	
548248	140	828	< 2	99	4	2	0.5	< 0.2	3	< 0.5	15.5	847	< 0.4	3.0	1.2	< 1	1.0	16	1.3	2.4	0.03	0.05	
548249	61	972	< 2	105	3	< 2	0.6	< 0.2	1	< 0.5	10.0	918	< 0.4	3.1	0.4	< 1	0.5	10	1.4	0.9	0.04	0.09	
548250	15	10	5	35	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.9	48	< 0.4	1.1	0.4	< 1	0.2	< 5	1.4	0.6	< 0.01	< 0.01	
548251	491	583	3	89	24	< 2	< 0.5	< 0.2	4	< 0.5	21.0	529	1.1	3.3	11.9	< 1	2.8	24	2.2	4.2	0.03	0.06	
548252	699	505	< 2	97	26	< 2	< 0.5	< 0.2	10	< 0.5	54.8	433	< 0.4	3.8	10.8	< 1	4.4	13	2.3	7.1	0.04	0.09	
548253	691	643	< 2	79	17	< 2	< 0.5	< 0.2	3	< 0.5	52.5	572	0.8	3.9	11.0	2	5.9	14	2.5	8.0	0.03	0.06	2.73
548254	707	591	2	74	16	< 2	< 0.5	< 0.2	3	< 0.5	49.0	536	0.8	4.7	9.1	4	6.3	18	3.1	10.4	0.03	0.06	
548255	184	1026	2	94	3	< 2	0.6	< 0.2	1	< 0.5	25.9	856	< 0.4	2.8	1.2	< 1	2.4	10	1.3	1.2	0.04	0.08	
548256	190	977	< 2	103	5	< 2	0.5	< 0.2	2	< 0.5	26.9	851	< 0.4	3.4	1.7	< 1	1.9	11	1.3	1.3	0.04	0.08	
548257	363	854	2	80	11	< 2	< 0.5	< 0.2	2	< 0.5	29.3	695	< 0.4	2.7	5.8	< 1	2.7	12	1.8	4.0	0.03	0.07	
548258	188	1009	2	104	4	< 2	0.5	< 0.2	2	< 0.5	32.3	876	< 0.4	3.1	2.5	< 1	1.7	10	1.4	1.5	0.04	0.09	
548259	100	967	< 2	111	3	< 2	0.6	< 0.2	< 1	< 0.5	24.5	861	< 0.4	3.4	0.3	< 1	1.1	10	1.4	1.4	0.04	0.09	
548260	1210	295	24	168	741	8	1.0	2.7	642	6.4	232	2039	10.3	4.3	16.5	4	10.5	26	90.6	15.8	0.23	0.49	
548261	173	1048	< 2	103	3	< 2	6.7	< 0.2	2	< 0.5	33.0	846	< 0.4	3.3	0.8	< 1	2.5	11	1.3	1.3	0.04	0.08	
548262	156	659	< 2	100	18	< 2	1.9	< 0.2	4	< 0.5	28.8	545	< 0.4	7.2	30.1	< 1	1.6	17	2.6	7.7	0.03	0.07	
548263	201	911	2	108	7	< 2	1.3	< 0.2	3	< 0.5	26.9	774	< 0.4	4.4	3.5	< 1	1.6	12	1.5	2.2	0.03	0.07	2.74
548264	299	597	< 2	106	11	< 2	1.0	< 0.2	11	< 0.5	29.3	442	< 0.4	5.5	4.6	< 1	1.9	15	1.9	5.8	0.03	0.07	
548265	138	834	< 2	104	11	< 2	1.0	< 0.2	2	< 0.5	17.8	743	< 0.4	4.2	4.8	< 1	1.2	11	1.6	2.8	0.03	0.06	
548266	1050	652	< 2	90	12	< 2	0.7	< 0.2	7	< 0.5	159	782	< 0.4	5.0	17.8	2	8.6	16	2.2	1.9	0.06	0.13	
548267	735	424	< 2	71	13	< 2	0.6	< 0.2	12	< 0.5	112	457	5.0	5.2	22.7	< 1	6.7	17	1.6	2.8	0.32	0.69	
548268	814	212	< 2	79	46	< 2	< 0.5	< 0.2	17	< 0.5	96.5	176	1.1	9.2	45.2	< 1	5.7	26	6.4	11.9	0.40	0.85	
548269	3870	380	< 2	5	21	< 2	< 0.5	< 0.2	16	< 0.5	271	2030	< 0.4	0.4	13.5	< 1	32.7	16	0.8	0.3	0.04	0.09	
548270	10	4	3	45	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.6	12	< 0.4	1.7	0.3	1	3.6	< 5	1.3	0.5	< 0.01	< 0.01	
548271	995	226	< 2	8	168	< 2	< 0.5	< 0.2	21	< 0.5	787	292	0.7	2.5	492	1	8.9	17	5.5	4.9	0.81	1.75	
548272	1930	348	< 2	12	38	< 2	< 0.5	< 0.2	23	< 0.5	211	685	2.9	0.8	28.2	< 1	15.4	19	1.7	0.7	0.12	0.27	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.36	1.83	0.83	0.010	0.34	42.65	0.89	0.54	0.120	30.21					1608								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.22	18.32	9.79	0.150	9.90	11.48	1.90	0.22	0.480	0.07			31		150	280	55	250	90	70	14		
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15		
GBW 07113 Meas	71.12	13.26	3.20	0.140	0.14	0.61	2.50	5.44	0.280	0.04			6	4	6								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																80	28	40	40	150			26
LKSD-3 Cert																87.0	30.0	47.0	35.0	152			27.0
TDB-1 Meas																260		100	350	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.43	15.90	11.16	0.170	6.12	11.11	2.21	0.61	1.110	0.13			35	< 1	264	90	42	70	110	80	18	2	< 5
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20
SY-4 Meas	49.71	20.38	6.11	0.110	0.49	8.12	6.90	1.65	0.280	0.13			2	3	6								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			50	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.07	15.32	11.35	0.170	9.58	13.60	1.83	0.02	0.950	0.03			43	< 1	324	370	50	170	120	70	16		
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16		
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30	4		870	90	17	10	65
NCS DC70009 (GBW07241) Cert																30	3.7		960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		160				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	45		400				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	43	< 20	410				
OREAS 101b (Fusion) Cert																	47	9	420				
JR-1 Meas																< 20	< 1	< 20	< 10	< 30	17	2	17
JR-1 Cert																2.83	0.83	1.67	2.68	30.6	16.1	1.88	16.3
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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NCS DC86304 Meas																							
NCS DC86304 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
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Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
548159 Orig																							
548159 Dup																							
548163 Orig																							
548163 Dup																							
548167 Orig	70.44	16.56	1.16	0.011	0.19	2.81	6.11	1.22	0.138	< 0.01	0.33	98.98	< 1	2	9	20	< 1	< 20	< 10	60	24	< 1	< 5
548167 Dup	71.16	16.73	1.12	0.011	0.20	2.81	6.16	1.23	0.137	0.02	0.33	99.90	< 1	2	11	< 20	< 1	< 20	< 10	60	23	< 1	< 5
548181 Orig																							
548181 Dup																							
548184 Orig	70.73	16.97	1.20	0.012	0.18	2.72	6.13	1.21	0.120	< 0.01	0.25	99.53	< 1	2	8	20	< 1	< 20	< 10	60	24	< 1	< 5
548184 Dup	70.24	16.74	1.18	0.012	0.18	2.71	6.08	1.21	0.119	0.01	0.25	98.74	< 1	2	7	20	< 1	< 20	< 10	60	24	< 1	< 5
548189 Orig																							
548189 Dup																							
548202 Orig	70.72	16.50	1.14	0.027	0.16	2.47	6.10	1.43	0.112	0.05	0.33	99.03	< 1	9	9	30	< 1	< 20	< 10	70	26	< 1	< 5
548202 Split PREP DUP	71.79	16.56	1.21	0.029	0.17	2.49	6.04	1.42	0.110	0.04	0.30	100.2	< 1	9	9	< 20	< 1	< 20	< 10	60	25	< 1	< 5
548202 Orig																20	< 1	< 20	< 10	70	25	< 1	< 5
548202 Split PREP DUP																20	< 1	< 20	< 10	70	25	< 1	< 5
548210 Orig																							
548210 Dup																							
548214 Orig	71.14	16.50	1.05	0.014	0.17	2.60	5.84	1.27	0.120	0.02	0.36	99.08	< 1	3	9	< 20	< 1	< 20	< 10	70	24	< 1	< 5
548214 Dup	70.62	17.08	1.01	0.013	0.17	2.60	5.78	1.25	0.122	0.03	0.36	99.03	< 1	3	8	20	< 1	< 20	60	90	23	< 1	< 5
548224 Orig																							
548224 Dup																							
548231 Orig	71.43	17.16	1.00	0.024	0.17	2.56	6.22	1.32	0.122	0.06	0.27	100.3	< 1	6	8	20	< 1	< 20	< 10	80	26	< 1	< 5
548231 Dup	71.41	17.00	1.01	0.024	0.17	2.57	6.21	1.31	0.122	0.07	0.27	100.2	< 1	6	8	20	< 1	< 20	< 10	70	25	< 1	< 5
548232 Orig																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548232 Dup																							
548246 Orig																							
548246 Dup																							
548253 Orig																							
548253 Dup																							
548261 Orig	69.54	17.44	1.17	0.014	0.17	2.70	6.18	1.25	0.125	0.03	0.33	98.95	< 1	4	8	20	< 1	< 20	< 10	60	27	< 1	< 5
548261 Dup	70.53	17.52	1.18	0.014	0.17	2.70	6.15	1.25	0.125	0.03	0.33	99.98	< 1	4	8	20	< 1	< 20	< 10	60	27	< 1	< 5
548267 Orig																							
548267 Dup																							
548272 Orig	74.03	15.18	1.13	0.062	0.20	0.70	3.83	3.63	0.082	0.02	0.83	99.69	< 1	35	6	30	1	< 20	< 10	710	41	3	< 5
548272 Split PREP DUP	74.59	15.10	1.05	0.061	0.17	0.72	3.91	3.54	0.070	0.01	0.75	99.98	< 1	33	< 5	40	1	< 20	< 10	130	39	3	< 5
Method Blank	< 0.01	0.01	0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	0.02	< 0.01	< 0.01	0.003	< 0.01			< 1	< 1	< 5								
Method Blank																							
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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas	4	141	16	37						0.9		108											
DNC-1 Cert	5	144.0	18.0	38						0.96		118											
GBW 07113 Meas		41	44	383								500											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	75					< 2	2.8		2	1.2	2.1			4.7	0.8				11.2	4.2			
LKSD-3 Cert	78.0					2.00	2.70		3.00	1.30	2.30			4.80	0.700				11.4	4.60			
TDB-1 Meas	22																		2.8				
TDB-1 Cert	23																		2.7				
W-2a Meas	20	199	19	88		< 2				0.7	1.0	172	< 0.4	2.4	0.5	1	0.1		2.2	0.5			
W-2a Cert	21.0	190	24.0	94.0		0.600				0.790	0.990	182	0.0300	2.60	0.500	0.300	0.200		2.40	0.530			
SY-4 Meas		1205	116	547								343											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas														1.2	2.9				22.4	4.0			
CTA-AC-1 Cert														1.13	2.65				21.8	4.4			
BIR-1a Meas		107	12	13						0.5		7		0.6									
BIR-1a Cert		110	16	18						0.58		6		0.60									
NCS DC86312 Meas																			24.7				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	496						1.9	1.3	1640	3.0	38.0					2150	1.7		27.5				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						23													50.7	137			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						20													34.0	409			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						19													36.2	401			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	243				15	3		< 0.2	3	1.3	20.1		0.6	4.4	1.8	1	1.5	19	25.0	8.3			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59	1.56	19.3	26.7	8.88			
NCS DC86303 Meas																					0.21	0.45	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.44	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.29	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.10	2.37	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.28	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.28	
NCS DC86304 Cert																					1.06	2.29	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Meas																					1.73	3.72	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.83	3.93	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.81	3.90	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.85	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.83	3.93	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.01		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.95		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.86		
Lithium Tetraborate FX-LT 100 lot#220610B																					8		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.98		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.86		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
548159 Orig																					0.04	0.08	
548159 Dup																					0.03	0.07	
548163 Orig																							2.72
548163 Dup																							2.69
548167 Orig	48	1051	3	133	4	< 2	0.7	< 0.2	1	< 0.5	8.4	794	< 0.4	3.9	0.4	< 1	0.3	8	1.5	0.7	0.04	0.08	
548167 Dup	47	1086	3	133	4	2	0.7	< 0.2	< 1	< 0.5	8.1	798	< 0.4	3.9	0.3	16	0.3	8	1.4	0.6	0.04	0.09	
548181 Orig																					0.10	0.23	
548181 Dup																					0.10	0.22	
548184 Orig	73	1108	2	112	3	< 2	0.6	< 0.2	1	< 0.5	18.5	817	< 0.4	3.5	0.5	< 1	0.6	9	1.3	1.0			
548184 Dup	73	1074	2	114	3	< 2	0.6	< 0.2	1	< 0.5	18.6	810	< 0.4	3.3	0.6	< 1	0.6	9	1.2	1.0			
548189 Orig																					0.06	0.12	
548189 Dup																					0.06	0.12	
548202 Orig	220	923	3	108	7	< 2	0.7	< 0.2	4	< 0.5	77.2	906	< 0.4	3.4	3.9	2	1.5	11	1.4	1.5	0.07	0.15	
548202 Split PREP DUP	213	958	< 2	108	7	< 2	< 0.5	< 0.2	4	< 0.5	75.2	908	< 0.4	3.4	3.6	< 1	1.6	10	1.2	1.3	0.07	0.15	
548202 Orig	201				6	< 2	0.6	< 0.2	4	< 0.5	73.2		< 0.4	2.6	3.9	7	1.5	12	1.6	1.6			
548202 Split PREP DUP	199				5	< 2	< 0.5	< 0.2	3	< 0.5	71.1		< 0.4	2.4	3.5	3	1.5	17	1.5	1.7			
548210 Orig																					< 0.01	< 0.01	
548210 Dup																					< 0.01	< 0.01	
548214 Orig	202	973	< 2	92	3	< 2	< 0.5	< 0.2	1	< 0.5	52.9	861	< 0.4	2.8	0.3	2	1.8	9	1.3	1.1			
548214 Dup	201	1018	< 2	95	2	< 2	0.6	< 0.2	2	< 0.5	53.1	855	< 0.4	2.6	0.3	11	1.8	13	1.3	1.1			
548224 Orig																					0.05	0.10	
548224 Dup																					0.05	0.10	
548231 Orig	226	992	2	104	7	< 2	0.7	< 0.2	3	< 0.5	44.3	788	< 0.4	3.3	4.0	2	1.7	10	1.6	1.4			
548231 Dup	225	958	< 2	104	7	< 2	0.6	< 0.2	3	< 0.5	43.4	786	< 0.4	3.2	3.9	3	1.6	10	1.7	1.4			
548232 Orig																					0.06	0.14	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548232 Dup																					0.06	0.14	
548246 Orig																					0.01	0.03	
548246 Dup																					0.01	0.03	
548253 Orig																					0.03	0.06	
548253 Dup																					0.03	0.06	
548261 Orig	174	1033	< 2	102	3	< 2	0.6	< 0.2	2	< 0.5	33.4	848	< 0.4	3.1	0.8	< 1	3.0	11	1.3	1.3			
548261 Dup	171	1064	< 2	104	3	< 2	12.8	< 0.2	1	< 0.5	32.5	844	< 0.4	3.4	0.7	1	2.1	11	1.2	1.2			
548267 Orig																					0.31	0.67	
548267 Dup																					0.33	0.71	
548272 Orig	1930	348	< 2	12	38	< 2	< 0.5	< 0.2	23	< 0.5	211	685	2.9	0.8	28.2	< 1	15.4	19	1.7	0.7	0.12	0.27	
548272 Split PREP DUP	1810	360	< 2	11	42	< 2	< 0.5	< 0.2	22	< 0.5	196	697	2.2	0.8	26.0	< 1	16.6	15	2.0	0.9	0.13	0.29	
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00

Quality Analysis ... *Innovative Technologies*

Date Submitted: 16-Oct-17
Invoice No.: A17-11442
Invoice Date: 04-Dec-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

100 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-11442**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548273	0.87	1.87	75.05	16.57	0.84	0.069	0.18	0.67	3.45	1.75	0.026	< 0.01	0.56	99.14	< 1	302	7	20	2	< 20	< 10	40	51
548274	1.07	2.31	73.86	16.05	1.12	0.079	0.22	0.71	3.11	1.57	0.026	< 0.01	0.50	97.18	< 1	229	< 5	20	2	< 20	< 10	60	46
548275	1.10	2.36	74.72	15.53	0.99	0.075	0.08	0.49	2.97	1.48	0.022	< 0.01	0.33	96.64	< 1	234	< 5	30	< 1	< 20	< 10	60	46
548276	0.13	0.27	70.63	16.86	0.75	0.062	0.14	1.40	7.08	0.89	0.040	0.12	0.60	98.57	< 1	156	5	20	< 1	< 20	< 10	90	40
548277	0.09	0.19	70.79	17.08	0.64	0.178	0.07	1.12	8.78	0.56	0.013	0.26	0.27	99.77	< 1	27	< 5	20	< 1	< 20	< 10	< 30	40
548278	0.06	0.14	71.65	15.97	1.16	0.905	0.05	0.55	8.20	0.49	0.014	< 0.01	0.12	99.08	< 1	18	< 5	< 20	< 1	< 20	< 10	30	37
548279	0.07	0.14	71.76	16.29	0.95	0.016	0.18	2.44	5.91	1.68	0.114	< 0.01	0.28	99.59	< 1	4	10	30	< 1	< 20	< 10	70	27
548280	0.50	1.07	75.44	10.51	4.60	0.052	0.78	1.28	1.16	1.80	0.635	0.25	1.20	97.70	8	40	56	80	6	30	350	160	31
548281	0.05	0.11	70.86	17.15	1.06	0.014	0.20	2.51	6.01	1.83	0.117	< 0.01	0.24	99.95	< 1	2	10	30	< 1	< 20	< 10	70	27
548282	0.04	0.09	70.37	15.95	1.29	0.015	0.18	2.55	5.92	1.85	0.114	0.02	0.16	98.43	< 1	2	9	30	< 1	< 20	< 10	70	29
548283	0.04	0.10	69.99	16.05	1.07	0.029	0.20	2.31	5.93	2.19	0.113	0.05	0.22	98.16	< 1	5	9	20	< 1	< 20	< 10	80	29
548284	0.04	0.08	70.27	16.97	1.03	0.013	0.18	2.52	6.01	1.94	0.111	0.03	0.23	99.30	< 1	3	8	< 20	< 1	< 20	< 10	60	28
548285	0.04	0.09	70.40	16.12	1.38	0.015	0.19	2.56	6.02	1.89	0.110	0.04	0.13	98.85	< 1	2	9	20	< 1	< 20	< 10	70	28
548286	0.04	0.08	70.79	16.22	1.19	0.057	0.20	1.92	5.73	2.63	0.103	0.05	0.19	99.08	< 1	4	8	20	1	< 20	< 10	90	29
548287	0.04	0.09	71.45	16.57	1.11	0.014	0.20	2.50	5.91	1.70	0.111	0.04	0.24	99.84	< 1	3	7	< 20	< 1	< 20	< 10	70	29
548288	0.03	0.07	71.50	16.31	1.24	0.049	0.14	1.95	6.07	1.99	0.087	0.02	0.09	99.45	< 1	7	8	20	< 1	< 20	< 10	80	31
548289	0.04	0.09	71.77	16.53	1.06	0.012	0.17	2.55	5.93	1.75	0.113	0.03	0.23	100.2	< 1	2	9	20	< 1	< 20	< 10	70	28
548290	< 0.01	< 0.01	96.30	0.24	3.47	0.033	0.02	0.02	0.03	0.02	0.014	< 0.01	-0.45	99.68	< 1	< 1	< 5	20	< 1	< 20	< 10	< 30	1
548291	0.03	0.07	72.72	16.28	1.22	0.088	0.14	1.97	5.97	1.70	0.082	0.04	0.14	100.3	< 1	5	7	20	< 1	< 20	< 10	80	29
548292	0.04	0.10	71.83	16.44	1.07	0.019	0.16	2.30	5.76	2.26	0.099	0.01	0.26	100.2	< 1	4	9	20	< 1	< 20	< 10	70	29
548293	0.04	0.10	70.98	15.94	1.25	0.036	0.14	2.14	5.80	2.04	0.091	0.04	0.18	98.62	< 1	6	8	20	< 1	< 20	< 10	80	29
548294	0.06	0.12	70.14	16.52	1.39	0.014	0.20	2.47	5.74	1.96	0.116	0.04	0.17	98.77	< 1	2	9	20	< 1	< 20	< 10	80	28
548295	0.06	0.12	71.18	16.07	1.32	0.013	0.20	2.47	5.65	1.92	0.118	0.03	0.21	99.19	< 1	2	10	20	1	< 20	< 10	80	28
548296	0.06	0.13	71.41	17.07	1.15	0.012	0.17	2.54	5.85	1.81	0.108	0.01	0.22	100.3	< 1	3	8	30	< 1	< 20	< 10	70	28
548297	0.32	0.70	71.87	17.41	0.89	0.084	0.10	1.34	6.21	1.46	0.057	0.05	0.28	99.74	< 1	85	6	< 20	< 1	< 20	< 10	60	39
548298	0.36	0.78	72.71	15.77	0.93	0.187	0.06	0.75	5.55	2.02	0.022	0.12	0.26	98.37	< 1	87	< 5	20	< 1	< 20	< 10	40	42
548299	0.05	0.10	71.82	16.09	1.11	0.190	0.13	1.54	6.66	1.13	0.065	0.04	0.25	99.02	< 1	24	5	20	< 1	< 20	< 10	70	32
548300	0.23	0.50	75.47	9.62	4.89	0.050	0.91	1.63	1.29	1.99	0.786	0.38	1.19	98.20	11	34	65	80	7	30	290	130	25
548301	0.07	0.14	71.18	16.45	1.25	0.014	0.23	2.57	5.68	1.91	0.126	0.06	0.25	99.71	< 1	4	9	30	1	< 20	< 10	100	29
548302	0.05	0.11	71.27	16.13	1.22	0.037	0.22	2.21	5.81	2.02	0.110	0.05	0.23	99.32	< 1	5	9	20	< 1	< 20	< 10	90	30
548303	0.05	0.11	70.96	16.10	1.05	0.046	0.17	2.31	6.17	1.78	0.097	0.08	0.25	99.02	< 1	6	8	< 20	< 1	< 20	< 10	70	30
548304	0.05	0.11	71.32	16.14	1.17	0.029	0.19	2.34	6.00	1.84	0.103	0.03	0.27	99.43	< 1	5	8	20	< 1	< 20	< 10	80	29
548305	0.05	0.12	70.55	16.43	1.12	0.015	0.18	2.48	5.82	1.72	0.108	0.04	0.27	98.74	< 1	4	9	20	< 1	< 20	< 10	130	29
548306	0.07	0.15	71.08	15.89	0.97	0.036	0.18	2.19	5.87	2.05	0.099	0.05	0.33	98.74	< 1	6	8	< 20	< 1	< 20	< 10	90	29
548307	0.06	0.13	70.72	15.85	1.15	0.014	0.20	2.54	5.85	1.55	0.113	0.04	0.35	98.39	< 1	3	9	< 20	< 1	< 20	< 10	80	28
548308	0.23	0.50	72.72	15.17	0.80	0.125	0.03	0.60	4.82	3.88	0.010	0.02	0.43	98.60	< 1	98	< 5	20	< 1	< 20	< 10	70	36
548309	0.49	1.06	71.71	16.30	0.70	0.068	0.06	0.68	4.62	2.78	0.024	0.03	0.42	97.40	< 1	187	< 5	30	< 1	< 20	< 10	30	42
548310	< 0.01	< 0.01	94.75	0.44	4.56	0.046	0.02	0.03	0.08	0.05	0.030	< 0.01	-0.68	99.32	< 1	< 1	< 5	30	1	< 20	< 10	< 30	1
548311	0.06	0.13	69.92	17.11	1.31	0.019	0.19	2.43	5.87	1.72	0.117	0.08	0.30	99.06	< 1	5	9	20	< 1	< 20	< 10	90	29
548312	0.03	0.07	70.23	16.92	1.32	0.019	0.17	2.39	5.93	1.76	0.110	0.04	0.23	99.13	< 1	5	8	20	< 1	< 20	< 10	70	29
548313	0.02	0.04	72.11	16.07	1.07	0.217	0.02	0.16	5.07	4.59	0.006	0.03	0.35	99.70	< 1	6	< 5	20	< 1	< 20	< 10	150	41

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548314	0.02	0.03	71.77	15.63	1.29	0.176	0.05	0.68	6.35	3.01	0.025	0.07	0.17	99.23	< 1	7	< 5	< 20	< 1	< 20	< 10	100	39
548315	0.02	0.04	71.95	16.56	1.22	0.178	0.05	0.65	6.17	2.51	0.023	0.05	0.26	99.61	< 1	12	< 5	20	< 1	< 20	< 10	120	40
548316	0.05	0.11	69.26	16.37	1.59	0.021	0.34	2.34	5.55	2.04	0.159	0.07	0.40	98.15	< 1	4	12	20	2	< 20	< 10	120	29
548317	0.03	0.05	70.63	17.31	1.03	0.022	0.28	2.40	5.80	1.85	0.105	0.05	0.52	100.0	< 1	5	9	20	< 1	< 20	< 10	220	29
548318	0.01	0.03	72.07	15.03	1.25	0.132	0.16	0.63	5.20	3.47	0.046	0.05	0.37	98.39	< 1	4	5	30	< 1	< 20	< 10	70	35
548319	0.01	0.02	70.20	16.14	0.96	0.040	0.28	0.96	6.93	1.94	0.096	0.04	0.83	98.41	< 1	7	8	20	< 1	< 20	< 10	100	29
548320	0.23	0.50	76.84	9.34	4.69	0.052	0.89	1.64	1.27	1.96	0.804	0.36	1.23	99.08	11	33	66	70	6	20	290	130	24
548321	0.01	0.03	70.60	16.45	0.96	0.101	0.15	1.29	6.21	2.76	0.066	0.03	0.43	99.06	< 1	10	7	20	< 1	< 20	< 10	60	32
548322	0.02	0.04	70.06	16.92	1.18	0.014	0.22	2.40	5.80	1.82	0.110	0.04	0.43	99.00	< 1	3	8	20	< 1	< 20	< 10	70	27
548323	0.05	0.12	70.14	16.56	1.23	0.019	0.22	2.45	5.73	2.01	0.134	0.04	0.31	98.85	< 1	3	11	< 20	1	< 20	< 10	110	28
548324	0.04	0.10	73.30	15.32	1.37	0.335	0.09	1.11	6.42	1.93	0.048	0.09	0.30	100.3	< 1	61	6	< 20	< 1	< 20	< 10	70	41
548325	0.06	0.13	69.71	17.27	1.54	0.026	0.22	2.41	5.81	1.55	0.132	0.05	0.38	99.09	< 1	6	10	20	1	< 20	< 10	90	29
548326	0.03	0.07	73.21	14.46	1.08	0.434	0.05	0.55	6.72	1.94	0.018	0.16	0.23	98.86	< 1	8	< 5	20	< 1	< 20	< 10	50	34
548327	0.05	0.11	70.12	16.77	1.13	0.014	0.18	2.53	5.80	1.73	0.122	0.03	0.32	98.75	< 1	3	9	20	< 1	< 20	< 10	100	28
548328	0.04	0.10	70.03	16.74	1.33	0.015	0.17	2.51	5.75	1.65	0.117	0.02	0.27	98.60	< 1	3	8	< 20	< 1	< 20	< 10	70	28
548329	0.04	0.08	71.05	17.47	1.10	0.041	0.13	2.01	6.01	1.97	0.095	0.03	0.27	100.2	< 1	6	7	20	< 1	< 20	< 10	70	31
548330	< 0.01	< 0.01	93.04	0.70	5.59	0.054	0.05	0.04	0.18	0.09	0.027	< 0.01	-0.84	98.93	< 1	< 1	< 5	40	2	< 20	< 10	< 30	2
548331	0.05	0.10	70.64	17.00	1.24	0.014	0.19	2.56	5.82	1.84	0.132	0.03	0.30	99.77	< 1	4	10	20	< 1	< 20	< 10	70	28
548332	0.05	0.11	70.57	16.12	1.38	0.023	0.18	2.43	5.76	1.73	0.119	0.07	0.27	98.65	< 1	5	8	20	< 1	< 20	< 10	70	29
548333	0.02	0.05	70.36	14.63	1.08	0.461	0.03	1.74	6.55	2.11	0.006	1.18	0.36	98.50	< 1	7	< 5	< 20	< 1	< 20	< 10	80	40
548334	0.05	0.12	70.57	16.56	1.41	0.049	0.15	2.25	5.72	1.89	0.104	0.08	0.30	99.08	< 1	9	8	20	< 1	< 20	< 10	80	29
548335	0.06	0.12	70.92	15.59	1.31	0.057	0.16	2.19	5.61	1.96	0.100	0.05	0.34	98.29	< 1	8	7	20	< 1	< 20	< 10	70	29
548336	0.02	0.05	73.86	15.02	0.93	0.365	0.05	0.29	6.58	2.18	0.004	0.06	0.22	99.56	< 1	12	< 5	< 20	< 1	< 20	< 10	100	38
548337	0.07	0.14	71.30	15.55	1.26	0.050	0.21	2.21	5.63	1.81	0.114	0.04	0.40	98.57	< 1	9	10	< 20	1	< 20	< 10	90	30
548338	0.05	0.11	71.74	15.91	0.96	0.015	0.16	2.40	5.62	1.51	0.108	0.04	0.39	98.87	< 1	7	8	< 20	< 1	< 20	< 10	70	27
548339	0.03	0.07	72.99	14.99	1.01	0.352	0.07	0.77	6.99	1.54	0.029	0.11	0.28	99.12	< 1	22	< 5	< 20	< 1	< 20	< 10	70	35
548340	0.49	1.05	75.71	10.32	4.64	0.049	0.80	1.32	1.18	1.88	0.611	0.31	1.23	98.04	9	39	60	80	6	30	350	160	30
548341	0.01	0.03	72.20	15.55	1.14	0.564	0.04	0.45	8.26	0.91	0.003	0.14	0.11	99.37	< 1	11	< 5	< 20	< 1	< 20	< 10	< 30	39
548342	0.05	0.10	71.57	15.82	1.23	0.018	0.18	2.45	5.76	1.69	0.111	0.07	0.25	99.15	< 1	7	8	20	< 1	< 20	< 10	70	28
548343	0.04	0.09	72.27	16.43	1.20	0.018	0.17	2.48	5.85	1.65	0.112	0.02	0.28	100.5	< 1	5	7	20	< 1	< 20	< 10	70	29
548344	0.04	0.08	70.70	16.58	1.04	0.068	0.15	1.92	5.62	2.48	0.089	0.05	0.29	98.98	< 1	22	7	< 20	< 1	< 20	< 10	80	30
548345	0.04	0.09	69.66	16.98	1.29	0.033	0.22	2.30	5.71	2.00	0.128	0.07	0.29	98.67	< 1	9	8	< 20	< 1	< 20	< 10	90	30
548346	0.03	0.07	69.67	17.02	1.25	0.017	0.17	2.46	5.72	1.79	0.111	0.03	0.21	98.45	< 1	6	9	< 20	< 1	< 20	< 10	60	28
548347	0.03	0.07	70.00	17.13	1.10	0.014	0.17	2.52	5.77	1.70	0.116	0.03	0.23	98.77	< 1	5	9	20	< 1	< 20	< 10	60	27
548348	0.04	0.08	72.07	16.70	1.26	0.093	0.19	2.01	6.22	1.62	0.105	0.06	0.24	100.6	< 1	6	9	< 20	< 1	< 20	< 10	80	30
548349	0.03	0.07	72.03	15.68	1.12	0.094	0.13	1.59	5.50	2.45	0.073	0.10	0.32	99.10	< 1	20	6	< 20	< 1	< 20	< 10	60	30
548350	< 0.01	< 0.01	94.81	0.70	4.70	0.040	0.03	0.04	0.12	0.11	0.028	< 0.01	-0.48	100.1	< 1	< 1	< 5	< 20	2	< 20	10	< 30	2
548351	0.04	0.10	71.10	17.04	1.01	0.032	0.17	1.90	6.01	1.42	0.116	0.03	0.61	99.44	< 1	8	9	< 20	< 1	< 20	< 10	80	32
548352	< 0.01	0.02	72.07	15.80	0.88	0.430	0.03	0.40	8.27	0.44	0.005	0.11	0.30	98.74	< 1	21	< 5	< 20	< 1	< 20	< 10	30	44
548353	0.02	0.04	71.18	16.06	0.70	0.109	0.03	0.28	4.79	5.37	0.011	0.03	0.47	99.04	< 1	127	< 5	< 20	< 1	< 20	< 10	80	38
548354	0.02	0.05	76.21	13.20	1.35	0.546	0.03	0.29	4.77	1.72	0.014	< 0.01	0.54	98.67	< 1	260	< 5	20	< 1	< 20	< 10	100	41

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548355	0.02	0.04	76.00	13.90	1.28	0.613	0.03	0.30	4.68	2.53	0.014	0.01	0.49	99.83	< 1	97	< 5	20	< 1	< 20	20	50	41
548356	0.02	0.04	73.71	13.93	0.61	0.056	0.03	0.21	3.59	6.53	0.009	0.02	0.47	99.16	< 1	175	< 5	20	< 1	< 20	< 10	30	33
548357	0.04	0.08	72.95	16.06	1.13	0.126	0.16	1.39	5.84	1.91	0.077	0.10	0.42	100.2	< 1	13	6	< 20	< 1	< 20	< 10	70	35
548358	0.03	0.05	72.89	15.35	0.95	0.038	0.10	1.08	4.27	5.01	0.050	0.04	0.37	100.1	< 1	17	5	20	< 1	< 20	< 10	60	31
548359	0.03	0.06	76.70	13.77	0.94	0.076	0.09	0.70	4.27	3.48	0.035	0.05	0.50	100.6	< 1	18	< 5	30	< 1	< 20	< 10	70	34
548360	0.23	0.50	77.08	9.40	4.61	0.053	0.92	1.66	1.28	2.01	0.803	0.39	1.30	99.49	11	34	68	70	7	30	300	130	24
548361	0.03	0.07	77.39	12.41	0.87	0.106	0.06	0.40	4.99	1.50	0.023	0.03	0.77	98.55	< 1	10	< 5	30	< 1	< 20	< 10	80	46
548362	0.05	0.10	71.40	16.25	1.21	0.041	0.23	2.20	5.86	1.84	0.114	0.16	0.50	99.81	< 1	15	9	20	< 1	< 20	< 10	90	31
548363	0.04	0.08	71.15	16.61	1.28	0.022	0.23	2.45	5.88	1.83	0.120	0.09	0.34	99.99	< 1	5	10	< 20	< 1	< 20	< 10	80	28
548364	0.06	0.13	71.65	16.38	0.99	0.018	0.20	2.43	5.74	1.85	0.116	0.04	0.35	99.76	< 1	4	9	20	< 1	< 20	< 10	70	28
548365	0.06	0.13	71.17	17.08	0.99	0.031	0.20	2.16	6.11	1.47	0.109	0.02	0.46	99.80	< 1	4	9	< 20	< 1	< 20	< 10	80	28
548366	0.87	1.88	72.36	16.90	0.99	0.087	0.09	0.99	4.36	1.42	0.024	0.26	0.54	98.01	< 1	308	< 5	20	< 1	< 20	< 10	50	47
548367	0.90	1.95	74.84	16.13	0.80	0.067	0.06	0.57	3.70	1.66	0.017	< 0.01	0.44	98.29	< 1	263	< 5	20	< 1	< 20	< 10	40	42
548368	0.22	0.48	72.01	15.33	1.62	0.098	0.35	0.69	3.99	2.44	0.143	0.04	1.05	97.75	< 1	143	12	40	2	< 20	< 10	230	55
548369	0.95	2.05	77.94	14.33	0.85	0.061	0.06	0.25	1.78	3.07	0.019	< 0.01	0.39	98.75	< 1	87	< 5	30	< 1	< 20	< 10	50	41
548370	< 0.01	< 0.01	93.01	0.45	8.25	0.079	0.02	0.02	0.05	0.06	0.022	< 0.01	-1.88	100.1	< 1	1	< 5	60	1	< 20	< 10	< 30	2
548371	0.64	1.39	74.99	15.01	1.32	0.090	0.18	0.73	3.60	1.62	0.073	0.06	0.69	98.37	< 1	150	7	30	1	< 20	< 10	120	48
548372	0.04	0.08	71.29	16.25	0.75	0.387	0.06	0.87	8.06	0.54	0.018	0.12	0.41	98.77	< 1	23	< 5	< 20	< 1	< 20	< 10	30	42

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548273	4	< 5	890	193	< 2	8	60	< 2	< 0.5	< 0.2	13	< 0.5	113	168	1.9	0.9	151	1	5.9	15	2.4	2.5	
548274	3	5	799	164	< 2	13	42	< 2	< 0.5	< 0.2	12	< 0.5	102	149	1.5	1.9	80.6	< 1	6.3	23	4.2	2.1	
548275	3	< 5	757	153	< 2	11	49	< 2	< 0.5	< 0.2	12	< 0.5	101	127	1.4	1.7	121	7	6.1	17	4.2	2.4	
548276	3	< 5	581	396	< 2	65	33	< 2	< 0.5	< 0.2	16	< 0.5	92.8	50	1.4	3.9	43.2	1	3.9	21	5.4	5.1	
548277	3	< 5	236	219	2	73	26	< 2	< 0.5	< 0.2	6	< 0.5	38.1	28	< 0.4	6.4	29.4	< 1	1.7	19	4.0	11.9	
548278	4	< 5	144	139	< 2	83	39	< 2	< 0.5	< 0.2	4	< 0.5	31.2	55	0.4	12.0	54.8	< 1	1.2	42	5.8	28.7	
548279	< 1	< 5	153	880	< 2	109	6	< 2	< 0.5	< 0.2	2	0.8	33.4	861	< 0.4	3.4	1.6	3	1.2	15	1.3	1.3	
548280	5	56	1350	227	19	151	1280	8	0.8	4.6	1110	14.2	296	1029	16.0	3.6	22.1	7	11.9	26	46.1	7.8	
548281	< 1	< 5	47	890	< 2	103	4	< 2	< 0.5	< 0.2	1	< 0.5	4.4	928	< 0.4	2.9	0.3	< 1	0.5	13	1.3	1.2	
548282	< 1	< 5	47	902	< 2	83	3	< 2	< 0.5	< 0.2	< 1	< 0.5	4.7	915	< 0.4	2.5	0.4	1	0.6	14	1.4	1.0	
548283	1	< 5	262	815	< 2	86	3	< 2	< 0.5	< 0.2	2	< 0.5	20.7	937	< 0.4	3.3	1.0	< 1	1.5	14	1.3	1.9	2.71
548284	< 1	< 5	106	906	< 2	83	3	< 2	< 0.5	< 0.2	1	< 0.5	15.8	945	< 0.4	2.3	0.7	< 1	0.5	11	1.3	1.1	
548285	< 1	< 5	72	880	< 2	84	2	< 2	< 0.5	< 0.2	< 1	< 0.5	10.6	939	< 0.4	2.3	0.4	< 1	0.2	13	1.2	1.6	
548286	1	< 5	445	667	< 2	74	11	< 2	< 0.5	< 0.2	2	< 0.5	22.6	748	< 0.4	2.5	7.2	8	2.6	14	1.7	2.7	
548287	< 1	< 5	77	848	< 2	104	< 1	< 2	< 0.5	< 0.2	2	< 0.5	12.0	931	< 0.4	3.3	0.4	24	0.3	13	0.2	1.8	
548288	1	< 5	395	699	< 2	75	17	< 2	< 0.5	< 0.2	5	< 0.5	65.9	694	< 0.4	2.9	11.7	< 1	2.3	13	1.6	1.6	
548289	< 1	< 5	108	921	< 2	96	2	< 2	< 0.5	< 0.2	< 1	< 0.5	22.9	923	< 0.4	2.9	0.3	< 1	0.5	12	1.2	0.5	
548290	1	< 5	< 2	3	2	34	< 1	< 2	< 0.5	< 0.2	2	< 0.5	< 0.5	8	< 0.4	1.2	< 0.1	17	< 0.1	< 5	1.1	0.4	
548291	1	< 5	216	689	< 2	70	15	< 2	< 0.5	< 0.2	3	< 0.5	22.6	701	< 0.4	2.6	8.1	< 1	0.8	16	1.9	7.0	
548292	1	< 5	364	782	< 2	88	5	< 2	< 0.5	< 0.2	2	< 0.5	30.5	869	< 0.4	2.7	1.9	1	1.9	12	1.3	1.7	
548293	1	< 5	229	749	< 2	81	6	< 2	< 0.5	< 0.2	3	< 0.5	22.2	794	< 0.4	2.7	3.1	2	1.2	13	1.4	1.8	2.69
548294	< 1	< 5	60	855	< 2	92	3	< 2	< 0.5	< 0.2	< 1	< 0.5	9.5	1005	< 0.4	2.8	0.4	3	< 0.1	13	1.3	1.0	
548295	< 1	< 5	61	860	< 2	98	3	< 2	< 0.5	< 0.2	1	< 0.5	10.2	963	< 0.4	2.9	0.4	1	< 0.1	13	1.3	1.0	
548296	< 1	< 5	59	888	< 2	101	3	< 2	< 0.5	< 0.2	1	< 0.5	14.0	923	< 0.4	3.2	0.6	< 1	< 0.1	13	1.2	1.9	
548297	3	< 5	605	422	< 2	64	25	< 2	< 0.5	< 0.2	11	< 0.5	159	378	3.4	3.3	30.4	< 1	4.0	12	4.0	4.8	
548298	4	< 5	1010	196	< 2	46	32	< 2	< 0.5	< 0.2	11	< 0.5	204	218	3.2	4.6	42.7	4	7.4	23	7.8	8.5	
548299	2	< 5	216	525	< 2	58	25	< 2	< 0.5	< 0.2	3	< 0.5	70.6	514	< 0.4	2.9	20.0	< 1	2.3	21	2.9	6.5	
548300	4	35	1160	289	27	179	739	8	0.9	2.8	610	6.4	222	2014	11.4	4.2	16.6	4	10.6	28	95.9	16.4	
548301	< 1	< 5	63	920	3	99	5	< 2	< 0.5	< 0.2	2	< 0.5	16.9	1012	< 0.4	3.0	1.4	< 1	1.7	13	1.2	1.9	
548302	1	< 5	241	796	< 2	86	11	< 2	< 0.5	< 0.2	2	< 0.5	27.3	867	< 0.4	2.9	3.4	< 1	1.7	14	1.5	0.9	
548303	1	< 5	212	781	< 2	93	18	< 2	< 0.5	< 0.2	2	< 0.5	24.2	856	< 0.4	3.3	9.7	< 1	1.4	16	1.9	1.4	2.72
548304	1	< 5	207	797	< 2	89	11	< 2	< 0.5	< 0.2	2	< 0.5	24.2	879	< 0.4	3.0	3.3	3	1.1	13	1.3	3.5	
548305	< 1	< 5	117	916	2	99	5	< 2	< 0.5	< 0.2	2	< 0.5	17.8	915	< 0.4	3.0	1.2	2	0.4	12	1.2	2.9	
548306	1	< 5	274	757	< 2	91	11	< 2	< 0.5	< 0.2	2	< 0.5	40.7	844	< 0.4	3.2	7.1	< 1	1.6	14	1.6	2.2	
548307	< 1	< 5	173	888	< 2	104	4	< 2	< 0.5	< 0.2	1	< 0.5	52.8	902	< 0.4	3.2	0.4	< 1	1.0	14	1.2	1.0	
548308	3	< 5	1610	199	< 2	10	40	< 2	< 0.5	< 0.2	6	< 0.5	285	161	3.5	1.5	56.9	2	13.5	22	2.6	4.1	
548309	3	< 5	1120	254	< 2	21	56	< 2	< 0.5	< 0.2	11	< 0.5	244	239	3.5	2.6	67.4	2	10.5	22	4.5	3.8	
548310	1	< 5	3	4	4	47	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.6	13	< 0.4	1.5	0.1	< 1	1.1	< 5	1.3	0.5	
548311	1	< 5	257	927	< 2	104	8	< 2	< 0.5	< 0.2	2	< 0.5	57.7	957	< 0.4	3.5	3.6	< 1	2.3	17	1.2	0.5	
548312	1	< 5	159	902	< 2	108	6	< 2	< 0.5	< 0.2	2	< 0.5	23.2	902	< 0.4	3.4	3.3	< 1	1.2	12	1.3	1.6	
548313	3	< 5	1180	37	< 2	18	55	< 2	< 0.5	< 0.2	24	< 0.5	42.2	32	< 0.4	2.3	15.8	4	6.9	17	2.9	6.6	2.71

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548314	3	< 5	805	202	< 2	37	85	< 2	< 0.5	< 0.2	16	< 0.5	31.6	198	< 0.4	3.1	25.8	< 1	5.6	16	3.5	6.2	
548315	3	< 5	739	190	< 2	35	72	< 2	< 0.5	< 0.2	25	< 0.5	30.4	175	< 0.4	3.2	23.1	< 1	5.0	13	3.1	6.1	
548316	1	< 5	211	857	< 2	111	8	< 2	< 0.5	< 0.2	2	< 0.5	39.6	1021	< 0.4	3.6	3.0	7	2.1	12	1.3	4.1	
548317	1	< 5	231	882	< 2	103	9	< 2	< 0.5	< 0.2	3	< 0.5	20.7	830	< 0.4	3.4	2.8	< 1	1.7	12	1.5	3.0	
548318	3	< 5	978	216	< 2	40	52	< 2	< 0.5	< 0.2	12	< 0.5	32.9	260	< 0.4	3.2	18.4	< 1	6.1	41	3.5	6.4	
548319	1	< 5	282	439	< 2	96	15	< 2	< 0.5	< 0.2	5	< 0.5	15.7	679	< 0.4	3.5	5.4	< 1	2.2	17	1.5	2.5	
548320	4	38	1150	295	25	215	967	8	1.1	3.0	732	8.2	227	1989	12.4	5.5	17.7	9	10.6	29	97.2	17.1	
548321	2	< 5	632	505	< 2	47	22	< 2	< 0.5	< 0.2	4	< 0.5	42.8	524	< 0.4	2.2	29.8	2	3.7	12	2.8	3.9	
548322	< 1	< 5	108	921	2	84	2	< 2	< 0.5	< 0.2	< 1	< 0.5	14.4	927	< 0.4	2.2	0.9	< 1	0.9	13	1.2	1.1	
548323	< 1	< 5	176	890	< 2	84	4	< 2	< 0.5	< 0.2	2	< 0.5	21.5	986	< 0.4	2.4	1.5	2	0.8	13	1.3	1.3	2.72
548324	3	< 5	624	347	3	75	40	< 2	< 0.5	< 0.2	21	< 0.5	55.2	377	< 0.4	5.1	29.4	1	3.2	24	2.3	12.0	
548325	< 1	< 5	315	918	< 2	89	4	< 2	< 0.5	< 0.2	3	< 0.5	70.3	917	< 0.4	2.4	1.6	< 1	2.4	14	1.3	1.3	
548326	4	< 5	548	125	3	41	47	< 2	< 0.5	< 0.2	9	< 0.5	67.7	245	< 0.4	5.4	32.4	< 1	3.5	45	3.9	28.8	
548327	< 1	< 5	139	950	< 2	84	3	< 2	< 0.5	< 0.2	2	< 0.5	26.0	978	< 0.4	2.2	0.5	2	1.2	12	1.3	1.0	
548328	< 1	< 5	157	937	< 2	83	2	< 2	< 0.5	< 0.2	1	< 0.5	25.1	969	< 0.4	2.2	0.4	4	1.0	12	1.2	1.0	
548329	1	< 5	322	791	< 2	70	10	< 2	< 0.5	< 0.2	3	< 0.5	24.7	720	< 0.4	2.2	6.3	1	1.8	11	1.6	2.2	
548330	1	< 5	4	6	2	42	< 1	2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	26	< 0.4	1.3	0.2	< 1	< 0.1	< 5	1.6	0.6	
548331	< 1	< 5	69	967	< 2	88	3	< 2	< 0.5	< 0.2	< 1	< 0.5	12.5	999	< 0.4	2.4	0.6	2	< 0.1	11	1.3	0.9	
548332	< 1	< 5	210	855	< 2	93	4	< 2	< 0.5	< 0.2	3	< 0.5	28.1	921	< 0.4	2.6	1.5	< 1	0.8	15	1.3	1.0	
548333	4	< 5	681	102	6	68	29	< 2	< 0.5	< 0.2	14	< 0.5	29.3	50	< 0.4	7.4	18.9	< 1	3.6	67	8.9	39.2	2.74
548334	1	< 5	472	822	< 2	83	7	< 2	< 0.5	< 0.2	4	< 0.5	50.9	842	< 0.4	2.5	3.3	4	3.3	18	1.7	2.7	
548335	1	< 5	493	767	3	82	6	< 2	< 0.5	< 0.2	4	< 0.5	54.0	859	< 0.4	2.4	3.5	1	3.5	17	1.6	2.8	
548336	4	< 5	707	87	5	30	40	< 2	< 0.5	< 0.2	7	< 0.5	44.2	78	< 0.4	4.2	27.9	< 1	4.8	38	3.2	17.0	
548337	1	< 5	405	768	< 2	98	8	< 2	< 0.5	< 0.2	5	< 0.5	46.7	875	< 0.4	3.2	3.0	< 1	3.2	14	1.8	2.7	
548338	< 1	< 5	230	896	< 2	90	4	< 2	< 0.5	< 0.2	3	< 0.5	32.1	953	< 0.4	2.7	1.4	24	1.8	11	1.2	0.9	
548339	3	< 5	508	218	2	54	24	< 2	< 0.5	< 0.2	8	< 0.5	34.0	180	< 0.4	5.9	23.3	2	3.2	26	2.5	8.7	
548340	5	54	1330	226	20	135	976	9	0.7	4.8	928	9.2	308	1075	17.8	3.1	21.3	13	12.0	26	51.4	8.8	
548341	4	< 5	231	58	2	40	28	< 2	< 0.5	< 0.2	4	< 0.5	14.6	22	< 0.4	5.5	33.7	1	3.3	14	4.0	12.6	
548342	< 1	< 5	240	876	< 2	93	5	< 2	< 0.5	< 0.2	3	< 0.5	38.4	971	< 0.4	2.6	2.0	< 1	2.1	11	1.2	0.9	
548343	< 1	< 5	190	935	< 2	97	5	< 2	< 0.5	< 0.2	2	< 0.5	27.1	948	< 0.4	2.8	1.1	1	1.6	12	1.3	1.1	2.69
548344	2	< 5	613	683	< 2	74	14	< 2	< 0.5	< 0.2	5	< 0.5	51.8	739	0.6	2.9	12.1	1	4.1	13	1.8	3.7	
548345	1	< 5	300	849	< 2	92	9	< 2	< 0.5	< 0.2	3	< 0.5	41.1	915	< 0.4	3.1	4.2	2	2.3	20	1.3	1.8	
548346	< 1	< 5	154	929	< 2	86	4	< 2	< 0.5	< 0.2	1	< 0.5	19.9	985	< 0.4	2.5	1.7	5	1.1	12	1.3	1.1	
548347	< 1	< 5	147	915	< 2	96	3	< 2	< 0.5	< 0.2	1	< 0.5	21.6	1036	< 0.4	2.8	1.1	9	0.9	11	1.2	0.9	
548348	1	< 5	245	736	< 2	111	12	< 2	< 0.5	< 0.2	5	< 0.5	25.1	800	< 0.4	6.5	5.6	2	1.3	13	1.7	4.5	
548349	2	< 5	721	577	< 2	71	29	3	< 0.5	< 0.2	7	< 0.5	52.3	605	0.6	3.2	20.1	3	4.5	13	2.7	6.6	
548350	1	< 5	4	7	3	38	< 1	2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	34	< 0.4	1.3	0.2	< 1	0.2	< 5	1.6	0.6	
548351	1	< 5	510	707	< 2	105	11	< 2	< 0.5	< 0.2	15	< 0.5	53.9	707	< 0.4	3.4	4.4	5	2.9	10	1.3	1.6	
548352	5	< 5	129	47	< 2	28	53	< 2	< 0.5	< 0.2	7	< 0.5	9.3	6	< 0.4	5.2	55.9	< 1	0.8	5	2.7	10.3	
548353	3	< 5	1750	130	< 2	7	48	< 2	< 0.5	< 0.2	9	< 0.5	113	187	2.5	1.2	42.1	1	12.5	23	3.5	9.0	2.70
548354	4	< 5	688	48	11	30	66	< 2	< 0.5	< 0.2	12	< 0.5	73.7	27	4.3	5.4	86.6	< 1	4.3	15	7.0	24.6	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548355	4	< 5	945	60	12	33	67	< 2	< 0.5	< 0.2	12	< 0.5	72.5	55	3.8	6.4	83.2	17	6.5	15	6.9	23.2	
548356	3	< 5	2090	128	< 2	8	47	< 2	< 0.5	< 0.2	10	< 0.5	144	213	4.7	1.7	49.6	8	17.4	19	2.8	7.8	
548357	3	< 5	644	504	< 2	65	43	< 2	< 0.5	< 0.2	14	< 0.5	53.9	553	< 0.4	3.1	22.0	14	6.7	11	3.0	7.6	
548358	2	< 5	1330	428	< 2	44	52	< 2	< 0.5	< 0.2	9	< 0.5	64.1	474	< 0.4	1.8	18.8	1	10.8	20	2.3	9.1	
548359	3	< 5	1200	276	< 2	29	59	< 2	< 0.5	< 0.2	22	< 0.5	60.6	303	< 0.4	1.5	17.9	4	9.8	23	2.2	9.5	
548360	4	38	1250	301	26	199	1000	8	1.1	3.2	726	7.9	238	2015	12.9	5.0	17.9	6	12.7	29	99.0	17.4	
548361	3	< 5	800	73	< 2	6	127	< 2	< 0.5	< 0.2	27	< 0.5	75.6	41	0.6	1.9	164	2	6.5	26	4.1	7.1	
548362	2	< 5	486	777	< 2	100	16	< 2	< 0.5	< 0.2	7	< 0.5	54.6	852	< 0.4	3.5	5.1	4	4.6	11	2.0	2.2	
548363	< 1	< 5	217	954	< 2	110	9	< 2	< 0.5	< 0.2	2	< 0.5	28.2	951	< 0.4	3.5	3.1	< 1	2.4	13	1.3	1.3	2.73
548364	< 1	< 5	153	893	< 2	105	7	< 2	< 0.5	< 0.2	2	< 0.5	19.5	897	< 0.4	3.4	3.2	1	1.4	13	1.4	1.1	
548365	< 1	< 5	269	815	< 2	107	12	< 2	< 0.5	< 0.2	3	1.0	38.2	833	< 0.4	3.6	5.2	3	2.2	16	1.2	0.7	
548366	3	< 5	596	218	< 2	29	64	< 2	< 0.5	< 0.2	16	< 0.5	99.6	110	1.0	3.3	67.2	1	4.3	21	5.1	2.3	
548367	3	< 5	635	209	< 2	6	51	< 2	< 0.5	< 0.2	11	< 0.5	87.8	161	0.4	1.3	56.9	1	5.3	11	2.6	1.5	
548368	3	< 5	1880	262	< 2	23	67	< 2	< 0.5	< 0.2	40	< 0.5	257	201	1.8	1.5	48.1	2	10.2	13	3.2	1.3	
548369	3	< 5	1240	161	3	8	14	< 2	< 0.5	< 0.2	14	< 0.5	114	567	1.1	0.7	33.0	< 1	9.3	11	0.3	1.1	
548370	2	< 5	5	4	2	39	< 1	3	< 0.5	< 0.2	< 1	< 0.5	0.7	16	< 0.4	1.2	0.3	1	1.6	< 5	1.3	0.5	
548371	4	< 5	1070	223	< 2	19	67	< 2	< 0.5	< 0.2	26	< 0.5	157	94	< 0.4	1.7	62.7	< 1	6.9	12	2.5	2.5	
548372	4	< 5	263	236	< 2	66	45	< 2	< 0.5	< 0.2	8	< 0.5	36.4	28	< 0.4	7.6	45.5	< 1	2.7	14	3.5	6.1	

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
GXR-1 Meas	< 0.01																						
GXR-1 Cert	0.000820																						
DNC-1 Meas			46.72	18.32	9.76	0.150	10.09	11.68	1.91	0.23	0.480	0.07			31		154	260	54	240	100		
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100		
GBW 07113 Meas			71.99	13.04	3.21	0.140	0.15	0.61	2.51	5.41	0.280	0.04			5	4	< 5						
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00						
LKSD-3 Meas																		80	32		40	150	
LKSD-3 Cert																		87.0	30.0		35.0	152	
TDB-1 Meas																		250		100	340	150	
TDB-1 Cert																		251		92	323	155	
W-2a Meas			52.93	15.38	10.92	0.160	6.14	11.28	2.21	0.62	1.120	0.13			35	< 1	273	100	44	80	110	80	16
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0
SY-4 Meas	< 0.01		49.95	19.90	6.10	0.110	0.51	8.27	6.95	1.68	0.280	0.13			1	3	7						
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0						
CTA-AC-1 Meas																						40	
CTA-AC-1 Cert																						38.0	
BIR-1a Meas			47.13	15.35	11.37	0.170	9.94	13.81	1.77	0.02	0.960	0.02			43	< 1	333	370	50	170	120	70	
BIR-1a Cert			47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																		30			930	100	15
NCS DC70009 (GBW07241) Cert																		30			960	100	16.5
OREAS 100a (Fusion) Meas																			17		170		
OREAS 100a (Fusion) Cert																			18.1		169		
OREAS 101a (Fusion) Meas																			46		400		
OREAS 101a (Fusion) Cert																			48.8		430		
OREAS 101b (Fusion) Meas																			46		420		
OREAS 101b (Fusion) Cert																			47		420		
JR-1 Meas																				< 20	< 10	< 30	14
JR-1 Cert																				1.67	2.68	30.6	16.1
NCS DC86303	0.22	0.47																					

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Meas																							
NCS DC86303 Cert	0.21	0.460																					
NCS DC86303 Meas	0.21	0.45																					
NCS DC86303 Cert	0.21	0.460																					
NCS DC86303 Meas	0.21	0.46																					
NCS DC86303 Cert	0.21	0.460																					
NCS DC86303 Meas	0.21	0.46																					
NCS DC86303 Cert	0.21	0.460																					
NCS DC86303 Meas	0.21	0.45																					
NCS DC86303 Cert	0.21	0.460																					
NCS DC86304 Meas	1.09	2.34																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.08	2.33																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.08	2.33																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.07	2.31																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86314 Meas	1.78	3.83																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.77	3.81																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.75	3.77																					
NCS DC86314	1.81	3.89																					

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Cert																							
NCS DC86314 Meas	1.76	3.79																					
NCS DC86314 Cert	1.81	3.89																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.41																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.08																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.16																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.04																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.08																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
548279 Orig	0.07	0.14																					
548279 Dup	0.07	0.14																					
548287 Orig	0.04	0.09	71.76	16.00	1.12	0.014	0.21	2.50	5.88	1.69	0.110	0.03	0.24	99.55	< 1	3	7	< 20	< 1	< 20	< 10	70	28

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548287 Dup	0.04	0.09	71.13	17.14	1.10	0.014	0.19	2.49	5.94	1.71	0.113	0.05	0.24	100.1	< 1	3	8	20	< 1	< 20	< 10	70	29
548287 Dup			71.32	17.05	1.06	0.012	0.18	2.56	6.02	1.81	0.110	0.04	0.24	100.4	< 1	3	9						
548301 Orig	0.06	0.14																					
548301 Dup	0.07	0.14																					
548304 Orig			71.84	16.03	1.15	0.028	0.19	2.34	6.04	1.85	0.102	0.03	0.27	99.89	< 1	5	8	20	< 1	< 20	< 10	80	29
548304 Dup			70.79	16.24	1.18	0.029	0.19	2.34	5.95	1.84	0.105	0.03	0.27	98.97	< 1	5	9	20	1	< 20	< 10	80	29
548309 Orig	0.49	1.05																					
548309 Dup	0.50	1.07																					
548321 Orig	0.01	0.03																					
548321 Dup	0.01	0.03																					
548322 Orig	0.02	0.04	70.06	16.92	1.18	0.014	0.22	2.40	5.80	1.82	0.110	0.04	0.43	99.00	< 1	3	8	20	< 1	< 20	< 10	70	27
548322 Split PREP DUP	0.02	0.04	70.53	16.59	0.93	0.012	0.22	2.39	5.78	1.81	0.112	0.06	0.51	98.95	< 1	3	9	< 20	< 1	< 20	< 10	70	28
548330 Orig	< 0.01	< 0.01																					
548330 Dup	< 0.01	< 0.01																					
548334 Orig			70.41	17.19	1.44	0.049	0.15	2.24	5.70	1.88	0.105	0.08	0.30	99.54	< 1	9	8	20	< 1	< 20	< 10	80	29
548334 Dup			70.73	15.93	1.38	0.049	0.15	2.27	5.74	1.89	0.103	0.07	0.30	98.63	< 1	9	8	20	< 1	< 20	< 10	80	29
548344 Orig	0.04	0.08																					
548344 Dup	0.04	0.08																					
548351 Orig			70.81	17.17	1.01	0.032	0.18	1.90	6.00	1.42	0.116	0.03	0.61	99.28	1	8	9	< 20	< 1	< 20	< 10	80	31
548351 Dup			71.39	16.90	1.01	0.032	0.17	1.90	6.03	1.42	0.116	0.02	0.61	99.60	< 1	8	9	< 20	< 1	< 20	< 10	80	32
548352 Orig	< 0.01	0.02																					
548352 Dup	< 0.01	0.01																					
548363 Orig																							
548363 Dup																							
548366 Orig	0.87	1.86																					
548366 Dup	0.88	1.90																					
548371 Orig			74.93	15.05	1.32	0.090	0.18	0.74	3.64	1.64	0.073	0.06	0.69	98.41	< 1	148	8	30	1	< 20	< 10	120	48
548371 Dup			75.05	14.97	1.32	0.090	0.17	0.72	3.57	1.60	0.073	0.05	0.69	98.32	< 1	152	6	30	1	< 20	< 10	120	47
548372 Orig	0.04	0.08	71.29	16.25	0.75	0.387	0.06	0.87	8.06	0.54	0.018	0.12	0.41	98.77	< 1	23	< 5	< 20	< 1	< 20	< 10	30	42
548372 Split PREP DUP	0.04	0.08	71.72	16.10	0.82	0.368	0.06	0.88	8.06	0.53	0.018	0.12	0.33	99.01	< 1	22	< 5	20	< 1	< 20	< 10	40	42
Method Blank			< 0.01	< 0.01	< 0.01	0.002	< 0.01	0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1
Method Blank			< 0.01	< 0.01	0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5						
Method Blank			< 0.01	< 0.01	0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5						
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Method Blank																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
GXR-1 Meas																							
GXR-1 Cert																							
DNC-1 Meas			3	151	16	37						0.9		107									
DNC-1 Cert			5	144.0	18.0	38						0.96		118									
GBW 07113 Meas				42	45	405								499									
GBW 07113 Cert				43.0	43.0	403								506									
LKSD-3 Meas		26	72					< 2	2.5			1.0	2.4			4.7	0.7				10.9	4.4	
LKSD-3 Cert		27.0	78.0					2.00	2.70			1.30	2.30			4.80	0.700				11.4	4.60	
TDB-1 Meas			25																		2.8		
TDB-1 Cert			23																		2.7		
W-2a Meas	1	< 5	20	199	19	92	8	< 2					0.9	174	< 0.4	2.5	0.5	1	0.1	9	2.4	0.6	
W-2a Cert	1.00	1.20	21.0	190	24.0	94.0	7.90	0.600					0.990	182	0.0300	2.60	0.500	0.300	0.200	9.30	2.40	0.530	
SY-4 Meas				1195	113	538								348									
SY-4 Cert				1191	119	517								340									
CTA-AC-1 Meas																1.2	2.6				21.3	4.2	
CTA-AC-1 Cert																1.13	2.65				21.8	4.4	
BIR-1a Meas				110	13	15	< 1							7		0.6							
BIR-1a Cert				110	16	18	0.6							6		0.60							
NCS DC86312 Meas																					23.5		
NCS DC86312 Cert																					23.6		
NCS DC70009 (GBW07241) Meas	11	69	458						1.6	1.0	1680	3.2	40.9					2290			28.8		
NCS DC70009 (GBW07241) Cert	11.2	69.9	500						1.8	1.3	1700	3.1	41					2200			28.3		
OREAS 100a (Fusion) Meas								23													49.0	133	
OREAS 100a (Fusion) Cert								24.1													51.6	135	
OREAS 101a (Fusion) Meas								21													33.5	395	
OREAS 101a (Fusion) Cert								21.9													36.6	422	
OREAS 101b (Fusion) Meas								20													38.9	412	
OREAS 101b (Fusion) Cert								21													37.1	396	
JR-1 Meas		16	254				15	3		< 0.2	3		19.4		0.6	4.3	1.7	2	1.5	19	25.1	8.6	
JR-1 Cert		16.3	257				15.2	3.25		0.028	2.86		20.8		0.56	4.51	1.86	1.59	1.56	19.3	26.7	8.88	
NCS DC86303 Meas																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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NCS DC86314 Meas																							
NCS DC86314 Cert																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NCS DC86314 Meas																							
NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
548279 Orig																							
548279 Dup																							
548287 Orig	< 1	< 5	77	823	3	98	< 1	< 2	< 0.5	< 0.2	2	< 0.5	11.9	927	< 0.4	3.2	0.4	35	0.2	13	0.2	1.8	
548287 Dup	< 1	< 5	77	874	< 2	110	< 1	< 2	< 0.5	< 0.2	2	< 0.5	12.2	935	< 0.4	3.4	0.4	12	0.3	13	0.1	1.7	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548287 Dup				924	< 2	91								901									
548301 Orig																							
548301 Dup																							
548304 Orig	1	< 5	207	781	< 2	90	11	< 2	< 0.5	< 0.2	2	< 0.5	24.2	884	< 0.4	3.0	3.1	2	1.1	12	1.3	3.6	
548304 Dup	1	< 5	206	812	< 2	88	10	< 2	< 0.5	< 0.2	2	< 0.5	24.1	874	< 0.4	2.9	3.4	3	1.1	13	1.3	3.5	
548309 Orig																							
548309 Dup																							
548321 Orig																							
548321 Dup																							
548322 Orig	< 1	< 5	108	921	2	84	2	< 2	< 0.5	< 0.2	< 1	< 0.5	14.4	927	< 0.4	2.2	0.9	< 1	0.9	13	1.2	1.1	
548322 Split PREP DUP	< 1	< 5	108	930	< 2	87	3	< 2	< 0.5	< 0.2	< 1	< 0.5	14.7	919	< 0.4	2.5	0.9	2	0.5	14	1.2	1.1	
548330 Orig																							
548330 Dup																							
548334 Orig	1	< 5	471	848	< 2	84	6	< 2	< 0.5	< 0.2	4	< 0.5	51.2	835	< 0.4	2.6	3.2	4	3.1	17	1.7	2.7	
548334 Dup	1	< 5	473	796	< 2	82	7	< 2	< 0.5	< 0.2	4	< 0.5	50.6	848	< 0.4	2.5	3.4	3	3.4	18	1.7	2.7	
548344 Orig																							
548344 Dup																							
548351 Orig	1	< 5	501	699	< 2	104	10	< 2	< 0.5	< 0.2	14	< 0.5	53.3	707	< 0.4	3.2	4.4	1	2.8	10	1.3	1.6	
548351 Dup	1	< 5	518	714	< 2	106	11	< 2	0.5	< 0.2	15	< 0.5	54.6	706	< 0.4	3.6	4.4	9	3.1	10	1.3	1.6	
548352 Orig																							
548352 Dup																							
548363 Orig																							2.71
548363 Dup																							2.74
548366 Orig																							
548366 Dup																							
548371 Orig	3	< 5	1080	223	< 2	19	55	< 2	< 0.5	< 0.2	24	< 0.5	157	95	0.4	1.6	58.8	7	6.6	11	2.5	2.4	
548371 Dup	4	< 5	1060	223	< 2	19	79	< 2	< 0.5	< 0.2	28	< 0.5	157	94	< 0.4	1.8	66.5	< 1	7.2	12	2.5	2.5	
548372 Orig	4	< 5	263	236	< 2	66	45	< 2	< 0.5	< 0.2	8	< 0.5	36.4	28	< 0.4	7.6	45.5	< 1	2.7	14	3.5	6.1	
548372 Split PREP DUP	5	< 5	260	213	< 2	70	53	< 2	< 0.5	< 0.2	8	< 0.5	36.1	27	< 0.4	8.2	56.9	< 1	2.0	15	3.5	6.3	
Method Blank	< 1	< 5	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	
Method Blank				< 2	< 2	< 4								< 3									
Method Blank				< 2	< 2	< 4								< 3									
Method Blank																							
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Method Blank																							1.00

Quality Analysis ... *Innovative Technologies*

Date Submitted: 18-Oct-17
Invoice No.: A17-11546
Invoice Date: 30-Nov-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

98 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-11546**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548373	70.29	17.09	1.37	0.018	0.30	2.64	5.73	1.33	0.146	0.05	0.47	99.44	1	5	12	30	2	< 20	< 10	80	28	1	< 5
548374	69.74	17.31	1.68	0.026	0.29	2.54	5.79	1.51	0.148	0.05	0.39	99.48	1	5	12	30	2	< 20	< 10	90	28	1	< 5
548375	70.42	16.16	1.53	0.024	0.27	2.53	5.78	1.54	0.145	0.03	0.36	98.80	< 1	5	11	20	2	< 20	< 10	90	28	1	< 5
548376	71.30	16.33	0.71	0.142	0.05	1.05	8.95	0.59	0.010	0.28	0.30	99.71	< 1	25	< 5	< 20	< 1	< 20	< 10	< 30	39	3	< 5
548377	69.10	17.03	1.51	0.021	0.31	2.62	5.92	1.30	0.159	0.05	0.45	98.49	< 1	5	14	30	2	< 20	< 10	90	27	1	< 5
548378	69.36	17.23	1.67	0.016	0.29	2.65	5.67	1.58	0.159	0.05	0.44	99.12	< 1	2	13	30	2	< 20	< 10	80	27	< 1	< 5
548379	69.16	17.52	1.31	0.014	0.28	2.66	5.84	1.61	0.153	0.05	0.35	98.96	< 1	3	14	20	2	< 20	< 10	90	28	< 1	< 5
548380	76.94	9.81	4.33	0.051	0.76	1.24	1.22	1.81	0.578	0.29	1.25	98.29	8	39	54	80	6	20	330	150	29	4	56
548381	68.78	17.11	1.59	0.016	0.29	2.70	5.93	1.64	0.157	0.04	0.36	98.60	< 1	3	13	20	2	< 20	< 10	90	29	1	< 5
548382	69.11	17.07	1.40	0.018	0.29	2.66	6.06	1.61	0.158	0.06	0.40	98.84	< 1	4	14	20	2	< 20	< 10	90	28	1	< 5
548383	69.03	16.94	1.57	0.015	0.30	2.67	5.83	1.64	0.163	0.05	0.34	98.56	< 1	3	13	30	2	< 20	< 10	100	28	1	< 5
548384	68.18	17.88	1.29	0.042	0.27	2.37	5.78	2.04	0.145	0.05	0.39	98.45	< 1	4	14	20	2	< 20	< 10	80	29	1	< 5
548385	69.14	17.00	1.58	0.016	0.31	2.63	5.72	1.56	0.165	0.06	0.30	98.49	< 1	3	14	20	2	< 20	< 10	90	28	1	< 5
548386	71.90	14.84	1.09	0.162	0.09	0.63	6.68	2.64	0.036	0.02	0.33	98.44	< 1	11	8	< 20	< 1	< 20	< 10	560	37	3	< 5
548387	70.94	16.44	1.47	0.061	0.26	2.22	5.75	1.85	0.132	0.06	0.34	99.51	< 1	4	13	20	2	< 20	< 10	120	29	1	< 5
548388	70.17	17.28	1.46	0.019	0.28	2.57	5.62	1.65	0.151	0.05	0.38	99.62	< 1	3	13	30	2	< 20	< 10	90	28	1	< 5
548389	69.76	16.41	1.13	0.058	0.20	1.75	5.23	3.08	0.103	0.04	0.34	98.11	< 1	4	11	20	1	< 20	< 10	90	29	2	< 5
548390	94.87	0.40	4.61	0.040	0.02	0.02	0.10	0.05	0.018	< 0.01	-0.62	99.49	< 1	< 1	< 5	30	2	< 20	10	< 30	2	1	< 5
548391	70.39	16.49	1.51	0.035	0.29	2.48	5.85	1.20	0.149	0.06	0.51	98.95	< 1	6	16	30	2	< 20	< 10	90	28	1	< 5
548392	70.95	18.14	0.96	0.101	0.07	0.67	3.91	1.35	0.034	0.09	0.54	96.82	< 1	231	6	30	< 1	< 20	< 10	50	56	4	< 5
548393	72.88	16.60	0.88	0.069	0.04	0.46	3.07	2.38	0.017	0.02	0.36	96.78	< 1	188	< 5	30	< 1	< 20	< 10	< 30	48	4	< 5
548394	69.49	17.06	1.10	0.062	0.22	2.01	6.28	1.73	0.118	0.08	0.56	98.71	< 1	69	10	20	1	< 20	< 10	80	34	2	< 5
548395	69.35	17.76	1.26	0.060	0.23	2.06	6.09	1.75	0.125	0.08	0.53	99.29	< 1	37	14	30	1	< 20	< 10	80	33	2	< 5
548396	69.27	16.92	1.23	0.036	0.29	2.54	5.78	1.68	0.148	0.05	0.46	98.41	1	3	13	30	2	< 20	< 10	80	28	1	< 5
548397	69.85	16.96	1.32	0.028	0.29	2.52	5.72	1.96	0.152	0.05	0.38	99.23	< 1	5	11	20	2	< 20	< 10	110	28	1	< 5
548398	69.71	16.91	1.42	0.016	0.31	2.70	5.79	1.63	0.162	0.06	0.38	99.09	1	3	12	20	2	< 20	< 10	80	27	1	< 5
548399	68.43	17.23	1.57	0.031	0.30	2.46	5.99	1.72	0.157	0.06	0.38	98.31	< 1	5	13	20	2	< 20	10	90	29	1	< 5
548400	74.48	9.68	4.85	0.054	0.94	1.68	1.27	2.02	0.841	0.40	1.23	97.45	11	34	66	70	7	< 20	280	130	22	4	37
548401	70.49	16.89	1.31	0.024	0.29	2.41	5.66	1.88	0.146	0.07	0.38	99.55	< 1	5	12	30	1	< 20	< 10	80	28	1	< 5
548402	69.29	16.63	1.67	0.015	0.34	2.75	5.75	1.75	0.172	0.07	0.38	98.81	1	2	14	20	2	< 20	< 10	90	27	< 1	< 5
548403	69.02	16.89	1.31	0.033	0.28	2.42	5.89	1.93	0.146	0.08	0.33	98.33	< 1	5	11	20	2	< 20	< 10	80	30	2	< 5
548404	68.88	17.25	1.55	0.015	0.35	2.86	5.81	1.72	0.178	0.08	0.47	99.16	1	3	15	20	2	< 20	< 10	100	30	< 1	< 5
548405	72.93	15.43	0.83	0.036	0.16	1.61	5.56	2.35	0.079	0.10	0.49	99.58	< 1	174	7	20	1	< 20	< 10	60	29	2	< 5
548406	71.15	16.39	1.56	0.016	0.31	2.65	5.68	1.60	0.158	0.06	0.40	99.98	< 1	3	14	30	2	< 20	< 10	80	28	1	< 5
548407	71.55	16.25	1.32	0.014	0.31	2.65	5.66	1.68	0.156	0.04	0.58	100.2	< 1	3	13	20	2	< 20	< 10	90	27	1	< 5
548408	71.78	15.37	1.34	0.046	0.26	2.11	5.56	2.06	0.122	0.08	0.35	99.08	< 1	5	11	30	2	< 20	< 10	150	28	2	< 5
548409	72.06	15.76	1.25	0.069	0.28	2.20	5.93	1.83	0.132	0.07	0.33	99.89	< 1	6	11	20	1	< 20	< 10	100	31	2	< 5
548410	94.55	0.49	6.90	0.066	< 0.01	0.02	0.10	0.10	0.017	< 0.01	-1.49	100.8	< 1	< 1	< 5	60	1	< 20	< 10	< 30	2	2	< 5
548411	71.32	16.05	1.27	0.017	0.32	2.64	5.80	1.68	0.155	0.07	0.35	99.68	< 1	6	13	20	2	< 20	< 10	90	28	1	< 5
548412	71.50	16.15	1.38	0.013	0.32	2.71	5.74	1.69	0.164	0.05	0.34	100.1	1	2	14	30	2	< 20	< 10	100	28	1	< 5
548413	71.20	15.56	1.38	0.020	0.32	2.52	5.72	1.66	0.150	0.08	0.35	98.96	< 1	6	13	20	2	< 20	< 10	90	28	1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548414	69.98	17.09	1.72	0.032	0.31	2.47	5.68	1.67	0.152	0.05	0.37	99.53	< 1	5	13	20	2	< 20	< 10	90	28	1	< 5
548415	71.24	16.31	1.28	0.028	0.31	2.41	5.75	1.87	0.140	0.06	0.39	99.78	1	5	13	30	2	< 20	< 10	90	27	2	< 5
548416	74.65	14.47	0.89	0.205	0.02	0.27	5.69	3.58	0.007	0.04	0.28	100.1	< 1	27	< 5	20	< 1	< 20	< 10	160	36	3	< 5
548417	70.49	16.42	1.32	0.052	0.29	2.26	5.77	1.95	0.132	0.07	0.44	99.18	< 1	11	12	20	2	< 20	< 10	90	29	2	< 5
548418	71.07	16.22	1.42	0.044	0.30	2.37	5.98	1.63	0.144	0.05	0.39	99.64	< 1	7	12	20	2	< 20	< 10	90	29	1	< 5
548419	70.62	16.91	1.37	0.014	0.34	2.67	5.77	1.66	0.161	0.05	0.40	99.96	< 1	3	14	20	2	< 20	< 10	90	28	1	< 5
548420	75.62	9.57	4.69	0.052	0.90	1.62	1.28	1.96	0.806	0.34	1.32	98.16	11	33	63	70	7	< 20	290	130	22	4	37
548421	68.42	17.64	1.50	0.024	0.33	2.62	5.86	1.76	0.162	0.08	0.39	98.78	1	4	13	< 20	1	< 20	< 10	90	27	< 1	< 5
548422	70.31	15.90	1.06	0.062	0.20	1.44	5.87	3.02	0.077	0.38	0.45	98.78	< 1	6	8	< 20	< 1	< 20	< 10	50	33	2	< 5
548423	69.35	17.08	1.38	0.019	0.35	2.62	5.85	1.56	0.164	0.08	0.59	99.03	1	4	13	< 20	1	< 20	< 10	80	28	1	< 5
548424	69.25	16.89	1.25	0.049	0.26	1.87	5.81	2.45	0.118	0.08	0.46	98.49	< 1	6	10	< 20	1	< 20	130	150	28	1	< 5
548425	68.82	16.55	1.22	0.038	0.38	2.13	5.94	2.07	0.147	0.06	0.90	98.26	< 1	5	13	< 20	1	< 20	< 10	90	27	1	< 5
548426	69.68	16.92	1.44	0.021	0.35	2.57	5.65	1.80	0.163	0.09	0.57	99.27	< 1	7	12	< 20	1	< 20	< 10	90	28	1	< 5
548427	70.82	16.05	1.32	0.039	0.27	2.13	5.66	1.84	0.130	0.06	0.43	98.74	< 1	16	11	< 20	1	< 20	< 10	70	27	1	< 5
548428	70.50	16.53	1.24	0.044	0.24	1.79	5.63	2.69	0.116	0.11	0.45	99.35	< 1	12	9	< 20	< 1	< 20	< 10	90	28	1	< 5
548429	70.27	16.25	1.48	0.016	0.34	2.60	5.68	1.66	0.167	0.06	0.46	99.00	< 1	3	12	< 20	1	< 20	< 10	90	27	< 1	< 5
548430	94.35	0.50	4.03	0.034	0.02	0.03	0.12	0.06	0.019	< 0.01	-0.29	98.89	< 1	< 1	< 5	< 20	2	< 20	< 10	< 30	1	1	< 5
548431	69.28	16.49	1.64	0.029	0.32	2.49	5.73	1.70	0.166	0.06	0.42	98.32	< 1	6	14	< 20	1	< 20	< 10	90	27	< 1	< 5
548432	70.76	16.75	0.84	0.157	0.02	0.26	5.36	4.92	0.007	0.05	0.20	99.33	< 1	5	< 5	< 20	< 1	< 20	< 10	< 30	30	3	< 5
548433	71.10	16.60	1.38	0.016	0.36	2.64	5.69	1.46	0.172	0.06	0.43	99.90	< 1	4	13	< 20	2	< 20	< 10	90	27	< 1	< 5
548434	71.01	15.79	1.13	0.211	0.09	0.65	5.92	3.08	0.050	0.09	0.37	98.39	< 1	44	6	< 20	< 1	< 20	< 10	140	37	3	< 5
548435	69.79	16.25	1.50	0.036	0.34	2.42	5.82	1.63	0.167	0.15	0.48	98.58	< 1	8	13	< 20	1	< 20	< 10	110	29	< 1	< 5
548436	70.13	16.75	1.57	0.015	0.34	2.71	5.64	1.69	0.176	0.06	0.38	99.47	< 1	3	13	< 20	2	< 20	< 10	90	27	< 1	< 5
548437	70.27	16.69	1.42	0.014	0.33	2.73	5.73	1.67	0.177	0.07	0.38	99.49	< 1	4	14	< 20	1	< 20	< 10	90	27	< 1	< 5
548438	70.39	16.57	1.44	0.014	0.34	2.70	5.74	1.63	0.170	0.05	0.45	99.49	1	2	13	< 20	1	< 20	< 10	90	26	< 1	< 5
548439	70.09	15.85	0.77	0.082	0.06	0.37	4.49	6.61	0.009	0.11	0.26	98.69	< 1	6	< 5	< 20	< 1	< 20	< 10	170	31	2	< 5
548440	76.35	10.31	4.45	0.049	0.77	1.29	1.13	1.79	0.595	0.29	1.29	98.30	8	38	56	70	6	< 20	320	150	27	5	53
548441	69.88	16.30	1.51	0.042	0.30	2.29	5.73	1.78	0.143	0.07	0.43	98.48	1	6	11	< 20	1	< 20	< 10	460	27	1	< 5
548442	70.03	17.52	1.47	0.024	0.32	2.58	5.77	1.55	0.165	0.06	0.42	99.92	1	6	14	< 20	1	< 20	< 10	90	28	1	< 5
548443	69.90	17.01	1.08	0.097	0.19	1.79	6.31	1.43	0.103	0.06	0.35	98.33	< 1	39	8	< 20	< 1	< 20	< 10	70	30	2	< 5
548444	70.92	16.65	1.29	0.041	0.27	2.39	5.80	1.49	0.141	0.07	0.47	99.53	< 1	9	12	< 20	1	< 20	< 10	80	28	1	< 5
548445	70.84	16.48	1.33	0.021	0.29	2.54	5.72	1.51	0.156	0.05	0.38	99.33	< 1	5	12	< 20	1	< 20	< 10	90	27	1	< 5
548446	71.84	16.45	0.83	0.312	0.03	0.67	6.87	2.29	0.006	0.29	0.18	99.77	< 1	6	< 5	< 20	< 1	< 20	< 10	170	33	3	< 5
548447	69.70	16.59	1.38	0.020	0.30	2.63	5.80	1.35	0.169	0.06	0.45	98.44	1	8	12	< 20	1	< 20	< 10	90	27	< 1	< 5
548448	69.69	18.05	1.31	0.019	0.29	2.62	5.57	1.87	0.158	0.04	0.40	100.0	1	3	13	< 20	1	< 20	< 10	90	27	1	< 5
548449	71.56	15.75	1.12	0.317	0.02	0.33	5.95	3.32	0.009	0.01	0.15	98.54	< 1	6	< 5	< 20	< 1	< 20	< 10	90	35	3	< 5
548450	96.51	0.37	2.15	0.023	0.01	0.02	0.07	0.04	0.017	< 0.01	-0.09	99.11	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
548451	69.75	17.44	1.31	0.017	0.30	2.67	5.78	1.30	0.160	0.04	0.41	99.18	< 1	4	14	< 20	1	< 20	< 10	140	27	< 1	< 5
548452	68.52	18.19	1.07	0.783	0.02	0.50	8.96	0.35	0.004	0.13	0.12	98.65	< 1	7	< 5	< 20	< 1	< 20	< 10	< 30	38	4	< 5
548453	72.30	16.59	1.08	0.143	0.11	0.72	6.99	0.84	0.060	0.10	0.47	99.41	< 1	14	6	< 20	< 1	< 20	< 10	70	32	3	< 5
548454	70.80	17.02	1.30	0.087	0.20	1.64	6.27	1.37	0.113	0.20	0.60	99.61	< 1	34	10	< 20	< 1	< 20	< 10	110	34	2	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548455	70.29	17.19	1.35	0.074	0.22	1.66	6.17	1.47	0.123	0.19	0.67	99.40	< 1	25	12	< 20	1	< 20	< 10	120	34	3	< 5
548456	70.77	17.20	1.26	0.130	0.22	1.88	6.55	0.96	0.111	0.05	0.33	99.45	< 1	29	9	< 20	< 1	< 20	< 10	180	31	2	< 5
548457	74.64	14.79	0.97	0.252	0.10	0.70	7.03	0.69	0.043	0.05	0.31	99.58	< 1	8	< 5	< 20	< 1	< 20	< 10	120	32	3	< 5
548458	71.23	16.55	0.66	0.192	0.02	0.53	8.48	0.59	0.005	0.03	0.31	98.60	< 1	118	< 5	< 20	< 1	< 20	< 10	< 30	38	4	< 5
548459	72.23	16.21	0.71	0.248	0.03	0.42	8.42	0.50	0.011	0.05	0.22	99.06	< 1	109	< 5	< 20	< 1	< 20	< 10	< 30	39	4	< 5
548460	75.45	9.37	4.68	0.051	0.93	1.63	1.26	1.98	0.786	0.37	1.33	97.83	11	33	65	70	6	< 20	290	130	22	4	33
548461	69.78	16.62	1.38	0.020	0.34	2.75	5.78	1.49	0.168	0.09	0.44	98.85	< 1	8	16	< 20	1	< 20	< 10	90	28	1	< 5
548462	70.95	15.63	1.38	0.037	0.31	2.51	5.71	1.67	0.152	0.06	0.35	98.77	1	6	14	< 20	2	< 20	< 10	90	27	1	< 5
548463	73.37	14.95	0.85	0.140	0.06	0.43	5.30	3.88	0.015	0.04	0.35	99.40	< 1	14	< 5	< 20	< 1	< 20	< 10	70	34	3	< 5
548464	71.01	16.59	1.33	0.014	0.33	2.74	5.81	1.70	0.165	0.06	0.38	100.1	1	3	14	< 20	1	< 20	< 10	80	27	< 1	< 5
548465	70.94	16.23	1.33	0.013	0.34	2.77	5.83	1.73	0.170	0.04	0.37	99.77	1	2	15	< 20	2	< 20	< 10	80	26	1	< 5
548466	71.82	16.04	1.09	0.033	0.31	2.31	5.69	2.02	0.145	0.08	0.37	99.91	< 1	4	14	< 20	1	< 20	< 10	90	28	1	< 5
548467	69.18	16.56	1.51	0.015	0.37	2.74	5.68	1.60	0.183	0.05	0.41	98.30	1	2	15	< 20	2	< 20	< 10	90	27	1	< 5
548468	73.32	14.81	0.76	0.110	0.05	0.43	5.71	3.47	0.015	0.05	0.42	99.16	< 1	14	< 5	< 20	< 1	< 20	< 10	70	36	3	< 5
548469	70.25	16.31	1.28	0.020	0.34	2.52	5.97	1.72	0.159	0.06	0.43	99.06	1	5	16	20	2	< 20	< 10	90	25	< 1	< 5
548470	97.01	0.57	0.91	0.011	0.04	0.03	0.15	0.10	0.018	< 0.01	0.06	98.89	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548373	218	980	3	107	3	< 2	< 0.5	< 0.2	3	0.6	48.0	893	< 0.4	2.8	0.9	< 1	1.3	13	1.7	0.5	0.08	0.18	
548374	205	980	3	104	6	< 2	< 0.5	< 0.2	3	0.6	37.2	847	< 0.4	2.7	3.8	< 1	1.3	12	1.8	1.9	0.08	0.17	
548375	193	921	4	99	4	< 2	< 0.5	< 0.2	3	< 0.5	34.8	856	< 0.4	2.7	1.9	< 1	1.2	12	1.6	1.9	0.08	0.17	
548376	188	192	< 2	78	32	< 2	< 0.5	< 0.2	4	< 0.5	26.1	30	< 0.4	8.0	54.5	< 1	1.3	25	5.8	8.8	0.13	0.28	
548377	289	983	3	105	3	< 2	< 0.5	< 0.2	2	0.5	110	816	< 0.4	2.7	2.1	< 1	2.3	15	1.6	1.2	0.07	0.16	
548378	55	1012	3	104	3	< 2	< 0.5	< 0.2	1	0.5	13.7	910	< 0.4	2.8	0.4	< 1	0.4	13	1.5	0.9	0.07	0.14	
548379	125	1026	3	106	4	< 2	< 0.5	< 0.2	2	0.6	21.0	889	< 0.4	2.9	1.7	< 1	0.6	12	1.6	1.1	0.06	0.13	
548380	1360	223	18	128	987	10	< 0.5	4.1	894	9.2	282	1030	16.1	2.8	21.1	6	9.9	24	48.4	8.5	0.48	1.03	
548381	75	1029	3	107	4	2	< 0.5	< 0.2	2	0.6	15.0	906	< 0.4	2.8	1.5	< 1	1.9	12	1.7	1.0	0.05	0.11	
548382	124	1037	2	110	5	< 2	< 0.5	< 0.2	2	0.6	19.4	866	< 0.4	3.1	1.7	< 1	1.2	12	1.6	1.2	0.05	0.11	
548383	104	995	2	112	3	< 2	< 0.5	< 0.2	2	0.6	19.0	933	< 0.4	2.9	1.0	< 1	0.8	14	1.6	1.0	0.05	0.10	2.70
548384	302	962	3	95	9	< 2	< 0.5	< 0.2	2	< 0.5	20.7	821	< 0.4	2.7	8.8	< 1	1.8	13	1.8	2.5	0.05	0.10	
548385	168	1009	3	103	3	< 2	< 0.5	< 0.2	2	0.5	21.6	937	< 0.4	2.5	1.0	< 1	1.2	13	1.5	2.0	0.05	0.11	
548386	768	197	< 2	36	45	< 2	1.1	< 0.2	12	< 0.5	40.9	182	< 0.4	2.5	25.7	< 1	5.0	32	3.8	10.3	0.04	0.08	
548387	312	817	2	97	13	< 2	< 0.5	< 0.2	4	0.6	26.6	739	0.9	2.9	4.6	< 1	2.0	14	2.0	3.2	0.05	0.11	
548388	134	991	3	103	4	2	< 0.5	< 0.2	2	0.6	17.7	865	< 0.4	2.7	1.5	< 1	1.0	12	1.5	0.9	0.06	0.12	
548389	661	667	3	66	12	2	< 0.5	< 0.2	2	0.5	35.5	604	< 0.4	2.0	8.8	< 1	3.6	14	1.8	2.5	0.06	0.12	
548390	3	2	5	34	< 1	2	< 0.5	< 0.2	1	0.8	< 0.5	11	< 0.4	1.1	0.3	< 1	0.2	< 5	1.2	0.5	< 0.01	< 0.01	
548391	329	941	3	101	3	3	< 0.5	< 0.2	3	< 0.5	128	758	< 0.4	2.6	1.4	2	2.4	12	1.6	2.2	0.07	0.15	
548392	797	180	< 2	18	49	3	< 0.5	< 0.2	20	0.5	217	132	4.5	2.2	95.1	< 1	5.0	15	6.1	4.1	1.16	2.51	
548393	1160	165	2	13	45	< 2	< 0.5	< 0.2	14	0.5	247	172	7.7	2.0	90.2	< 1	9.0	19	5.6	4.2	1.06	2.28	2.74
548394	667	698	3	107	14	< 2	< 0.5	< 0.2	7	0.6	167	601	3.3	4.6	20.3	< 1	6.0	20	5.0	3.3	0.08	0.17	
548395	670	709	3	106	12	2	< 0.5	< 0.2	7	< 0.5	159	576	0.6	3.9	19.3	< 1	5.4	18	4.7	3.6	0.08	0.18	
548396	151	912	< 2	103	5	< 2	< 0.5	< 0.2	2	0.5	23.9	895	< 0.4	2.9	1.8	< 1	1.7	14	1.9	3.2	0.03	0.06	
548397	193	955	3	108	7	< 2	< 0.5	< 0.2	2	0.6	28.8	925	< 0.4	3.3	3.9	< 1	1.4	13	1.8	1.6	0.05	0.11	
548398	104	975	2	112	4	4	< 0.5	< 0.2	2	0.5	17.2	957	< 0.4	3.0	0.7	< 1	0.7	12	1.8	1.2	0.04	0.09	
548399	202	902	3	106	7	< 2	< 0.5	< 0.2	2	0.6	27.3	872	< 0.4	3.1	1.9	< 1	1.2	13	2.0	1.6	0.05	0.10	
548400	1210	306	27	179	719	8	< 0.5	2.5	588	6.6	211	2045	11.0	4.0	16.9	4	9.1	27	96.1	16.5	0.23	0.50	
548401	179	888	2	101	7	< 2	< 0.5	< 0.2	3	0.6	15.7	880	< 0.4	2.8	2.5	< 1	2.2	12	1.7	1.3	0.04	0.09	
548402	46	982	4	123	3	< 2	< 0.5	< 0.2	1	0.5	4.3	1020	< 0.4	3.4	0.4	< 1	0.7	13	1.8	1.0	0.05	0.10	
548403	237	863	3	103	9	< 2	< 0.5	< 0.2	3	0.6	23.5	901	< 0.4	3.2	3.7	< 1	1.4	14	2.1	2.3	0.05	0.11	2.74
548404	110	1032	3	130	4	< 2	< 0.5	< 0.2	2	0.6	24.0	1064	< 0.4	3.7	0.6	< 1	0.6	12	1.8	1.0	0.07	0.14	
548405	807	573	< 2	60	16	< 2	< 0.5	< 0.2	5	0.7	116	587	1.7	2.8	23.4	< 1	5.4	15	4.6	2.0	0.06	0.13	
548406	151	932	3	117	4	< 2	< 0.5	< 0.2	1	< 0.5	35.6	992	< 0.4	3.4	0.9	< 1	1.6	12	1.7	1.5	0.05	0.11	
548407	72	952	3	119	4	< 2	< 0.5	< 0.2	2	0.6	11.0	966	< 0.4	3.5	0.8	< 1	0.5	13	1.7	1.1	0.05	0.10	
548408	343	743	4	89	22	< 2	< 0.5	< 0.2	4	0.6	27.2	714	< 0.4	2.7	8.1	8	1.8	17	1.9	2.9	0.03	0.07	
548409	281	764	2	100	15	< 2	< 0.5	< 0.2	5	< 0.5	34.6	763	< 0.4	3.2	5.0	< 1	1.4	14	2.0	2.6	0.03	0.07	
548410	3	5	5	33	< 1	3	< 0.5	< 0.2	< 1	0.7	< 0.5	31	< 0.4	1.1	0.2	< 1	< 0.1	< 5	1.3	0.5	< 0.01	< 0.01	
548411	136	926	2	116	6	< 2	< 0.5	< 0.2	4	0.6	30.5	938	< 0.4	3.5	3.1	< 1	0.5	13	1.7	1.4	0.04	0.08	
548412	70	966	2	121	4	< 2	< 0.5	< 0.2	2	0.6	10.9	967	< 0.4	3.7	0.6	6	0.2	12	1.7	1.4	0.04	0.08	
548413	166	872	2	115	7	< 2	< 0.5	< 0.2	4	0.6	23.9	881	< 0.4	3.4	3.5	2	0.7	12	1.7	1.9	0.04	0.08	2.69

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548414	253	937	3	116	7	< 2	< 0.5	< 0.2	4	< 0.5	31.4	841	< 0.4	3.7	2.4	5	1.0	12	1.7	1.6	0.05	0.10	
548415	271	876	2	111	6	< 2	< 0.5	< 0.2	4	0.5	31.8	896	< 0.4	3.5	2.4	< 1	1.3	12	1.6	1.6	0.04	0.10	
548416	932	56	2	29	61	< 2	< 0.5	< 0.2	17	0.8	31.7	69	0.8	3.4	18.3	< 1	5.1	11	3.2	5.6	0.01	0.03	
548417	429	781	3	98	12	< 2	< 0.5	< 0.2	8	0.6	54.4	692	< 0.4	3.5	6.0	2	2.9	14	1.9	1.0	0.05	0.10	
548418	228	877	3	109	10	< 2	< 0.5	< 0.2	4	0.6	22.4	809	< 0.4	3.6	3.9	< 1	1.5	11	1.8	1.9	0.04	0.08	
548419	102	1020	3	124	5	< 2	< 0.5	< 0.2	2	0.6	12.9	987	< 0.4	3.8	0.8	< 1	0.7	13	1.7	1.0	0.04	0.08	
548420	1210	309	28	203	1100	8	< 0.5	2.6	746	8.0	218	1989	10.8	5.1	18.2	5	9.0	28	96.8	16.5	0.23	0.50	
548421	159	1020	3	90	4	< 2	< 0.5	< 0.2	2	< 0.5	21.5	892	< 0.4	2.6	2.2	< 1	0.9	12	1.7	1.6	0.03	0.07	
548422	647	475	4	54	25	7	< 0.5	< 0.2	9	< 0.5	29.9	498	< 0.4	2.1	20.0	< 1	3.4	13	2.3	4.3	0.02	0.04	
548423	204	1013	3	102	4	< 2	< 0.5	< 0.2	2	< 0.5	19.0	893	< 0.4	2.9	1.3	52	1.7	11	1.7	2.2	0.03	0.06	2.68
548424	529	710	3	72	22	< 2	< 0.5	< 0.2	5	< 0.5	34.0	659	< 0.4	2.5	12.9	< 1	3.2	21	2.1	3.7	0.02	0.05	
548425	265	764	3	89	10	< 2	< 0.5	< 0.2	3	< 0.5	15.9	795	< 0.4	2.6	9.0	< 1	1.8	13	2.0	1.8	0.02	0.05	
548426	150	991	3	107	7	< 2	< 0.5	< 0.2	2	< 0.5	22.0	905	< 0.4	2.9	4.8	< 1	1.0	11	1.7	1.2	0.03	0.06	
548427	334	809	2	73	13	< 2	< 0.5	< 0.2	2	< 0.5	38.1	763	< 0.4	2.5	11.3	< 1	2.1	10	2.0	2.4	0.03	0.07	
548428	706	655	3	65	17	< 2	< 0.5	< 0.2	6	< 0.5	46.6	640	< 0.4	2.2	11.8	1	4.2	10	1.8	2.8	0.04	0.08	
548429	137	949	3	96	4	< 2	< 0.5	< 0.2	1	< 0.5	19.7	914	< 0.4	2.5	2.1	< 1	1.3	10	1.7	1.2	0.04	0.08	
548430	3	6	4	31	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	17	< 0.4	1.2	0.1	8	0.1	< 5	2.2	0.5	< 0.01	< 0.01	
548431	214	887	3	98	5	< 2	< 0.5	< 0.2	2	< 0.5	25.5	849	< 0.4	2.7	2.1	< 1	1.1	15	1.9	1.9	0.05	0.11	
548432	1180	112	3	12	23	< 2	< 0.5	< 0.2	5	< 0.5	40.0	219	< 0.4	1.4	20.0	< 1	6.8	15	2.9	10.3	< 0.01	0.02	
548433	223	1008	3	108	4	< 2	< 0.5	< 0.2	2	< 0.5	41.3	995	< 0.4	3.1	0.6	< 1	2.3	12	1.7	1.5	0.05	0.12	2.68
548434	890	204	3	41	32	< 2	< 0.5	< 0.2	17	< 0.5	75.3	216	< 0.4	2.9	26.2	< 1	5.3	28	2.8	10.8	0.03	0.07	
548435	397	890	3	102	7	< 2	< 0.5	< 0.2	5	< 0.5	69.9	793	< 0.4	2.9	4.6	< 1	3.1	17	2.0	2.3	0.06	0.13	
548436	87	1021	2	105	3	< 2	< 0.5	< 0.2	1	< 0.5	17.0	1008	< 0.4	2.9	0.6	< 1	1.1	10	1.7	1.2	0.05	0.10	
548437	76	1043	2	104	3	< 2	< 0.5	< 0.2	1	< 0.5	12.6	939	< 0.4	3.0	0.9	< 1	0.7	10	1.9	1.1	0.05	0.10	
548438	136	1023	3	116	3	< 2	< 0.5	< 0.2	2	< 0.5	17.7	1027	< 0.4	3.1	0.6	< 1	1.0	10	1.8	1.0	0.05	0.11	
548439	1550	115	< 2	11	30	< 2	< 0.5	< 0.2	8	< 0.5	39.9	197	< 0.4	1.0	16.3	< 1	8.2	24	2.3	5.4	0.01	0.03	
548440	1340	223	22	131	958	9	0.6	4.0	886	8.7	282	1033	16.6	3.0	20.9	6	11.3	23	50.2	8.5	0.48	1.02	
548441	319	835	3	98	11	< 2	< 0.5	< 0.2	4	< 0.5	37.6	792	< 0.4	2.9	6.4	< 1	3.9	14	2.1	2.2	0.05	0.11	
548442	273	980	3	105	5	< 2	< 0.5	< 0.2	3	< 0.5	71.5	901	< 0.4	2.9	3.3	< 1	2.7	10	1.9	1.1	0.06	0.14	
548443	441	682	3	69	21	3	< 0.5	< 0.2	4	< 0.5	84.7	589	< 0.4	2.6	22.1	< 1	3.5	12	2.9	3.5	0.05	0.11	2.69
548444	424	863	2	115	12	< 2	< 0.5	< 0.2	5	< 0.5	72.3	737	< 0.4	3.6	5.7	< 1	3.5	14	2.5	3.3	0.07	0.15	
548445	311	943	3	111	5	< 2	< 0.5	< 0.2	4	< 0.5	35.1	820	< 0.4	3.0	1.6	< 1	2.3	11	1.9	1.3	0.06	0.13	
548446	579	118	3	37	44	< 2	< 0.5	< 0.2	4	< 0.5	14.9	76	< 0.4	5.4	36.4	< 1	3.6	25	3.8	12.9	0.02	0.05	
548447	271	959	3	113	5	< 2	< 0.5	< 0.2	4	< 0.5	32.3	873	< 0.4	3.1	2.2	< 1	2.3	11	2.0	1.2	0.06	0.14	
548448	188	1027	3	105	5	< 2	< 0.5	< 0.2	1	< 0.5	16.5	911	< 0.4	3.1	1.4	< 1	1.5	11	2.0	1.3	0.05	0.11	
548449	806	75	7	17	55	< 2	< 0.5	< 0.2	5	< 0.5	27.1	85	< 0.4	2.5	43.9	< 1	4.6	27	5.2	12.0	0.03	0.07	
548450	2	2	4	42	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	10	< 0.4	1.4	0.2	2	0.5	< 5	1.6	0.5	< 0.01	< 0.01	
548451	219	1026	3	116	4	< 2	< 0.5	< 0.2	3	< 0.5	43.0	875	< 0.4	3.5	0.6	< 1	1.6	14	2.0	1.2	0.07	0.14	
548452	38	109	2	58	40	< 2	< 0.5	< 0.2	4	< 0.5	4.9	39	< 0.4	9.0	21.9	2	0.4	18	5.2	23.9	0.02	0.04	
548453	425	232	< 2	46	14	< 2	< 0.5	< 0.2	19	< 0.5	40.5	160	< 0.4	2.0	14.6	< 1	1.9	13	2.1	5.2	0.08	0.17	2.71
548454	642	509	3	85	24	< 2	< 0.5	< 0.2	18	< 0.5	82.7	480	< 0.4	3.3	18.6	< 1	3.5	14	2.8	4.4	0.08	0.18	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548455	726	514	4	97	22	< 2	< 0.5	< 0.2	22	< 0.5	89.2	497	< 0.4	3.5	15.8	2	4.2	15	2.4	3.3	0.08	0.18	
548456	262	653	3	79	28	< 2	< 0.5	< 0.2	3	< 0.5	61.7	630	< 0.4	3.2	23.2	< 1	2.3	17	2.8	6.0	0.06	0.13	
548457	265	202	3	49	43	< 2	< 0.5	< 0.2	8	< 0.5	52.2	166	< 0.4	4.6	24.2	4	1.8	26	2.9	9.8	0.05	0.10	
548458	163	92	< 2	23	56	< 2	< 0.5	< 0.2	3	< 0.5	52.8	8	< 0.4	4.2	50.6	< 1	1.2	32	7.6	23.1	0.02	0.05	
548459	109	69	2	31	57	< 2	< 0.5	< 0.2	3	< 0.5	31.0	15	< 0.4	4.0	53.5	< 1	0.7	20	4.2	11.1	0.03	0.06	
548460	1230	293	27	198	998	8	1.0	2.7	703	7.4	220	2013	10.9	5.2	17.3	12	9.2	27	96.3	16.4	0.23	0.50	
548461	261	984	3	126	7	< 2	0.6	< 0.2	5	< 0.5	61.3	893	< 0.4	3.7	1.3	9	3.0	13	2.2	1.3	0.08	0.16	
548462	290	919	3	117	12	2	0.5	< 0.2	3	< 0.5	60.2	838	< 0.4	3.9	6.4	< 1	2.5	12	2.4	2.0	0.04	0.09	
548463	1060	115	5	15	74	< 2	< 0.5	< 0.2	15	< 0.5	43.2	145	< 0.4	2.0	34.0	< 1	6.3	19	3.6	9.6	0.02	0.03	2.70
548464	81	1041	2	130	5	< 2	< 0.5	< 0.2	1	< 0.5	11.9	964	< 0.4	3.8	1.1	< 1	1.6	12	2.2	1.1	0.04	0.08	
548465	56	999	3	133	5	< 2	0.5	< 0.2	1	< 0.5	7.2	964	< 0.4	3.9	0.5	< 1	0.7	12	2.3	1.3	0.04	0.08	
548466	261	819	3	110	13	< 2	< 0.5	< 0.2	3	< 0.5	18.2	795	< 0.4	3.7	6.2	< 1	1.5	12	2.2	2.2	0.04	0.08	
548467	132	1006	4	136	5	< 2	0.5	< 0.2	2	< 0.5	19.2	962	< 0.4	4.1	0.4	2	1.1	13	2.3	1.2	0.04	0.09	
548468	960	144	< 2	8	49	< 2	< 0.5	< 0.2	22	< 0.5	41.6	157	< 0.4	1.1	28.6	< 1	5.6	15	3.0	6.9	0.02	0.04	
548469	207	886	5	108	7	< 2	< 0.5	< 0.2	2	< 0.5	29.7	877	0.4	3.7	3.3	4	1.3	12	2.2	1.3	0.03	0.07	
548470	3	5	< 2	43	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	19	< 0.4	1.4	0.2	< 1	< 0.1	< 5	1.3	0.4	< 0.01	< 0.01	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.10	1.92	0.77	0.012	0.33	41.81	0.84	0.53	0.115	30.18					1602								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.33	19.03	10.11	0.151	10.30	11.67	1.91	0.22	0.496	0.07			31		149	260	54	240	90	70	14		
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15		
GBW 07113 Meas	71.84	12.86	3.16	0.140	0.14	0.60	2.45	5.41	0.285	0.04			5	4	< 5								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																	29	40	30	150			28
LKSD-3 Cert																	30.0	47.0	35.0	152			27.0
TDB-1 Meas																260		100	350	160			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.94	14.90	10.45	0.161	6.39	11.28	2.22	0.62	1.062	0.13			36	< 1	266	100	44		110	80	18	2	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0		110	80.0	17.0	1.00	
SY-4 Meas	50.34	20.94	6.26	0.107	0.51	8.25	6.91	1.67	0.293	0.13			< 1	3	6								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			60				
CTA-AC-1 Cert																			54.0				
BIR-1a Meas	48.43	15.91	11.74	0.173	9.65	13.83	1.81	0.02	0.986	0.03			43	< 1	327	370	50	160	120	70	15		
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16		
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30	4		890	90	16	11	66
NCS DC70009 (GBW07241) Cert																30	3.7		960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	18		160				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	46		410				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	45		440				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																	1	< 20	< 10	30	16	2	16
JR-1 Cert																	0.83	1.67	2.68	30.6	16.1	1.88	16.3
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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NCS DC86314 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
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Lithium Tetraborate FX-LT 100 lot#220610B Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
548379 Orig																							
548379 Dup																							
548387 Orig	70.78	16.65	1.49	0.063	0.26	2.22	5.80	1.85	0.133	0.05	0.34	99.63	< 1	4	13	20	2	< 20	< 10	120	29	1	< 5
548387 Dup	71.11	16.23	1.45	0.060	0.26	2.22	5.70	1.85	0.130	0.06	0.34	99.40	< 1	4	13	20	2	< 20	< 10	120	29	1	< 5
548401 Orig																							
548401 Dup																							
548404 Orig	68.83	16.85	1.55	0.015	0.35	2.88	5.80	1.73	0.177	0.07	0.47	98.74	1	3	15	20	2	< 20	10	100	29	< 1	< 5
548404 Dup	68.94	17.65	1.54	0.015	0.35	2.83	5.82	1.72	0.178	0.08	0.47	99.58	1	3	15	20	2	< 20	< 10	100	30	1	< 5
548409 Orig																							
548409 Dup																							
548422 Orig	70.31	15.90	1.06	0.062	0.20	1.44	5.87	3.02	0.077	0.38	0.45	98.78	< 1	6	8	< 20	< 1	< 20	< 10	50	33	2	< 5
548422 Split PREP DUP	70.62	16.22	1.10	0.061	0.20	1.47	5.95	3.04	0.079	0.38	0.47	99.59	< 1	6	8	< 20	< 1	< 20	< 10	60	33	2	< 5
548422 Split PREP DUP																							
548430 Orig																							
548430 Dup																							
548434 Orig	71.11	15.74	1.13	0.212	0.08	0.66	5.93	3.07	0.050	0.10	0.37	98.46	< 1	44	6	< 20	< 1	< 20	< 10	140	37	3	< 5
548434 Dup	70.91	15.84	1.12	0.209	0.09	0.65	5.90	3.08	0.050	0.09	0.37	98.32	< 1	44	6	< 20	< 1	< 20	< 10	150	36	3	< 5
548444 Orig																							
548444 Dup																							
548451 Orig	69.78	17.36	1.32	0.017	0.30	2.66	5.73	1.30	0.160	0.04	0.41	99.09	1	4	13	< 20	1	< 20	< 10	80	27	1	< 5
548451 Dup	69.73	17.51	1.30	0.017	0.30	2.67	5.82	1.31	0.161	0.04	0.41	99.27	< 1	4	14	< 20	1	< 20	< 10	210	26	< 1	< 5
548452 Orig																							
548452 Dup																							
548463 Orig																							
548463 Dup																							
548466 Orig																							
548466 Dup																							
548469 Orig	70.25	16.31	1.28	0.020	0.34	2.52	5.97	1.72	0.159	0.06	0.43	99.06	1	5	16	20	2	< 20	< 10	90	25	< 1	< 5
548469 Split PREP DUP	70.82	16.17	1.26	0.020	0.33	2.54	6.00	1.73	0.161	0.07	0.41	99.51	1	5	14	20	1	< 20	< 10	100	26	< 1	< 5
548470 Orig	97.13	0.58	0.91	0.011	0.04	0.04	0.16	0.10	0.018	< 0.01	0.06	99.01	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
548470 Dup	96.88	0.57	0.92	0.011	0.03	0.03	0.15	0.10	0.018	< 0.01	0.06	98.77	< 1	< 1	5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas		152	19	35								106											
DNC-1 Cert		144.0	18.0	38								118											
GBW 07113 Meas		40	44	402								495											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	75					< 2			3		2.5			4.5	0.7				11.2	4.6			
LKSD-3 Cert	78.0					2.00			3.00		2.30			4.80	0.700				11.4	4.60			
TDB-1 Meas	22																		2.8				
TDB-1 Cert	23																		2.7				
W-2a Meas	21	192	22	90	8	< 2					0.9	175		2.4	0.5	2		9	2.4	0.6			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600					0.990	182		2.60	0.500	0.300		9.30	2.40	0.530			
SY-4 Meas		1263	115	554								348											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.7				22.2	4.3			
CTA-AC-1 Cert															2.65				21.8	4.4			
BIR-1a Meas		111	18	15						0.6		7		0.6				< 5					
BIR-1a Cert		110	16	18						0.58		6		0.60				3					
NCS DC86312 Meas																			23.6				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	532						1.2	1.0	1570	3.3	38.1					2140	1.7		29.5				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						22													54.6	137			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						21													36.7	428			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						21													39.4	427			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	248				15	4		< 0.2	3	1.2	19.4		0.5	4.3	1.7	2		20	28.7	8.7			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59		19.3	26.7	8.88			
NCS DC86303 Meas																					0.21	0.45	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.07	2.31	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.82	3.91	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.82	3.92	
NCS DC86314 Cert																					1.81	3.89	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Meas																					1.83	3.95	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.83	3.93	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.11		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.13		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.15		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.14		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.08		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
548379 Orig																					0.06	0.13	
548379 Dup																					0.06	0.13	
548387 Orig	311	840	3	98	12	< 2	< 0.5	< 0.2	3	0.6	26.4	741	0.7	2.8	4.3	< 1	2.2	14	2.0	3.1	0.05	0.11	
548387 Dup	312	795	2	97	13	< 2	< 0.5	< 0.2	4	0.6	26.8	736	1.0	3.0	4.8	< 1	1.9	14	1.9	3.2	0.05	0.11	
548401 Orig																					0.04	0.09	
548401 Dup																					0.04	0.09	
548404 Orig	109	1008	3	132	4	< 2	< 0.5	< 0.2	2	0.5	23.9	1067	< 0.4	3.7	0.6	< 1	0.7	12	1.8	1.0			
548404 Dup	110	1056	3	128	4	< 2	< 0.5	< 0.2	2	0.6	24.1	1061	< 0.4	3.7	0.6	< 1	0.6	12	1.9	1.0			
548409 Orig																					0.03	0.07	
548409 Dup																					0.03	0.07	
548422 Orig	647	475	4	54	25	7	< 0.5	< 0.2	9	< 0.5	29.9	498	< 0.4	2.1	20.0	< 1	3.4	13	2.3	4.3	0.02	0.04	
548422 Split PREP DUP	635	517	3	55	26	9	< 0.5	< 0.2	9	< 0.5	28.9	507	< 0.4	2.2	18.2	< 1	3.7	13	2.4	4.3	0.02	0.04	
548422 Split PREP DUP																					0.02	0.04	
548430 Orig																					< 0.01	< 0.01	
548430 Dup																					< 0.01	< 0.01	
548434 Orig	891	202	2	41	33	< 2	< 0.5	< 0.2	18	< 0.5	75.6	217	< 0.4	3.0	25.7	< 1	5.0	27	2.8	11.0			
548434 Dup	889	207	3	41	30	< 2	< 0.5	< 0.2	15	< 0.5	75.0	216	< 0.4	2.8	26.7	< 1	5.6	28	2.7	10.6			
548444 Orig																					0.07	0.15	
548444 Dup																					0.07	0.15	
548451 Orig	218	1022	3	114	4	< 2	< 0.5	< 0.2	2	< 0.5	42.7	874	< 0.4	3.4	0.6	< 1	1.6	11	2.1	1.2			
548451 Dup	219	1029	3	117	4	< 2	< 0.5	< 0.2	3	< 0.5	43.2	877	< 0.4	3.5	0.6	< 1	1.6	16	2.0	1.2			
548452 Orig																					0.02	0.04	
548452 Dup																					0.02	0.04	
548463 Orig																							2.70
548463 Dup																							2.71
548466 Orig																					0.04	0.08	
548466 Dup																					0.04	0.08	
548469 Orig	207	886	5	108	7	< 2	< 0.5	< 0.2	2	< 0.5	29.7	877	0.4	3.7	3.3	4	1.3	12	2.2	1.3	0.03	0.07	
548469 Split PREP DUP	213	919	7	113	7	< 2	0.6	< 0.2	2	< 0.5	30.1	874	0.4	3.6	3.0	< 1	1.1	16	2.3	1.5	0.04	0.08	
548470 Orig	3	6	< 2	44	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	19	< 0.4	1.3	0.1	< 1	< 0.1	< 5	1.3	0.4			
548470 Dup	3	5	< 2	42	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	18	< 0.4	1.5	0.2	3	< 0.1	< 5	1.3	0.4			
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																							1.00

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 27-Oct-17
Invoice No.: A17-12052
Invoice Date: 04-Dec-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

176 Rock samples were submitted for analysis.

The following analytical package(s) were requested: Code 8-Peroxide ICP Timmins Sodium Peroxide Fusion ICP Timmins

REPORT **A17-12052**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
1752 Riverside Drive, Timmins, Ontario, Canada, P4R 1N1
TELEPHONE +705 264-0123 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Timmins@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Date Submitted: 27-Oct-17
Invoice No.: A17-12052
Invoice Date: 04-Dec-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

176 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-12052**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
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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	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548471	0.05	0.11	71.50	16.53	0.96	0.021	0.19	2.39	6.04	1.55	0.118	0.05	0.34	99.68	< 1	13	8	30	1	< 20	< 10	80	30
548472	0.04	0.10	72.45	15.54	0.83	0.362	0.10	1.36	6.79	1.76	0.062	0.03	0.30	99.58	< 1	7	< 5	< 20	< 1	< 20	< 10	60	34
548473	0.06	0.12	70.00	16.70	0.79	0.031	0.17	2.39	6.29	1.57	0.103	0.17	0.48	98.68	< 1	10	7	30	1	< 20	< 10	70	33
548474	1.01	2.18	74.63	16.40	0.71	0.069	0.06	0.41	2.82	2.79	0.014	0.02	0.30	98.22	< 1	184	5	< 20	< 1	< 20	< 10	< 30	42
548475	0.94	2.03	72.68	16.21	0.56	0.062	0.05	0.41	3.08	3.00	0.014	0.01	0.44	96.52	< 1	163	< 5	30	< 1	< 20	< 10	< 30	44
548476	0.21	0.45	74.59	14.62	0.73	0.072	0.14	0.91	4.97	1.74	0.061	0.05	0.81	98.69	< 1	220	< 5	30	1	< 20	< 10	100	44
548477	0.08	0.16	71.48	16.22	0.62	0.085	0.13	1.28	6.54	1.11	0.057	0.08	0.83	98.42	< 1	41	< 5	30	1	< 20	< 10	240	46
548478	0.49	1.06	74.90	15.12	0.91	0.077	0.14	0.63	3.66	2.79	0.055	0.05	0.59	98.94	< 1	85	7	20	< 1	< 20	< 10	90	41
548479	0.37	0.80	75.26	15.06	0.75	0.076	0.14	0.76	4.52	1.98	0.062	0.04	0.62	99.28	< 1	52	< 5	20	< 1	< 20	< 10	90	40
548480	0.48	1.03	75.48	9.95	4.39	0.051	0.77	1.25	1.16	1.76	0.545	0.28	1.19	96.83	8	38	57	80	6	30	330	150	29
548481	0.15	0.33	70.90	17.13	0.93	0.092	0.19	1.26	6.38	1.59	0.096	0.13	0.99	99.68	< 1	62	7	30	1	< 20	< 10	150	54
548482	0.02	0.04	71.11	16.95	0.51	0.136	0.03	1.05	8.45	0.46	0.010	0.18	0.33	99.19	< 1	31	< 5	20	< 1	< 20	< 10	< 30	40
548483	0.07	0.15	72.27	15.74	1.23	0.015	0.30	2.47	5.63	1.68	0.151	0.06	0.39	99.94	< 1	5	9	30	2	< 20	< 10	100	29
548484	0.06	0.12	70.06	16.79	1.18	0.011	0.31	2.58	5.67	1.70	0.160	0.05	0.41	98.92	< 1	2	11	30	2	< 20	< 10	100	30
548485	0.05	0.10	69.95	16.35	0.99	0.020	0.24	2.37	5.89	2.10	0.133	0.08	0.36	98.50	< 1	10	9	30	1	< 20	< 10	80	31
548486	0.04	0.09	70.06	17.75	1.05	0.012	0.24	2.57	6.00	1.48	0.137	0.04	0.30	99.64	< 1	3	10	30	1	< 20	< 10	90	29
548487	0.05	0.10	71.13	16.58	1.09	0.014	0.25	2.43	5.70	1.89	0.138	0.04	0.36	99.61	< 1	3	11	30	2	< 20	< 10	90	30
548488	0.04	0.09	70.37	17.00	0.96	0.075	0.22	1.79	6.02	2.16	0.112	0.05	0.32	99.08	< 1	7	7	30	1	< 20	< 10	80	31
548489	0.06	0.12	70.21	16.50	1.28	0.014	0.31	2.55	5.76	1.87	0.157	0.04	0.38	99.08	< 1	3	11	30	2	< 20	< 10	100	30
548490	< 0.01	< 0.01	98.05	0.44	1.10	0.012	0.02	0.02	0.08	0.05	0.022	< 0.01	0.03	99.83	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	< 1
548491	0.04	0.09	70.54	16.31	0.95	0.031	0.23	2.24	5.86	1.91	0.126	0.11	0.45	98.76	< 1	4	9	20	1	< 20	< 10	80	30
548492	0.05	0.11	71.75	15.69	1.13	0.128	0.23	1.44	5.44	2.84	0.106	0.06	0.35	99.16	< 1	6	9	30	2	< 20	< 10	110	31
548493	0.07	0.14	70.79	15.88	1.11	0.058	0.24	2.17	5.61	1.77	0.126	0.05	0.40	98.20	< 1	4	9	30	2	< 20	< 10	100	31
548494	0.06	0.14	71.30	16.28	0.94	0.043	0.23	2.29	5.83	1.68	0.124	0.05	0.38	99.16	< 1	4	9	30	1	< 20	< 10	90	31
548495	0.06	0.13	72.06	16.32	0.96	0.048	0.23	2.31	5.90	1.51	0.128	0.04	0.41	99.92	< 1	4	8	20	2	< 20	< 10	80	30
548496	0.68	1.47	71.79	16.96	0.51	0.073	0.03	0.74	4.86	1.90	0.022	0.04	0.61	97.53	< 1	169	< 5	30	< 1	< 20	< 10	40	49
548497	0.07	0.14	70.05	17.04	0.92	0.016	0.21	2.60	5.93	1.29	0.132	0.04	0.49	98.70	< 1	4	10	30	1	< 20	< 10	80	29
548498	0.22	0.48	71.18	16.58	0.62	0.371	0.02	0.50	5.62	3.60	0.010	0.04	0.39	98.94	< 1	57	< 5	20	< 1	< 20	< 10	50	43
548499	0.06	0.14	71.87	16.71	0.85	0.012	0.21	2.63	5.90	1.29	0.129	0.03	0.38	100.0	< 1	3	9	20	1	< 20	< 10	70	29
548500	0.23	0.49	77.66	9.36	4.73	0.052	0.90	1.62	1.27	1.97	0.811	0.35	1.21	99.92	11	32	64	80	7	< 20	300	140	25
548501	0.06	0.12	71.22	15.81	0.84	0.062	0.17	2.16	5.74	2.22	0.105	0.04	0.38	98.74	< 1	3	7	30	1	< 20	< 10	90	30
548502	0.05	0.11	72.07	16.37	0.81	0.043	0.16	2.01	6.34	1.25	0.113	0.03	0.36	99.57	< 1	9	7	20	1	< 20	< 10	70	31
548503	0.09	0.19	71.22	17.01	0.80	0.075	0.14	2.15	6.59	1.40	0.097	0.08	0.50	100.1	< 1	9	7	20	1	< 20	< 10	50	32
548504	0.07	0.15	69.98	16.91	1.21	0.202	0.30	1.71	7.32	0.75	0.138	0.09	0.54	99.15	< 1	11	10	20	2	< 20	< 10	90	36
548505	1.19	2.56	74.31	17.09	0.68	0.081	0.09	0.79	3.79	0.41	0.024	0.08	0.43	97.77	< 1	104	< 5	30	< 1	< 20	< 10	< 30	47
548506	0.08	0.16	70.44	16.84	0.75	0.078	0.15	2.25	6.61	1.32	0.094	0.35	0.50	99.37	< 1	13	7	30	< 1	< 20	< 10	60	34
548507	0.07	0.16	71.04	16.40	0.88	0.040	0.19	2.32	6.08	1.13	0.126	0.03	0.94	99.19	< 1	6	6	30	1	< 20	< 10	70	29
548508	< 0.01	0.02	72.38	15.30	0.61	0.505	0.03	0.72	8.65	0.35	0.008	0.24	0.24	99.03	< 1	10	< 5	20	< 1	< 20	< 10	< 30	41
548509	0.03	0.06	70.80	17.23	0.42	0.208	0.03	1.09	8.93	0.55	0.008	0.17	0.32	99.74	< 1	18	< 5	20	< 1	< 20	< 10	50	43
548510	< 0.01	< 0.01	97.29	0.85	1.05	0.012	0.02	0.03	0.27	0.13	0.027	0.01	0.10	99.78	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	2
548511	0.10	0.21	70.72	16.86	0.41	0.073	0.08	1.49	8.13	0.65	0.027	0.21	0.42	99.08	< 1	29	< 5	20	< 1	< 20	< 10	40	45

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548512	0.07	0.15	72.71	16.01	0.85	0.045	0.16	1.71	6.25	1.22	0.112	0.03	0.59	99.70	< 1	12	9	30	1	< 20	< 10	90	34
548513	0.10	0.21	70.16	17.75	0.47	0.157	0.05	1.47	8.23	0.76	0.020	0.33	0.41	99.81	< 1	27	< 5	20	< 1	< 20	< 10	30	44
548514	0.04	0.08	71.18	16.22	0.67	0.523	0.02	1.23	8.61	0.32	0.006	0.59	0.13	99.51	< 1	10	< 5	< 20	< 1	< 20	< 10	< 30	42
548515	0.03	0.07	71.94	16.13	0.55	0.440	0.01	1.18	8.70	0.32	0.006	0.55	0.14	99.97	< 1	11	< 5	< 20	< 1	< 20	< 10	< 30	43
548516	0.06	0.13	71.47	16.27	0.88	0.017	0.17	2.41	5.90	1.39	0.122	0.03	0.33	98.99	< 1	6	8	30	1	< 20	< 10	70	30
548517	0.04	0.08	73.35	15.49	0.80	0.060	0.15	1.94	5.74	1.87	0.098	0.05	0.38	99.92	< 1	5	8	30	1	< 20	< 10	60	28
548518	0.04	0.09	73.46	15.63	0.80	0.112	0.13	1.73	5.66	2.10	0.085	0.04	0.30	100.0	< 1	5	5	30	1	< 20	< 10	60	32
548519	0.06	0.12	70.88	17.19	0.80	0.018	0.16	2.44	5.76	1.65	0.111	0.04	0.34	99.37	< 1	3	8	< 20	< 1	< 20	< 10	60	24
548520	0.23	0.50	75.51	9.31	4.75	0.055	0.92	1.57	1.28	1.95	0.752	0.38	1.28	97.75	10	34	66	80	7	30	300	130	26
548521	0.07	0.14	71.60	16.18	0.93	0.040	0.19	2.10	5.84	1.61	0.120	0.05	0.38	99.03	< 1	8	8	< 20	< 1	< 20	< 10	70	25
548522	0.07	0.14	71.73	15.89	0.82	0.049	0.16	2.33	5.99	1.34	0.114	0.03	0.43	98.89	< 1	5	7	< 20	< 1	< 20	< 10	70	26
548523	0.03	0.06	71.90	15.83	0.88	0.657	0.02	0.56	8.06	0.33	0.003	0.08	0.22	98.52	< 1	10	< 5	< 20	< 1	< 20	< 10	< 30	33
548524	0.07	0.14	70.98	17.07	0.87	0.013	0.18	2.61	5.96	1.44	0.122	0.03	0.43	99.71	< 1	4	9	< 20	< 1	< 20	< 10	70	25
548525	0.06	0.12	70.91	16.34	0.94	0.038	0.15	2.35	5.83	1.71	0.099	0.05	0.34	98.76	< 1	8	7	20	< 1	< 20	< 10	60	26
548526	0.05	0.11	70.80	16.27	1.02	0.132	0.16	1.83	5.73	2.43	0.102	0.05	0.38	98.90	< 1	7	7	20	< 1	< 20	< 10	80	28
548527	0.05	0.10	71.82	16.09	0.86	0.040	0.16	2.36	6.07	1.61	0.109	0.03	0.37	99.53	< 1	11	7	20	< 1	< 20	< 10	80	26
548528	0.05	0.11	69.72	16.48	1.36	0.013	0.34	2.82	5.74	1.71	0.185	0.05	0.50	98.92	1	2	14	< 20	2	< 20	< 10	80	25
548529	0.05	0.10	68.38	17.92	0.86	0.052	0.19	1.44	6.36	3.15	0.106	0.04	0.89	99.40	< 1	44	9	< 20	1	< 20	< 10	60	37
548530	< 0.01	< 0.01	97.21	0.65	1.03	0.011	0.06	0.05	0.12	0.09	0.040	< 0.01	0.41	99.68	< 1	< 1	6	< 20	< 1	< 20	< 10	< 30	1
548531	0.07	0.16	69.74	16.70	1.13	0.060	0.27	2.14	6.42	1.49	0.138	0.05	1.05	99.19	< 1	20	13	< 20	1	< 20	< 10	80	37
548532	0.08	0.17	70.84	16.34	1.04	0.035	0.26	2.35	6.01	1.50	0.136	0.18	0.54	99.21	< 1	33	11	20	1	< 20	< 10	70	30
548533	0.06	0.13	73.37	14.94	0.78	0.046	0.13	0.57	4.18	3.97	0.059	0.02	0.79	98.85	< 1	175	< 5	30	< 1	< 20	< 10	60	38
548534	0.05	0.10	74.45	15.37	0.84	0.073	0.13	0.77	4.84	2.70	0.061	0.09	0.88	100.2	< 1	306	8	30	< 1	< 20	< 10	90	42
548535	0.04	0.08	73.67	15.13	0.71	0.070	0.09	0.76	5.11	2.50	0.043	0.07	0.82	98.98	< 1	345	8	20	< 1	< 20	< 10	80	39
548536	0.02	0.05	67.48	18.86	0.35	0.066	0.06	1.90	7.61	2.27	0.019	0.60	0.58	99.80	< 1	49	< 5	< 20	< 1	< 20	< 10	< 30	39
548537	0.04	0.08	69.91	17.73	0.91	0.058	0.20	1.80	7.28	0.87	0.089	0.07	0.35	99.27	< 1	26	9	< 20	1	< 20	< 10	60	32
548538	0.07	0.14	70.63	16.41	1.37	0.031	0.39	2.62	5.26	1.92	0.185	0.10	0.35	99.29	1	5	17	< 20	2	< 20	< 10	90	26
548539	0.10	0.22	69.86	16.67	1.29	0.024	0.40	2.59	5.28	2.04	0.184	0.07	0.43	98.83	1	23	18	20	2	< 20	< 10	90	27
548540	0.49	1.05	76.00	10.15	4.32	0.051	0.77	1.23	1.13	1.75	0.554	0.32	1.14	97.42	8	37	55	80	6	30	340	150	30
548541	0.02	0.05	75.56	13.86	0.76	0.243	0.05	0.40	6.16	1.49	0.018	0.04	0.18	98.76	< 1	5	< 5	20	< 1	< 20	< 10	90	30
548542	0.06	0.13	69.93	17.01	1.46	0.046	0.41	2.17	5.87	2.04	0.182	0.11	0.45	99.68	< 1	8	17	< 20	2	< 20	< 10	100	29
548543	0.07	0.14	69.93	17.20	1.52	0.015	0.49	2.95	5.55	1.77	0.216	0.10	0.38	100.1	1	3	22	< 20	3	< 20	< 10	100	27
548544	0.07	0.15	69.70	17.16	1.49	0.014	0.45	2.97	5.47	1.73	0.213	0.09	0.39	99.70	1	3	21	20	2	< 20	< 10	90	27
548545	0.10	0.21	70.13	17.56	1.37	0.017	0.42	2.80	5.35	1.72	0.192	0.08	0.52	100.2	1	9	19	< 20	2	< 20	< 10	90	26
548546	0.07	0.14	71.98	15.67	0.80	0.082	0.17	1.26	5.35	2.57	0.079	0.11	0.60	98.67	< 1	198	6	20	1	< 20	< 10	70	34
548547	0.59	1.27	74.98	15.69	0.54	0.054	0.05	0.46	3.82	2.68	0.021	< 0.01	0.53	98.83	< 1	226	< 5	20	< 1	< 20	< 10	30	42
548548	0.06	0.13	71.16	16.06	0.75	0.145	0.15	2.20	7.17	1.16	0.069	0.63	0.39	99.89	< 1	71	7	< 20	< 1	< 20	< 10	50	34
548549	0.06	0.13	70.57	16.05	1.43	0.014	0.41	2.96	5.44	1.54	0.194	0.10	0.31	99.04	1	4	19	< 20	2	< 20	< 10	90	27
548550	< 0.01	< 0.01	98.65	0.38	0.73	0.008	0.02	0.02	0.06	0.05	0.019	< 0.01	0.12	100.1	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1
548551	0.05	0.11	71.64	15.55	1.34	0.022	0.41	2.72	5.56	1.74	0.184	0.11	0.41	99.69	1	5	18	20	2	< 20	< 10	90	27
548552	0.05	0.10	71.35	15.75	1.53	0.017	0.46	2.90	5.67	1.68	0.210	0.11	0.44	100.1	1	5	20	< 20	3	< 20	< 10	100	27

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548553	0.03	0.07	72.22	15.50	1.48	0.106	0.32	2.32	6.03	1.67	0.150	0.06	0.37	100.2	< 1	6	16	< 20	2	< 20	< 10	80	28
548554	0.04	0.08	71.22	15.52	1.49	0.017	0.46	3.01	5.73	1.85	0.216	0.17	0.46	100.2	1	6	21	< 20	3	< 20	< 10	90	27
548555	0.04	0.08	68.88	17.11	1.49	0.018	0.43	3.04	5.79	1.95	0.202	0.23	0.50	99.65	1	7	21	20	2	< 20	< 10	100	28
548556	0.02	0.03	70.21	16.47	1.57	0.026	0.63	2.37	5.77	1.54	0.212	0.07	0.78	99.65	1	3	19	30	2	< 20	< 10	70	26
548557	< 0.01	0.02	73.58	15.32	0.85	0.193	0.04	0.23	5.95	3.09	0.005	0.05	0.41	99.73	< 1	6	< 5	< 20	< 1	< 20	< 10	50	42
548558	0.02	0.04	69.00	16.79	1.41	0.039	0.55	2.04	5.74	2.08	0.191	0.08	0.75	98.67	1	6	17	20	2	< 20	< 10	80	28
548559	0.02	0.04	69.79	16.16	1.47	0.034	0.52	2.43	5.66	1.82	0.193	0.09	0.61	98.78	1	6	19	30	2	< 20	< 10	80	27
548560	0.23	0.50	76.28	9.26	4.67	0.052	0.88	1.60	1.28	1.99	0.798	0.35	1.29	98.47	11	32	64	80	6	20	300	130	20
548561	0.01	0.03	70.53	16.69	1.11	0.057	0.37	1.86	5.74	2.83	0.141	0.08	0.54	99.96	< 1	8	14	< 20	1	< 20	< 10	60	27
548562	0.01	0.03	69.77	16.49	1.50	0.024	0.70	2.39	5.94	1.67	0.213	0.09	0.81	99.59	1	4	20	20	2	< 20	< 10	80	26
548563	0.02	0.04	70.73	16.45	1.31	0.019	0.41	2.75	5.80	1.69	0.197	0.09	0.68	100.1	1	5	18	20	2	< 20	< 10	80	26
548564	0.02	0.03	70.04	16.87	1.27	0.021	0.49	2.48	5.84	2.05	0.190	0.15	0.71	100.1	1	5	17	20	2	< 20	< 10	80	26
548565	0.02	0.04	70.97	15.84	1.49	0.020	0.64	2.54	5.78	1.50	0.203	0.07	0.91	99.96	1	3	20	20	2	< 20	< 10	70	25
548566	0.02	0.04	70.96	15.63	1.25	0.060	0.47	1.86	6.55	1.27	0.140	0.08	0.70	98.97	< 1	83	15	20	2	< 20	< 10	70	30
548567	< 0.01	0.01	71.51	15.43	0.82	0.114	0.24	0.51	5.82	3.64	0.068	0.06	0.49	98.71	< 1	14	8	< 20	< 1	< 20	< 10	40	30
548568	0.02	0.04	71.43	15.99	1.33	0.031	0.52	2.15	5.73	1.87	0.195	0.10	0.72	100.1	1	8	18	< 20	2	< 20	< 10	90	26
548569	0.01	0.03	70.29	15.84	1.25	0.033	0.47	1.68	6.21	1.74	0.175	0.10	0.76	98.54	1	5	16	< 20	2	< 20	< 10	140	26
548570	< 0.01	< 0.01	97.38	0.53	0.89	0.010	0.03	0.02	0.11	0.07	0.026	< 0.01	0.01	99.08	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1
548571	0.01	0.02	76.03	12.98	0.80	0.059	0.19	1.11	5.56	1.51	0.072	0.08	0.34	98.74	< 1	47	7	20	< 1	< 20	< 10	80	27
548572	0.02	0.03	69.39	16.75	1.34	0.019	0.54	2.49	5.65	1.45	0.205	0.07	0.73	98.64	1	2	18	< 20	2	< 20	< 10	90	26
548573	0.02	0.04	69.88	16.75	1.39	0.019	0.49	2.76	5.65	1.52	0.200	0.07	0.51	99.24	1	4	20	< 20	2	< 20	< 10	80	26
548574	0.02	0.04	70.83	16.34	1.35	0.017	0.47	2.93	6.06	1.48	0.199	0.08	0.42	100.2	2	4	21	< 20	2	< 20	10	80	26
548575	0.02	0.04	70.34	16.67	1.43	0.017	0.44	2.82	5.65	1.49	0.201	0.07	0.47	99.60	1	3	18	< 20	2	< 20	10	80	26
548576	< 0.01	< 0.01	70.49	17.00	0.63	0.106	0.09	0.32	7.23	3.36	0.020	0.02	0.34	99.61	< 1	6	< 5	< 20	< 1	< 20	< 10	60	32
548577	0.03	0.06	68.93	16.83	1.46	0.018	0.43	2.81	5.71	1.58	0.203	0.12	0.50	98.58	1	4	19	< 20	2	< 20	< 10	90	28
548578	0.03	0.06	70.04	16.81	1.47	0.015	0.44	2.94	5.62	1.64	0.207	0.10	0.43	99.72	1	4	18	< 20	2	< 20	< 10	90	26
548579	0.02	0.05	70.68	16.41	1.31	0.032	0.41	2.64	5.54	1.63	0.192	0.15	0.55	99.55	1	4	17	< 20	2	< 20	< 10	80	27
548580	0.49	1.04	76.14	10.10	4.33	0.051	0.77	1.26	1.18	1.79	0.556	0.30	1.14	97.61	8	38	60	80	6	20	350	160	30
548581	0.02	0.05	70.05	16.06	1.31	0.032	0.43	2.39	5.73	1.87	0.179	0.07	0.51	98.63	< 1	4	17	< 20	2	< 20	< 10	90	26
548582	0.03	0.06	69.65	16.84	1.50	0.021	0.47	2.96	5.97	1.57	0.208	0.16	0.47	99.82	1	6	19	< 20	2	< 20	< 10	90	27
548583	0.02	0.04	70.28	16.77	1.01	0.097	0.24	1.65	6.72	2.05	0.113	0.11	0.37	99.41	< 1	10	10	< 20	1	< 20	< 10	90	30
548584	0.02	0.03	72.16	16.30	1.19	0.053	0.39	2.02	5.87	1.76	0.158	0.06	0.55	100.5	< 1	3	16	< 20	1	< 20	< 10	120	26
548585	0.02	0.05	70.21	16.27	1.28	0.087	0.38	2.42	6.15	1.36	0.170	0.12	0.46	98.90	1	7	15	< 20	2	< 20	< 10	80	27
548586	0.03	0.05	70.38	16.25	1.37	0.029	0.41	2.61	5.57	2.15	0.183	0.25	0.52	99.72	1	12	16	< 20	2	< 20	< 10	100	29
548587	0.04	0.08	70.57	16.23	1.14	0.014	0.31	2.70	6.01	1.56	0.163	0.05	0.39	99.11	< 1	4	12	< 20	1	< 20	< 10	80	26
548588	< 0.01	0.01	72.80	14.77	0.81	0.539	0.04	0.26	6.84	2.54	0.004	0.07	0.16	98.83	< 1	36	< 5	< 20	< 1	< 20	< 10	50	32
548589	0.04	0.09	71.30	16.25	1.18	0.019	0.31	2.63	6.00	1.61	0.167	0.06	0.41	99.93	< 1	4	12	< 20	1	< 20	< 10	100	27
548590	< 0.01	< 0.01	96.07	0.69	3.04	0.030	0.05	0.03	0.13	0.11	0.030	0.01	-0.21	99.99	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	1
548591	0.05	0.11	71.71	16.26	1.21	0.014	0.29	2.68	5.91	1.42	0.160	0.05	0.44	100.2	< 1	3	13	< 20	1	< 20	< 10	90	26
548592	0.06	0.14	71.09	16.09	1.03	0.074	0.20	1.28	5.59	2.22	0.089	0.23	0.99	98.88	< 1	130	8	< 20	1	< 20	< 10	180	43
548593	0.12	0.25	73.66	14.84	0.51	0.051	0.03	0.46	3.98	4.39	0.018	< 0.01	0.62	98.56	< 1	229	< 5	< 20	< 1	< 20	< 10	40	34

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548594	0.02	0.05	76.26	13.64	0.53	0.043	0.04	0.45	3.62	3.66	0.027	0.01	0.83	99.11	< 1	149	< 5	20	< 1	< 20	< 10	50	37
548595	0.03	0.05	75.68	13.52	0.73	0.042	0.04	0.37	3.41	4.09	0.027	< 0.01	0.82	98.73	< 1	223	< 5	< 20	< 1	< 20	< 10	50	38
548596	0.02	0.05	72.56	15.59	0.58	0.059	0.05	0.64	5.38	2.85	0.027	< 0.01	0.95	98.69	< 1	361	< 5	< 20	< 1	< 20	< 10	140	40
548597	0.02	0.05	71.66	16.17	0.54	0.042	0.09	0.67	4.64	5.18	0.032	0.04	0.70	99.76	< 1	140	< 5	< 20	< 1	< 20	< 10	90	34
548598	0.29	0.63	74.35	16.36	0.61	0.058	0.05	0.60	5.19	1.91	0.020	< 0.01	0.67	99.83	< 1	189	< 5	< 20	< 1	< 20	< 10	< 30	39
548599	0.09	0.19	72.20	16.30	0.45	0.064	0.08	1.28	6.94	1.00	0.032	0.11	0.64	99.10	< 1	154	< 5	20	< 1	< 20	< 10	40	39
548600	0.23	0.49	75.87	9.41	4.69	0.052	0.88	1.62	1.30	1.98	0.839	0.37	1.26	98.27	11	32	65	70	7	< 20	310	130	20
548601	0.08	0.18	71.60	16.36	0.88	0.163	0.15	1.36	7.19	1.31	0.077	0.19	0.50	99.79	< 1	21	8	< 20	< 1	< 20	< 10	70	37
548602	0.05	0.11	70.58	16.47	1.21	0.045	0.31	2.29	5.55	2.03	0.142	0.06	0.53	99.21	< 1	8	11	< 20	1	< 20	< 10	70	28
548603	0.06	0.13	70.05	17.60	1.29	0.026	0.35	2.65	5.85	1.60	0.177	0.07	0.54	100.2	1	5	14	20	2	< 20	< 10	80	27
548604	0.07	0.16	70.42	16.72	1.39	0.020	0.32	2.72	5.68	1.60	0.177	0.07	0.40	99.52	1	4	14	< 20	2	< 20	< 10	80	26
548605	0.06	0.12	70.66	16.59	1.01	0.078	0.37	2.61	6.36	1.08	0.127	0.07	0.64	99.60	< 1	16	11	< 20	1	< 20	< 10	70	32
548606	0.60	1.30	68.36	19.04	0.84	0.073	0.11	0.92	4.22	4.32	0.054	0.11	0.62	98.67	< 1	16	6	< 20	< 1	< 20	< 10	70	41
548607	0.06	0.13	70.13	16.33	1.25	0.023	0.35	2.61	5.50	1.81	0.172	0.06	0.46	98.70	1	4	15	20	2	< 20	< 10	80	26
548608	0.05	0.10	70.36	17.06	1.42	0.027	0.42	2.60	5.87	1.74	0.167	0.08	0.46	100.2	< 1	5	17	< 20	2	< 20	< 10	80	27
548609	0.03	0.06	74.78	14.41	0.92	0.201	0.14	0.71	5.44	2.74	0.050	0.07	0.33	99.78	< 1	7	5	20	< 1	< 20	< 10	90	31
548610	< 0.01	< 0.01	96.21	0.73	3.45	0.033	0.02	0.08	0.18	0.09	0.031	< 0.01	-0.38	100.4	< 1	< 1	< 5	20	1	< 20	10	< 30	2
548611	0.04	0.08	71.56	16.09	1.32	0.058	0.45	1.82	5.92	1.93	0.153	0.06	0.78	100.1	< 1	4	14	20	2	< 20	10	160	27
548612	0.03	0.07	71.18	16.12	1.28	0.016	0.40	2.81	5.78	1.64	0.185	0.08	0.55	100.1	1	2	17	20	2	< 20	< 10	90	25
548613	0.03	0.06	71.46	15.61	1.23	0.081	0.31	2.26	5.76	1.98	0.149	0.07	0.31	99.21	< 1	4	14	< 20	2	< 20	< 10	80	27
548614	0.05	0.11	70.85	15.91	0.98	0.014	0.18	2.49	5.82	1.71	0.115	0.02	0.21	98.29	< 1	3	8	< 20	< 1	< 20	< 10	70	25
548615	0.05	0.11	70.52	16.63	1.01	0.014	0.17	2.46	5.80	1.64	0.116	0.03	0.21	98.60	< 1	3	8	< 20	< 1	< 20	< 10	70	26
548616	0.14	0.30	69.27	17.48	1.02	0.088	0.22	2.03	6.14	1.70	0.105	0.45	0.72	99.22	< 1	45	8	< 20	< 1	< 20	< 10	140	40
548617	0.11	0.24	66.49	18.86	0.67	0.059	0.08	0.53	4.15	6.21	0.035	0.02	1.02	98.12	< 1	77	< 5	< 20	< 1	< 20	< 10	50	45
548618	0.34	0.74	71.35	15.88	0.69	0.049	0.12	0.76	3.82	4.14	0.046	0.09	0.62	97.58	< 1	188	< 5	< 20	< 1	< 20	< 10	90	35
548619	0.90	1.94	74.98	15.91	0.83	0.073	0.09	0.68	3.77	0.66	0.038	0.02	0.53	97.59	< 1	261	< 5	< 20	< 1	< 20	< 10	50	44
548620	0.23	0.49	75.20	9.68	4.68	0.054	0.90	1.64	1.30	1.97	0.865	0.37	1.17	97.84	11	34	64	70	6	20	300	130	19
548621	1.32	2.85	73.92	17.51	0.75	0.072	0.05	0.58	3.46	0.28	0.017	< 0.01	0.34	96.99	< 1	234	< 5	< 20	< 1	< 20	< 10	< 30	48
548622	0.30	0.64	70.07	18.05	0.62	0.071	0.10	1.23	6.61	0.81	0.038	0.09	0.60	98.28	< 1	136	< 5	< 20	< 1	< 20	< 10	70	39
548623	0.06	0.14	69.93	18.06	0.56	0.144	0.10	1.16	8.18	0.96	0.038	0.24	0.38	99.76	< 1	23	< 5	< 20	< 1	< 20	< 10	60	39
548624	0.09	0.20	70.10	17.36	1.00	0.020	0.27	2.36	6.05	1.37	0.150	0.05	0.42	99.14	< 1	6	11	< 20	1	< 20	< 10	90	26
548625	0.07	0.15	70.86	17.24	1.24	0.021	0.27	2.56	5.74	1.64	0.148	0.04	0.25	100.0	< 1	4	12	< 20	1	< 20	< 10	90	26
548626	0.06	0.13	70.87	17.00	1.14	0.012	0.28	2.66	5.81	1.59	0.161	0.05	0.25	99.83	< 1	2	11	< 20	1	< 20	< 10	90	24
548627	0.06	0.13	69.92	17.29	1.12	0.013	0.27	2.67	5.88	1.64	0.157	0.07	0.23	99.26	< 1	3	11	< 20	1	< 20	< 10	90	25
548628	0.05	0.12	71.24	16.77	1.16	0.048	0.23	2.34	5.99	1.69	0.133	0.06	0.21	99.87	< 1	4	10	< 20	1	< 20	< 10	80	25
548629	0.05	0.12	68.95	17.56	1.14	0.023	0.26	2.51	5.75	1.60	0.147	0.06	0.29	98.29	< 1	3	11	< 20	< 1	< 20	< 10	80	25
548630	< 0.01	< 0.01	98.65	0.37	0.64	0.010	0.03	0.03	0.08	0.05	0.021	< 0.01	0.01	99.86	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1
548631	0.07	0.15	70.55	16.84	0.94	0.044	0.20	1.71	6.38	1.33	0.120	0.05	0.54	98.71	< 1	17	7	< 20	< 1	< 20	< 10	70	28
548632	1.37	2.95	65.81	21.07	0.61	0.091	0.06	0.51	3.37	3.96	0.025	< 0.01	0.58	96.08	< 1	161	< 5	< 20	< 1	< 20	< 10	40	58
548633	0.49	1.05	70.21	18.08	0.57	0.102	0.09	1.08	6.32	1.27	0.034	0.07	0.58	98.40	< 1	129	< 5	< 20	< 1	< 20	< 10	60	45
548634	0.07	0.15	69.86	17.26	1.08	0.024	0.25	2.42	5.65	1.55	0.139	0.05	0.38	98.66	< 1	6	10	< 20	1	< 20	< 10	100	25

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548635	0.07	0.16	69.93	16.85	1.07	0.021	0.26	2.44	5.63	1.45	0.139	0.09	0.30	98.18	< 1	6	10	< 20	1	< 20	< 10	100	25
548636	0.08	0.17	69.71	16.94	1.17	0.014	0.27	2.65	5.62	1.60	0.154	0.05	0.33	98.50	1	2	11	< 20	1	< 20	< 10	90	26
548637	0.07	0.16	70.25	17.50	1.14	0.015	0.28	2.69	5.84	1.52	0.156	0.05	0.30	99.74	< 1	3	11	< 20	1	< 20	< 10	90	25
548638	0.07	0.15	69.04	17.65	1.07	0.012	0.28	2.64	5.58	1.53	0.157	0.05	0.27	98.29	1	3	12	< 20	1	< 20	< 10	100	24
548639	0.04	0.09	73.97	15.02	0.71	0.234	0.07	0.49	5.02	4.43	0.024	0.03	0.17	100.2	< 1	32	< 5	< 20	< 1	< 20	< 10	40	29
548640	0.48	1.03	76.42	9.89	4.23	0.051	0.78	1.29	1.18	1.77	0.582	0.31	1.16	97.67	8	38	57	80	6	20	330	160	30
548641	0.05	0.10	74.33	14.79	0.79	0.163	0.17	1.39	5.52	2.72	0.069	0.05	0.24	100.2	< 1	5	8	< 20	< 1	< 20	< 10	80	28
548642	0.06	0.13	69.70	17.32	1.10	0.013	0.28	2.62	5.85	1.45	0.155	0.05	0.34	98.87	< 1	3	12	< 20	1	< 20	< 10	90	25
548643	0.05	0.10	70.66	16.94	1.05	0.044	0.25	2.38	5.78	1.82	0.137	0.04	0.27	99.38	< 1	3	11	< 20	1	< 20	< 10	90	26
548644	0.04	0.09	70.72	17.05	1.01	0.071	0.22	2.12	5.94	1.85	0.125	0.06	0.22	99.39	< 1	5	8	< 20	< 1	< 20	< 10	80	26
548534A	0.04	0.09	74.12	14.52	1.18	0.060	0.12	0.80	4.98	2.34	0.057	0.05	0.79	99.02	< 1	297	10	< 20	< 1	< 20	< 10	80	42
548535A	0.04	0.09	73.96	15.20	0.96	0.058	0.13	0.81	4.95	2.33	0.058	0.05	0.81	99.31	< 1	284	9	< 20	< 1	< 20	< 10	80	43

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548471	1	< 5	309	827	3	99	6	< 2	0.6	< 0.2	5	< 0.5	42.9	984	< 0.4	3.4	3.1	< 1	1.5	12	1.3	1.3	
548472	2	< 5	410	436	< 2	80	24	< 2	< 0.5	< 0.2	5	< 0.5	24.1	483	< 0.4	6.8	12.9	< 1	2.3	25	2.9	10.4	
548473	1	< 5	348	766	3	86	7	< 2	< 0.5	< 0.2	3	< 0.5	48.1	724	< 0.4	2.9	10.3	< 1	2.5	12	2.4	4.9	
548474	3	< 5	1230	178	< 2	19	23	< 2	< 0.5	< 0.2	10	< 0.5	119	369	< 0.4	3.8	51.9	1	10.4	19	4.8	6.9	
548475	3	< 5	1240	176	< 2	18	8	< 2	< 0.5	< 0.2	7	< 0.5	113	390	< 0.4	3.3	29.3	< 1	10.9	19	5.0	7.1	
548476	3	< 5	1010	272	< 2	32	33	< 2	< 0.5	< 0.2	17	< 0.5	139	100	2.9	3.5	44.2	< 1	7.7	16	6.5	4.2	
548477	3	< 5	714	337	< 2	53	33	< 2	< 0.5	< 0.2	17	< 0.5	93.5	62	0.6	3.5	35.5	< 1	5.3	26	3.5	3.8	
548478	3	< 5	1520	228	2	23	63	< 2	< 0.5	< 0.2	20	< 0.5	160	275	< 0.4	2.6	102	< 1	11.4	17	3.1	4.7	
548479	3	< 5	1220	235	< 2	22	67	< 2	< 0.5	< 0.2	23	< 0.5	137	200	< 0.4	2.5	61.2	< 1	8.8	12	4.0	3.4	
548480	4	50	1370	207	21	152	1120	9	0.9	4.4	1040	12.7	311	1035	15.5	3.7	22.5	7	12.4	26	47.1	7.9	
548481	3	< 5	1090	329	< 2	57	50	< 2	< 0.5	< 0.2	28	< 0.5	149	83	< 0.4	4.4	52.6	23	8.6	17	5.4	4.2	2.77
548482	3	< 5	131	233	< 2	59	32	< 2	< 0.5	< 0.2	3	< 0.5	18.6	24	< 0.4	5.0	52.0	< 1	2.3	17	4.1	9.2	
548483	< 1	< 5	186	816	2	92	4	< 2	< 0.5	< 0.2	3	< 0.5	46.9	1004	< 0.4	2.9	1.3	5	1.7	12	1.1	1.1	
548484	< 1	< 5	121	899	< 2	93	3	< 2	< 0.5	< 0.2	< 1	< 0.5	20.1	980	< 0.4	2.8	0.3	< 1	1.2	11	1.2	0.8	
548485	< 1	< 5	248	817	< 2	85	6	< 2	< 0.5	< 0.2	3	< 0.5	44.3	952	< 0.4	2.6	6.8	< 1	1.5	11	1.2	1.3	
548486	< 1	< 5	128	976	2	87	3	< 2	< 0.5	< 0.2	1	< 0.5	29.3	862	< 0.4	2.6	0.6	< 1	0.8	11	1.2	0.9	
548487	< 1	< 5	134	907	2	94	6	< 2	< 0.5	< 0.2	1	< 0.5	23.1	975	< 0.4	3.0	1.5	< 1	0.7	12	1.2	1.1	
548488	2	< 5	455	662	3	70	25	< 2	< 0.5	< 0.2	3	< 0.5	37.0	756	< 0.4	3.1	19.1	< 1	2.8	11	2.0	3.3	
548489	< 1	< 5	120	898	< 2	95	3	< 2	< 0.5	< 0.2	1	< 0.5	30.9	1068	< 0.4	2.9	1.4	1	0.9	11	1.2	1.1	
548490	< 1	< 5	< 2	4	3	42	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	14	< 0.4	1.4	0.1	< 1	< 0.1	< 5	1.7	0.5	
548491	1	< 5	193	814	< 2	87	13	< 2	< 0.5	< 0.2	2	< 0.5	27.6	897	< 0.4	3.0	6.7	4	0.8	13	1.5	2.2	2.79
548492	2	< 5	793	486	< 2	55	28	< 2	< 0.5	< 0.2	4	< 0.5	95.4	630	0.8	2.2	18.7	4	5.1	19	2.1	5.1	
548493	1	< 5	365	735	< 2	83	10	< 2	< 0.5	< 0.2	2	< 0.5	57.7	844	< 0.4	2.9	4.2	< 1	2.9	12	1.6	3.2	
548494	< 1	< 5	377	773	2	88	8	< 2	< 0.5	< 0.2	2	< 0.5	97.4	839	< 0.4	3.0	2.7	1	3.0	15	1.5	2.7	
548495	< 1	< 5	334	819	3	91	11	< 2	< 0.5	< 0.2	2	< 0.5	95.2	843	< 0.4	3.1	4.3	3	2.6	13	1.6	3.0	
548496	4	< 5	1090	215	2	22	34	< 2	< 0.5	< 0.2	13	< 0.5	275	103	0.4	2.2	95.1	< 1	8.5	16	6.0	5.7	
548497	< 1	< 5	391	964	< 2	99	3	< 2	< 0.5	< 0.2	2	< 0.5	162	769	< 0.4	3.1	0.8	< 1	4.4	11	1.3	2.4	
548498	4	< 5	1620	181	3	31	65	< 2	< 0.5	< 0.2	7	< 0.5	296	256	< 0.4	4.0	52.2	< 1	13.8	32	8.5	15.0	
548499	< 1	< 5	251	950	< 2	108	3	< 2	< 0.5	< 0.2	2	< 0.5	88.0	844	< 0.4	3.4	0.2	< 1	3.8	12	1.3	1.3	
548500	4	40	1190	289	24	202	1080	8	1.0	2.9	713	9.4	229	2012	11.4	5.7	18.0	3	10.7	27	96.7	16.5	
548501	1	< 5	241	768	< 2	87	25	< 2	< 0.5	< 0.2	2	< 0.5	20.4	747	< 0.4	3.1	12.6	< 1	3.0	14	1.7	3.5	2.68
548502	1	< 5	363	745	< 2	102	15	< 2	< 0.5	< 0.2	7	< 0.5	67.8	626	< 0.4	3.5	7.4	< 1	3.0	10	1.5	2.4	
548503	2	< 5	384	747	< 2	105	16	< 2	< 0.5	< 0.2	4	< 0.5	70.4	598	< 0.4	4.6	15.2	6	3.2	11	3.2	3.6	
548504	2	< 5	230	512	2	102	14	< 2	< 0.5	< 0.2	4	< 0.5	53.5	389	< 0.4	7.0	9.1	1	2.0	13	2.0	5.9	
548505	3	< 5	213	209	3	43	44	< 2	< 0.5	< 0.2	12	< 0.5	55.7	29	0.5	4.1	47.5	< 1	1.6	30	8.7	10.8	
548506	2	< 5	558	605	2	99	10	< 2	< 0.5	< 0.2	7	< 0.5	134	571	< 0.4	5.0	7.3	< 1	4.1	24	1.8	3.6	
548507	1	< 5	260	716	2	109	3	< 2	< 0.5	< 0.2	3	< 0.5	82.5	912	< 0.4	3.6	0.6	< 1	2.2	30	1.3	1.8	
548508	4	< 5	73	118	3	82	46	< 2	< 0.5	< 0.2	2	< 0.5	25.6	35	< 0.4	11.7	38.7	< 1	0.6	8	3.9	15.2	
548509	4	< 5	172	256	< 2	80	19	< 2	< 0.5	< 0.2	3	< 0.5	31.3	58	< 0.4	8.6	12.6	< 1	0.9	15	6.3	16.2	
548510	< 1	< 5	4	4	4	47	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	31	< 0.4	1.7	0.1	2	< 0.1	< 5	1.6	0.5	
548511	3	< 5	311	330	2	122	31	3	< 0.5	< 0.2	11	< 0.5	59.6	42	< 0.4	9.0	14.6	2	1.3	20	8.6	9.6	2.65

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548512	1	< 5	638	624	2	107	10	< 2	< 0.5	< 0.2	13	< 0.5	181	621	0.6	3.8	8.6	3	4.2	94	1.5	2.2	
548513	3	< 5	305	320	2	103	22	< 2	< 0.5	< 0.2	9	< 0.5	71.2	47	< 0.4	7.8	21.1	< 1	2.1	27	6.4	10.8	
548514	4	< 5	54	134	4	101	48	< 2	< 0.5	< 0.2	2	< 0.5	23.7	22	< 0.4	13.4	26.3	< 1	0.4	28	4.8	22.8	
548515	4	< 5	52	134	3	95	39	< 2	< 0.5	< 0.2	2	< 0.5	22.3	19	< 0.4	12.9	22.1	< 1	0.1	24	4.2	19.9	
548516	< 1	< 5	251	943	< 2	108	5	< 2	< 0.5	< 0.2	3	< 0.5	96.6	893	< 0.4	3.7	2.9	3	1.5	14	1.4	1.3	
548517	1	< 5	274	734	< 2	93	23	< 2	< 0.5	< 0.2	3	< 0.5	23.2	760	< 0.4	3.7	9.5	< 1	1.5	12	1.9	3.2	
548518	2	< 5	444	635	< 2	78	25	< 2	< 0.5	< 0.2	6	< 0.5	38.3	704	< 0.4	3.5	9.0	< 1	2.4	13	2.2	4.2	
548519	3	< 5	178	920	< 2	89	6	< 2	< 0.5	< 0.2	< 1	0.8	38.7	919	< 0.4	2.4	3.1	2	1.2	12	1.3	1.5	
548520	4	32	1230	290	29	189	953	10	1.2	3.1	806	9.6	236	2020	10.5	5.0	17.5	5	11.0	28	93.6	16.0	
548521	3	< 5	583	768	< 2	78	15	< 2	< 0.5	< 0.2	5	1.0	188	869	< 0.4	2.0	5.2	7	6.1	12	1.4	1.8	2.70
548522	3	< 5	189	801	2	92	9	< 2	< 0.5	< 0.2	2	0.7	61.1	843	< 0.4	2.6	2.5	6	2.5	15	1.5	2.4	
548523	5	< 5	40	133	2	43	48	< 2	< 0.5	< 0.2	2	0.5	10.7	35	< 0.4	7.2	17.6	1	1.0	20	5.9	19.0	
548524	2	< 5	155	956	< 2	95	4	< 2	< 0.5	< 0.2	< 1	0.5	43.2	969	< 0.4	2.6	0.7	1	1.5	11	1.1	1.0	
548525	2	< 5	130	869	2	85	9	< 2	< 0.5	< 0.2	2	< 0.5	21.5	905	< 0.4	2.6	6.7	2	1.1	12	1.3	1.8	
548526	3	< 5	422	659	< 2	71	20	< 2	< 0.5	< 0.2	3	0.5	35.9	745	< 0.4	2.4	9.3	4	2.6	21	2.3	6.6	
548527	2	< 5	252	833	2	91	9	< 2	< 0.5	< 0.2	2	< 0.5	34.8	784	< 0.4	2.4	3.2	< 1	2.0	12	1.4	2.1	
548528	2	< 5	60	1002	< 2	109	4	< 2	< 0.5	< 0.2	< 1	0.6	11.3	947	< 0.4	2.9	0.8	< 1	0.7	12	2.0	1.1	
548529	3	< 5	1010	568	< 2	75	66	3	< 0.5	< 0.2	11	0.5	118	511	< 0.4	3.1	88.7	< 1	6.8	12	4.0	2.5	
548530	< 1	< 5	4	6	5	50	1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	26	< 0.4	1.5	0.6	< 1	0.2	< 5	1.8	0.6	
548531	3	< 5	679	636	< 2	101	22	< 2	< 0.5	< 0.2	15	< 0.5	120	480	< 0.4	3.4	14.3	2	4.3	11	4.1	1.3	2.70
548532	3	< 5	429	766	3	96	16	< 2	< 0.5	< 0.2	6	< 0.5	80.9	716	4.4	3.1	17.9	< 1	3.7	13	3.3	1.1	
548533	4	< 5	1590	287	< 2	5	62	< 2	< 0.5	< 0.2	20	< 0.5	168	433	7.9	< 0.2	78.4	6	11.2	14	2.3	0.9	
548534	4	< 5	1080	221	< 2	27	90	< 2	< 0.5	< 0.2	23	< 0.5	149	144	< 0.4	2.3	109	2	8.2	22	4.7	1.4	
548535	4	< 5	912	226	< 2	26	75	< 2	< 0.5	< 0.2	16	< 0.5	128	135	< 0.4	2.0	110	< 1	7.1	23	6.1	1.5	
548536	4	< 5	734	365	3	153	41	< 2	0.7	< 0.2	8	< 0.5	86.0	119	< 0.4	9.8	67.4	1	6.5	24	9.3	4.6	
548537	3	< 5	166	588	2	80	13	< 2	< 0.5	< 0.2	2	< 0.5	32.0	384	< 0.4	3.3	14.8	< 1	2.6	14	3.5	3.8	
548538	2	< 5	213	890	< 2	110	13	4	< 0.5	< 0.2	2	< 0.5	26.6	846	< 0.4	2.9	6.6	2	2.0	13	2.9	1.9	
548539	2	< 5	511	878	< 2	105	15	< 2	< 0.5	< 0.2	3	< 0.5	95.0	711	< 0.4	3.1	49.1	< 1	4.4	16	2.9	3.0	
548540	5	51	1390	209	21	143	1130	11	1.1	4.6	1100	12.8	320	1022	15.9	3.4	21.9	7	12.3	26	47.5	8.2	
548541	4	< 5	372	94	< 2	17	50	< 2	< 0.5	< 0.2	5	0.8	45.4	98	< 0.4	1.3	17.6	2	4.5	16	2.8	6.6	2.71
548542	1	< 5	402	787	4	102	21	< 2	0.6	< 0.2	4	< 0.5	85.3	703	< 0.4	3.9	14.3	< 1	3.0	13	2.8	3.5	
548543	2	< 5	102	1013	< 2	124	5	< 2	< 0.5	< 0.2	1	< 0.5	30.1	928	< 0.4	2.9	2.4	3	1.6	13	2.8	1.4	
548544	2	< 5	83	1026	3	125	5	< 2	0.5	< 0.2	2	0.5	23.7	893	< 0.4	3.1	0.8	< 1	1.1	12	2.7	1.2	
548545	2	< 5	362	1003	2	117	7	< 2	< 0.5	< 0.2	2	0.5	111	836	< 0.4	3.0	10.1	3	3.0	13	2.8	1.5	
548546	3	< 5	1160	387	< 2	52	73	< 2	< 0.5	< 0.2	14	< 0.5	168	348	< 0.4	3.5	71.1	< 1	8.8	16	5.1	6.8	
548547	4	< 5	1110	161	< 2	7	87	< 2	< 0.5	< 0.2	14	< 0.5	141	190	< 0.4	1.0	93.7	3	9.3	19	4.0	2.7	
548548	3	< 5	420	426	2	78	33	< 2	< 0.5	< 0.2	6	< 0.5	81.4	297	0.5	4.8	32.2	< 1	4.5	14	3.5	7.0	
548549	2	< 5	129	981	3	116	5	< 2	< 0.5	< 0.2	2	< 0.5	41.1	854	< 0.4	3.1	1.2	< 1	1.8	15	2.7	1.5	
548550	2	< 5	3	4	3	40	< 1	< 2	< 0.5	< 0.2	< 1	0.5	< 0.5	17	< 0.4	0.6	0.4	< 1	0.4	< 5	1.4	0.4	
548551	2	< 5	183	913	< 2	109	8	< 2	< 0.5	< 0.2	2	< 0.5	25.6	848	< 0.4	2.6	1.9	< 1	1.2	15	2.6	2.0	2.72
548552	2	< 5	171	962	2	127	6	< 2	< 0.5	< 0.2	2	< 0.5	29.6	902	< 0.4	3.0	1.6	< 1	1.3	14	2.9	1.7	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548553	2	< 5	255	708	< 2	96	27	< 2	< 0.5	< 0.2	3	< 0.5	28.5	739	< 0.4	2.4	10.4	< 1	1.7	15	3.0	4.4	
548554	2	< 5	128	948	< 2	124	7	< 2	< 0.5	< 0.2	4	< 0.5	31.4	1014	< 0.4	3.1	3.9	< 1	1.1	14	2.8	1.7	
548555	2	< 5	136	1032	2	126	6	< 2	< 0.5	< 0.2	4	< 0.5	30.7	1012	< 0.4	3.3	2.6	< 1	1.0	14	2.9	1.7	
548556	1	< 5	88	835	2	132	4	< 2	< 0.5	< 0.2	1	< 0.5	5.1	754	< 0.4	3.0	0.8	< 1	0.6	11	2.9	1.7	
548557	4	< 5	802	31	< 2	21	82	< 2	< 0.5	< 0.2	31	< 0.5	24.2	42	< 0.4	2.0	22.0	< 1	4.2	31	4.3	10.0	
548558	2	< 5	260	729	< 2	114	11	< 2	< 0.5	< 0.2	6	< 0.5	12.7	622	< 0.4	3.1	3.2	< 1	2.0	12	2.8	3.9	
548559	2	< 5	167	829	2	128	14	< 2	< 0.5	< 0.2	5	< 0.5	16.7	687	< 0.4	3.2	6.2	1	1.3	13	3.0	2.1	
548560	4	32	1190	284	24	194	1050	8	0.8	2.7	730	6.7	221	2035	10.7	4.4	17.9	5	10.1	28	96.7	16.2	
548561	2	< 5	414	642	4	101	25	< 2	< 0.5	< 0.2	4	0.5	18.7	510	< 0.4	2.9	8.4	< 1	4.0	21	2.9	4.1	2.71
548562	1	< 5	90	908	3	139	6	< 2	< 0.5	< 0.2	< 1	< 0.5	7.1	781	< 0.4	3.4	1.0	< 1	1.5	12	3.0	1.4	
548563	1	< 5	133	952	2	126	8	< 2	< 0.5	< 0.2	2	< 0.5	15.7	692	< 0.4	3.1	2.8	2	1.2	12	2.9	1.4	
548564	2	< 5	194	877	< 2	120	7	< 2	< 0.5	< 0.2	3	< 0.5	13.3	712	< 0.4	3.0	2.3	< 1	1.4	11	2.9	1.4	
548565	1	< 5	77	875	3	132	4	< 2	< 0.5	< 0.2	< 1	< 0.5	7.0	709	< 0.4	3.1	0.6	< 1	0.7	12	3.0	1.2	
548566	2	< 5	236	612	2	81	19	< 2	< 0.5	< 0.2	6	< 0.5	23.3	391	< 0.4	2.6	18.3	1	1.0	15	4.8	3.4	
548567	3	< 5	896	209	2	41	33	< 2	< 0.5	< 0.2	5	< 0.5	52.7	215	< 0.4	2.1	22.7	2	5.2	29	3.9	6.5	
548568	1	< 5	179	794	2	112	6	< 2	< 0.5	< 0.2	3	< 0.5	18.3	717	< 0.4	3.1	5.1	< 1	1.4	15	3.1	2.1	
548569	2	< 5	234	597	3	90	7	< 2	< 0.5	< 0.2	4	< 0.5	11.2	520	< 0.4	2.3	4.0	< 1	1.3	15	2.8	2.5	
548570	2	< 5	3	4	4	38	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	18	< 0.4	1.2	0.1	< 1	< 0.1	< 5	1.7	0.5	
548571	2	< 5	380	349	3	47	34	< 2	< 0.5	< 0.2	8	< 0.5	25.8	251	< 0.4	2.0	28.8	< 1	2.3	17	3.9	6.6	2.69
548572	1	< 5	109	812	< 2	107	2	< 2	< 0.5	< 0.2	1	< 0.5	8.2	760	< 0.4	2.9	0.4	9	0.6	18	3.1	1.3	
548573	1	< 5	87	944	3	109	5	< 2	< 0.5	< 0.2	1	< 0.5	9.5	717	< 0.4	3.0	0.7	< 1	0.3	13	2.9	1.9	
548574	< 1	< 5	112	961	3	134	5	< 2	0.8	< 0.2	2	< 0.5	11.4	784	< 0.4	4.0	1.1	< 1	0.6	14	2.8	2.5	
548575	1	< 5	111	1008	< 2	116	6	< 2	< 0.5	< 0.2	1	< 0.5	10.4	784	< 0.4	3.3	2.4	< 1	0.3	14	2.9	2.8	
548576	3	< 5	727	120	< 2	18	76	< 2	< 0.5	< 0.2	3	< 0.5	25.0	105	< 0.4	3.1	79.2	< 1	4.2	37	6.1	14.5	
548577	1	< 5	183	984	2	110	5	< 2	< 0.5	< 0.2	2	< 0.5	22.1	753	< 0.4	2.9	1.4	< 1	1.3	13	2.9	3.7	
548578	1	< 5	99	1003	2	117	4	< 2	< 0.5	< 0.2	2	< 0.5	15.9	791	< 0.4	3.2	1.0	< 1	0.5	13	2.9	1.4	
548579	1	< 5	183	916	2	106	12	< 2	< 0.5	< 0.2	2	< 0.5	17.6	699	< 0.4	3.2	7.1	< 1	0.9	14	2.9	2.3	
548580	5	45	1410	218	20	139	1150	10	0.9	4.8	1140	13.2	323	1038	14.6	3.6	24.0	8	11.9	25	50.3	8.4	
548581	< 1	< 5	252	804	4	118	14	< 2	0.6	< 0.2	2	< 0.5	15.6	652	< 0.4	3.4	5.4	< 1	1.6	14	2.8	2.4	2.67
548582	1	< 5	205	1019	3	124	8	< 2	< 0.5	< 0.2	2	< 0.5	35.8	803	< 0.4	3.6	2.7	< 1	1.5	13	3.1	2.2	
548583	2	< 5	506	529	3	69	31	2	< 0.5	< 0.2	5	< 0.5	44.1	401	< 0.4	3.0	31.9	< 1	3.3	19	3.9	8.3	
548584	< 1	< 5	243	677	2	115	18	< 2	0.5	< 0.2	2	< 0.5	18.0	581	< 0.4	3.6	10.2	2	1.4	27	2.9	3.1	
548585	2	< 5	224	767	2	108	8	< 2	< 0.5	< 0.2	3	< 0.5	40.2	589	< 0.4	3.7	4.3	1	1.5	12	3.2	4.0	
548586	2	< 5	243	847	2	107	11	< 2	< 0.5	< 0.2	3	< 0.5	34.3	734	< 0.4	3.6	30.3	14	1.4	15	3.3	3.0	
548587	1	< 5	128	929	3	107	3	< 2	< 0.5	< 0.2	3	< 0.5	15.3	868	< 0.4	3.1	0.6	< 1	0.7	11	1.6	1.6	
548588	4	< 5	692	48	2	61	52	< 2	< 0.5	< 0.2	5	< 0.5	26.2	38	< 0.4	9.2	56.8	< 1	4.4	85	4.1	13.6	
548589	1	< 5	173	913	2	109	6	< 2	< 0.5	< 0.2	3	< 0.5	19.0	901	< 0.4	3.2	1.3	< 1	1.4	11	1.7	1.1	
548590	2	< 5	4	6	3	32	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	19	< 0.4	1.0	0.2	4	< 0.1	< 5	1.2	0.4	
548591	1	< 5	127	916	< 2	108	4	< 2	< 0.5	< 0.2	2	< 0.5	25.7	799	< 0.4	3.0	0.7	< 1	0.7	11	1.7	0.9	2.74
548592	3	< 5	1210	324	< 2	30	58	< 2	< 0.5	< 0.2	24	< 0.5	168	190	1.5	1.9	61.9	< 1	6.9	20	3.1	4.2	
548593	4	< 5	1690	191	< 2	< 4	48	< 2	< 0.5	< 0.2	10	< 0.5	160	240	12.6	0.4	67.0	2	12.6	29	2.0	3.0	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548594	3	< 5	1440	161	< 2	< 4	39	< 2	< 0.5	< 0.2	13	< 0.5	140	135	1.6	0.2	60.0	< 1	11.8	12	4.3	0.9	
548595	3	< 5	1570	143	< 2	< 4	34	< 2	< 0.5	< 0.2	13	< 0.5	159	158	1.3	0.2	71.1	1	13.0	13	8.6	1.2	
548596	4	< 5	1150	190	< 2	5	73	< 2	< 0.5	< 0.2	13	< 0.5	143	147	8.7	1.0	106	< 1	9.4	17	7.2	5.9	
548597	3	< 5	2000	345	< 2	18	42	< 2	< 0.5	< 0.2	13	< 0.5	175	1115	< 0.4	1.6	40.5	< 1	14.7	16	3.0	2.0	
548598	3	< 5	685	197	< 2	5	43	< 2	< 0.5	< 0.2	12	< 0.5	85.3	66	0.9	1.2	69.6	< 1	7.5	13	5.5	2.1	
548599	3	< 5	483	334	< 2	58	47	< 2	< 0.5	< 0.2	11	< 0.5	75.9	45	0.8	3.8	53.9	1	4.4	16	9.6	10.0	
548600	4	33	1230	306	25	181	768	8	0.7	2.8	654	6.8	228	2000	11.0	4.4	17.1	4	10.8	26	96.4	16.0	
548601	3	< 5	608	364	3	87	38	< 2	< 0.5	< 0.2	13	< 0.5	93.6	245	< 0.4	4.5	22.9	< 1	5.9	8	3.9	3.8	2.73
548602	2	< 5	277	817	< 2	103	12	< 2	< 0.5	< 0.2	3	< 0.5	38.3	812	< 0.4	3.9	20.3	6	2.8	17	3.0	4.1	
548603	1	< 5	120	912	2	122	6	< 2	< 0.5	< 0.2	3	< 0.5	19.1	845	< 0.4	3.6	1.2	< 1	1.3	13	2.4	1.5	
548604	1	< 5	124	957	< 2	124	6	< 2	< 0.5	< 0.2	2	< 0.5	32.1	870	< 0.4	3.7	1.9	< 1	0.8	12	2.3	1.5	
548605	2	< 5	295	679	< 2	100	27	< 2	0.6	< 0.2	7	< 0.5	100	544	< 0.4	3.8	15.9	< 1	2.0	9	2.8	2.0	
548606	4	< 5	2050	330	< 2	56	52	< 2	< 0.5	< 0.2	18	< 0.5	367	309	< 0.4	4.6	98.7	5	16.4	15	4.3	3.2	
548607	1	< 5	293	933	2	119	10	< 2	< 0.5	< 0.2	2	< 0.5	67.4	802	< 0.4	3.6	4.1	< 1	4.1	14	2.7	2.2	
548608	1	< 5	266	943	3	125	8	< 2	0.5	< 0.2	3	< 0.5	28.9	764	< 0.4	4.3	4.0	17	2.1	14	2.4	3.0	
548609	3	< 5	698	238	< 2	47	78	< 2	< 0.5	< 0.2	11	< 0.5	30.1	216	0.9	3.0	21.4	2	4.3	15	3.3	6.1	
548610	1	< 5	9	14	4	40	< 1	2	< 0.5	< 0.2	< 1	< 0.5	1.2	26	< 0.4	1.3	0.5	< 1	0.5	< 5	1.3	0.5	
548611	2	< 5	265	729	< 2	107	18	< 2	< 0.5	< 0.2	3	< 0.5	17.7	638	< 0.4	3.8	3.7	< 1	1.6	15	2.9	3.5	2.74
548612	1	< 5	72	1023	2	127	5	< 2	0.5	< 0.2	1	< 0.5	8.7	859	< 0.4	3.8	0.4	< 1	0.5	12	2.6	1.2	
548613	2	< 5	278	785	< 2	103	20	< 2	< 0.5	< 0.2	6	< 0.5	16.1	667	< 0.4	3.5	5.0	< 1	1.4	11	2.9	3.0	
548614	< 1	< 5	108	883	< 2	98	4	< 2	< 0.5	< 0.2	1	< 0.5	21.0	958	< 0.4	2.8	1.9	2	0.4	11	1.3	1.7	
548615	< 1	< 5	116	906	2	100	5	< 2	< 0.5	< 0.2	1	< 0.5	22.4	901	< 0.4	3.2	1.7	< 1	0.5	12	1.4	1.7	
548616	2	< 5	951	521	2	83	46	< 2	< 0.5	< 0.2	21	< 0.5	137	313	1.0	4.7	30.8	< 1	4.9	16	6.2	7.0	
548617	3	< 5	2360	279	< 2	5	53	< 2	< 0.5	< 0.2	19	< 0.5	182	452	4.6	0.7	54.0	1	16.5	18	2.9	4.3	
548618	3	< 5	1740	300	< 2	12	45	< 2	< 0.5	< 0.2	15	< 0.5	181	598	1.0	0.9	40.0	< 1	14.3	14	2.2	3.0	
548619	3	< 5	402	191	< 2	11	30	< 2	< 0.5	< 0.2	15	< 0.5	90.6	37	< 0.4	1.1	42.3	< 1	4.2	8	2.2	3.0	
548620	3	32	1180	330	27	179	822	8	0.8	2.7	650	6.5	219	2060	10.9	4.3	17.1	5	10.2	28	95.2	15.8	
548621	3	< 5	129	157	< 2	8	21	< 2	< 0.5	< 0.2	12	< 0.5	54.9	15	< 0.4	1.4	28.6	10	2.3	12	5.7	3.6	2.85
548622	3	< 5	430	343	< 2	52	30	< 2	< 0.5	< 0.2	13	< 0.5	73.0	42	< 0.4	4.0	32.5	< 1	2.5	16	6.9	6.1	
548623	3	< 5	497	243	2	86	21	< 2	< 0.5	< 0.2	11	< 0.5	71.1	56	< 0.4	5.5	20.9	< 1	3.2	16	3.5	6.0	
548624	< 1	< 5	488	859	2	105	5	< 2	< 0.5	< 0.2	4	< 0.5	132	749	< 0.4	3.1	3.9	< 1	3.9	11	1.6	2.2	
548625	< 1	< 5	145	964	< 2	103	6	< 2	< 0.5	< 0.2	3	< 0.5	37.3	854	< 0.4	3.1	2.0	1	1.5	10	1.6	0.8	
548626	< 1	< 5	90	990	< 2	109	5	< 2	< 0.5	< 0.2	1	< 0.5	12.1	911	< 0.4	3.3	0.9	< 1	0.7	10	1.6	0.6	
548627	< 1	< 5	115	992	< 2	112	5	< 2	< 0.5	< 0.2	1	< 0.5	12.2	907	< 0.4	3.1	1.1	< 1	0.6	10	1.6	0.5	
548628	< 1	< 5	172	862	< 2	97	13	< 2	< 0.5	< 0.2	2	< 0.5	16.6	799	< 0.4	3.1	6.1	< 1	0.8	10	1.8	1.6	
548629	< 1	< 5	145	934	< 2	103	5	< 2	< 0.5	< 0.2	1	< 0.5	20.6	909	< 0.4	3.2	2.2	< 1	0.7	9	1.7	0.9	
548630	< 1	< 5	< 2	5	3	37	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	13	< 0.4	1.2	0.1	< 1	< 0.1	< 5	0.9	0.3	
548631	1	< 5	461	612	< 2	83	19	< 2	< 0.5	< 0.2	8	< 0.5	121	539	< 0.4	2.6	11.6	< 1	2.5	11	1.6	1.2	2.70
548632	4	< 5	2490	222	< 2	11	130	< 2	< 0.5	< 0.2	25	< 0.5	603	203	< 0.4	2.8	255	2	21.2	23	8.3	7.0	
548633	3	< 5	895	284	< 2	35	77	< 2	< 0.5	< 0.2	18	< 0.5	294	77	< 0.4	3.7	109	7	8.9	15	5.7	4.9	
548634	< 1	< 5	328	916	< 2	99	8	< 2	< 0.5	< 0.2	2	< 0.5	96.6	789	< 0.4	3.3	3.4	< 1	3.9	11	1.8	1.3	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548635	< 1	< 5	283	913	2	98	5	< 2	< 0.5	< 0.2	2	< 0.5	86.7	793	< 0.4	2.8	1.7	< 1	2.6	10	1.7	0.9	
548636	< 1	< 5	72	992	3	108	4	< 2	< 0.5	< 0.2	1	< 0.5	14.3	856	< 0.4	3.0	0.7	< 1	0.8	10	1.5	0.6	
548637	< 1	< 5	89	1022	< 2	108	4	< 2	< 0.5	< 0.2	1	< 0.5	25.8	885	< 0.4	3.2	0.5	< 1	0.5	9	1.6	0.6	
548638	< 1	< 5	85	1024	< 2	105	4	< 2	< 0.5	< 0.2	1	< 0.5	25.7	897	< 0.4	3.1	0.5	< 1	0.4	10	1.6	0.6	
548639	3	< 5	1460	210	< 2	32	76	< 2	< 0.5	< 0.2	9	< 0.5	163	310	< 0.4	3.5	61.0	< 1	10.4	14	3.6	7.8	
548640	5	53	1360	207	20	152	1360	9	0.9	4.8	1230	14.8	317	1035	16.7	3.9	22.2	7	12.7	27	47.2	7.8	
548641	2	< 5	735	480	2	67	28	< 2	< 0.5	< 0.2	6	< 0.5	86.3	502	0.5	3.4	9.1	< 1	5.5	14	2.6	6.3	2.68
548642	< 1	< 5	156	969	< 2	114	5	< 2	< 0.5	< 0.2	2	< 0.5	41.3	874	< 0.4	3.4	0.5	< 1	2.3	10	1.6	0.7	
548643	< 1	< 5	204	877	< 2	103	10	< 2	< 0.5	< 0.2	3	< 0.5	17.7	803	< 0.4	3.0	2.4	< 1	1.5	11	1.8	1.5	
548644	1	< 5	249	796	< 2	94	17	< 2	< 0.5	< 0.2	4	< 0.5	26.4	748	< 0.4	3.2	4.5	< 1	1.3	11	2.6	7.5	
548534A	2	< 5	927	245	< 2	27	83	< 2	< 0.5	< 0.2	22	< 0.5	140	118	< 0.4	2.8	107	3	6.2	18	3.9	1.2	
548535A	2	< 5	940	255	< 2	26	81	< 2	< 0.5	< 0.2	23	< 0.5	140	117	< 0.4	2.7	104	4	5.3	19	3.7	1.3	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.44	1.98	0.74	0.010	0.33	42.86	0.90	0.54	0.120	30.20					1661								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
NIST 694 Meas	11.36	1.83	0.83	0.010	0.34	42.65	0.89	0.54	0.120	30.21					1608								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.49	18.93	9.67	0.149	9.90	11.55	1.92	0.22	0.492	0.08			32		162	260	54	240	90	70	14		
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15		
DNC-1 Meas	47.22	18.32	9.79	0.150	9.90	11.48	1.90	0.22	0.480	0.07			31		150								
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148								
GBW 07113 Meas	70.52	12.87	3.21	0.140	0.16	0.63	2.54	5.44	0.290	0.03			6	4	7								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
GBW 07113 Meas	71.12	13.26	3.20	0.140	0.14	0.61	2.50	5.44	0.280	0.04			6	4	6								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																	29	40	30	150			28
LKSD-3 Cert																	30.0	47.0	35.0	152			27.0
TDB-1 Meas																260		100	350	160			
TDB-1 Cert																251		92	323	155			
W-2a Meas	51.65	15.38	10.38	0.170	6.29	11.02	2.22	0.61	1.120	0.15			35	< 1	286	100	44		110	80	18	2	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0		110	80.0	17.0	1.00	
W-2a Meas	52.43	15.90	11.16	0.170	6.12	11.11	2.21	0.61	1.110	0.13			35	< 1	264								
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262								
SY-4 Meas	50.38	20.29	6.20	0.110	0.51	8.21	6.92	1.65	0.280	0.12			< 1	3	10								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
SY-4 Meas	49.71	20.38	6.11	0.110	0.49	8.12	6.90	1.65	0.280	0.13			2	3	6								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			60				
CTA-AC-1 Cert																			54.0				
BIR-1a Meas	47.42	14.86	10.02	0.170	9.24	13.35	1.79	0.02	0.880	0.02			43	< 1	338	370	50	160	120	70	15		
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16		
BIR-1a Meas	48.07	15.32	11.35	0.170	9.58	13.60	1.83	0.02	0.950	0.03			43	< 1	324								
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310								
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30	4		890	90	16	11	66
NCS DC70009 (GBW07241) Cert																30	3.7		960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	18		160				
OREAS 100a																	18.1		169				

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
(Fusion) Cert																							
OREAS 101a (Fusion) Meas																	46		410				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	45		440				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																	1	< 20	< 10	30	16	2	16
JR-1 Cert																	0.83	1.67	2.68	30.6	16.1	1.88	16.3
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas																							
NCS DC86314 Cert																							
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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Meas																							
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Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
548477 Orig																							
548477 Dup																							
548485 Orig	69.63	16.48	1.00	0.020	0.24	2.37	5.85	2.10	0.133	0.08	0.36	98.26	< 1	10	9	20	1	< 20	< 10	80	30	< 1	< 5
548485 Dup	70.28	16.24	0.99	0.020	0.23	2.36	5.92	2.11	0.133	0.08	0.36	98.73	< 1	10	9	30	1	< 20	< 10	80	31	< 1	< 5
548499 Orig																							
548499 Dup																							
548502 Orig	72.31	16.32	0.82	0.043	0.16	2.02	6.38	1.26	0.115	0.04	0.36	99.82	< 1	9	7	20	1	< 20	< 10	70	30	1	< 5
548502 Dup	71.83	16.42	0.80	0.043	0.16	2.01	6.30	1.25	0.111	0.03	0.36	99.31	< 1	9	7	20	1	< 20	< 10	70	31	1	< 5
548507 Orig																							
548507 Dup																							
548521 Orig	71.60	16.18	0.93	0.040	0.19	2.10	5.84	1.61	0.120	0.05	0.38	99.03	< 1	8	8	< 20	< 1	< 20	< 10	70	25	3	< 5
548521 Split PREP DUP	70.83	16.60	0.85	0.035	0.19	2.16	5.83	1.60	0.119	0.05	0.43	98.68	< 1	8	7	< 20	< 1	< 20	< 10	80	25	3	< 5
548521 Orig																							
548521 Dup																							
548528 Orig																							
548528 Dup																							
548532 Orig	70.52	16.45	1.03	0.034	0.26	2.35	5.97	1.49	0.136	0.18	0.54	98.95	< 1	33	11	20	1	< 20	< 10	70	30	3	< 5
548532 Dup	71.15	16.23	1.06	0.035	0.26	2.35	6.05	1.50	0.136	0.18	0.54	99.48	< 1	33	12	20	1	< 20	< 10	70	30	3	< 5
548542 Orig																							
548542 Dup																							
548549 Orig	70.21	15.99	1.43	0.014	0.41	2.95	5.44	1.54	0.192	0.09	0.31	98.59	1	4	19	< 20	2	< 20	< 10	90	27	2	< 5
548549 Dup	70.93	16.11	1.43	0.014	0.41	2.97	5.45	1.54	0.196	0.10	0.31	99.48	1	4	18	< 20	2	< 20	< 10	90	26	2	< 5
548550 Orig																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548550 Dup																							
548564 Orig																							
548564 Dup																							
548571 Orig																							
548571 Dup																							
548572 Orig																							
548572 Dup																							
548581 Orig	69.83	16.38	1.31	0.032	0.43	2.39	5.70	1.86	0.182	0.07	0.51	98.68	< 1	4	17	< 20	2	< 20	< 10	100	26	< 1	< 5
548581 Dup	70.28	15.74	1.30	0.031	0.43	2.40	5.76	1.88	0.176	0.07	0.51	98.57	< 1	4	16	< 20	2	< 20	< 10	90	26	< 1	< 5
548586 Orig																							
548586 Dup																							
548594 Orig																							
548594 Dup																							
548597 Orig	71.44	16.21	0.55	0.041	0.08	0.67	4.61	5.15	0.031	0.04	0.70	99.51	< 1	142	< 5	< 20	< 1	< 20	< 10	90	34	3	< 5
548597 Dup	71.88	16.14	0.54	0.042	0.09	0.67	4.67	5.21	0.032	0.04	0.70	100.0	< 1	139	5	< 20	< 1	< 20	< 10	90	34	3	< 5
548608 Orig																							
548608 Dup																							
548616 Orig																							
548616 Dup																							
548621 Orig	73.92	17.51	0.75	0.072	0.05	0.58	3.46	0.28	0.017	< 0.01	0.34	96.99	< 1	234	< 5	< 20	< 1	< 20	< 10	< 30	48	3	< 5
548621 Split PREP DUP	74.73	17.23	0.80	0.070	0.05	0.56	3.39	0.28	0.016	< 0.01	0.31	97.44	< 1	243	< 5	< 20	< 1	< 20	10	< 30	47	3	< 5
548627 Orig	69.96	16.95	1.10	0.013	0.27	2.68	5.90	1.65	0.156	0.07	0.23	98.99	1	3	11	< 20	1	< 20	< 10	90	25	< 1	< 5
548627 Dup	69.88	17.63	1.13	0.013	0.27	2.66	5.86	1.63	0.157	0.07	0.23	99.54	< 1	3	12	< 20	1	< 20	< 10	90	25	< 1	< 5
548629 Orig																							
548629 Dup																							
548643 Orig	70.52	16.73	1.06	0.044	0.25	2.38	5.78	1.83	0.136	0.04	0.27	99.03	< 1	3	10	< 20	1	< 20	< 10	90	25	< 1	< 5
548643 Dup	70.80	17.15	1.04	0.044	0.26	2.39	5.79	1.82	0.138	0.04	0.27	99.72	< 1	3	11	< 20	1	< 20	< 10	90	26	< 1	< 5
548644 Orig	70.72	17.05	1.01	0.071	0.22	2.12	5.94	1.85	0.125	0.06	0.22	99.39	< 1	5	8	< 20	< 1	< 20	< 10	80	26	1	< 5
548644 Split PREP DUP	70.85	16.86	1.03	0.047	0.25	2.35	6.04	1.62	0.136	0.06	0.25	99.50	< 1	5	10	< 20	1	< 20	< 10	90	27	< 1	< 5
548534A Orig																							
548534A Dup																							
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
NIST 694 Meas																							
NIST 694 Cert																							
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas		148	16	35								110											
DNC-1 Cert		144.0	18.0	38								118											
DNC-1 Meas		141	16	37								108											
DNC-1 Cert		144.0	18.0	38								118											
GBW 07113 Meas		44	45	371								512											
GBW 07113 Cert		43.0	43.0	403								506											
GBW 07113 Meas		41	44	383								500											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	75					< 2			3		2.5			4.5	0.7				11.2	4.6			
LKSD-3 Cert	78.0					2.00			3.00		2.30			4.80	0.700				11.4	4.60			
TDB-1 Meas	22																		2.8				
TDB-1 Cert	23																		2.7				
W-2a Meas	21	199	23	88	8	< 2					0.9	174		2.4	0.5	2		9	2.4	0.6			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600					0.990	182		2.60	0.500	0.300		9.30	2.40	0.530			
W-2a Meas		199	19	88								172											
W-2a Cert		190	24.0	94.0								182											
SY-4 Meas		1203	114	556								358											
SY-4 Cert		1191	119	517								340											
SY-4 Meas		1205	116	547								343											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.7				22.2	4.3			
CTA-AC-1 Cert															2.65				21.8	4.4			
BIR-1a Meas		106	15	14						0.6		8		0.6				< 5					
BIR-1a Cert		110	16	18						0.58		6		0.60				3					
BIR-1a Meas		107	12	13								7											
BIR-1a Cert		110	16	18								6											
NCS DC86312 Meas																			23.6				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	532						1.2	1.0	1570	3.3	38.1					2140	1.7		29.5				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						22													54.6	137			
OREAS 100a						24.1													51.6	135			

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
(Fusion) Cert																							
OREAS 101a (Fusion) Meas						21													36.7	428			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						21													39.4	427			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	248				15	4		< 0.2	3	1.2	19.4		0.5	4.3	1.7	2		20	28.7	8.7			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59		19.3	26.7	8.88			
NCS DC86303 Meas																						0.20	0.44
NCS DC86303 Cert																						0.21	0.460
NCS DC86303 Meas																						0.21	0.45
NCS DC86303 Cert																						0.21	0.460
NCS DC86303 Meas																						0.21	0.45
NCS DC86303 Cert																						0.21	0.460
NCS DC86303 Meas																						0.21	0.45
NCS DC86303 Cert																						0.21	0.460
NCS DC86303 Meas																						0.22	0.46
NCS DC86303 Cert																						0.21	0.460
NCS DC86303 Meas																						0.21	0.45
NCS DC86303 Cert																						0.21	0.460
NCS DC86303 Meas																						0.21	0.46
NCS DC86303 Cert																						0.21	0.460
NCS DC86303 Meas																						0.21	0.44
NCS DC86303 Cert																						0.21	0.460
NCS DC86303 Meas																						0.21	0.44

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
NCS DC86303 Cert																						0.21	0.460
NCS DC86304 Meas																						1.06	2.29
NCS DC86304 Cert																						1.06	2.29
NCS DC86304 Meas																						1.10	2.36
NCS DC86304 Cert																						1.06	2.29
NCS DC86304 Meas																						1.08	2.32
NCS DC86304 Cert																						1.06	2.29
NCS DC86304 Meas																						1.09	2.34
NCS DC86304 Cert																						1.06	2.29
NCS DC86304 Meas																						1.10	2.37
NCS DC86304 Cert																						1.06	2.29
NCS DC86304 Meas																						1.07	2.31
NCS DC86304 Cert																						1.06	2.29
NCS DC86304 Meas																						1.09	2.34
NCS DC86304 Cert																						1.06	2.29
NCS DC86304 Meas																						1.08	2.32
NCS DC86304 Cert																						1.06	2.29
NCS DC86304 Meas																						1.08	2.33
NCS DC86304 Cert																						1.06	2.29
NCS DC86314 Meas																						1.76	3.80
NCS DC86314 Cert																						1.81	3.89
NCS DC86314 Meas																						1.84	3.97
NCS DC86314 Cert																						1.81	3.89

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
NCS DC86314 Meas																						1.80	3.88
NCS DC86314 Cert																						1.81	3.89
NCS DC86314 Meas																						1.80	3.87
NCS DC86314 Cert																						1.81	3.89
NCS DC86314 Meas																						1.82	3.92
NCS DC86314 Cert																						1.81	3.89
NCS DC86314 Meas																						1.78	3.83
NCS DC86314 Cert																						1.81	3.89
NCS DC86314 Meas																						1.78	3.84
NCS DC86314 Cert																						1.81	3.89
NCS DC86314 Meas																						1.77	3.81
NCS DC86314 Cert																						1.81	3.89
NCS DC86314 Meas																						1.82	3.92
NCS DC86314 Cert																						1.81	3.89
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.19	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.15	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B																						8.30	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.11	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.06	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.10	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.16	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.06	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.19	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.14	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.01	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
548477 Orig																						0.08	0.16
548477 Dup																						0.08	0.17
548485 Orig	244	811	< 2	84	6	< 2	< 0.5	< 0.2	3	< 0.5	43.9	947	< 0.4	2.4	6.5	< 1	1.6	11	1.2	1.3		0.05	0.10
548485 Dup	251	823	< 2	87	6	< 2	< 0.5	< 0.2	3	< 0.5	44.6	956	< 0.4	2.8	7.2	< 1	1.5	11	1.2	1.3		0.05	0.10
548499 Orig																						0.06	0.13
548499 Dup																						0.06	0.14
548502 Orig	360	755	3	103	14	< 2	< 0.5	< 0.2	7	< 0.5	67.8	628	< 0.4	3.4	7.5	< 1	3.0	10	1.5	2.3			
548502 Dup	365	736	< 2	101	15	< 2	< 0.5	< 0.2	7	< 0.5	67.8	624	< 0.4	3.5	7.3	< 1	3.0	10	1.6	2.5			
548507 Orig																						0.07	0.16
548507 Dup																						0.07	0.16
548521 Orig	583	768	< 2	78	15	< 2	< 0.5	< 0.2	5	1.0	188	869	< 0.4	2.0	5.2	7	6.1	12	1.4	1.8		0.07	0.14
548521 Split PREP DUP	562	823	< 2	80	11	< 2	< 0.5	< 0.2	4	0.6	180	878	< 0.4	2.1	3.6	16	5.2	11	1.3	1.6		0.06	0.14
548521 Orig																						0.07	0.14
548521 Dup																						0.07	0.14
548528 Orig																						0.05	0.11
548528 Dup																						0.05	0.11
548532 Orig	429	785	3	95	16	< 2	< 0.5	< 0.2	6	0.5	81.1	712	4.3	3.2	18.4	2	3.6	13	3.3	1.1			
548532 Dup	428	747	3	97	15	< 2	< 0.5	< 0.2	6	< 0.5	80.7	720	4.4	3.0	17.4	< 1	3.7	13	3.2	1.1			
548542 Orig																						0.06	0.13
548542 Dup																						0.06	0.13
548549 Orig	128	982	3	115	5	< 2	< 0.5	< 0.2	2	< 0.5	41.0	855	< 0.4	2.9	1.1	< 1	2.0	15	2.7	1.6			
548549 Dup	129	980	2	117	5	< 2	< 0.5	< 0.2	2	< 0.5	41.2	852	< 0.4	3.3	1.2	< 1	1.5	14	2.7	1.5			
548550 Orig																						< 0.01	< 0.01

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
548550 Dup																						< 0.01	< 0.01
548564 Orig																						0.02	0.03
548564 Dup																						0.02	0.03
548571 Orig																					2.69		
548571 Dup																					2.69		
548572 Orig																						0.02	0.03
548572 Dup																						0.01	0.03
548581 Orig	252	813	4	119	14	< 2	0.6	< 0.2	2	< 0.5	15.6	650	< 0.4	3.6	5.1	< 1	1.7	14	2.8	2.5			
548581 Dup	251	796	4	116	13	< 2	0.7	< 0.2	2	< 0.5	15.6	654	< 0.4	3.3	5.8	< 1	1.5	14	2.8	2.3			
548586 Orig																						0.02	0.05
548586 Dup																						0.03	0.05
548594 Orig																						0.02	0.05
548594 Dup																						0.02	0.05
548597 Orig	2010	345	< 2	19	40	< 2	< 0.5	< 0.2	13	< 0.5	175	1107	< 0.4	1.5	40.8	1	15.0	16	2.9	2.1			
548597 Dup	2000	345	< 2	18	44	< 2	< 0.5	< 0.2	13	< 0.5	176	1123	< 0.4	1.7	40.2	< 1	14.4	16	3.0	2.0			
548608 Orig																						0.05	0.10
548608 Dup																						0.05	0.10
548616 Orig																						0.14	0.30
548616 Dup																						0.14	0.30
548621 Orig	129	157	< 2	8	21	< 2	< 0.5	< 0.2	12	< 0.5	54.9	15	< 0.4	1.4	28.6	10	2.3	12	5.7	3.6		1.32	2.85
548621 Split PREP DUP	123	149	< 2	7	23	< 2	< 0.5	< 0.2	13	< 0.5	56.6	14	< 0.4	1.5	30.0	< 1	1.2	12	4.6	3.1		1.36	2.93
548627 Orig	114	988	2	111	4	< 2	< 0.5	< 0.2	1	< 0.5	12.2	910	< 0.4	2.9	1.0	< 1	0.6	9	1.6	0.5			
548627 Dup	116	996	< 2	114	5	< 2	< 0.5	< 0.2	1	< 0.5	12.2	903	< 0.4	3.3	1.2	< 1	0.5	10	1.6	0.5			
548629 Orig																						0.05	0.12
548629 Dup																						0.05	0.12
548643 Orig	205	868	< 2	105	10	< 2	< 0.5	< 0.2	3	< 0.5	17.7	803	< 0.4	2.8	2.4	< 1	1.6	11	1.8	1.5			
548643 Dup	203	886	< 2	102	10	< 2	< 0.5	< 0.2	2	< 0.5	17.7	802	< 0.4	3.2	2.4	1	1.3	11	1.8	1.5			
548644 Orig	249	796	< 2	94	17	< 2	< 0.5	< 0.2	4	< 0.5	26.4	748	< 0.4	3.2	4.5	< 1	1.3	11	2.6	7.5		0.04	0.09
548644 Split PREP DUP	227	889	< 2	101	20	< 2	< 0.5	< 0.2	5	< 0.5	28.3	787	< 0.4	3.2	4.6	1	1.3	10	1.8	2.7		0.04	0.09
548534A Orig																						0.04	0.09
548534A Dup																						0.04	0.09
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																						< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
Method Blank																						< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01
Method Blank																					1.00		
Method Blank																						< 0.01	< 0.01

Quality Analysis ... *Innovative Technologies*

Date Submitted: 06-Nov-17
Invoice No.: A17-12442
Invoice Date: 14-Dec-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

105 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-12442**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548645	70.96	16.60	1.14	0.012	0.31	2.74	5.97	1.59	0.152	0.05	0.42	99.94	1	1	10	< 20	< 1	< 20	< 10	80	28	< 1	< 5
548646	70.46	15.19	0.96	0.108	0.19	1.62	5.79	2.40	0.089	0.05	0.38	97.24	< 1	4	7	30	< 1	< 20	< 10	100	29	2	< 5
548647	69.76	15.77	1.34	0.016	0.35	2.67	6.05	1.47	0.155	0.06	0.47	98.12	< 1	3	11	40	2	< 20	< 10	90	29	< 1	< 5
548648	70.87	16.88	1.24	0.016	0.42	2.21	6.15	1.74	0.145	0.05	0.68	100.4	< 1	3	9	20	< 1	< 20	< 10	80	30	< 1	< 5
548649	70.76	16.53	1.22	0.072	0.24	1.62	5.66	2.69	0.099	0.06	0.52	99.48	< 1	4	8	50	< 1	< 20	< 10	70	33	2	< 5
548650	94.73	0.65	3.46	0.035	0.05	0.08	0.14	0.08	0.031	0.02	-0.42	98.86	< 1	< 1	< 5	20	1	< 20	< 10	< 30	1	< 1	< 5
548651	71.56	15.89	1.30	0.129	0.37	1.42	6.16	1.82	0.108	0.05	0.55	99.36	< 1	3	8	40	1	< 20	< 10	70	30	2	< 5
548652	69.67	16.13	1.15	0.023	0.44	1.83	6.09	1.87	0.135	0.04	0.71	98.09	< 1	3	9	< 20	< 1	< 20	< 10	60	29	< 1	< 5
548653	69.57	16.95	1.66	0.022	0.43	2.82	5.73	1.63	0.207	0.07	0.42	99.52	1	5	18	60	2	< 20	< 10	90	30	1	< 5
548654	75.83	12.81	1.12	0.744	0.05	0.23	5.65	2.71	0.006	0.01	0.12	99.29	< 1	4	< 5	30	< 1	< 20	< 10	< 30	31	4	< 5
548655	76.70	13.26	0.93	0.597	0.06	0.19	5.78	2.47	0.005	< 0.01	0.15	100.1	< 1	4	< 5	< 20	< 1	< 20	< 10	40	31	4	< 5
548656	68.26	16.30	1.53	0.028	0.39	2.70	5.63	1.60	0.188	0.10	0.42	97.17	1	6	16	60	2	< 20	< 10	90	29	1	< 5
548657	69.16	17.49	1.67	0.018	0.44	2.87	5.72	1.76	0.216	0.08	0.79	100.2	1	2	20	60	2	< 20	< 10	90	29	< 1	< 5
548658	70.04	16.20	1.52	0.023	0.43	2.57	5.85	1.64	0.189	0.07	1.48	100.0	< 1	3	20	< 20	2	< 20	< 10	100	29	< 1	< 5
548659	73.09	15.88	0.97	0.073	0.14	1.11	6.07	0.89	0.057	0.09	0.66	99.02	< 1	37	8	50	< 1	< 20	< 10	110	45	3	< 5
548660	75.90	9.96	4.84	0.055	0.93	1.64	1.30	1.97	0.806	0.38	1.16	98.95	10	34	67	70	7	< 20	300	130	22	3	30
548661	75.95	14.66	0.81	0.088	0.05	0.71	4.16	1.63	0.019	< 0.01	0.39	98.45	< 1	89	< 5	90	< 1	< 20	< 10	< 30	40	3	< 5
548662	72.89	15.43	0.73	0.035	0.09	1.07	6.14	1.78	0.037	0.03	0.81	99.04	< 1	170	5	< 20	< 1	< 20	< 10	50	39	3	< 5
548663	71.40	16.90	0.78	0.060	0.09	1.35	6.86	1.40	0.041	0.11	0.65	99.63	< 1	110	6	30	< 1	< 20	< 10	50	45	3	< 5
548664	67.21	18.23	1.82	0.103	0.40	0.92	4.40	4.95	0.176	0.12	1.20	99.51	< 1	52	17	50	2	< 20	< 10	870	57	3	< 5
548665	70.03	17.06	0.61	0.027	0.11	0.53	4.37	6.90	0.047	0.03	0.57	100.3	< 1	42	5	< 20	< 1	< 20	< 10	50	36	3	< 5
548666	71.67	16.17	0.69	0.074	0.05	1.04	7.13	1.50	0.026	0.09	0.61	99.06	< 1	68	< 5	40	< 1	< 20	< 10	170	42	3	< 5
548667	70.93	15.37	0.64	0.135	0.09	1.21	7.66	0.97	0.030	0.12	0.27	97.44	< 1	36	< 5	40	< 1	< 20	< 10	30	36	3	< 5
548668	70.12	16.50	1.62	0.038	0.56	3.08	5.79	1.63	0.221	0.09	0.77	100.4	2	3	22	< 20	2	< 20	< 10	90	27	1	< 5
548669	69.75	16.02	1.69	0.024	0.46	2.93	5.52	1.95	0.222	0.11	0.43	99.11	1	4	21	80	2	< 20	< 10	80	28	< 1	< 5
548670	95.61	0.39	3.51	0.034	0.03	0.03	0.09	0.06	0.018	< 0.01	-0.61	99.17	< 1	< 1	< 5	20	< 1	< 20	< 10	< 30	< 1	1	< 5
548671	70.50	15.65	1.49	0.066	0.32	1.88	5.55	3.01	0.149	0.10	0.31	99.04	< 1	6	14	70	1	< 20	< 10	80	31	2	< 5
548672	69.64	15.92	1.66	0.029	0.45	2.83	5.64	1.90	0.218	0.11	0.43	98.82	1	6	21	< 20	2	< 20	< 10	90	29	< 1	< 5
548673	68.70	16.08	2.26	0.020	0.67	3.61	5.90	1.75	0.356	0.16	0.40	99.90	2	3	33	50	3	< 20	< 10	120	30	< 1	< 5
548674	70.45	15.47	1.76	0.038	0.60	2.20	5.47	2.30	0.214	0.15	0.75	99.40	1	5	23	50	2	< 20	< 10	140	29	1	< 5
548675	71.10	15.35	1.75	0.035	0.57	2.22	5.50	2.44	0.202	0.15	0.69	100.0	1	5	23	< 20	2	< 20	< 10	130	28	1	< 5
548676	69.47	15.85	1.93	0.023	0.65	2.62	5.77	1.80	0.264	0.10	0.70	99.17	1	3	25	70	3	< 20	< 10	90	27	< 1	< 5
548677	69.04	17.57	1.92	0.052	0.53	2.63	5.55	1.89	0.230	0.10	0.57	100.1	1	9	23	80	2	< 20	10	110	30	1	< 5
548678	70.53	15.94	1.92	0.018	0.60	3.07	5.42	1.76	0.249	0.09	0.46	100.0	1	3	24	< 20	2	< 20	< 10	100	28	< 1	< 5
548679	69.29	16.64	2.10	0.029	0.65	2.98	5.60	1.70	0.263	0.13	0.47	99.86	1	5	27	40	3	< 20	< 10	100	28	< 1	< 5
548680	77.31	9.85	4.20	0.048	0.79	1.28	1.14	1.77	0.586	0.29	1.21	98.48	8	39	54	70	5	< 20	320	160	28	5	55
548681	72.00	16.05	1.59	0.129	0.38	1.92	5.52	2.50	0.158	0.12	0.31	100.7	1	5	17	50	2	< 20	< 10	110	32	2	< 5
548682	72.37	14.96	1.44	0.054	0.37	1.85	5.01	2.65	0.150	0.10	0.33	99.29	< 1	7	15	< 20	2	< 20	< 10	100	31	1	< 5
548683	72.27	15.37	1.55	0.103	0.38	1.75	6.16	1.18	0.143	0.08	0.44	99.43	< 1	4	14	40	2	< 20	10	1270	34	1	< 5
548684	69.44	16.47	2.12	0.019	0.64	3.12	5.47	1.69	0.276	0.10	0.51	99.86	2	2	28	70	3	< 20	< 10	110	27	< 1	< 5
548685	70.77	15.65	1.76	0.040	0.58	2.68	5.37	1.96	0.233	0.12	0.52	99.70	1	5	24	< 20	2	< 20	< 10	100	28	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548686	69.94	16.50	2.07	0.033	0.60	3.01	5.49	1.59	0.249	0.11	0.61	100.2	2	4	26	50	2	< 20	< 10	120	28	< 1	< 5
548687	75.15	13.50	0.88	0.045	0.07	0.40	4.26	3.71	0.025	0.03	0.51	98.59	< 1	135	< 5	60	< 1	< 20	< 10	70	37	3	< 5
548688	72.90	14.75	1.02	0.090	0.19	1.19	6.63	0.86	0.077	0.08	0.42	98.21	< 1	261	8	< 20	< 1	< 20	< 10	70	34	2	< 5
548689	68.58	16.61	2.05	0.020	0.60	3.07	5.35	1.70	0.254	0.11	0.49	98.82	2	4	26	50	3	< 20	< 10	110	27	< 1	< 5
548690	97.26	0.45	3.41	0.035	0.02	0.02	0.10	0.05	0.019	0.02	-0.50	100.9	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
548691	69.31	18.06	1.50	0.016	0.31	2.64	5.93	1.58	0.167	0.05	0.32	99.88	< 1	4	12	40	1	< 20	< 10	90	28	< 1	< 5
548692	70.89	16.71	1.03	0.295	0.17	1.08	6.07	2.91	0.078	0.05	0.27	99.56	< 1	7	6	< 20	< 1	< 20	< 10	50	32	3	< 5
548693	69.98	16.72	1.27	0.016	0.33	2.51	5.95	1.78	0.160	0.06	0.30	99.07	< 1	3	11	60	1	< 20	< 10	90	29	< 1	< 5
548694	70.01	15.81	1.41	0.015	0.34	2.56	6.02	1.67	0.160	0.06	0.34	98.39	< 1	3	12	40	1	< 20	< 10	90	28	< 1	< 5
548695	69.09	16.97	1.58	0.016	0.36	2.55	5.92	1.67	0.168	0.05	0.34	98.71	< 1	3	12	30	1	< 20	< 10	100	28	< 1	< 5
548696	67.70	18.23	1.18	0.020	0.33	2.97	7.57	0.89	0.158	0.06	0.40	99.52	< 1	10	13	60	< 1	< 20	< 10	70	31	1	< 5
548697	69.42	17.61	0.65	0.027	0.10	0.92	5.57	4.76	0.040	0.12	0.64	99.87	< 1	119	< 5	60	< 1	< 20	< 10	50	41	3	< 5
548698	74.50	15.77	0.92	0.066	0.07	0.38	3.33	3.74	0.028	< 0.01	0.62	99.42	< 1	444	< 5	30	< 1	< 20	< 10	30	48	3	< 5
548699	69.72	16.22	0.50	0.016	0.04	0.12	2.09	10.66	0.012	< 0.01	0.36	99.73	< 1	11	< 5	50	< 1	< 20	< 10	< 30	27	3	< 5
548700	75.95	9.24	4.75	0.054	0.90	1.62	1.31	1.94	0.822	0.33	1.35	98.28	11	34	66	70	7	< 20	300	130	21	4	37
548701	72.06	15.57	0.75	0.030	0.07	0.40	3.10	5.75	0.029	0.01	0.54	98.32	< 1	56	< 5	80	< 1	< 20	< 10	60	36	3	< 5
548702	75.11	15.09	0.73	0.057	0.07	0.52	3.37	2.88	0.029	0.01	0.63	98.50	< 1	355	< 5	30	< 1	< 20	< 10	40	41	3	< 5
548703	71.52	15.70	0.70	0.043	0.08	0.89	5.19	3.71	0.035	0.02	0.96	98.85	< 1	160	< 5	50	< 1	< 20	< 10	60	40	3	< 5
548704	70.11	17.38	0.71	0.139	0.06	1.40	7.92	0.93	0.023	0.23	0.32	99.23	< 1	63	< 5	40	< 1	< 20	< 10	60	42	3	< 5
548705	68.92	17.00	1.79	0.025	0.39	2.97	5.68	1.40	0.206	0.08	0.36	98.82	1	7	17	< 20	2	< 20	< 10	80	28	< 1	< 5
548706	69.98	16.34	1.48	0.016	0.38	3.09	5.63	1.66	0.200	0.09	0.44	99.31	1	4	18	40	2	< 20	< 10	80	29	< 1	< 5
548707	69.75	17.22	1.55	0.014	0.40	3.14	5.65	1.62	0.204	0.08	0.45	100.1	1	2	19	50	2	< 20	< 10	80	28	< 1	< 5
548708	72.08	16.08	1.04	0.094	0.22	1.70	5.58	2.95	0.106	0.06	0.29	100.2	< 1	9	11	20	1	< 20	< 10	130	31	2	< 5
548709	68.62	17.57	1.97	0.020	0.38	3.00	5.53	1.58	0.211	0.08	0.35	99.32	1	3	18	30	2	< 20	< 10	80	28	< 1	< 5
548710	94.88	0.45	3.44	0.034	0.04	0.03	0.09	0.05	0.026	0.01	-0.52	98.53	< 1	< 1	< 5	20	1	< 20	< 10	400	1	1	< 5
548711	69.68	17.17	1.74	0.018	0.41	3.05	5.74	1.49	0.211	0.08	0.38	99.95	1	3	18	40	2	< 20	< 10	80	28	< 1	< 5
548712	72.90	15.21	0.93	0.175	0.10	0.67	6.48	2.67	0.030	0.05	0.20	99.41	< 1	8	< 5	< 20	< 1	< 20	< 10	110	35	3	< 5
548713	69.25	17.31	1.70	0.016	0.43	3.06	5.98	1.57	0.218	0.08	0.49	100.1	1	2	19	40	2	< 20	< 10	80	28	< 1	< 5
548714	66.37	18.95	1.89	0.040	0.44	3.17	6.27	2.63	0.232	0.09	0.20	100.3	1	3	17	50	2	< 20	< 10	100	30	1	< 5
548715	67.18	17.29	1.75	0.036	0.46	3.27	6.49	2.76	0.223	0.09	0.27	99.82	< 1	3	19	< 20	2	< 20	< 10	110	32	1	< 5
548716	65.77	18.40	1.88	0.026	0.48	3.31	6.68	1.73	0.218	0.11	0.39	99.00	1	16	16	40	2	< 20	20	110	35	1	< 5
548717	71.80	15.91	1.28	0.134	0.25	1.71	5.82	2.43	0.109	0.08	0.29	99.81	< 1	5	11	40	1	< 20	< 10	90	30	2	< 5
548718	71.63	15.93	1.23	0.152	0.17	1.26	5.84	2.88	0.077	0.08	0.35	99.59	< 1	4	8	20	< 1	< 20	< 10	80	38	2	< 5
548719	69.87	17.27	1.76	0.018	0.41	2.85	5.74	1.61	0.207	0.07	0.36	100.2	1	3	17	60	2	< 20	< 10	100	29	< 1	< 5
548720	76.94	9.22	4.75	0.052	0.93	1.59	1.25	1.96	0.829	0.37	1.18	99.06	11	34	65	70	7	< 20	280	130	22	3	33
548721	69.82	16.75	1.67	0.017	0.42	2.92	5.72	1.66	0.203	0.07	0.35	99.61	1	3	19	40	2	< 20	< 10	100	28	< 1	< 5
548722	73.45	14.16	0.75	0.105	0.09	0.79	6.02	2.53	0.037	0.10	0.39	98.43	< 1	28	< 5	< 20	< 1	< 20	< 10	70	32	3	< 5
548723	69.94	16.37	1.63	0.019	0.43	2.87	5.57	1.60	0.191	0.09	0.40	99.10	1	4	18	40	2	< 20	< 10	90	29	< 1	< 5
548724	71.01	16.29	1.14	0.015	0.22	2.51	5.90	1.54	0.122	0.03	0.39	99.17	< 1	3	9	50	< 1	< 20	< 10	80	28	< 1	< 5
548725	71.38	16.20	0.95	0.269	0.09	0.99	6.89	0.90	0.041	0.07	0.47	98.26	< 1	258	< 5	20	< 1	< 20	< 10	70	39	3	< 5
548726	71.20	16.44	0.80	0.056	0.13	1.01	5.11	3.68	0.053	0.14	0.87	99.49	< 1	99	5	50	< 1	< 20	< 10	60	41	3	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548727	73.87	13.87	0.68	0.053	0.06	0.47	5.01	2.44	0.025	0.01	0.81	97.31	< 1	326	< 5	20	< 1	< 20	< 10	40	43	3	< 5
548728	73.46	14.92	0.72	0.044	0.08	1.00	5.90	1.49	0.028	0.03	0.98	98.65	< 1	186	< 5	50	< 1	< 20	< 10	50	42	3	< 5
548729	71.34	15.92	0.77	0.070	0.13	1.30	7.18	1.04	0.046	0.09	0.69	98.57	< 1	110	6	40	< 1	< 20	< 10	60	43	3	< 5
548730	93.29	0.74	4.97	0.049	0.04	0.05	0.18	0.10	0.033	< 0.01	-0.73	98.73	< 1	< 1	< 5	30	1	< 20	< 10	< 30	2	1	< 5
548731	69.86	16.81	1.90	0.020	0.60	3.14	5.45	1.61	0.265	0.12	0.44	100.2	1	6	28	< 20	3	< 20	< 10	100	29	< 1	< 5
548732	70.50	15.67	1.94	0.022	0.61	3.07	5.51	1.48	0.248	0.13	0.55	99.73	1	10	25	50	3	< 20	10	110	29	< 1	< 5
548733	69.48	18.03	0.93	0.144	0.14	1.50	7.81	1.27	0.058	0.20	0.77	100.3	< 1	27	7	50	< 1	< 20	< 10	80	53	4	< 5
548734	71.65	16.90	1.03	0.170	0.09	1.22	7.94	0.69	0.046	0.34	0.39	100.5	< 1	18	< 5	< 20	< 1	< 20	< 10	50	39	3	< 5
548735	71.89	16.40	0.80	0.199	0.09	1.27	8.28	0.65	0.042	0.40	0.39	100.4	< 1	17	< 5	30	< 1	< 20	< 10	40	38	3	< 5
548736	69.17	17.75	0.77	0.163	0.10	1.51	8.44	0.76	0.046	0.25	0.55	99.50	< 1	23	6	50	< 1	< 20	< 10	60	44	3	< 5
548737	71.07	16.63	1.66	0.022	0.44	2.60	5.70	1.83	0.200	0.09	0.39	100.6	< 1	4	17	< 20	2	< 20	< 10	110	29	< 1	< 5
548738	71.09	15.79	1.24	0.013	0.29	2.68	5.91	1.68	0.161	0.06	0.31	99.22	< 1	2	12	40	1	< 20	< 10	80	26	< 1	< 5
548739	72.61	15.68	1.37	0.100	0.22	1.82	5.45	1.98	0.112	0.05	0.20	99.59	< 1	5	9	50	1	< 20	< 10	70	28	2	< 5
548740	76.85	10.31	4.52	0.051	0.76	1.29	1.21	1.80	0.616	0.28	1.25	98.93	8	39	60	70	6	< 20	350	160	28	5	58
548741	70.51	16.77	1.66	0.017	0.41	2.66	5.70	1.78	0.190	0.08	0.42	100.2	1	4	17	< 20	2	< 20	< 10	110	29	1	< 5
548742	71.33	16.16	1.34	0.021	0.34	2.57	5.75	1.90	0.164	0.07	0.36	100.0	< 1	3	15	50	2	< 20	< 10	100	29	1	< 5
548743	71.48	16.37	1.44	0.015	0.31	2.64	5.75	1.70	0.154	0.07	0.35	100.3	< 1	3	13	40	1	< 20	< 10	80	28	1	< 5
548744	70.40	16.28	1.47	0.052	0.30	2.26	5.64	1.84	0.144	0.06	0.36	98.80	< 1	5	13	< 20	1	20	< 10	100	29	2	< 5
548745	71.13	16.50	0.97	0.248	0.05	0.59	6.27	3.54	0.028	0.11	0.21	99.64	< 1	10	< 5	50	< 1	< 20	< 10	70	42	3	< 5
548746	70.64	15.95	1.42	0.015	0.31	2.63	5.69	1.64	0.164	0.06	0.29	98.80	1	3	14	60	1	< 20	< 10	90	28	< 1	< 5
548747	70.68	17.07	1.37	0.032	0.27	2.43	6.09	1.70	0.147	0.09	0.31	100.2	< 1	7	11	< 20	1	< 20	< 10	140	30	< 1	< 5
548748	71.26	15.70	1.37	0.015	0.29	2.59	5.68	1.67	0.154	0.04	0.22	98.99	< 1	3	12	40	1	< 20	< 10	100	28	< 1	< 5
548749	72.69	16.03	0.89	0.234	0.06	0.57	7.36	1.57	0.025	0.04	0.12	99.60	< 1	9	< 5	50	< 1	< 20	< 10	140	42	3	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548645	73	977	3	123	3	< 2	0.7	< 0.2	1	< 0.5	10.0	934	< 0.4	3.3	0.4	< 1	0.5	14	1.6	0.7	0.03	0.07	
548646	386	513	< 2	62	24	< 2	< 0.5	< 0.2	2	< 0.5	19.9	481	0.4	2.3	9.4	3	1.9	23	2.2	5.3	0.02	0.05	
548647	122	888	< 2	112	4	< 2	0.6	< 0.2	2	< 0.5	20.1	876	< 0.4	3.1	0.7	< 1	0.8	12	1.5	0.7	0.03	0.07	
548648	113	846	< 2	113	4	< 2	0.7	< 0.2	2	< 0.5	6.1	854	< 0.4	3.1	0.9	7	0.5	12	1.5	1.1	0.01	0.02	
548649	540	574	< 2	76	24	< 2	< 0.5	< 0.2	8	< 0.5	21.4	556	< 0.4	3.0	7.5	< 1	2.7	18	2.2	4.1	0.01	0.03	
548650	3	< 2	5	41	1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	24	< 0.4	1.2	< 0.1	3	< 0.1	< 5	1.7	0.4	< 0.01	< 0.01	
548651	219	543	< 2	90	17	< 2	< 0.5	< 0.2	3	< 0.5	8.1	603	< 0.4	3.3	6.6	< 1	1.1	30	2.7	6.4	< 0.01	0.02	
548652	137	698	< 2	111	4	< 2	0.6	< 0.2	2	< 0.5	4.7	782	< 0.4	3.1	0.8	6	0.7	10	1.4	1.3	0.01	0.03	
548653	199	935	< 2	134	5	< 2	0.5	< 0.2	3	< 0.5	29.4	894	< 0.4	3.6	2.5	3	1.1	11	3.1	2.0	0.04	0.09	
548654	747	46	< 2	41	25	< 2	< 0.5	< 0.2	4	< 0.5	24.5	76	< 0.4	8.2	23.1	< 1	3.4	20	2.9	5.7	< 0.01	< 0.01	
548655	666	47	< 2	37	24	< 2	< 0.5	< 0.2	4	< 0.5	22.0	70	< 0.4	6.2	21.8	< 1	3.4	17	2.6	4.4	< 0.01	< 0.01	2.70
548656	218	919	2	118	5	< 2	< 0.5	< 0.2	3	< 0.5	29.3	920	< 0.4	3.2	2.7	< 1	1.9	12	2.7	2.6	0.05	0.10	
548657	100	1032	3	133	3	< 2	0.7	< 0.2	1	< 0.5	17.0	962	< 0.4	3.1	0.6	< 1	0.9	13	2.7	1.0	0.06	0.12	
548658	221	951	2	129	5	< 2	0.5	< 0.2	3	< 0.5	48.5	887	< 0.4	3.5	0.6	< 1	1.0	14	2.8	0.8	0.07	0.15	
548659	521	330	< 2	21	56	< 2	< 0.5	< 0.2	23	< 0.5	87.1	67	1.7	1.3	70.7	< 1	2.3	16	2.8	2.8	0.29	0.62	
548660	1230	318	29	181	689	8	0.9	2.7	619	6.6	228	2018	9.8	3.9	16.4	4	8.4	27	96.8	16.2	0.23	0.50	
548661	620	262	< 2	< 4	29	< 2	< 0.5	< 0.2	11	< 0.5	74.3	278	20.6	0.5	47.2	< 1	4.7	12	1.0	1.4	0.54	1.16	
548662	653	321	< 2	13	36	< 2	< 0.5	< 0.2	11	< 0.5	87.4	68	0.4	1.2	60.7	< 1	5.0	17	3.6	1.6	0.02	0.05	
548663	581	358	< 2	63	33	< 2	< 0.5	< 0.2	14	< 0.5	79.7	57	< 0.4	3.8	46.1	< 1	4.0	20	5.6	4.6	0.02	0.05	
548664	2420	339	< 2	37	73	< 2	< 0.5	< 0.2	43	< 0.5	290	767	< 0.4	2.1	43.5	1	14.8	27	3.6	2.1	0.10	0.21	
548665	2370	325	< 2	14	49	< 2	< 0.5	< 0.2	13	< 0.5	193	775	< 0.4	1.1	66.0	< 1	19.1	21	2.1	1.8	0.02	0.05	2.67
548666	533	297	< 2	45	40	< 2	< 0.5	< 0.2	10	< 0.5	65.5	55	< 0.4	3.2	73.1	< 1	6.2	17	5.3	2.1	0.01	0.03	
548667	258	322	< 2	79	16	< 2	< 0.5	< 0.2	4	< 0.5	28.9	103	< 0.4	5.3	25.4	3	2.9	22	7.2	2.3	0.01	0.02	
548668	140	988	3	139	3	< 2	< 0.5	< 0.2	1	< 0.5	17.1	1310	< 0.4	3.4	0.7	< 1	1.6	13	3.4	1.9	0.04	0.09	
548669	220	1040	< 2	134	10	< 2	< 0.5	< 0.2	3	< 0.5	24.6	1239	< 0.4	3.2	4.3	< 1	1.6	12	3.6	1.8	0.05	0.10	
548670	3	3	4	38	< 1	< 2	< 0.5	< 0.2	1	< 0.5	< 0.5	19	< 0.4	1.2	0.2	< 1	0.1	< 5	1.2	0.4	< 0.01	< 0.01	
548671	629	596	< 2	96	25	< 2	< 0.5	< 0.2	6	< 0.5	39.8	750	< 0.4	3.0	10.1	3	3.6	14	3.5	3.4	0.03	0.07	
548672	199	917	2	137	10	< 2	< 0.5	< 0.2	3	< 0.5	20.2	1170	< 0.4	3.6	5.0	< 1	1.5	13	3.6	2.2	0.03	0.07	
548673	82	1108	4	222	7	< 2	0.6	< 0.2	2	< 0.5	11.4	1234	< 0.4	5.5	1.3	< 1	0.6	14	6.1	2.3	0.02	0.04	
548674	278	752	3	128	41	< 2	< 0.5	< 0.2	5	< 0.5	16.8	1201	< 0.4	3.7	20.1	< 1	1.3	11	3.7	2.5	0.01	0.03	
548675	293	829	< 2	110	42	< 2	< 0.5	< 0.2	5	< 0.5	17.0	1268	< 0.4	2.9	20.0	< 1	1.5	11	3.3	2.2	0.01	0.03	2.70
548676	108	946	3	143	35	< 2	< 0.5	< 0.2	2	< 0.5	8.7	1339	< 0.4	3.5	12.8	< 1	0.4	9	4.3	1.8	0.01	0.03	
548677	230	1085	2	127	30	< 2	< 0.5	< 0.2	8	< 0.5	26.0	1105	< 0.4	4.2	12.1	< 1	1.0	18	3.9	3.2	0.02	0.05	
548678	84	1170	< 2	144	4	< 2	< 0.5	< 0.2	2	< 0.5	14.2	1441	< 0.4	3.4	0.5	< 1	0.2	11	4.0	1.4	0.02	0.04	
548679	155	1190	3	143	5	< 2	< 0.5	< 0.2	4	< 0.5	19.6	1220	< 0.4	3.7	1.3	< 1	0.5	11	3.8	1.4	0.02	0.05	
548680	1370	213	19	157	1330	9	0.5	3.9	1070	13.5	289	1031	15.8	3.6	23.0	6	9.8	25	45.8	7.6	0.48	1.04	
548681	435	726	< 2	95	32	< 2	< 0.5	< 0.2	6	< 0.5	29.8	765	< 0.4	3.3	9.8	< 1	3.8	17	3.8	5.0	0.02	0.04	
548682	557	716	< 2	90	23	< 2	< 0.5	< 0.2	8	< 0.5	32.7	752	< 0.4	2.9	8.3	< 1	3.8	13	3.3	3.6	0.02	0.04	
548683	156	635	< 2	89	47	< 2	< 0.5	< 0.2	7	< 0.5	11.4	688	< 0.4	3.5	16.4	< 1	1.4	18	4.3	6.3	0.01	0.03	
548684	94	1233	2	145	4	< 2	0.5	< 0.2	1	< 0.5	10.2	1319	< 0.4	3.7	0.3	33	0.7	11	4.1	1.5	0.02	0.04	
548685	242	966	2	129	13	< 2	0.5	< 0.2	5	< 0.5	20.9	1059	< 0.4	3.4	5.5	< 1	1.3	12	3.7	2.0	0.02	0.04	2.74

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548686	199	1122	< 2	149	7	< 2	0.5	< 0.2	3	< 0.5	25.1	1351	< 0.4	3.8	1.9	< 1	1.2	14	3.9	1.6	0.03	0.07	
548687	1140	117	< 2	10	62	< 2	< 0.5	< 0.2	16	< 0.5	78.9	142	< 0.4	1.3	59.7	< 1	6.4	11	2.8	4.1	0.01	0.02	
548688	208	384	< 2	53	79	< 2	< 0.5	< 0.2	5	< 0.5	34.6	376	< 0.4	3.1	61.0	< 1	2.0	20	6.7	8.1	0.02	0.04	
548689	102	1163	3	145	5	< 2	0.5	< 0.2	2	< 0.5	19.7	1399	< 0.4	3.7	1.1	< 1	1.0	11	4.1	1.3	0.03	0.06	
548690	< 2	4	2	43	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	16	< 0.4	1.4	0.1	< 1	< 0.1	< 5	1.3	0.4	< 0.01	< 0.01	
548691	131	1011	< 2	126	4	< 2	< 0.5	< 0.2	3	< 0.5	17.0	934	< 0.4	3.5	0.4	< 1	0.7	10	1.7	1.0	0.03	0.07	
548692	737	354	< 2	102	27	< 2	< 0.5	< 0.2	7	< 0.5	26.1	426	< 0.4	7.5	16.7	< 1	4.2	10	2.8	4.6	< 0.01	0.02	
548693	135	875	2	111	5	< 2	< 0.5	< 0.2	1	< 0.5	14.2	917	< 0.4	3.1	1.3	< 1	0.6	11	1.7	0.9	0.04	0.08	
548694	59	912	< 2	116	4	< 2	< 0.5	< 0.2	1	< 0.5	9.0	949	< 0.4	3.2	0.4	< 1	0.2	13	1.7	0.7	0.04	0.08	
548695	58	928	2	112	3	< 2	< 0.5	< 0.2	1	< 0.5	9.3	950	< 0.4	2.9	0.5	6	< 0.1	13	1.7	0.7	0.04	0.08	2.76
548696	161	933	< 2	128	5	< 2	0.5	< 0.2	3	< 0.5	35.7	491	< 0.4	3.9	0.4	< 1	0.9	11	1.9	2.0	0.03	0.07	
548697	2000	352	< 2	18	66	< 2	< 0.5	< 0.2	13	< 0.5	168	502	11.1	1.7	67.6	12	13.5	47	3.8	5.8	0.01	0.03	
548698	1650	188	2	< 4	72	< 2	< 0.5	< 0.2	13	< 0.5	193	250	23.6	0.5	93.9	< 1	10.3	15	2.8	3.6	0.55	1.18	
548699	4200	320	< 2	< 4	12	< 2	< 0.5	< 0.2	3	< 0.5	303	833	4.7	0.3	22.0	3	35.2	25	1.0	1.0	< 0.01	0.02	
548700	1180	302	26	175	645	8	0.8	2.8	557	6.1	218	1994	11.3	3.5	14.5	3	12.7	27	91.0	14.9	0.23	0.51	
548701	2640	253	< 2	< 4	28	< 2	< 0.5	< 0.2	10	< 0.5	213	353	5.6	< 0.2	33.8	< 1	22.8	15	0.5	1.2	0.22	0.48	
548702	1200	197	< 2	5	64	< 2	< 0.5	< 0.2	13	< 0.5	161	318	2.6	0.6	81.7	< 1	12.6	16	4.2	6.3	0.59	1.28	
548703	1600	294	< 2	14	58	< 2	< 0.5	< 0.2	12	< 0.5	168	399	1.0	1.7	89.8	< 1	14.8	27	3.4	5.0	0.04	0.08	
548704	369	311	2	82	31	< 2	< 0.5	< 0.2	6	< 0.5	55.2	63	< 0.4	6.2	48.2	< 1	4.8	22	5.2	8.7	0.05	0.10	
548705	281	969	< 2	128	6	< 2	< 0.5	< 0.2	2	< 0.5	63.2	869	< 0.4	3.5	4.4	< 1	3.4	11	3.1	1.5	0.07	0.16	2.71
548706	105	986	< 2	134	6	< 2	< 0.5	< 0.2	2	< 0.5	20.6	915	< 0.4	3.5	3.5	< 1	1.0	12	2.9	1.1	0.06	0.14	
548707	100	1067	< 2	136	4	< 2	< 0.5	< 0.2	1	< 0.5	20.5	960	< 0.4	3.5	0.5	< 1	0.7	12	2.9	0.8	0.07	0.14	
548708	970	542	< 2	71	45	< 2	< 0.5	< 0.2	3	< 0.5	90.7	573	< 0.4	3.0	32.8	< 1	7.0	17	2.8	4.3	0.06	0.12	
548709	155	1044	< 2	136	6	< 2	< 0.5	< 0.2	1	< 0.5	28.5	908	< 0.4	3.6	2.4	7	1.8	11	2.9	0.9	0.06	0.13	
548710	2	3	3	41	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	16	< 0.4	1.3	0.2	< 1	< 0.1	< 5	1.2	0.4	< 0.01	< 0.01	
548711	132	1077	< 2	139	4	< 2	< 0.5	< 0.2	2	< 0.5	28.6	943	< 0.4	3.6	1.3	< 1	0.8	11	3.0	1.0	0.06	0.12	
548712	792	227	3	30	38	< 2	< 0.5	< 0.2	5	< 0.5	51.4	223	< 0.4	2.2	29.0	< 1	7.8	19	3.0	5.3	0.02	0.04	
548713	123	1113	2	140	4	< 2	< 0.5	< 0.2	1	< 0.5	21.4	996	< 0.4	3.5	0.4	2	1.3	12	2.8	0.8	0.05	0.10	
548714	153	1184	2	153	10	< 2	< 0.5	< 0.2	2	< 0.5	12.9	1510	< 0.4	4.3	2.7	< 1	0.8	15	3.1	1.7	0.03	0.06	
548715	171	1109	3	161	14	< 2	< 0.5	< 0.2	2	< 0.5	13.3	1536	< 0.4	4.4	4.0	< 1	2.3	17	3.3	1.8	0.03	0.06	2.75
548716	159	1081	3	149	17	< 2	< 0.5	< 0.2	3	< 0.5	29.5	1036	< 0.4	4.1	4.0	< 1	0.7	13	3.0	1.0	0.04	0.08	
548717	443	542	< 2	80	26	< 2	< 0.5	< 0.2	3	< 0.5	28.2	556	< 0.4	3.0	10.1	< 1	2.2	16	2.7	4.7	0.02	0.05	
548718	711	395	< 2	68	47	< 2	< 0.5	< 0.2	15	< 0.5	29.4	411	< 0.4	3.4	15.5	< 1	3.9	19	3.4	8.8	0.02	0.05	
548719	130	1033	3	138	5	< 2	< 0.5	< 0.2	3	< 0.5	17.1	980	< 0.4	3.6	0.4	< 1	1.0	12	2.7	1.0	0.03	0.07	
548720	1200	298	26	199	898	8	0.7	2.6	655	8.4	223	2025	10.0	4.4	17.7	3	9.0	25	91.5	15.2	0.23	0.49	
548721	100	1001	2	138	6	< 2	< 0.5	< 0.2	2	< 0.5	17.6	1026	< 0.4	3.7	0.7	< 1	1.7	11	2.7	1.1	0.04	0.08	
548722	665	228	< 2	36	49	< 2	< 0.5	< 0.2	3	< 0.5	36.9	254	< 0.4	2.4	40.6	< 1	4.4	18	3.4	7.0	0.01	0.03	
548723	248	977	< 2	132	6	< 2	< 0.5	< 0.2	3	< 0.5	39.7	979	< 0.4	3.6	1.3	< 1	2.0	12	2.6	1.1	0.05	0.10	
548724	154	898	2	115	4	< 2	< 0.5	< 0.2	3	< 0.5	28.7	892	< 0.4	3.3	0.5	< 1	1.1	15	1.2	1.0	0.05	0.10	
548725	448	305	< 2	65	26	< 2	< 0.5	< 0.2	10	< 0.5	83.0	131	< 0.4	5.3	20.6	< 1	2.5	14	3.3	7.1	0.04	0.09	2.68
548726	1620	320	< 2	30	78	< 2	< 0.5	< 0.2	17	< 0.5	163	324	< 0.4	2.1	61.4	6	11.0	15	3.5	4.3	0.04	0.10	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548727	1060	158	< 2	6	150	< 2	< 0.5	< 0.2	14	< 0.5	147	198	3.0	1.1	191	< 1	8.2	17	7.9	7.6	0.03	0.06	
548728	665	286	< 2	24	31	< 2	< 0.5	< 0.2	12	< 0.5	90.0	112	1.1	2.1	35.4	< 1	5.4	12	3.8	3.1	0.03	0.06	
548729	471	357	< 2	75	28	< 2	< 0.5	< 0.2	12	< 0.5	92.5	80	< 0.4	4.5	35.2	< 1	3.6	17	5.8	6.2	0.04	0.10	
548730	11	6	3	48	1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.1	21	< 0.4	1.3	0.5	< 1	0.3	< 5	1.4	0.5	< 0.01	< 0.01	
548731	281	1250	3	150	5	< 2	< 0.5	< 0.2	3	< 0.5	92.2	1333	< 0.4	3.6	1.2	< 1	1.8	11	3.9	1.4	0.07	0.16	
548732	344	1186	< 2	151	7	< 2	< 0.5	< 0.2	5	< 0.5	90.1	1299	< 0.4	3.8	2.2	< 1	2.2	10	3.9	1.4	0.08	0.18	
548733	706	373	< 2	127	45	< 2	< 0.5	< 0.2	21	< 0.5	95.8	91	13.6	8.8	32.8	< 1	4.1	24	7.3	10.5	0.05	0.12	
548734	343	225	3	96	22	< 2	< 0.5	< 0.2	11	< 0.5	42.8	45	< 0.4	6.6	13.6	< 1	2.1	12	6.0	7.2	0.04	0.08	
548735	304	209	3	98	29	< 2	< 0.5	< 0.2	10	< 0.5	37.3	46	< 0.4	6.2	16.2	3	1.7	10	3.5	6.3	0.04	0.09	2.69
548736	365	357	< 2	121	25	< 2	< 0.5	< 0.2	11	< 0.5	55.3	71	< 0.4	9.0	16.5	< 1	2.1	31	8.7	13.7	0.04	0.09	
548737	185	899	< 2	124	6	< 2	< 0.5	< 0.2	2	< 0.5	43.4	1035	< 0.4	3.9	1.4	< 1	1.2	12	1.9	1.2	0.07	0.14	
548738	79	935	< 2	127	5	< 2	< 0.5	< 0.2	1	< 0.5	11.3	1019	< 0.4	3.7	0.4	< 1	0.4	13	1.9	1.0	0.05	0.10	
548739	319	694	< 2	93	30	< 2	< 0.5	< 0.2	3	< 0.5	32.3	752	< 0.4	3.7	14.7	6	1.5	15	2.3	3.1	0.03	0.07	
548740	1320	222	21	137	1190	9	0.6	4.2	998	11.3	287	1042	17.4	2.9	20.5	5	10.4	25	47.2	7.6	0.49	1.05	
548741	135	945	3	119	6	< 2	0.7	< 0.2	1	< 0.5	22.5	1053	< 0.4	3.6	2.8	< 1	2.2	12	2.1	1.3	0.04	0.10	
548742	166	854	3	117	7	< 2	0.6	< 0.2	< 1	< 0.5	17.6	1000	< 0.4	3.6	2.2	< 1	1.3	12	2.0	1.3	0.04	0.08	
548743	84	924	< 2	119	5	< 2	0.5	< 0.2	< 1	< 0.5	12.5	1012	< 0.4	3.8	0.9	12	0.6	12	2.0	1.0	0.03	0.07	
548744	369	785	2	104	10	< 2	0.7	0.2	1	< 0.5	31.4	854	< 0.4	3.6	5.4	< 1	2.1	14	2.1	2.2	0.04	0.08	
548745	890	169	< 2	41	48	< 2	< 0.5	< 0.2	16	< 0.5	25.8	216	< 0.4	3.9	31.0	1	4.8	20	3.1	6.9	0.01	0.03	2.68
548746	121	967	< 2	120	5	< 2	0.7	< 0.2	< 1	< 0.5	11.7	1007	< 0.4	3.8	0.6	< 1	1.3	12	2.0	1.0	0.03	0.07	
548747	175	915	< 2	111	9	< 2	< 0.5	< 0.2	1	< 0.5	22.5	897	< 0.4	4.0	2.2	< 1	1.0	14	2.1	1.9	0.02	0.05	
548748	104	917	2	118	5	< 2	< 0.5	< 0.2	< 1	< 0.5	15.0	1008	< 0.4	4.0	0.6	< 1	0.5	13	1.9	1.1	0.03	0.05	
548749	340	163	< 2	36	58	< 2	< 0.5	< 0.2	15	< 0.5	20.3	153	< 0.4	3.6	32.9	< 1	1.5	12	3.3	9.6	< 0.01	0.02	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.48	1.78	0.74	0.010	0.35	42.74	0.89	0.55	0.120	30.76					1604								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	48.01	17.70	9.71	0.140	10.06	11.43	1.89	0.22	0.480	0.07			31		154	280	56	260	90	70	14		
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15		
LKSD-3 Meas																80	27	50	30	150			28
LKSD-3 Cert																87.0	30.0	47.0	35.0	152			27.0
TDB-1 Meas																250		100	350	160			
TDB-1 Cert																251		92	323	155			
W-2a Meas	51.52	15.46	11.28	0.170	6.56	11.16	2.23	0.62	1.080	0.12			35	< 1	274	90	43	80	110	80	18	2	< 5
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20
SY-4 Meas	50.87	20.62	6.25	0.110	0.51	8.11	6.97	1.68	0.290	0.12			1	3	7								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			60	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	47.65	15.20	11.22	0.171	9.68	13.75	1.81	0.02	0.936	0.03			44	< 1	327	400	48	180	120	70	15		
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16		
BIR-1a Meas	47.00	15.61	11.59	0.170	9.81	13.52	1.79	0.02	0.960	0.03			43	< 1	333								
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310								
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30	4	< 20	880	100	16	11	68
NCS DC70009 (GBW07241) Cert																30	3.7	2.8	960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		160				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	47		430				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	45		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																	1	< 20	< 10	30	15	2	15
JR-1 Cert																	0.83	1.67	2.68	30.6	16.1	1.88	16.3
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
NCS DC86303 Meas																							
NCS DC86303 Cert																							
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NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
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Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
548651 Orig																							
548651 Dup																							
548659 Orig	73.33	15.99	0.96	0.071	0.15	1.11	6.11	0.90	0.057	0.07	0.66	99.42	< 1	37	11	50	< 1	< 20	< 10	110	45	3	< 5
548659 Dup	72.84	15.78	0.97	0.074	0.13	1.10	6.03	0.88	0.056	0.10	0.66	98.62	< 1	36	6	50	< 1	< 20	< 10	110	45	3	< 5
548673 Orig																							
548673 Dup																							
548676 Orig	69.48	16.06	1.90	0.022	0.66	2.66	5.88	1.83	0.266	0.10	0.70	99.56	2	3	26	70	3	< 20	< 10	90	27	< 1	< 5
548676 Dup	69.45	15.64	1.96	0.023	0.64	2.59	5.66	1.76	0.262	0.10	0.70	98.78	1	3	25	60	2	< 20	< 10	90	27	< 1	< 5
548681 Orig																							
548681 Dup																							
548694 Orig	70.01	15.81	1.41	0.015	0.34	2.56	6.02	1.67	0.160	0.06	0.34	98.39	< 1	3	12	40	1	< 20	< 10	90	28	< 1	< 5
548694 Split PREP DUP	68.43	16.98	1.56	0.016	0.34	2.54	5.96	1.63	0.163	0.05	0.30	97.97	< 1	3	11	40	1	< 20	< 10	90	28	< 1	< 5
548695 Orig																							
548695 Dup																							
548702 Orig																							
548702 Dup																							
548706 Orig	69.26	16.62	1.51	0.016	0.38	3.08	5.60	1.64	0.206	0.08	0.44	98.83	1	4	18	40	2	< 20	< 10	80	29	< 1	< 5
548706 Dup	70.70	16.07	1.46	0.016	0.39	3.10	5.65	1.68	0.195	0.09	0.44	99.78	1	4	19	40	2	< 20	< 10	80	29	< 1	< 5
548716 Orig																							
548716 Dup																							
548723 Orig	70.48	16.54	1.63	0.019	0.43	2.89	5.56	1.59	0.191	0.09	0.40	99.83	1	5	18	40	2	< 20	< 10	90	28	< 1	< 5
548723 Dup	69.40	16.20	1.63	0.018	0.42	2.85	5.57	1.60	0.191	0.09	0.40	98.38	1	4	18	50	2	< 20	< 10	90	29	< 1	< 5
548724 Orig																							
548724 Dup																							
548738 Orig																							
548738 Dup																							
548744 Orig	70.40	16.28	1.47	0.052	0.30	2.26	5.64	1.84	0.144	0.06	0.36	98.80	< 1	5	13	< 20	1	20	< 10	100	29	2	< 5
548744 Split PREP DUP	70.48	16.00	1.45	0.049	0.31	2.31	5.72	1.86	0.145	0.05	0.37	98.76	< 1	5	12	20	2	< 20	< 10	100	29	1	< 5
548745 Orig																							
548745 Dup																							
548749 Orig	72.65	16.35	0.89	0.238	0.07	0.57	7.33	1.56	0.026	0.04	0.12	99.85	< 1	9	< 5	60	< 1	< 20	< 10	140	42	3	< 5
548749 Dup	72.72	15.71	0.89	0.230	0.06	0.56	7.40	1.58	0.025	0.04	0.12	99.35	< 1	9	< 5	40	< 1	< 20	< 10	130	42	3	< 5
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	0.02			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	0.01	< 0.01	0.002	0.01	0.01	< 0.01	< 0.01	0.002	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	< 0.01	0.01	0.002	< 0.01	0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.01	< 0.01	< 0.01	0.002	0.01	< 0.01	< 0.01	< 0.01	0.002	< 0.01			< 1	< 1	< 5								

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas		140	17	40								105											
DNC-1 Cert		144.0	18.0	38								118											
LKSD-3 Meas	75					< 2	2.5		2	1.2	2.5			4.4	0.7				11.0	4.2			
LKSD-3 Cert	78.0					2.00	2.70		3.00	1.30	2.30			4.80	0.700				11.4	4.60			
TDB-1 Meas	21																		2.0				
TDB-1 Cert	23																		2.7				
W-2a Meas	20	198	22	89	7	< 2					< 0.5	176	< 0.4	2.0	0.5	< 1	< 0.1	9	2.4	0.5			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600					0.990	182	0.0300	2.60	0.500	0.300	0.200	9.30	2.40	0.530			
SY-4 Meas		1244	117	534								347											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.5				22.5	4.0			
CTA-AC-1 Cert															2.65				21.8	4.4			
BIR-1a Meas		104	13	15						< 0.5		6		0.6				< 5					
BIR-1a Cert		110	16	18						0.58		6		0.60				3					
BIR-1a Meas		107	16	15								7											
BIR-1a Cert		110	16	18								6											
NCS DC86312 Meas																			24.3				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	452						1.0	1.0	1760	3.0	37.8					2120	1.8		27.6				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						23													48.7	132			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						21													34.0	402			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						20													38.0	405			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	252				15	3		< 0.2	3	1.0	20.6		0.6	4.4	2.0	2	1.5	18	25.4	8.6			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59	1.56	19.3	26.7	8.88			
NCS DC86303 Meas																					0.21	0.44	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.44	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.44	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.20	0.43	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.44	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.31	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.84	3.96	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.82	3.91	
NCS DC86314 Cert																					1.81	3.89	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Meas																					1.83	3.93	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.83	3.93	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.83	3.94	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.19		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.16		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.04		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.23		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.24		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
548651 Orig																					< 0.01	0.02	
548651 Dup																					< 0.01	0.02	
548659 Orig	521	335	< 2	21	54	< 2	< 0.5	< 0.2	18	< 0.5	87.4	68	1.7	1.2	70.8	< 1	2.3	16	2.8	2.9	0.29	0.62	
548659 Dup	521	325	< 2	22	57	< 2	< 0.5	< 0.2	27	< 0.5	86.7	66	1.6	1.4	70.5	1	2.4	16	2.8	2.6	0.29	0.62	
548673 Orig																					0.02	0.04	
548673 Dup																					0.02	0.04	
548676 Orig	107	981	3	149	33	< 2	< 0.5	< 0.2	2	< 0.5	8.7	1360	< 0.4	3.5	11.7	< 1	0.5	8	4.3	1.7			
548676 Dup	108	910	3	138	36	< 2	< 0.5	< 0.2	2	< 0.5	8.7	1318	< 0.4	3.5	13.9	< 1	0.4	9	4.2	1.8			
548681 Orig																					0.02	0.05	
548681 Dup																					0.02	0.04	
548694 Orig	59	912	< 2	116	4	< 2	< 0.5	< 0.2	1	< 0.5	9.0	949	< 0.4	3.2	0.4	< 1	0.2	13	1.7	0.7	0.04	0.08	
548694 Split PREP DUP	56	953	< 2	112	3	< 2	< 0.5	< 0.2	1	< 0.5	8.9	923	< 0.4	3.1	0.5	< 1	< 0.1	14	1.7	0.7	0.04	0.08	
548695 Orig																					0.04	0.08	
548695 Dup																					0.04	0.08	
548702 Orig																					0.59	1.27	
548702 Dup																					0.60	1.28	
548706 Orig	107	996	< 2	132	6	< 2	< 0.5	< 0.2	2	< 0.5	20.9	907	< 0.4	3.5	3.7	< 1	1.2	12	2.9	1.1			
548706 Dup	103	977	2	135	5	< 2	< 0.5	< 0.2	2	< 0.5	20.4	924	< 0.4	3.5	3.3	< 1	0.8	12	2.9	1.1			
548716 Orig																					0.04	0.08	
548716 Dup																					0.03	0.08	
548723 Orig	247	992	< 2	132	6	< 2	< 0.5	< 0.2	2	< 0.5	39.2	981	< 0.4	3.7	1.4	< 1	2.2	12	2.7	1.2			
548723 Dup	248	962	2	131	6	< 2	< 0.5	< 0.2	3	< 0.5	40.2	976	< 0.4	3.4	1.2	< 1	1.7	11	2.5	1.0			
548724 Orig																					0.05	0.10	
548724 Dup																					0.05	0.10	
548738 Orig																					0.05	0.10	
548738 Dup																					0.05	0.10	
548744 Orig	369	785	2	104	10	< 2	0.7	0.2	1	< 0.5	31.4	854	< 0.4	3.6	5.4	< 1	2.1	14	2.1	2.2	0.04	0.08	
548744 Split PREP DUP	376	786	< 2	107	9	< 2	< 0.5	< 0.2	1	< 0.5	32.4	882	< 0.4	3.7	5.7	16	2.3	14	2.2	2.3	0.04	0.08	
548745 Orig																					0.01	0.03	2.67
548745 Dup																					0.01	0.03	2.69
548749 Orig	341	167	< 2	37	60	< 2	< 0.5	< 0.2	15	< 0.5	20.3	152	< 0.4	3.7	32.3	< 1	1.4	12	3.4	9.6			
548749 Dup	338	159	< 2	36	55	< 2	< 0.5	< 0.2	15	< 0.5	20.2	154	< 0.4	3.4	33.6	< 1	1.6	11	3.2	9.5			
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																					< 0.01	< 0.01	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00
Method Blank		< 2	< 2	< 4								3											

Quality Analysis ... *Innovative Technologies*

Date Submitted: 06-Nov-17
Invoice No.: A17-12443
Invoice Date: 08-Dec-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

71 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-12443**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548750	97.41	0.41	1.54	0.016	0.02	0.03	0.09	0.07	0.017	< 0.01	-0.03	99.56	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
548751	69.32	16.93	1.28	0.012	0.32	2.71	5.67	1.68	0.171	0.05	0.47	98.61	< 1	2	15	20	1	< 20	< 10	90	28	< 1	< 5
548752	70.50	16.68	1.36	0.014	0.34	2.71	5.74	1.61	0.170	0.04	0.35	99.51	< 1	3	13	50	1	< 20	< 10	90	28	< 1	< 5
548753	72.76	15.08	1.30	0.250	0.12	1.06	6.50	2.59	0.055	0.05	0.25	99.99	< 1	5	6	50	< 1	< 20	< 10	80	36	3	< 5
548754	70.31	17.07	1.46	0.014	0.32	2.73	5.70	1.70	0.172	0.05	0.33	99.86	< 1	3	13	< 20	1	< 20	< 10	90	28	< 1	< 5
548755	70.98	17.00	1.27	0.013	0.33	2.73	5.73	1.73	0.171	0.07	0.37	100.4	< 1	3	15	40	1	< 20	< 10	90	28	< 1	< 5
548756	74.42	14.13	0.96	0.119	0.18	1.36	5.93	2.10	0.077	0.06	0.30	99.63	< 1	5	9	50	< 1	< 20	< 10	180	32	2	< 5
548757	69.27	17.22	1.57	0.017	0.42	2.75	5.94	1.73	0.195	0.09	0.44	99.65	1	5	17	20	2	< 20	< 10	110	29	< 1	< 5
548758	68.53	17.20	1.39	0.019	0.41	2.70	5.76	1.61	0.188	0.07	0.39	98.26	1	10	18	40	2	< 20	< 10	90	27	< 1	< 5
548759	72.22	15.11	0.69	0.250	0.08	0.64	6.98	2.01	0.037	0.05	0.34	98.41	< 1	36	7	60	< 1	< 20	< 10	40	34	3	< 5
548760	75.60	9.53	4.81	0.054	0.89	1.60	1.33	1.96	0.796	0.35	1.14	98.06	10	33	66	70	7	< 20	300	130	22	3	32
548761	68.39	17.28	1.44	0.111	0.40	2.63	5.79	1.37	0.175	0.08	0.48	98.15	< 1	8	17	< 20	2	< 20	< 10	90	28	1	< 5
548762	68.60	17.09	1.58	0.018	0.44	2.94	5.64	1.73	0.199	0.11	0.58	98.94	1	4	20	60	2	< 20	< 10	90	27	< 1	< 5
548763	69.46	16.84	1.65	0.018	0.41	2.84	5.64	1.82	0.183	0.10	0.30	99.26	1	5	18	70	2	< 20	< 10	90	28	< 1	< 5
548764	68.67	16.93	1.64	0.022	0.50	2.84	5.68	1.71	0.204	0.09	0.69	98.97	1	4	20	< 20	2	< 20	< 10	90	28	< 1	< 5
548765	68.42	16.95	1.51	0.023	0.46	2.78	5.62	1.55	0.193	0.09	0.54	98.14	1	6	19	50	2	< 20	< 10	90	28	< 1	< 5
548766	74.80	14.17	1.10	0.077	0.22	1.32	6.51	0.93	0.091	0.09	0.53	99.82	< 1	152	10	50	< 1	< 20	< 10	90	30	2	< 5
548767	69.54	17.01	1.39	0.074	0.38	2.53	5.95	1.41	0.164	0.21	0.79	99.45	< 1	17	17	80	2	< 20	< 10	80	34	1	< 5
548768	69.88	17.19	1.49	0.048	0.40	2.63	5.51	1.88	0.180	0.30	0.58	100.1	1	10	19	< 20	2	< 20	< 10	100	29	1	< 5
548769	70.41	16.56	0.69	0.052	0.09	0.78	5.41	3.63	0.029	0.09	0.63	98.36	< 1	151	< 5	60	< 1	< 20	< 10	40	37	3	< 5
548770	96.51	0.59	3.50	0.037	0.05	0.05	0.14	0.07	0.049	0.01	-0.59	100.4	< 1	< 1	< 5	30	1	< 20	< 10	< 30	1	1	< 5
548771	75.37	13.41	0.55	0.033	0.09	0.78	4.63	2.89	0.032	0.09	0.61	98.49	< 1	343	< 5	20	< 1	< 20	< 10	40	37	3	< 5
548772	70.56	16.52	1.07	0.059	0.30	1.83	6.01	1.77	0.126	0.13	0.62	99.01	< 1	19	15	50	1	< 20	< 10	80	32	2	< 5
548773	69.04	16.69	1.75	0.043	0.52	2.53	5.72	1.63	0.215	0.14	0.61	98.87	1	10	24	50	2	< 20	10	120	30	1	< 5
548774	68.89	18.00	1.13	0.065	0.30	1.97	7.46	1.05	0.121	0.21	0.69	99.89	< 1	31	13	< 20	1	< 20	< 10	100	39	2	< 5
548775	69.89	16.85	1.12	0.060	0.29	1.91	7.30	1.10	0.117	0.19	0.65	99.48	< 1	21	14	40	1	< 20	< 10	90	40	2	< 5
548776	69.59	16.68	1.88	0.019	0.59	3.12	5.40	1.74	0.252	0.13	0.52	99.93	1	5	26	60	3	< 20	< 10	120	28	< 1	< 5
548777	70.92	16.49	1.26	0.017	0.35	2.38	5.04	2.69	0.154	0.11	0.33	99.75	< 1	5	16	< 20	2	< 20	< 10	80	27	< 1	< 5
548778	72.65	15.73	0.83	0.045	0.17	1.51	5.50	2.90	0.079	0.07	0.39	99.87	< 1	6	8	40	< 1	< 20	< 10	100	30	2	< 5
548779	73.81	14.22	0.96	0.156	0.12	0.64	5.67	2.37	0.042	0.05	0.30	98.33	< 1	5	5	50	< 1	< 20	< 10	70	32	2	< 5
548780	76.95	10.01	4.34	0.049	0.80	1.27	1.14	1.80	0.580	0.30	1.19	98.43	8	39	58	80	6	< 20	330	160	32	5	52
548781	68.71	17.54	1.10	0.014	0.29	2.69	6.00	2.34	0.133	0.05	0.37	99.23	1	4	14	< 20	1	< 20	< 10	70	32	< 1	< 5
548782	62.11	18.31	4.94	0.142	2.57	1.97	5.45	2.76	0.416	0.16	0.91	99.73	11	17	86	130	18	80	< 10	140	38	2	< 5
548783	58.81	18.50	6.47	0.108	3.63	2.50	4.76	3.21	0.570	0.17	0.98	99.70	17	16	118	200	25	120	< 10	210	29	2	< 5
548784	60.72	17.28	6.63	0.080	3.89	2.71	4.03	3.07	0.602	0.15	1.22	100.4	16	6	121	170	25	110	50	110	22	1	< 5
548785	62.95	16.50	5.02	0.084	2.64	3.96	3.59	2.17	0.538	0.16	1.00	98.62	13	5	101	180	21	90	50	90	23	1	< 5
548786	75.54	13.84	0.88	0.015	0.08	1.46	4.30	1.55	0.032	0.04	0.63	98.37	< 1	7	7	40	< 1	< 20	20	50	30	1	< 5
548787	73.16	14.66	0.63	0.011	0.07	1.38	4.50	3.35	0.027	0.03	0.35	98.17	< 1	5	< 5	< 20	< 1	< 20	< 10	40	30	< 1	< 5
548788	75.43	14.37	0.70	0.012	0.08	1.32	4.39	3.76	0.028	< 0.01	0.29	100.4	< 1	4	< 5	50	< 1	< 20	< 10	40	28	< 1	< 5
548789	74.17	14.14	0.64	0.027	0.06	1.14	4.66	3.56	0.021	0.03	0.39	98.84	< 1	7	< 5	80	< 1	< 20	10	50	30	1	< 5
548790	96.00	0.49	3.49	0.034	0.02	0.02	0.12	0.09	0.020	0.01	-0.50	99.80	< 1	< 1	< 5	20	< 1	< 20	< 10	< 30	1	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548791	76.30	12.94	0.73	0.050	0.05	0.94	4.64	2.41	0.019	0.06	0.38	98.52	< 1	9	< 5	< 20	< 1	< 20	< 10	50	32	2	< 5
548792	80.13	10.48	0.50	0.026	0.03	0.44	3.81	2.78	0.013	0.03	0.38	98.61	< 1	8	< 5	90	< 1	< 20	< 10	80	25	2	< 5
548793	73.19	14.11	2.00	0.033	0.83	1.71	5.10	1.55	0.142	0.05	1.75	100.5	3	7	27	120	5	20	30	40	31	1	< 5
548794	75.38	14.40	0.89	0.014	0.08	1.33	4.46	3.57	0.029	0.02	0.32	100.5	< 1	5	6	< 20	< 1	< 20	10	50	30	< 1	< 5
548795	74.61	14.44	0.77	0.013	0.07	1.37	4.66	3.24	0.029	0.03	0.44	99.68	< 1	5	< 5	70	< 1	< 20	10	60	30	< 1	< 5
548796	75.47	14.35	0.67	0.013	0.06	1.23	4.84	3.12	0.025	0.02	0.25	100.1	< 1	5	< 5	70	< 1	< 20	10	60	31	< 1	< 5
548797	74.65	13.99	0.80	0.018	0.08	0.72	4.13	4.77	0.030	0.03	0.40	99.61	4	2	< 5	20	< 1	< 20	< 10	< 30	22	1	< 5
548798	76.55	12.51	0.59	0.011	0.05	1.14	4.73	2.53	0.021	0.02	0.28	98.44	< 1	7	< 5	70	< 1	< 20	10	40	29	1	< 5
548799	68.87	16.30	1.70	0.026	0.56	2.84	5.28	1.50	0.225	0.10	0.75	98.16	1	7	25	50	3	< 20	< 10	100	25	< 1	< 5
548800	77.00	9.21	4.61	0.052	0.92	1.61	1.32	1.92	0.808	0.36	1.21	99.01	10	34	67	70	7	< 20	300	140	22	4	34
548801	73.63	15.62	0.57	0.253	0.05	0.44	7.79	1.43	0.010	0.02	0.30	100.1	< 1	44	< 5	< 20	< 1	< 20	< 10	60	38	4	< 5
548802	69.94	15.79	2.01	0.026	0.71	2.93	5.17	1.87	0.236	0.09	0.69	99.46	2	4	29	70	3	< 20	< 10	80	24	< 1	< 5
548803	70.53	16.27	1.60	0.026	0.51	2.68	5.41	1.91	0.206	0.10	0.50	99.75	1	5	22	50	3	< 20	< 10	90	24	1	< 5
548804	70.06	16.45	1.78	0.021	0.55	2.85	5.40	1.87	0.238	0.12	0.63	99.97	1	4	25	20	3	< 20	< 10	100	25	< 1	< 5
548805	69.88	16.37	1.80	0.018	0.56	2.91	5.30	1.74	0.231	0.08	0.56	99.44	1	2	26	50	3	< 20	< 10	90	24	< 1	< 5
548806	73.56	14.45	0.99	0.089	0.19	0.71	5.03	2.46	0.061	0.08	0.64	98.26	< 1	68	12	60	1	< 20	< 10	90	35	3	< 5
548807	61.89	16.97	5.97	0.108	3.09	2.40	3.32	3.57	0.491	0.27	1.55	99.64	14	40	96	170	23	80	50	200	32	2	< 5
548808	66.44	14.54	5.07	0.081	2.83	2.87	2.84	2.43	0.485	0.18	1.11	98.89	11	9	88	170	16	60	40	130	17	2	< 5
548809	63.45	16.32	5.66	0.109	3.03	3.17	3.21	2.72	0.534	0.20	1.20	99.59	12	33	96	180	20	70	30	110	20	2	< 5
548810	96.38	0.50	1.82	0.020	0.04	0.06	0.08	0.06	0.023	< 0.01	-0.12	98.87	< 1	< 1	< 5	< 20	1	< 20	< 10	450	< 1	< 1	< 5
548811	66.77	17.30	2.99	0.081	1.25	1.99	5.71	2.12	0.231	0.26	1.13	99.82	5	28	44	70	8	30	< 10	160	30	2	< 5
548812	67.57	19.98	0.98	0.059	0.22	0.69	6.78	2.39	0.083	0.02	1.36	100.1	1	18	18	50	< 1	< 20	< 10	40	59	3	< 5
548813	73.01	16.65	1.02	0.074	0.17	0.61	6.28	1.45	0.069	0.05	0.71	100.1	< 1	16	16	50	< 1	< 20	< 10	90	47	3	< 5
548814	77.29	13.38	0.70	0.046	0.09	0.56	5.51	1.05	0.029	0.04	0.50	99.20	< 1	14	6	20	< 1	< 20	< 10	< 30	34	3	< 5
548815	76.26	13.75	0.55	0.035	0.07	0.60	5.90	0.87	0.021	0.04	0.45	98.54	< 1	13	5	40	< 1	< 20	< 10	< 30	31	3	< 5
548816	73.12	15.12	0.86	0.015	0.11	1.66	4.80	2.85	0.046	0.06	0.19	98.84	< 1	12	6	50	< 1	< 20	< 10	40	26	1	< 5
548817	73.05	15.91	0.98	0.014	0.16	1.70	4.83	2.83	0.061	0.02	0.28	99.83	< 1	8	8	20	< 1	< 20	< 10	50	25	< 1	< 5
548818	73.01	14.41	0.83	0.013	0.14	1.54	4.40	3.47	0.047	0.03	0.25	98.13	< 1	5	5	50	< 1	< 20	< 10	40	24	< 1	< 5
548819	77.72	11.82	0.80	0.014	0.09	1.37	3.91	2.23	0.039	0.09	0.18	98.28	< 1	6	6	60	< 1	< 20	< 10	30	19	1	< 5
548779A	73.88	14.53	1.22	0.131	0.14	0.96	5.75	2.34	0.057	0.07	0.19	99.28	< 1	6	9	160	< 1	< 20	< 10	60	31	2	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548750	3	4	2	38	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	13	< 0.4	1.1	0.2	3	0.1	< 5	1.3	0.4	< 0.01	< 0.01	
548751	81	971	2	106	3	< 2	< 0.5	< 0.2	5	0.8	15.1	1020	< 0.4	2.9	0.7	< 1	0.6	23	1.8	1.1	0.02	0.05	
548752	93	950	2	109	3	< 2	< 0.5	< 0.2	1	< 0.5	11.8	1003	< 0.4	2.9	0.4	< 1	0.6	14	1.8	1.1	0.03	0.07	
548753	519	324	2	54	61	< 2	< 0.5	< 0.2	9	< 0.5	19.3	370	0.5	3.2	19.4	< 1	3.6	13	3.7	10.7	0.02	0.04	
548754	94	943	2	109	3	< 2	< 0.5	< 0.2	2	< 0.5	13.1	1020	< 0.4	2.8	0.6	< 1	0.7	14	1.8	1.0	0.04	0.08	
548755	95	969	< 2	111	3	< 2	< 0.5	< 0.2	2	< 0.5	13.4	1030	< 0.4	2.9	0.5	< 1	0.7	14	1.8	1.1	0.04	0.09	
548756	438	459	< 2	62	35	< 2	< 0.5	< 0.2	6	< 0.5	20.4	489	3.2	2.9	12.0	< 1	2.5	18	2.5	5.1	0.02	0.05	
548757	152	956	3	115	5	< 2	< 0.5	< 0.2	2	< 0.5	25.5	1074	< 0.4	2.8	1.2	< 1	1.1	13	1.9	1.1	0.05	0.10	
548758	243	864	3	97	4	< 2	< 0.5	< 0.2	3	< 0.5	46.7	758	< 0.4	2.3	2.6	< 1	1.9	12	2.4	1.8	0.05	0.10	
548759	649	255	< 2	52	17	< 2	< 0.5	< 0.2	8	< 0.5	55.8	242	< 0.4	5.0	11.7	< 1	3.8	16	3.2	3.9	0.03	0.06	
548760	1200	305	29	184	718	8	0.8	2.9	608	6.6	219	2004	10.4	4.1	15.3	4	8.8	26	92.7	15.1	0.23	0.50	
548761	183	944	2	110	6	< 2	< 0.5	< 0.2	3	< 0.5	35.2	762	< 0.4	3.6	3.9	1	1.6	15	2.5	2.1	0.05	0.10	2.69
548762	130	969	< 2	110	4	< 2	< 0.5	< 0.2	1	< 0.5	24.3	939	< 0.4	2.5	1.0	7	1.0	14	2.6	1.1	0.05	0.10	
548763	123	923	2	116	5	< 2	< 0.5	< 0.2	2	< 0.5	18.8	937	< 0.4	3.2	1.5	< 1	0.9	14	2.4	1.3	0.04	0.08	
548764	111	961	3	114	4	< 2	< 0.5	< 0.2	2	< 0.5	16.7	939	< 0.4	2.8	2.3	< 1	0.8	13	2.7	1.3	0.05	0.11	
548765	259	945	2	106	4	< 2	< 0.5	< 0.2	3	< 0.5	43.7	839	< 0.4	2.8	2.1	1	1.9	12	2.4	1.7	0.04	0.09	
548766	357	443	< 2	59	31	< 2	< 0.5	< 0.2	8	< 0.5	59.5	372	< 0.4	2.3	16.4	< 1	3.3	10	2.6	4.1	0.03	0.07	
548767	509	848	3	120	14	< 2	< 0.5	< 0.2	11	< 0.5	86.7	720	< 0.4	4.1	13.1	2	3.5	12	3.9	1.9	0.06	0.13	
548768	407	952	< 2	103	14	< 2	< 0.5	< 0.2	4	< 0.5	62.8	932	< 0.4	2.8	11.2	1	3.0	12	3.0	2.7	0.05	0.10	
548769	1060	243	< 2	11	43	< 2	< 0.5	< 0.2	10	< 0.5	109	294	5.3	1.7	83.4	< 1	7.7	19	3.8	2.9	0.02	0.04	
548770	4	3	3	37	1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	20	< 0.4	1.2	< 0.1	13	0.2	< 5	1.5	0.4	< 0.01	< 0.01	
548771	1070	251	< 2	18	67	< 2	< 0.5	< 0.2	13	< 0.5	117	279	11.9	2.1	79.2	< 1	5.4	19	4.8	2.6	0.02	0.05	2.69
548772	522	640	< 2	80	14	< 2	< 0.5	< 0.2	8	< 0.5	63.3	642	1.0	2.8	20.1	< 1	4.0	19	3.3	1.2	0.04	0.08	
548773	425	865	< 2	109	10	< 2	< 0.5	< 0.2	5	< 0.5	80.5	894	< 0.4	2.9	8.6	< 1	3.4	14	3.0	3.0	0.06	0.12	
548774	335	581	2	107	21	< 2	< 0.5	< 0.2	10	< 0.5	49.8	408	< 0.4	5.0	19.1	< 1	2.2	20	5.3	4.8	0.03	0.07	
548775	360	551	< 2	98	21	< 2	< 0.5	< 0.2	12	< 0.5	53.0	388	< 0.4	4.4	17.6	< 1	2.3	17	4.6	4.3	0.04	0.08	
548776	135	1096	2	134	5	< 2	< 0.5	< 0.2	3	< 0.5	36.7	1121	< 0.4	3.2	1.6	< 1	1.0	15	3.1	1.2	0.04	0.09	
548777	186	805	< 2	88	4	< 2	< 0.5	< 0.2	3	< 0.5	32.7	2268	< 0.4	2.4	2.3	< 1	1.3	14	1.9	0.9	0.03	0.06	
548778	462	492	< 2	55	26	< 2	< 0.5	< 0.2	4	< 0.5	36.9	842	< 0.4	1.9	14.9	< 1	3.1	17	1.9	3.1	0.02	0.04	
548779	489	170	< 2	30	57	< 2	< 0.5	< 0.2	7	< 0.5	27.5	351	0.4	2.3	23.7	< 1	3.1	24	3.4	10.9	0.01	0.03	
548780	1310	214	20	151	1160	9	0.6	4.1	1110	13.6	307	1052	14.7	3.4	23.1	7	12.5	25	45.3	7.6	0.46	1.00	
548781	112	859	3	101	5	< 2	< 0.5	< 0.2	2	< 0.5	15.4	1465	< 0.4	3.3	1.0	< 1	1.0	18	1.8	1.4	0.02	0.05	2.65
548782	743	247	9	120	65	5	< 0.5	< 0.2	20	< 0.5	173	578	0.4	5.7	18.1	14	4.8	28	6.4	11.1	0.09	0.19	
548783	502	325	15	112	16	3	< 0.5	< 0.2	13	< 0.5	137	922	0.8	3.3	3.5	1	3.6	16	4.7	2.6	0.09	0.20	
548784	345	354	14	129	5	< 2	< 0.5	< 0.2	4	< 0.5	114	928	< 0.4	2.9	0.4	< 1	2.8	14	5.0	1.5	0.09	0.19	
548785	276	409	14	122	6	< 2	< 0.5	< 0.2	2	< 0.5	97.7	568	< 0.4	3.2	0.6	< 1	2.3	14	4.5	1.6	0.06	0.14	
548786	126	242	2	34	4	5	< 0.5	< 0.2	3	< 0.5	10.4	715	1.0	2.0	1.7	< 1	0.8	26	0.2	2.9	< 0.01	0.02	
548787	132	273	< 2	25	2	< 2	< 0.5	< 0.2	2	< 0.5	11.1	1026	0.4	1.4	0.5	< 1	0.7	27	0.2	2.2	< 0.01	0.02	
548788	94	257	< 2	23	3	< 2	< 0.5	< 0.2	< 1	< 0.5	8.3	974	< 0.4	1.6	0.3	< 1	0.6	25	0.1	2.1	< 0.01	0.02	
548789	496	197	< 2	26	13	< 2	< 0.5	< 0.2	3	< 0.5	34.0	640	0.5	2.0	8.6	7	3.7	26	0.4	3.1	< 0.01	< 0.01	
548790	3	4	4	49	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	20	< 0.4	1.4	0.2	2	< 0.1	< 5	1.3	0.5	< 0.01	< 0.01	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548791	408	162	< 2	25	21	29	< 0.5	< 0.2	7	< 0.5	26.6	527	5.5	2.1	12.6	3	2.7	22	0.8	3.8	< 0.01	0.01	2.70
548792	577	103	< 2	10	40	< 2	< 0.5	< 0.2	7	< 0.5	35.9	248	< 0.4	1.1	30.5	< 1	3.7	36	1.0	3.6	< 0.01	< 0.01	
548793	181	209	5	67	6	< 2	< 0.5	< 0.2	4	< 0.5	14.7	428	0.6	3.2	1.5	< 1	1.2	26	1.2	3.2	0.02	0.04	
548794	246	231	< 2	32	3	< 2	< 0.5	< 0.2	1	< 0.5	21.5	909	< 0.4	2.0	0.7	< 1	1.7	30	0.1	2.4	< 0.01	0.01	
548795	209	232	< 2	35	4	< 2	< 0.5	< 0.2	1	< 0.5	19.1	810	< 0.4	2.1	0.7	1	1.4	29	0.2	2.6	< 0.01	0.01	
548796	260	226	2	31	5	6	< 0.5	< 0.2	2	< 0.5	24.1	746	0.5	2.0	1.5	< 1	1.8	27	0.3	2.7	< 0.01	0.01	
548797	250	46	24	15	8	< 2	< 0.5	< 0.2	5	< 0.5	6.4	81	< 0.4	0.9	1.2	2	1.4	41	9.6	4.8	< 0.01	< 0.01	
548798	259	198	< 2	23	4	< 2	< 0.5	< 0.2	2	< 0.5	19.6	610	< 0.4	1.6	1.4	< 1	2.0	22	0.2	2.5	< 0.01	< 0.01	
548799	200	1091	2	113	4	< 2	0.5	< 0.2	4	< 0.5	32.7	1250	< 0.4	2.9	1.4	< 1	1.4	13	3.9	2.1	0.04	0.08	
548800	1190	298	28	190	856	8	0.8	2.6	653	7.5	217	1975	10.6	4.5	15.7	4	8.3	27	90.9	15.0	0.22	0.48	
548801	401	178	< 2	30	51	< 2	< 0.5	< 0.2	6	< 0.5	28.1	101	< 0.4	4.7	37.6	< 1	3.3	16	3.6	6.5	< 0.01	0.01	2.69
548802	153	1037	4	120	4	< 2	< 0.5	< 0.2	2	< 0.5	29.4	1300	< 0.4	3.2	0.5	3	1.0	15	5.5	2.0	0.04	0.08	
548803	236	1051	3	110	9	< 2	< 0.5	< 0.2	2	< 0.5	36.2	1161	< 0.4	2.9	5.5	< 1	1.7	14	3.7	2.1	0.04	0.09	
548804	153	1198	2	130	5	< 2	0.5	< 0.2	2	< 0.5	24.2	1381	< 0.4	3.3	2.3	< 1	1.0	14	4.0	1.3	0.05	0.11	
548805	102	1182	3	128	4	< 2	0.5	< 0.2	1	< 0.5	21.0	1299	< 0.4	3.4	0.5	< 1	0.6	14	3.9	2.1	0.05	0.10	
548806	885	232	< 2	22	74	< 2	< 0.5	< 0.2	19	< 0.5	88.2	179	3.6	2.6	90.3	2	5.3	16	3.8	5.5	0.04	0.08	
548807	1830	488	11	114	28	4	0.5	< 0.2	35	< 0.5	559	718	0.8	2.9	9.7	< 1	11.8	11	5.0	2.6	0.22	0.48	
548808	665	420	11	118	5	< 2	< 0.5	< 0.2	3	< 0.5	335	544	0.7	2.9	0.8	5	4.8	12	5.9	2.4	0.08	0.18	
548809	1140	436	12	139	8	< 2	0.6	< 0.2	13	< 0.5	477	558	< 0.4	3.5	3.0	2	8.5	13	5.7	6.4	0.13	0.27	
548810	3	7	3	38	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.7	16	< 0.4	1.1	< 0.1	< 1	0.2	< 5	1.1	0.4	< 0.01	< 0.01	
548811	762	468	6	68	27	6	< 0.5	< 0.2	14	< 0.5	220	1340	< 0.4	2.6	24.1	< 1	5.6	21	4.2	4.8	0.07	0.15	2.73
548812	942	205	< 2	60	60	< 2	< 0.5	< 0.2	32	< 0.5	121	248	3.8	6.2	49.8	< 1	4.9	17	5.5	3.0	0.03	0.07	
548813	671	163	< 2	78	48	< 2	< 0.5	< 0.2	22	< 0.5	91.4	100	75.4	6.2	53.4	< 1	3.4	76	3.8	5.9	0.03	0.06	
548814	357	156	< 2	30	26	< 2	< 0.5	< 0.2	11	< 0.5	38.9	104	4.9	2.4	28.2	2	1.9	18	3.7	1.7	0.01	0.03	
548815	272	172	< 2	27	22	< 2	< 0.5	< 0.2	7	< 0.5	27.8	89	2.9	2.4	30.9	< 1	1.5	17	4.0	2.1	0.01	0.03	
548816	303	598	< 2	34	4	< 2	< 0.5	< 0.2	3	< 0.5	34.2	2107	< 0.4	1.8	2.1	< 1	1.9	22	0.8	2.5	0.02	0.04	
548817	164	610	< 2	41	3	< 2	< 0.5	< 0.2	1	< 0.5	22.6	2649	< 0.4	1.7	0.7	< 1	0.9	26	0.7	2.0	0.02	0.05	
548818	216	646	< 2	23	2	< 2	< 0.5	< 0.2	< 1	< 0.5	25.7	3757	< 0.4	1.3	0.8	5	1.3	22	0.3	1.3	0.02	0.05	
548819	234	462	2	31	3	< 2	< 0.5	< 0.2	1	< 0.5	25.3	1637	< 0.4	1.8	1.9	< 1	1.6	19	0.7	1.8	0.01	0.03	
548779A	455	280	< 2	46	61	< 2	< 0.5	< 0.2	7	< 0.5	27.7	500	0.4	3.0	19.7	3	3.3	23	3.0	8.2	0.02	0.03	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.44	1.98	0.74	0.010	0.33	42.86	0.90	0.54	0.120	30.20					1661								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
NIST 694 Meas	11.48	1.78	0.74	0.013	0.35	42.74	0.89	0.55	0.115	30.76					1604								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.49	18.93	9.67	0.149	9.90	11.55	1.92	0.22	0.492	0.08			32		162	280	56	260	90	70			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70			
DNC-1 Meas	48.01	17.70	9.71	0.144	10.06	11.43	1.89	0.22	0.478	0.07			31		154								
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148								
GBW 07113 Meas	70.52	12.87	3.21	0.140	0.16	0.63	2.54	5.44	0.290	0.03			6	4	7								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																80	27	50	30	150			28
LKSD-3 Cert																87.0	30.0	47.0	35.0	152			27.0
TDB-1 Meas																250		100	350	160			
TDB-1 Cert																251		92	323	155			
W-2a Meas	51.65	15.38	10.38	0.170	6.29	11.02	2.22	0.61	1.120	0.15			35	< 1	286	90	43	80	110	80	18	2	< 5
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20
W-2a Meas	51.52	15.46	11.28	0.166	6.56	11.16	2.23	0.62	1.084	0.12			35	< 1	274								
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262								
SY-4 Meas	50.38	20.29	6.20	0.110	0.51	8.21	6.92	1.65	0.280	0.12			< 1	3	10								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
SY-4 Meas	50.87	20.62	6.25	0.109	0.51	8.11	6.97	1.68	0.294	0.12			1	3	7								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			60	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	47.42	14.86	10.02	0.170	9.24	13.35	1.79	0.02	0.880	0.02			43	< 1	338	400	48	180	120	70	15		
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16		
BIR-1a Meas	47.00	15.61	11.59	0.171	9.81	13.52	1.79	0.02	0.958	0.03			43	< 1	333								
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310								
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30	4	< 20	880	100	16	11	68
NCS DC70009 (GBW07241) Cert																30	3.7	2.8	960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		160				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a																	47		430				

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
(Fusion) Meas																							
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	45		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20	< 10	30	15	2	15
JR-1 Cert																		1.67	2.68	30.6	16.1	1.88	16.3
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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NCS DC86304 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
548756 Orig																							
548756 Dup																							
548761 Orig																							
548761 Dup																							
548764 Orig	69.06	16.88	1.65	0.022	0.50	2.84	5.71	1.73	0.206	0.09	0.69	99.38	1	4	20	20	2	< 20	< 10	90	28	< 1	< 5
548764 Dup	68.29	16.98	1.63	0.022	0.50	2.83	5.64	1.70	0.201	0.09	0.69	98.57	1	4	20	< 20	2	< 20	< 10	90	28	< 1	< 5
548778 Orig																							
548778 Dup																							
548781 Orig	68.83	17.26	1.09	0.014	0.29	2.69	5.96	2.33	0.131	0.05	0.37	99.00	1	4	15	< 20	1	< 20	< 10	70	31	< 1	< 5
548781 Dup	68.60	17.82	1.12	0.014	0.28	2.69	6.04	2.34	0.135	0.05	0.37	99.46	1	4	14	20	1	< 20	< 10	70	32	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548786 Orig																							
548786 Dup																							
548799 Orig	68.87	16.30	1.70	0.026	0.56	2.84	5.28	1.50	0.225	0.10	0.75	98.16	1	7	25	50	3	< 20	< 10	100	25	< 1	< 5
548799 Split PREP DUP	69.23	16.04	1.73	0.026	0.57	2.87	5.36	1.53	0.227	0.13	0.63	98.33	1	7	24	70	2	< 20	< 10	110	25	< 1	< 5
548801 Orig																							
548801 Dup																							
548807 Orig																							
548807 Dup																							
548811 Orig	67.10	17.17	2.96	0.079	1.25	1.98	5.72	2.13	0.229	0.25	1.13	100.0	5	28	44	70	8	30	< 10	120	30	2	< 5
548811 Dup	66.44	17.43	3.01	0.082	1.26	2.00	5.71	2.11	0.233	0.26	1.13	99.65	5	28	43	70	8	30	< 10	200	29	2	< 5
548819 Orig																							
548819 Dup																							
548779A Orig	74.03	14.65	1.22	0.132	0.14	0.95	5.72	2.34	0.057	0.07	0.19	99.50	< 1	6	10	160	< 1	< 20	< 10	60	31	1	< 5
548779A Dup	73.74	14.41	1.22	0.130	0.14	0.96	5.79	2.35	0.056	0.08	0.19	99.06	< 1	5	9	150	< 1	< 20	< 10	60	31	2	< 5
Method Blank	< 0.01	< 0.01	0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	0.07			< 1	< 1	< 5								
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.01	< 0.01	< 0.01	0.002	0.01	< 0.01	< 0.01	< 0.01	0.002	< 0.01			< 1	< 1	< 5								

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas		148	16	35								110											
DNC-1 Cert		144.0	18.0	38								118											
DNC-1 Meas		140	17	40								105											
DNC-1 Cert		144.0	18.0	38								118											
GBW 07113 Meas		44	45	371								512											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	75					< 2	2.5		2	1.2	2.5			4.4	0.7					4.2			
LKSD-3 Cert	78.0					2.00	2.70		3.00	1.30	2.30			4.80	0.700					4.60			
TDB-1 Meas	21																						
TDB-1 Cert	23																						
W-2a Meas	20	199	23	88		< 2						174	< 0.4		0.5	< 1	< 0.1		2.4	0.5			
W-2a Cert	21.0	190	24.0	94.0		0.600						182	0.0300		0.500	0.300	0.200		2.40	0.530			
W-2a Meas		198	22	89								176											
W-2a Cert		190	24.0	94.0								182											
SY-4 Meas		1203	114	556								358											
SY-4 Cert		1191	119	517								340											
SY-4 Meas		1244	117	534								347											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.5				22.5	4.0			
CTA-AC-1 Cert															2.65				21.8	4.4			
BIR-1a Meas		106	15	14								8		0.6				< 5					
BIR-1a Cert		110	16	18								6		0.60				3					
BIR-1a Meas		107	16	15								7											
BIR-1a Cert		110	16	18								6											
NCS DC86312 Meas																			24.3				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	452							1.0	1760	3.0	37.8					2120	1.8		27.6				
NCS DC70009 (GBW07241) Cert	500							1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						23													48.7	132			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a						21													34.0	402			

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
(Fusion) Meas																							
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						20													38.0	405			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	252				15	3		< 0.2	3		20.6		0.6	4.4	2.0	2	1.5	18	25.4	8.6			
JR-1 Cert	257				15.2	3.25		0.028	2.86		20.8		0.56	4.51	1.86	1.59	1.56	19.3	26.7	8.88			
NCS DC86303 Meas																					0.21	0.44	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.20	0.44	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.22	0.47	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.02	2.19	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.02	2.20	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.31	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.10	2.37	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.77	3.82	
NCS DC86314 Cert																					1.81	3.89	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Meas																					1.77	3.81	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.75	3.77	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.86	4.01	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.96		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.81		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.87		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
548756 Orig																					0.02	0.05	
548756 Dup																					0.02	0.05	
548761 Orig																							2.70
548761 Dup																							2.68
548764 Orig	112	970	2	116	4	< 2	< 0.5	< 0.2	2	< 0.5	16.7	944	< 0.4	3.0	2.5	< 1	0.8	14	2.7	1.3	0.05	0.11	
548764 Dup	110	952	3	113	4	< 2	< 0.5	< 0.2	1	< 0.5	16.7	935	< 0.4	2.7	2.2	7	0.8	12	2.6	1.2	0.05	0.11	
548778 Orig																					0.02	0.04	
548778 Dup																					0.02	0.04	
548781 Orig	110	845	2	101	5	< 2	< 0.5	< 0.2	2	< 0.5	15.0	1463	< 0.4	3.1	1.0	2	1.1	18	1.7	1.4			
548781 Dup	114	874	3	101	5	< 2	< 0.5	< 0.2	2	< 0.5	15.7	1467	< 0.4	3.5	1.1	< 1	0.8	18	1.8	1.4			

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548786 Orig																					< 0.01	0.02	
548786 Dup																					< 0.01	0.02	
548799 Orig	200	1091	2	113	4	< 2	0.5	< 0.2	4	< 0.5	32.7	1250	< 0.4	2.9	1.4	< 1	1.4	13	3.9	2.1	0.04	0.08	
548799 Split PREP DUP	201	1069	3	120	4	< 2	< 0.5	< 0.2	4	< 0.5	32.4	1281	< 0.4	2.8	1.4	< 1	1.2	14	3.8	2.0	0.04	0.08	
548801 Orig																					< 0.01	0.01	
548801 Dup																					< 0.01	0.01	
548807 Orig																					0.22	0.48	
548807 Dup																					0.22	0.48	
548811 Orig	784	459	6	67	27	6	< 0.5	< 0.2	14	< 0.5	224	1342	< 0.4	2.6	23.5	< 1	5.5	20	4.2	4.7			
548811 Dup	740	477	6	69	27	5	< 0.5	< 0.2	13	< 0.5	216	1338	< 0.4	2.6	24.8	< 1	5.7	21	4.2	4.8			
548819 Orig																					0.01	0.03	
548819 Dup																					0.01	0.03	
548779A Orig	454	280	< 2	46	59	< 2	< 0.5	< 0.2	7	< 0.5	27.7	499	0.4	3.0	19.2	3	3.2	22	3.0	8.2			
548779A Dup	455	280	< 2	46	63	< 2	< 0.5	< 0.2	7	< 0.5	27.7	502	0.5	3.1	20.2	2	3.4	24	3.1	8.2			
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00
Method Blank																							1.00
Method Blank		< 2	< 2	< 4								3											

Quality Analysis ... *Innovative Technologies*

Date Submitted: 13-Nov-17
Invoice No.: A17-12842
Invoice Date: 20-Dec-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

62 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-12842**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548820	75.64	9.84	4.68	0.055	0.88	1.59	1.33	2.00	0.805	0.36	1.16	98.36	11	35	66	70	6	20	290	130	23	5	36
548821	71.88	15.72	0.79	0.014	0.18	1.75	4.83	3.18	0.073	0.04	0.37	98.82	< 1	7	9	< 20	< 1	< 20	< 10	40	27	1	< 5
548822	73.22	14.75	0.86	0.018	0.17	1.52	4.78	3.15	0.058	0.06	0.53	99.13	< 1	14	9	90	2	< 20	< 10	100	54	3	< 5
548823	79.72	10.84	0.65	0.014	0.12	0.92	3.60	2.14	0.033	0.04	0.70	98.77	< 1	15	9	220	2	40	< 10	50	45	4	< 5
548824	71.64	16.43	0.76	0.016	0.12	1.48	5.45	3.14	0.041	0.05	0.38	99.51	< 1	19	10	60	2	40	< 10	80	59	4	< 5
548825	70.17	16.37	2.83	0.042	0.91	2.08	4.60	1.84	0.182	0.12	0.67	99.82	4	5	37	200	13	100	60	100	57	3	< 5
548826	55.99	17.22	9.77	0.113	4.17	3.15	3.11	3.45	0.675	0.16	1.18	99.00	20	2	138	200	28	120	70	100	23	2	< 5
548827	60.76	17.30	7.18	0.097	3.67	2.90	3.46	2.97	0.619	0.15	0.96	100.1	18	5	126	200	26	110	60	100	22	1	< 5
548828	76.15	13.66	0.86	0.170	0.12	0.64	6.73	0.55	0.025	0.03	0.46	99.40	< 1	10	7	140	2	20	< 10	50	58	6	< 5
548829	71.46	15.14	1.66	0.028	0.54	2.23	4.83	1.58	0.146	0.15	0.76	98.54	2	11	19	70	3	< 20	< 10	90	29	1	< 5
548830	97.09	0.62	2.72	0.029	0.04	0.04	0.11	0.08	0.032	< 0.01	-0.23	100.5	< 1	< 1	7	50	2	40	10	< 30	3	3	< 5
548831	64.70	15.46	6.18	0.081	3.31	2.47	3.60	2.86	0.533	0.17	0.80	100.2	15	10	97	170	22	90	30	110	24	2	< 5
548832	74.70	14.81	1.17	0.018	0.30	1.85	4.86	1.15	0.084	< 0.01	0.56	99.50	1	17	14	110	4	30	40	90	57	4	< 5
548833	68.38	15.10	3.55	0.057	1.68	2.70	4.62	1.74	0.291	0.24	0.69	99.04	8	22	52	160	12	50	10	100	30	2	< 5
548834	76.33	14.37	0.83	0.014	0.16	1.73	4.96	1.19	0.044	< 0.01	0.50	100.1	< 1	16	7	40	< 1	< 20	< 10	< 30	28	1	< 5
548835	75.66	13.42	0.76	0.011	0.16	1.75	4.88	1.39	0.047	< 0.01	0.53	98.60	< 1	16	< 5	< 20	< 1	< 20	< 10	< 30	27	1	< 5
548836	75.36	14.14	0.88	0.011	0.12	1.59	4.95	1.81	0.036	< 0.01	0.42	99.29	< 1	13	< 5	60	< 1	< 20	30	< 30	30	1	< 5
548837	74.24	13.77	1.34	0.026	0.58	1.73	4.43	1.59	0.108	0.16	0.76	98.71	3	24	21	40	3	< 20	< 10	70	36	2	< 5
548838	67.81	19.53	0.99	0.019	0.35	2.51	6.00	1.89	0.079	0.25	0.99	100.4	2	37	20	50	1	< 20	< 10	50	49	2	< 5
548839	73.71	15.94	0.74	0.014	0.14	1.87	5.19	1.31	0.043	0.07	0.61	99.64	< 1	28	12	80	< 1	< 20	< 10	< 30	36	2	< 5
548840	77.46	9.84	4.26	0.051	0.76	1.25	1.18	1.79	0.599	0.29	1.17	98.65	8	38	58	80	6	20	340	170	30	6	50
548841	72.41	15.94	0.76	0.013	0.18	1.96	5.30	1.37	0.044	0.14	0.65	98.77	1	26	11	< 20	< 1	< 20	10	< 30	38	2	< 5
548842	70.48	17.51	0.97	0.017	0.35	2.14	5.86	1.31	0.073	0.03	0.65	99.40	2	29	15	30	2	< 20	< 10	40	35	2	< 5
548843	62.00	16.66	6.70	0.074	3.74	1.92	3.91	3.18	0.532	0.13	1.01	99.86	14	10	96	150	20	90	< 10	90	21	2	< 5
548844	62.66	16.66	5.76	0.086	3.08	2.56	4.27	2.92	0.502	0.19	1.10	99.78	13	12	94	160	20	80	40	150	27	2	< 5
548845	47.51	21.13	9.77	0.148	5.29	3.91	3.57	4.36	0.776	0.22	1.89	98.58	25	3	163	250	36	140	60	130	30	2	< 5
548847	62.44	17.29	6.03	0.083	3.22	2.76	3.88	2.77	0.573	0.16	1.08	100.3	15	4	109	180	22	90	40	80	20	1	< 5
548848	64.04	16.78	4.94	0.115	2.57	2.50	4.30	2.74	0.434	0.16	1.13	99.71	13	7	90	150	20	80	30	100	29	2	< 5
548849	58.55	17.08	7.14	0.103	4.34	3.24	3.57	3.49	0.639	0.18	1.22	99.55	18	9	117	230	27	120	30	200	24	2	< 5
548850	96.51	0.59	3.07	0.033	0.03	0.03	0.13	0.05	0.022	< 0.01	-0.39	100.1	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	2	< 5
548851	69.81	17.37	1.38	0.020	0.39	2.13	5.62	1.80	0.096	0.03	0.79	99.42	2	26	22	40	3	< 20	50	40	39	2	< 5
548852	78.03	13.06	0.72	0.029	0.11	0.78	4.92	1.57	0.035	0.03	0.63	99.91	1	16	12	60	< 1	< 20	< 10	130	36	2	< 5
548853	67.89	19.20	0.73	0.024	0.15	1.31	7.05	2.32	0.047	0.05	1.01	99.80	2	26	17	< 20	< 1	< 20	< 10	80	52	2	< 5
548854	67.81	19.05	0.76	0.016	0.17	1.64	7.49	1.85	0.051	0.08	1.07	99.98	2	25	21	40	< 1	< 20	< 10	60	53	2	< 5
548855	68.04	19.02	0.62	0.014	0.14	1.41	7.89	1.61	0.044	0.07	0.96	99.82	2	25	19	40	< 1	< 20	< 10	310	52	2	< 5
548856	87.80	7.34	0.94	0.025	0.16	0.30	1.20	1.53	0.048	< 0.01	0.83	100.2	2	9	25	50	< 1	< 20	< 10	1060	34	3	< 5
548857	60.38	16.53	6.35	0.098	3.71	2.71	3.35	3.56	0.583	0.49	1.30	99.06	19	21	120	200	28	100	80	160	34	2	< 5
548858	65.01	16.54	4.91	0.080	1.92	3.32	4.34	2.41	0.409	0.11	1.20	100.3	12	5	84	160	15	60	20	80	29	1	< 5
548859	73.34	15.00	0.75	0.043	0.07	1.74	4.80	3.12	0.024	< 0.01	0.22	99.12	< 1	6	5	< 20	< 1	< 20	20	90	39	1	< 5
548860	76.15	9.76	4.75	0.052	0.91	1.61	1.25	1.94	0.801	0.34	1.06	98.63	11	35	66	70	6	30	290	120	25	4	34
548861	72.86	15.49	1.19	0.067	0.36	2.09	4.89	2.78	0.088	0.02	0.37	100.2	2	8	15	60	2	< 20	< 10	90	38	2	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548862	73.88	15.79	0.90	0.146	0.15	1.08	6.94	0.51	0.027	0.03	0.76	100.2	1	9	10	90	1	< 20	< 10	70	40	3	< 5
548863	69.77	17.08	1.59	0.015	0.46	2.87	5.59	1.77	0.209	0.09	0.37	99.80	1	2	21	20	2	< 20	< 10	90	28	< 1	< 5
548864	70.78	17.07	1.05	0.150	0.24	1.74	6.65	1.85	0.118	0.06	0.34	100.1	1	12	11	40	1	< 20	< 10	80	32	2	< 5
548865	69.37	16.87	1.36	0.018	0.37	2.69	5.68	1.66	0.175	0.06	0.49	98.75	1	4	16	80	2	< 20	< 10	90	27	< 1	< 5
548866	69.76	17.00	1.54	0.018	0.53	2.66	5.63	1.97	0.210	0.07	0.56	99.96	1	2	22	20	2	< 20	< 10	110	28	< 1	< 5
548867	70.88	16.26	1.10	0.123	0.27	1.96	6.37	1.08	0.121	0.05	0.35	98.58	1	8	10	60	1	< 20	< 10	50	30	2	< 5
548899	72.23	16.37	0.96	0.012	0.22	2.42	5.66	1.66	0.123	0.02	0.49	100.2	< 1	3	9	80	< 1	< 20	< 10	70	27	< 1	< 5
548900	75.70	9.79	4.68	0.051	0.90	1.64	1.28	1.99	0.791	0.37	1.14	98.33	11	35	66	70	7	20	300	150	23	4	32
548901	72.46	15.84	1.43	0.064	0.31	1.68	4.93	2.04	0.126	0.26	0.74	99.89	< 1	10	13	20	1	< 20	< 10	150	39	2	< 5
548902	77.79	12.98	0.76	0.031	0.12	0.78	5.03	1.33	0.041	0.02	0.55	99.42	< 1	25	< 5	60	< 1	< 20	< 10	80	31	3	< 5
548903	75.46	17.49	0.92	0.084	0.10	0.56	2.31	0.43	0.019	0.02	1.29	98.67	< 1	262	< 5	190	< 1	< 20	< 10	50	51	3	< 5
548904	79.52	15.23	0.85	0.102	0.06	0.31	1.37	0.44	0.019	0.05	0.76	98.72	< 1	596	< 5	60	< 1	< 20	< 10	50	50	3	< 5
548905	80.88	12.80	0.56	0.065	0.04	0.34	2.00	1.79	0.014	< 0.01	0.50	99.00	< 1	169	< 5	90	< 1	< 20	< 10	40	35	3	< 5
548906	79.94	13.84	0.69	0.108	0.04	0.30	1.84	1.69	0.019	< 0.01	0.53	98.99	< 1	37	< 5	180	< 1	< 20	< 10	100	43	4	< 5
548907	79.54	13.91	0.48	0.084	0.06	0.39	2.60	1.37	0.011	< 0.01	0.68	99.12	< 1	275	< 5	40	< 1	< 20	< 10	< 30	38	4	< 5
548908	72.28	17.03	0.49	0.058	0.04	0.27	2.88	6.13	0.007	0.02	0.41	99.60	< 1	215	< 5	70	< 1	< 20	< 10	< 30	35	4	< 5
548909	65.63	18.27	0.25	0.009	0.01	0.04	1.84	12.56	0.001	0.02	0.22	98.84	< 1	3	< 5	160	< 1	< 20	< 10	< 30	24	2	< 5
548910	96.02	0.60	3.14	0.030	0.04	0.02	0.12	0.09	0.032	< 0.01	-0.33	99.76	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
548911	83.89	8.58	0.34	0.005	< 0.01	0.02	0.86	6.10	0.002	< 0.01	0.15	99.96	< 1	2	< 5	50	< 1	< 20	< 10	< 30	10	2	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
548820	1200	302	25	181	811	8	< 0.5	2.7	658	7.6	226	2075	11.4	4.6	16.2	4	9.5	29	96.5	16.4		0.23	0.49
548821	265	645	< 2	33	4	< 2	< 0.5	< 0.2	2	< 0.5	37.2	2613	< 0.4	1.8	1.7	< 1	3.2	25	1.1	2.5		0.02	0.04
548822	780	516	< 2	32	13	< 2	< 0.5	< 0.2	7	1.5	79.6	2592	< 0.4	3.2	9.0	2	5.9	49	1.5	4.9		0.02	0.04
548823	700	339	< 2	17	17	< 2	< 0.5	< 0.2	10	0.8	56.6	1738	< 0.4	1.9	14.5	4	4.5	27	1.3	2.4		0.01	0.03
548824	904	558	< 2	30	13	3	< 0.5	< 0.2	6	1.4	88.8	3231	< 0.4	3.9	8.8	3	6.4	57	2.0	6.3		0.01	0.03
548825	431	515	5	67	11	< 2	< 0.5	< 0.2	3	1.0	130	1399	0.4	5.2	2.1	3	3.1	48	3.3	8.8		0.03	0.07
548826	474	420	14	131	7	< 2	0.6	< 0.2	2	< 0.5	241	843	< 0.4	3.4	0.4	< 1	3.3	11	5.7	1.6		0.10	0.21
548827	332	417	13	127	6	3	< 0.5	< 0.2	3	< 0.5	154	576	< 0.4	3.2	2.1	< 1	2.9	11	5.5	1.6		0.08	0.17
548828	203	104	2	16	69	6	< 0.5	< 0.2	7	1.0	24.1	93	1.4	3.8	35.2	3	1.0	47	6.1	24.8		< 0.01	0.01
548829	253	678	3	62	6	17	< 0.5	< 0.2	6	< 0.5	46.7	1924	0.6	1.8	2.1	3	1.6	19	2.1	2.8		0.03	0.07
548830	5	4	3	46	1	2	< 0.5	< 0.2	< 1	1.0	1.0	28	< 0.4	2.9	0.5	5	< 0.1	< 5	2.6	0.9		< 0.01	< 0.01
548831	514	395	12	117	8	18	< 0.5	< 0.2	5	< 0.5	212	886	< 0.4	2.7	1.7	< 1	3.1	12	4.9	1.6	2.76	0.09	0.18
548832	136	558	< 2	42	14	< 2	< 0.5	< 0.2	9	1.2	29.9	1808	0.6	3.1	2.3	3	0.4	43	2.1	6.0		0.02	0.04
548833	183	448	7	70	13	2	< 0.5	< 0.2	6	< 0.5	81.8	835	< 0.4	2.2	6.0	< 1	1.2	17	3.0	2.9		0.05	0.11
548834	62	556	3	29	5	< 2	< 0.5	< 0.2	3	< 0.5	8.3	2005	< 0.4	1.2	2.6	< 1	0.4	18	1.1	2.0		0.01	0.03
548835	71	557	< 2	21	4	< 2	< 0.5	< 0.2	3	< 0.5	10.1	2398	< 0.4	1.5	3.2	< 1	0.3	19	1.4	2.0		0.01	0.03
548836	70	404	< 2	24	2	< 2	< 0.5	< 0.2	2	< 0.5	7.9	1291	< 0.4	1.4	0.4	13	0.3	22	0.2	3.5		0.01	0.02
548837	155	420	< 2	35	10	25	< 0.5	< 0.2	10	< 0.5	34.8	1402	0.4	1.5	4.8	1	0.7	15	1.0	1.6		0.03	0.07
548838	193	674	2	64	24	< 2	< 0.5	< 0.2	20	< 0.5	23.8	1816	0.9	2.6	6.9	2	0.8	22	1.6	3.1		0.03	0.06
548839	110	631	< 2	36	10	< 2	< 0.5	< 0.2	9	< 0.5	10.5	2262	< 0.4	1.9	2.7	< 1	< 0.1	19	0.5	1.5		0.01	0.03
548840	1380	213	19	173	1320	11	< 0.5	3.9	1030	12.4	296	1045	14.4	3.9	21.7	6	9.9	26	46.0	7.8		0.47	1.01
548841	136	568	< 2	28	14	< 2	< 0.5	< 0.2	12	< 0.5	13.2	1633	< 0.4	1.7	4.8	1	1.8	21	0.5	3.0	2.72	0.02	0.04
548842	122	637	< 2	33	10	< 2	< 0.5	< 0.2	8	< 0.5	21.4	2091	0.4	2.0	1.9	< 1	1.1	22	1.1	2.8		0.02	0.04
548843	514	352	9	131	7	< 2	0.5	< 0.2	6	< 0.5	211	819	0.8	3.5	1.1	< 1	3.8	14	7.1	2.0		0.10	0.21
548844	615	329	11	126	17	9	0.6	< 0.2	7	< 0.5	245	542	0.5	3.4	5.7	< 1	4.5	12	5.1	2.6		0.08	0.18
548845	761	467	18	152	11	< 2	0.7	< 0.2	3	< 0.5	332	809	0.6	3.8	0.6	< 1	5.6	12	6.1	1.8		0.11	0.24
548847	552	416	12	128	7	2	0.6	< 0.2	2	< 0.5	213	544	< 0.4	3.4	1.4	< 1	4.5	10	4.9	1.8		0.07	0.16
548848	503	300	10	95	23	24	< 0.5	< 0.2	6	< 0.5	157	448	< 0.4	3.2	8.0	< 1	3.9	14	4.5	4.6		0.06	0.13
548849	673	429	12	154	8	< 2	0.7	< 0.2	5	0.5	279	627	0.6	3.8	0.8	1	5.4	16	6.2	2.4		0.07	0.15
548850	< 2	5	4	45	2	< 2	< 0.5	< 0.2	< 1	< 0.5	0.6	18	< 0.4	1.5	0.2	< 1	0.5	< 5	1.6	0.5		< 0.01	< 0.01
548851	214	377	3	44	10	8	< 0.5	< 0.2	7	< 0.5	34.7	708	5.1	2.6	2.5	< 1	1.6	29	0.6	4.6	2.64	0.01	0.03
548852	296	154	< 2	48	19	3	< 0.5	< 0.2	14	< 0.5	22.6	457	0.6	4.4	13.0	1	1.6	16	1.3	4.8		< 0.01	0.02
548853	432	294	< 2	103	33	< 2	< 0.5	< 0.2	23	< 0.5	33.7	976	< 0.4	9.1	18.2	1	2.4	27	0.8	6.4		0.02	0.03
548854	365	266	3	76	33	< 2	< 0.5	< 0.2	24	< 0.5	31.8	514	< 0.4	6.9	15.5	< 1	1.9	23	0.6	5.3		0.02	0.04
548855	332	268	2	63	29	< 2	< 0.5	< 0.2	21	< 0.5	28.7	427	0.8	6.1	14.1	1	1.8	24	0.5	5.6		0.01	0.03
548856	367	55	< 2	36	29	6	< 0.5	< 0.2	24	< 0.5	28.1	201	2.5	4.1	13.5	< 1	1.4	12	0.5	4.5		0.02	0.04
548857	850	322	16	138	27	6	0.6	< 0.2	20	< 0.5	260	766	0.9	3.6	4.3	< 1	5.9	14	7.4	4.0		0.06	0.14
548858	122	581	10	111	9	< 2	< 0.5	< 0.2	2	< 0.5	22.6	436	< 0.4	3.8	0.8	< 1	1.5	23	4.2	2.6		0.02	0.04
548859	138	93	< 2	58	3	< 2	< 0.5	< 0.2	< 1	< 0.5	5.4	102	< 0.4	4.7	0.3	< 1	1.1	61	0.2	5.0		< 0.01	< 0.01
548860	1150	300	25	213	1080	8	1.1	2.7	765	9.3	222	2020	9.4	5.5	17.2	5	9.7	26	96.4	16.6		0.23	0.49
548861	138	188	< 2	79	9	< 2	< 0.5	< 0.2	3	< 0.5	9.4	201	< 0.4	5.1	1.1	< 1	2.0	63	0.8	4.1	2.72	< 0.01	0.01

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
548862	53	253	3	18	85	< 2	< 0.5	< 0.2	6	< 0.5	3.6	208	< 0.4	2.0	26.2	< 1	0.8	29	3.3	12.4		< 0.01	< 0.01
548863	90	957	< 2	145	6	< 2	0.6	< 0.2	1	< 0.5	15.3	936	< 0.4	4.1	0.4	< 1	0.7	13	3.0	1.4		0.05	0.10
548864	393	550	3	123	19	< 2	< 0.5	< 0.2	9	0.5	31.8	555	< 0.4	7.3	16.0	< 1	2.6	15	3.1	3.8		0.03	0.07
548865	120	855	2	142	7	< 2	0.6	< 0.2	2	< 0.5	17.8	856	< 0.4	4.3	1.5	< 1	1.1	14	2.9	1.5		0.03	0.07
548866	85	838	2	150	5	< 2	0.6	< 0.2	1	< 0.5	12.6	1010	< 0.4	4.4	0.4	< 1	0.6	13	2.8	1.7		0.03	0.06
548867	252	618	< 2	103	15	< 2	< 0.5	< 0.2	3	< 0.5	40.9	533	< 0.4	3.8	7.9	< 1	1.8	12	2.8	3.1		0.02	0.05
548899	48	854	2	122	6	< 2	< 0.5	< 0.2	1	< 0.5	7.1	872	< 0.4	3.9	0.3	< 1	0.5	13	1.1	0.9		0.04	0.09
548900	1190	297	25	214	941	8	1.0	2.7	757	9.3	231	2023	10.2	5.4	18.6	5	9.7	32	91.1	15.6		0.23	0.49
548901	833	539	< 2	81	49	< 2	< 0.5	< 0.2	37	< 0.5	81.6	486	< 0.4	3.1	13.3	< 1	5.9	10	1.8	0.8	2.76	0.09	0.19
548902	727	343	< 2	11	23	< 2	< 0.5	< 0.2	20	0.6	75.5	146	1.0	0.6	11.6	10	5.8	10	0.7	0.7		0.04	0.09
548903	260	129	< 2	< 4	17	< 2	< 0.5	< 0.2	22	< 0.5	79.4	26	2.3	0.5	24.6	< 1	2.1	< 5	0.8	0.7		1.32	2.85
548904	286	52	< 2	< 4	42	3	< 0.5	< 0.2	41	< 0.5	163	18	1.2	1.4	162	< 1	2.1	< 5	0.8	2.1		1.48	3.19
548905	855	103	< 2	5	64	< 2	< 0.5	< 0.2	22	< 0.5	113	83	5.3	1.3	255	5	7.5	16	1.8	3.0		0.90	1.93
548906	954	71	< 2	10	30	< 2	< 0.5	< 0.2	33	< 0.5	118	43	0.7	3.0	141	< 1	8.1	38	3.3	5.2		0.99	2.13
548907	751	66	< 2	16	96	< 2	< 0.5	< 0.2	19	< 0.5	130	21	< 0.4	5.3	481	1	7.3	12	5.9	5.5		0.91	1.96
548908	4370	108	< 2	< 4	31	< 2	< 0.5	< 0.2	13	< 0.5	520	31	< 0.4	1.0	108	3	42.5	23	1.4	1.8		0.50	1.07
548909	10700	167	< 2	< 4	3	< 2	< 0.5	< 0.2	2	< 0.5	2030	104	< 0.4	< 0.2	0.8	< 1	120	38	< 0.1	< 0.1		0.01	0.03
548910	9	3	4	42	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.2	17	< 0.4	1.3	0.4	< 1	4.5	< 5	1.3	0.5		< 0.01	< 0.01
548911	4430	88	< 2	< 4	< 1	3	< 0.5	< 0.2	< 1	< 0.5	1150	154	< 0.4	< 0.2	0.4	11	53.7	15	< 0.1	< 0.1	2.65	0.01	0.03

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.49	1.77	0.76	0.010	0.33	42.65	0.84	0.54	0.120	30.14					1610								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.08	17.68	9.53	0.140	9.77	11.37	1.88	0.22	0.460	0.08			31		149	280	54	250	100	70			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70			
GBW 07113 Meas	71.47	13.25	3.28	0.150	0.15	0.60	2.50	5.40	0.290	0.05			5	4	6								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																90	28	50	30	150			28
LKSD-3 Cert																87.0	30.0	47.0	35.0	152			27.0
TDB-1 Meas																250		90	340	140			
TDB-1 Cert																251		92	323	155			
W-2a Meas	53.20	15.26	10.39	0.160	6.37	11.21	2.21	0.62	1.030	0.16			35	< 1	276	90	44	70	110	80	18	2	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	
SY-4 Meas	49.52	20.15	6.29	0.110	0.49	8.06	6.88	1.65	0.290	0.13			< 1	3	8								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			50	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.03	16.14	11.71	0.170	9.37	13.59	1.84	0.02	1.010	0.02			44	< 1	330	390	49	170	120	70	15		
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16		
NCS DC70009 (GBW07241) Meas																40	4		950	100	16	10	68
NCS DC70009 (GBW07241) Cert																30	3.7		960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	18		170				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	44		440				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	46		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																< 20		< 20	< 10	30	16		15
JR-1 Cert																2.83		1.67	2.68	30.6	16.1		16.3
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86304 Meas																							
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NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
548826 Orig																							
548826 Dup																							
548834 Orig	76.40	14.31	0.77	0.014	0.16	1.73	5.02	1.19	0.043	< 0.01	0.50	100.1	< 1	16	8	30	< 1	< 20	< 10	< 30	28	1	< 5
548834 Dup	76.26	14.43	0.89	0.015	0.16	1.74	4.89	1.19	0.045	< 0.01	0.50	100.1	< 1	16	7	40	< 1	< 20	< 10	< 30	27	1	< 5
548849 Orig																							
548849 Dup																							
548852 Orig	77.78	13.33	0.73	0.029	0.11	0.78	4.88	1.56	0.036	0.02	0.63	99.88	1	16	12	60	< 1	< 20	< 10	130	36	2	< 5
548852 Dup	78.28	12.78	0.72	0.029	0.10	0.78	4.95	1.59	0.034	0.04	0.63	99.94	1	16	13	60	< 1	< 20	< 10	130	35	2	< 5
548857 Orig																							
548857 Dup																							
548901 Orig																							
548901 Dup																							
548909 Orig																							
548909 Dup																							
548910 Orig	96.36	0.59	3.10	0.030	0.04	0.02	0.12	0.09	0.032	0.01	-0.33	100.1	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
548910 Dup	95.68	0.60	3.18	0.031	0.04	0.02	0.12	0.09	0.033	< 0.01	-0.33	99.46	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
548911 Orig	83.89	8.58	0.34	0.005	< 0.01	0.02	0.86	6.10	0.002	< 0.01	0.15	99.96	< 1	2	< 5	50	< 1	< 20	< 10	< 30	10	2	< 5
548911 Split PREP DUP	83.28	8.67	0.35	0.006	< 0.01	0.02	0.85	5.99	0.002	< 0.01	0.21	99.38	< 1	2	< 5	40	< 1	< 20	< 10	< 30	10	2	< 5
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.007	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	0.01	0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas		138	15	35						0.9		107						6					
DNC-1 Cert		144.0	18.0	38						0.96		118						6.3					
GBW 07113 Meas		41	45	389								494											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	73					< 2			2	1.5	2.1			4.5	0.8				10.9	4.6			
LKSD-3 Cert	78.0					2.00			3.00	1.30	2.30			4.80	0.700				11.4	4.60			
TDB-1 Meas	22																		2.7				
TDB-1 Cert	23																		2.7				
W-2a Meas	19	198	18	90	8	< 2						173	< 0.4	2.5	0.4	< 1	< 0.1		2.3	0.6			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600						182	0.0300	2.60	0.500	0.300	0.200		2.40	0.530			
SY-4 Meas		1218	113	547								347											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas														1.2	2.7				23.3	4.2			
CTA-AC-1 Cert														1.13	2.65				21.8	4.4			
BIR-1a Meas		111	13	14	< 1							8		0.6				< 5					
BIR-1a Cert		110	16	18	0.6							6		0.60				3					
NCS DC70009 (GBW07241) Meas	507						2.0	1.0	1600	3.2	39.4					2270	1.7		30.6				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						23													52.7	134			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						21													36.2	444			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						20													39.3				
OREAS 101b (Fusion) Cert						21													37.1				
JR-1 Meas	245				15	3		< 0.2	2		18.8		0.5	4.4		1		19	27.1	9.1			
JR-1 Cert	257				15.2	3.25		0.028	2.86		20.8		0.56	4.51		1.59		19.3	26.7	8.88			
NCS DC86303 Meas																						0.21	0.45
NCS DC86303 Cert																						0.21	0.460
NCS DC86303 Meas																						0.20	0.44

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
NCS DC86303 Cert																						0.21	0.460
NCS DC86303 Meas																						0.20	0.43
NCS DC86303 Cert																						0.21	0.460
NCS DC86304 Meas																						1.06	2.29
NCS DC86304 Cert																						1.06	2.29
NCS DC86304 Meas																						1.07	2.29
NCS DC86304 Cert																						1.06	2.29
NCS DC86304 Meas																						1.10	2.37
NCS DC86304 Cert																						1.06	2.29
NCS DC86314 Meas																						1.76	3.79
NCS DC86314 Cert																						1.81	3.89
NCS DC86314 Meas																						1.76	3.78
NCS DC86314 Cert																						1.81	3.89
NCS DC86314 Meas																						1.86	4.01
NCS DC86314 Cert																						1.81	3.89
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.07	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.00	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium																						8.05	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	-	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV	FUS-Na2O2	FUS-Na2O2
Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
548826 Orig																						0.10	0.21
548826 Dup																						0.10	0.22
548834 Orig	64	548	4	31	4	< 2	< 0.5	< 0.2	3	< 0.5	8.5	2015	< 0.4	1.1	2.6	< 1	0.4	19	1.1	2.0		0.01	0.03
548834 Dup	60	563	3	27	5	< 2	< 0.5	< 0.2	3	< 0.5	8.0	1994	< 0.4	1.3	2.6	< 1	0.3	17	1.1	2.1		0.01	0.03
548849 Orig																						0.07	0.15
548849 Dup																						0.07	0.15
548852 Orig	300	158	< 2	47	17	3	< 0.5	< 0.2	14	< 0.5	22.7	452	0.6	4.3	12.1	1	1.6	16	1.2	4.8			
548852 Dup	291	151	< 2	49	20	3	< 0.5	< 0.2	14	< 0.5	22.5	461	0.6	4.6	13.9	1	1.6	16	1.3	4.8			
548857 Orig																						0.06	0.14
548857 Dup																						0.06	0.14
548901 Orig																						0.09	0.19
548901 Dup																						0.09	0.19
548909 Orig																						0.01	0.03
548909 Dup																						0.01	0.03
548910 Orig	9	3	4	42	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.4	17	< 0.4	1.3	0.4	< 1	6.8	< 5	1.3	0.5			
548910 Dup	8	3	5	42	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.0	17	< 0.4	1.4	0.4	< 1	2.2	< 5	1.4	0.5			
548911 Orig	4430	88	< 2	< 4	< 1	3	< 0.5	< 0.2	< 1	< 0.5	1150	154	< 0.4	< 0.2	0.4	11	53.7	15	< 0.1	< 0.1		0.01	0.03
548911 Split PREP DUP	4550	88	< 2	< 4	< 1	2	< 0.5	< 0.2	< 1	< 0.5	1160	150	< 0.4	< 0.2	0.5	< 1	59.0	15	< 0.1	< 0.1		0.01	0.03
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																						< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01
Method Blank																					1.00		

Quality Analysis ... *Innovative Technologies*

Date Submitted: 21-Nov-17
Invoice No.: A17-13217
Invoice Date: 03-Jan-18
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

95 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-13217**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Elitsa Hrischeva, Ph.D.
Quality Control

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	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548912	99.81	0.21	0.29	0.004	0.02	0.02	0.01	< 0.01	0.003	< 0.01	0.02	100.4	< 1	< 1	< 5	100	< 1	< 20	< 10	< 30	< 1	2	< 5
548913	99.81	0.21	0.34	0.005	0.02	0.01	0.02	< 0.01	0.002	< 0.01	0.09	100.5	< 1	< 1	< 5	80	< 1	< 20	< 10	< 30	< 1	1	< 5
548914	98.17	0.22	0.50	0.007	0.02	0.03	0.03	< 0.01	0.003	< 0.01	0.07	99.04	< 1	< 1	< 5	100	< 1	< 20	< 10	< 30	< 1	1	< 5
548915	99.07	0.18	0.54	0.006	< 0.01	0.02	0.02	< 0.01	0.002	< 0.01	0.05	99.89	< 1	< 1	< 5	80	< 1	< 20	< 10	< 30	< 1	1	< 5
548916	99.28	0.20	0.48	0.006	< 0.01	0.01	0.03	0.01	0.001	< 0.01	-0.03	99.98	< 1	< 1	< 5	130	< 1	< 20	< 10	< 30	< 1	2	< 5
548917 missing																							
548918	97.28	0.73	0.40	0.008	0.02	0.02	0.02	0.05	0.002	< 0.01	0.05	98.57	< 1	< 1	< 5	150	< 1	< 20	< 10	< 30	2	2	< 5
548919	84.71	7.80	0.45	0.010	0.05	0.15	1.90	3.46	0.007	< 0.01	0.21	98.74	< 1	127	< 5	50	< 1	< 20	< 10	< 30	12	2	< 5
548920	76.96	9.19	4.77	0.051	0.88	1.59	1.24	1.93	0.781	0.34	1.20	98.92	11	33	65	70	6	< 20	290	210	22	3	34
548921	96.08	2.12	0.49	0.021	0.04	0.07	0.13	0.65	0.003	< 0.01	0.35	99.96	< 1	18	< 5	100	< 1	< 20	< 10	< 30	6	2	< 5
548922	96.05	2.12	0.49	0.019	0.04	0.06	0.13	0.64	0.002	< 0.01	0.72	100.3	< 1	16	< 5	100	< 1	< 20	< 10	< 30	6	3	< 5
548923	73.99	16.31	0.51	0.065	0.06	0.49	4.70	3.22	0.011	0.02	0.56	99.94	< 1	312	< 5	< 20	< 1	< 20	< 10	< 30	42	4	< 5
548924	76.55	16.85	0.54	0.076	0.03	0.41	3.62	1.38	0.015	< 0.01	0.51	99.99	< 1	749	< 5	70	< 1	< 20	< 10	< 30	53	4	< 5
548925	73.25	18.29	0.47	0.080	0.02	0.50	4.60	1.42	0.014	< 0.01	0.47	99.12	< 1	205	< 5	140	< 1	< 20	< 10	< 30	54	5	< 5
548926	78.56	14.71	0.53	0.074	0.03	0.50	4.01	1.70	0.017	< 0.01	0.58	100.7	< 1	13	< 5	30	< 1	< 20	< 10	50	46	4	< 5
548927	76.28	16.18	0.49	0.062	0.02	0.48	3.68	1.77	0.013	< 0.01	0.44	99.43	< 1	127	< 5	80	< 1	< 20	< 10	< 30	46	4	< 5
548928	81.46	13.55	0.61	0.087	0.04	0.31	2.07	0.67	0.024	< 0.01	0.37	99.19	< 1	111	< 5	120	< 1	< 20	< 10	< 30	45	4	< 5
548929	76.15	16.82	0.64	0.083	0.02	0.45	3.49	0.86	0.016	< 0.01	0.32	98.85	< 1	742	< 5	40	< 1	< 20	< 10	< 30	54	4	< 5
548930	96.06	0.67	3.17	0.036	0.05	0.05	0.17	0.13	0.017	0.02	-0.62	99.75	< 1	2	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
548931	80.58	14.07	0.67	0.076	0.04	0.28	1.84	0.91	0.020	< 0.01	0.47	98.96	< 1	229	< 5	80	< 1	< 20	< 10	< 30	48	4	< 5
548932	80.20	15.50	0.82	0.087	0.06	0.43	2.42	0.20	0.012	< 0.01	0.28	100.0	< 1	67	6	120	< 1	< 20	< 10	< 30	48	3	< 5
548933	76.99	17.13	0.82	0.079	0.03	0.48	2.58	0.26	0.013	< 0.01	0.41	98.80	< 1	290	< 5	40	< 1	< 20	< 10	< 30	52	3	< 5
548934	78.14	12.95	1.13	0.071	0.22	0.67	3.47	1.58	0.079	0.03	0.84	99.17	< 1	36	10	50	1	< 20	< 10	120	41	3	< 5
548935	78.08	13.32	0.94	0.063	0.16	0.73	4.34	1.27	0.061	0.02	0.60	99.59	< 1	46	7	80	< 1	< 20	< 10	120	42	3	< 5
548936	73.42	15.41	1.24	0.100	0.30	0.86	4.64	2.14	0.099	0.21	1.11	99.53	< 1	19	13	30	1	< 20	< 10	230	56	3	< 5
548937	73.02	16.52	0.46	0.097	0.10	0.90	7.82	0.89	0.028	0.37	0.42	100.6	< 1	13	< 5	20	< 1	< 20	< 10	70	47	3	< 5
548938	72.06	16.67	0.48	0.343	0.03	1.09	8.29	0.50	0.010	0.54	0.18	100.2	< 1	12	< 5	30	< 1	< 20	< 10	< 30	42	4	< 5
548939	73.04	15.95	0.96	0.056	0.27	2.06	5.74	1.23	0.138	0.05	0.37	99.87	< 1	24	12	< 20	1	< 20	< 10	140	30	2	< 5
548940	77.17	10.37	4.44	0.050	0.74	1.24	1.13	1.75	0.562	0.30	1.10	98.84	8	39	55	70	6	< 20	330	150	28	5	51
548941	72.18	15.05	0.97	0.015	0.31	2.09	5.07	2.36	0.135	0.05	0.39	98.61	< 1	6	12	50	1	< 20	< 10	80	28	1	< 5
548942	72.24	16.07	1.13	0.019	0.31	2.57	5.78	1.53	0.159	0.05	0.41	100.3	< 1	4	13	50	1	< 20	< 10	90	29	< 1	< 5
548943	71.79	16.33	0.37	0.131	0.06	0.48	5.04	5.14	0.017	0.05	0.44	99.83	< 1	231	< 5	< 20	< 1	< 20	< 10	40	36	4	< 5
548944	71.60	16.34	1.00	0.013	0.29	2.60	5.74	1.55	0.152	0.04	0.43	99.76	< 1	3	14	60	1	< 20	< 10	90	29	< 1	< 5
548945	71.94	16.28	1.16	0.016	0.24	2.47	5.55	1.45	0.140	0.04	0.45	99.73	< 1	7	12	60	< 1	< 20	< 10	70	27	< 1	< 5
548946	73.94	14.96	0.49	0.038	0.05	0.29	2.66	6.44	0.024	< 0.01	0.99	99.89	< 1	145	< 5	30	< 1	< 20	< 10	60	41	3	< 5
548947	76.54	14.27	0.50	0.092	0.04	0.52	4.84	2.15	0.027	< 0.01	1.12	100.1	< 1	386	< 5	50	< 1	< 20	< 10	70	43	3	< 5
548948	74.40	15.98	0.62	0.091	0.06	0.47	4.28	3.11	0.022	0.01	1.06	100.1	< 1	396	< 5	60	< 1	< 20	< 10	40	47	3	< 5
548949	76.29	14.67	0.50	0.104	0.08	0.46	5.34	2.26	0.024	0.05	0.67	100.4	< 1	71	< 5	< 20	< 1	< 20	< 10	50	40	3	< 5
548950	98.71	0.50	0.37	0.006	0.05	0.03	0.08	0.06	0.024	< 0.01	0.21	100.0	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
548951	73.55	15.10	0.52	0.233	0.05	0.47	6.67	1.71	0.018	0.10	0.35	98.76	< 1	188	< 5	40	< 1	< 20	< 10	30	39	4	< 5
548952	70.76	17.68	0.81	0.014	0.18	2.45	5.87	1.52	0.124	0.02	0.39	99.82	< 1	6	9	60	< 1	< 20	< 10	70	29	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548953	71.49	16.68	0.82	0.017	0.20	2.37	5.91	1.88	0.116	0.04	0.33	99.84	< 1	7	9	20	< 1	< 20	< 10	90	31	1	< 5
548954	71.94	17.19	0.76	0.011	0.16	2.43	5.95	1.70	0.114	0.01	0.26	100.5	< 1	4	8	80	< 1	< 20	< 10	70	29	< 1	< 5
548955	72.52	16.41	0.75	0.011	0.18	2.46	5.76	1.64	0.115	0.01	0.30	100.2	< 1	3	8	50	< 1	< 20	< 10	70	26	< 1	< 5
548956	76.57	12.75	0.85	0.061	0.18	0.62	4.00	2.72	0.058	0.02	0.69	98.51	< 1	18	7	40	< 1	< 20	< 10	160	36	3	< 5
548957	74.80	15.77	0.87	0.084	0.14	0.79	4.19	1.50	0.061	0.01	1.16	99.38	< 1	250	6	50	< 1	< 20	< 10	80	52	3	< 5
548958	79.89	13.44	0.67	0.054	0.07	0.52	2.97	0.66	0.022	< 0.01	0.54	98.85	< 1	212	< 5	120	< 1	< 20	< 10	30	40	3	< 5
548959	82.02	13.40	0.49	0.062	0.04	0.32	2.29	1.04	0.017	0.01	0.46	100.1	< 1	224	9	50	< 1	20	< 10	90	43	5	< 5
548960	76.64	9.74	4.70	0.054	0.89	1.56	1.29	1.98	0.806	0.32	1.27	99.26	10	35	65	80	6	< 20	300	130	23	4	34
548961	81.48	12.76	0.56	0.061	0.04	0.27	2.12	1.02	0.019	< 0.01	0.51	98.81	< 1	21	6	90	< 1	< 20	< 10	< 30	42	5	< 5
548962	76.32	15.23	0.49	0.056	0.13	0.52	3.82	1.15	0.024	< 0.01	0.76	98.51	< 1	130	< 5	60	< 1	< 20	< 10	40	44	4	< 5
548963	71.96	18.53	0.38	0.047	0.04	0.24	2.67	6.23	0.010	0.01	0.36	100.5	< 1	146	< 5	< 20	< 1	< 20	< 10	40	42	4	< 5
548964	73.13	17.19	0.33	0.047	0.03	0.40	3.62	5.35	0.009	0.03	0.37	100.5	< 1	118	< 5	60	< 1	< 20	< 10	50	37	4	< 5
548965	78.28	15.56	0.43	0.072	0.04	0.32	2.66	1.26	0.012	< 0.01	0.39	99.02	< 1	215	< 5	30	< 1	< 20	< 10	< 30	43	4	< 5
548966	78.04	15.55	0.63	0.077	0.04	0.26	2.15	1.58	0.022	< 0.01	0.41	98.76	< 1	149	< 5	80	< 1	< 20	< 10	40	46	4	< 5
548967	75.71	16.65	0.53	0.067	0.05	0.55	3.89	2.26	0.017	0.03	0.49	100.3	< 1	368	< 5	30	< 1	< 20	< 10	30	44	4	< 5
548968	73.11	17.93	0.47	0.060	0.08	0.49	3.91	2.79	0.016	< 0.01	0.58	99.44	< 1	220	< 5	70	< 1	< 20	< 10	< 30	48	4	< 5
548969	76.15	15.94	0.53	0.071	0.06	0.51	3.99	1.70	0.016	< 0.01	0.46	99.43	< 1	477	< 5	30	< 1	< 20	< 10	< 30	44	4	< 5
548970	98.18	0.66	0.67	0.008	0.05	0.04	0.11	0.09	0.032	< 0.01	0.19	100.0	< 1	2	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
548971	75.41	16.33	0.51	0.072	0.05	0.45	3.11	2.47	0.019	< 0.01	0.48	98.91	< 1	225	< 5	80	< 1	< 20	< 10	< 30	45	4	< 5
548972	76.86	15.13	0.54	0.062	0.04	0.40	2.82	2.23	0.014	0.01	0.42	98.54	< 1	525	< 5	30	< 1	< 20	< 10	< 30	40	3	< 5
548973	77.82	15.91	0.78	0.069	0.07	0.49	2.97	0.44	0.019	< 0.01	0.52	99.08	< 1	79	< 5	90	< 1	< 20	< 10	40	48	3	< 5
548974	76.64	16.45	0.55	0.063	0.04	0.74	4.50	0.28	0.011	0.02	0.55	99.85	< 1	320	< 5	50	< 1	< 20	< 10	< 30	43	3	< 5
548975	74.45	18.87	0.87	0.082	0.05	0.59	3.49	0.34	0.015	< 0.01	0.55	99.28	< 1	329	< 5	100	< 1	< 20	< 10	< 30	58	3	< 5
548976	74.13	16.42	0.76	0.070	0.12	0.75	4.39	1.13	0.056	0.02	0.77	98.62	< 1	148	< 5	30	< 1	< 20	< 10	60	47	3	< 5
548977	75.82	14.06	0.92	0.058	0.21	0.88	5.17	1.35	0.069	0.04	0.67	99.24	< 1	57	8	40	1	< 20	< 10	140	39	3	< 5
548978	75.74	14.41	1.25	0.088	0.30	0.89	4.08	2.19	0.095	0.26	0.94	100.3	< 1	17	12	30	1	< 20	< 10	200	49	3	< 5
548979	73.97	15.25	1.31	0.102	0.33	0.75	4.20	2.38	0.106	0.17	1.16	99.73	1	17	14	40	2	< 20	< 10	210	55	3	< 5
548980	77.43	10.41	4.36	0.049	0.76	1.28	1.14	1.77	0.605	0.29	1.19	99.30	9	40	55	70	5	20	340	150	29	5	54
548981	75.61	13.73	0.81	0.057	0.19	0.74	4.50	1.92	0.061	0.04	0.94	98.60	< 1	19	7	30	< 1	< 20	< 10	120	43	3	< 5
548982	74.76	16.56	0.90	0.081	0.25	0.75	4.34	1.41	0.056	< 0.01	1.01	100.1	< 1	37	5	60	< 1	< 20	< 10	90	50	3	< 5
548983	76.10	16.23	0.71	0.105	0.09	0.65	3.72	0.63	0.025	< 0.01	0.59	98.85	< 1	133	< 5	30	< 1	< 20	< 10	50	48	3	< 5
548984	79.32	15.39	0.62	0.070	0.06	0.55	3.37	0.38	0.020	< 0.01	0.46	100.2	< 1	534	< 5	80	< 1	< 20	< 10	< 30	45	3	< 5
548985	78.51	12.49	0.91	0.058	0.19	0.76	4.20	1.20	0.063	< 0.01	0.80	99.19	< 1	50	6	40	< 1	< 20	< 10	110	37	3	< 5
548986	74.28	14.19	1.15	0.067	0.28	0.91	4.83	1.94	0.083	0.14	0.99	98.84	< 1	32	10	60	1	< 20	< 10	180	47	3	< 5
548987	71.90	16.73	0.80	0.055	0.18	1.50	6.58	1.30	0.079	0.13	0.75	100.0	< 1	16	8	< 20	< 1	< 20	< 10	90	39	2	< 5
548988	71.83	16.26	0.82	0.009	0.17	2.47	5.90	1.71	0.114	< 0.01	0.48	99.77	< 1	7	7	40	< 1	< 20	< 10	60	28	< 1	< 5
548989	71.46	16.92	0.71	0.020	0.17	2.41	6.23	1.39	0.107	0.02	0.56	100.0	< 1	25	8	< 20	< 1	< 20	< 10	70	28	1	< 5
548990	97.30	0.49	0.31	0.005	0.03	0.16	0.08	0.06	0.026	< 0.01	0.38	98.82	< 1	< 1	< 5	< 20	< 1	< 20	< 10	150	< 1	< 1	< 5
548991	72.04	16.73	0.82	0.216	0.15	0.56	6.21	2.63	0.054	0.03	0.95	100.4	< 1	11	6	40	< 1	< 20	< 10	80	47	3	< 5
548992	71.74	16.69	0.74	0.012	0.18	2.46	5.86	1.48	0.111	0.01	0.54	99.82	< 1	6	8	< 20	< 1	< 20	< 10	60	28	< 1	< 5
548993	71.89	16.67	0.84	0.024	0.19	2.40	5.81	1.87	0.124	0.02	0.42	100.3	< 1	9	8	40	< 1	< 20	< 10	80	29	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548994	68.92	18.69	0.71	0.023	0.16	2.60	6.63	1.74	0.109	0.06	0.55	100.2	< 1	32	6	< 20	< 1	< 20	10	80	34	1	< 5
548995	68.32	18.67	0.81	0.023	0.17	2.58	6.80	1.86	0.115	0.08	0.56	99.99	< 1	32	7	40	< 1	< 20	20	60	35	1	< 5
548996	84.39	8.77	0.60	0.118	0.08	0.30	2.61	1.81	0.026	0.02	0.58	99.30	< 1	37	< 5	40	< 1	< 20	< 10	50	24	2	< 5
548997	71.96	16.32	0.75	0.026	0.16	2.28	5.71	1.95	0.109	0.02	0.47	99.75	< 1	5	6	80	< 1	< 20	< 10	70	27	< 1	< 5
548998	72.59	16.22	0.79	0.015	0.19	2.20	5.63	1.52	0.114	0.02	0.57	99.85	< 1	17	8	< 20	< 1	< 20	< 10	60	28	< 1	< 5
548999	70.24	18.56	1.00	0.256	0.17	1.68	5.34	1.81	0.088	0.03	0.75	99.92	< 1	31	7	50	< 1	< 20	< 10	60	41	2	< 5
549000	76.79	9.87	4.71	0.052	0.89	1.59	1.24	1.93	0.808	0.35	1.31	99.55	11	35	63	70	6	30	300	130	24	4	35
549501	71.45	16.89	0.88	0.012	0.17	2.40	5.62	1.72	0.114	< 0.01	0.37	99.62	< 1	5	8	< 20	< 1	< 20	< 10	60	27	< 1	< 5
549502	70.80	16.56	0.64	0.185	0.07	0.65	6.68	2.37	0.032	0.13	0.46	98.57	< 1	178	< 5	30	< 1	< 20	< 10	50	40	3	< 5
549503	71.87	16.85	1.16	0.016	0.22	2.44	5.60	1.62	0.137	0.03	0.36	100.3	< 1	5	11	< 20	< 1	< 20	20	80	29	< 1	< 5
549504	71.87	16.73	0.91	0.067	0.14	1.91	5.80	1.93	0.094	0.03	0.29	99.76	< 1	37	6	50	< 1	< 20	< 10	80	31	1	< 5
549505	72.43	16.36	0.74	0.322	0.07	0.57	6.92	1.84	0.032	0.08	0.33	99.69	< 1	119	< 5	< 20	< 1	< 20	< 10	70	39	3	< 5
549506	71.01	17.18	1.05	0.014	0.19	2.53	5.77	1.50	0.138	0.03	0.35	99.76	< 1	3	10	40	< 1	< 20	< 10	80	29	< 1	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548912	< 2	< 2	< 2	< 4	< 1	6	< 0.5	< 0.2	< 1	< 0.5	1.2	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	0.02	0.04	
548913	< 2	< 2	< 2	< 4	1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.5	< 3	2.6	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	0.02	0.03	
548914	< 2	< 2	< 2	< 4	1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.7	< 3	0.9	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	0.02	0.03	
548915	< 2	< 2	< 2	< 4	< 1	5	< 0.5	< 0.2	< 1	< 0.5	0.7	< 3	0.8	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	0.01	0.03	
548916	< 2	< 2	< 2	< 4	2	< 2	< 0.5	< 0.2	< 1	< 0.5	1.7	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	0.01	0.03	
548917 missing																							
548918	28	< 2	< 2	< 4	2	< 2	< 0.5	< 0.2	< 1	< 0.5	4.9	< 3	0.7	< 0.2	0.1	8	< 0.1	< 5	< 0.1	< 0.1	0.06	0.14	
548919	1500	35	4	< 4	3	3	< 0.5	< 0.2	2	< 0.5	252	34	< 0.4	< 0.2	11.5	1	13.8	8	< 0.1	0.1	0.01	0.03	
548920	1170	297	23	189	801	8	0.8	2.7	621	6.1	214	2017	10.7	4.5	15.9	5	10.3	28	90.7	14.9	0.23	0.50	
548921	406	8	< 2	< 4	2	< 2	< 0.5	< 0.2	3	< 0.5	60.3	9	< 0.4	< 0.2	2.0	< 1	4.8	< 5	< 0.1	< 0.1	0.11	0.23	
548922	436	8	< 2	< 4	3	< 2	< 0.5	< 0.2	3	< 0.5	59.7	5	0.4	< 0.2	2.5	< 1	4.3	< 5	< 0.1	< 0.1	0.16	0.35	2.65
548923	1460	90	< 2	21	50	< 2	< 0.5	< 0.2	12	< 0.5	201	26	< 0.4	7.9	150	< 1	13.1	16	3.0	4.8	0.51	1.09	
548924	693	67	< 2	23	108	< 2	< 0.5	< 0.2	24	< 0.5	218	14	< 0.4	8.9	436	< 1	6.4	22	8.8	9.2	1.13	2.44	
548925	705	85	< 2	30	112	< 2	< 0.5	< 0.2	24	< 0.5	105	20	< 0.4	11.4	441	< 1	6.2	22	8.0	9.2	1.03	2.21	
548926	852	104	< 2	< 4	43	< 2	< 0.5	< 0.2	19	< 0.5	79.7	30	< 0.4	1.7	150	< 1	6.2	11	3.3	3.3	0.56	1.20	
548927	834	128	< 2	7	75	< 2	< 0.5	< 0.2	18	< 0.5	92.9	73	1.8	3.3	285	< 1	7.0	15	4.2	4.0	0.90	1.93	
548928	303	57	3	8	150	< 2	< 0.5	< 0.2	29	< 0.5	54.2	21	0.4	2.3	517	< 1	4.1	14	2.9	6.7	1.11	2.39	
548929	429	102	< 2	8	173	< 2	< 0.5	< 0.2	32	< 0.5	207	31	4.0	3.9	591	1	3.6	16	4.7	7.5	1.19	2.56	
548930	6	2	7	41	1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.8	17	< 0.4	1.5	1.5	< 1	1.1	< 5	1.5	0.6	< 0.01	< 0.01	
548931	457	73	< 2	5	55	< 2	< 0.5	< 0.2	29	< 0.5	101	40	7.4	1.4	183	< 1	3.5	8	1.3	2.8	1.20	2.59	
548932	105	103	3	< 4	44	< 2	< 0.5	< 0.2	16	< 0.5	28.3	11	< 0.4	0.3	50.0	< 1	1.3	< 5	1.0	1.3	1.36	2.92	2.88
548933	117	119	< 2	< 4	33	2	< 0.5	< 0.2	13	< 0.5	65.2	23	2.0	0.6	31.0	< 1	0.8	7	2.0	1.9	1.53	3.30	
548934	1060	218	< 2	10	39	< 2	< 0.5	< 0.2	33	< 0.5	142	135	0.4	1.1	18.4	< 1	5.7	21	3.6	1.6	0.28	0.60	
548935	922	255	< 2	16	34	< 2	< 0.5	< 0.2	27	< 0.5	123	86	11.8	1.5	18.4	< 1	5.7	22	2.7	1.3	0.22	0.47	
548936	1450	204	< 2	47	79	< 2	< 0.5	< 0.2	58	< 0.5	146	122	< 0.4	3.9	55.9	1	8.6	14	3.1	5.1	0.11	0.23	
548937	482	113	< 2	35	54	< 2	< 0.5	< 0.2	17	< 0.5	55.7	46	< 0.4	3.6	47.7	3	3.5	6	2.5	6.9	0.04	0.09	
548938	192	106	4	46	35	< 2	< 0.5	< 0.2	6	< 0.5	31.6	19	< 0.4	6.3	30.5	< 1	1.5	9	3.5	14.4	0.03	0.06	
548939	535	732	< 2	104	10	< 2	< 0.5	< 0.2	8	< 0.5	186	586	6.5	3.9	6.3	< 1	3.6	13	3.4	2.2	0.06	0.14	
548940	1330	219	20	150	1330	9	0.7	4.1	1140	11.2	288	1032	16.0	4.0	20.4	6	10.5	26	47.3	7.6	0.48	1.04	
548941	147	724	2	102	10	< 2	< 0.5	< 0.2	2	< 0.5	16.2	871	< 0.4	4.0	3.2	< 1	2.3	20	2.0	4.0	0.04	0.09	
548942	149	908	< 2	124	8	< 2	< 0.5	< 0.2	2	< 0.5	28.9	895	< 0.4	3.7	1.7	< 1	1.5	13	1.8	1.4	0.06	0.13	2.69
548943	1730	250	< 2	21	57	< 2	< 0.5	< 0.2	11	< 0.5	97.5	615	< 0.4	2.7	45.5	< 1	12.3	18	5.3	3.7	0.08	0.18	
548944	148	914	< 2	122	6	< 2	< 0.5	< 0.2	2	< 0.5	22.1	918	< 0.4	3.7	0.7	< 1	2.5	13	1.7	1.2	0.06	0.13	
548945	204	923	< 2	122	6	< 2	< 0.5	< 0.2	2	< 0.5	34.4	809	< 0.4	3.5	0.6	< 1	1.9	13	1.5	1.3	0.05	0.12	
548946	2220	197	< 2	11	120	< 2	< 0.5	< 0.2	18	< 0.5	135	447	< 0.4	2.8	203	< 1	15.4	18	5.5	5.8	0.03	0.07	
548947	886	127	< 2	15	61	< 2	< 0.5	< 0.2	19	< 0.5	107	50	0.7	2.9	53.8	< 1	7.2	21	6.9	9.6	0.03	0.06	
548948	1190	126	< 2	9	52	< 2	< 0.5	< 0.2	20	< 0.5	110	96	< 0.4	2.5	104	< 1	9.0	14	5.0	6.3	0.17	0.36	
548949	1010	153	< 2	13	38	< 2	< 0.5	< 0.2	24	< 0.5	81.3	187	< 0.4	2.6	45.3	< 1	7.6	9	2.8	3.2	0.16	0.34	
548950	5	3	4	44	< 1	< 2	< 0.5	< 0.2	2	< 0.5	< 0.5	17	< 0.4	1.4	0.5	< 1	1.0	< 5	1.4	0.5	< 0.01	< 0.01	
548951	664	120	< 2	25	48	< 2	< 0.5	< 0.2	14	< 0.5	78.9	81	< 0.4	4.0	68.7	< 1	4.8	35	4.2	5.4	0.06	0.12	
548952	185	926	3	118	6	< 2	< 0.5	< 0.2	3	< 0.5	31.4	858	< 0.4	3.8	0.9	< 1	2.1	15	1.5	1.5	0.06	0.13	2.73

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548953	146	825	2	104	8	< 2	< 0.5	< 0.2	2	< 0.5	37.6	872	< 0.4	3.3	3.2	< 1	1.1	18	1.2	1.6	0.04	0.08	
548954	154	956	< 2	114	6	< 2	< 0.5	< 0.2	1	< 0.5	29.7	964	< 0.4	3.6	1.0	< 1	1.2	14	1.3	1.4	0.04	0.09	
548955	147	884	2	108	4	< 2	< 0.5	< 0.2	2	< 0.5	26.8	918	< 0.4	2.9	0.6	< 1	0.7	13	1.3	1.4	0.04	0.09	
548956	1340	257	< 2	11	31	2	< 0.5	< 0.2	27	< 0.5	91.8	375	< 0.4	1.0	13.5	< 1	7.0	8	0.5	0.6	0.06	0.14	
548957	1070	199	< 2	9	31	< 2	< 0.5	< 0.2	27	< 0.5	164	73	1.6	1.1	40.8	< 1	5.6	12	2.4	2.4	0.52	1.11	
548958	447	117	< 2	< 4	36	< 2	< 0.5	< 0.2	19	< 0.5	81.1	18	4.0	0.6	46.9	2	2.8	9	1.8	2.7	0.80	1.72	
548959	554	80	< 2	5	96	3	< 0.5	< 0.2	24	< 0.5	97.3	37	0.4	1.4	293	3	3.4	8	2.3	2.8	0.96	2.07	
548960	1210	314	27	226	1030	9	< 0.5	2.6	752	8.6	221	2033	10.1	5.5	17.5	4	9.2	28	90.8	15.7	0.23	0.50	
548961	600	58	< 2	5	21	< 2	< 0.5	< 0.2	21	< 0.5	67.3	19	0.4	1.4	41.7	< 1	4.4	5	3.4	1.1	0.91	1.96	
548962	727	98	< 2	< 4	47	< 2	< 0.5	< 0.2	15	< 0.5	99.1	21	< 0.4	1.4	195	< 1	4.3	12	1.8	3.9	0.67	1.45	2.67
548963	4290	93	< 2	< 4	27	< 2	< 0.5	< 0.2	12	< 0.5	391	25	< 0.4	1.1	123	< 1	29.2	22	3.0	4.6	0.71	1.53	
548964	3400	103	< 2	< 4	26	< 2	< 0.5	< 0.2	9	< 0.5	299	24	< 0.4	0.6	94.8	< 1	26.0	22	3.4	2.5	0.47	1.01	
548965	656	54	< 2	< 4	26	< 2	< 0.5	< 0.2	15	< 0.5	94.1	9	< 0.4	0.7	139	3	6.9	11	6.7	3.6	1.13	2.44	
548966	921	58	< 2	< 4	32	< 2	< 0.5	< 0.2	19	< 0.5	113	14	< 0.4	1.0	88.1	17	6.5	9	3.9	1.9	1.12	2.40	
548967	1150	133	< 2	< 4	47	< 2	< 0.5	< 0.2	13	< 0.5	149	79	2.1	0.5	103	< 1	8.4	12	2.0	1.7	0.85	1.84	
548968	1460	123	< 2	< 4	116	< 2	< 0.5	< 0.2	16	< 0.5	157	50	1.4	1.0	285	< 1	10.4	20	2.8	5.0	0.94	2.03	
548969	869	108	< 2	< 4	122	< 2	< 0.5	< 0.2	14	< 0.5	155	34	0.5	1.5	373	< 1	6.7	17	8.5	6.9	0.83	1.79	
548970	5	4	< 2	43	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.6	25	< 0.4	1.3	0.3	< 1	0.9	< 5	1.5	0.5	< 0.01	< 0.01	
548971	1210	135	< 2	< 4	94	< 2	< 0.5	< 0.2	16	< 0.5	131	95	4.6	0.8	159	4	7.8	14	2.4	3.6	0.95	2.05	
548972	1070	127	< 2	< 4	62	< 2	< 0.5	< 0.2	13	< 0.5	167	76	3.1	1.0	240	< 1	7.7	16	2.5	4.6	0.86	1.85	2.82
548973	287	119	< 2	< 4	14	< 2	< 0.5	< 0.2	13	< 0.5	46.4	12	2.2	0.2	37.5	< 1	2.3	8	1.2	1.6	1.21	2.59	
548974	156	180	< 2	< 4	28	4	< 0.5	< 0.2	9	< 0.5	56.1	10	1.8	0.8	32.2	< 1	1.2	11	1.8	3.4	0.90	1.94	
548975	191	135	< 2	< 4	33	< 2	< 0.5	< 0.2	13	< 0.5	72.6	9	0.9	0.6	58.3	< 1	1.0	9	2.1	2.6	1.59	3.42	
548976	777	228	< 2	10	24	< 2	< 0.5	< 0.2	21	< 0.5	94.7	41	3.9	1.1	21.7	< 1	3.6	14	3.7	5.0	0.46	0.99	
548977	965	309	< 2	13	35	< 2	< 0.5	< 0.2	25	< 0.5	88.1	88	< 0.4	0.9	20.9	< 1	4.9	7	1.0	0.7	0.08	0.17	
548978	1400	210	2	39	61	< 2	< 0.5	< 0.2	40	< 0.5	106	168	< 0.4	2.6	29.7	< 1	6.7	9	2.7	1.7	0.11	0.23	
548979	1640	185	< 2	50	66	< 2	< 0.5	< 0.2	45	< 0.5	138	130	< 0.4	2.8	46.4	< 1	7.6	9	1.5	2.5	0.11	0.23	
548980	1370	217	20	164	1190	9	0.7	4.0	853	10.1	263	1040	15.6	3.3	20.5	5	10.4	26	49.2	8.4	0.48	1.03	
548981	1200	256	< 2	11	41	< 2	< 0.5	< 0.2	29	< 0.5	107	164	< 0.4	0.9	31.7	< 1	7.4	9	0.9	0.9	0.07	0.14	
548982	844	264	< 2	< 4	33	< 2	< 0.5	< 0.2	22	< 0.5	104	59	0.7	0.6	27.9	< 1	4.9	10	0.9	0.8	0.49	1.06	2.79
548983	385	169	< 2	8	28	< 2	< 0.5	< 0.2	13	< 0.5	60.9	21	4.0	1.6	40.0	< 1	2.5	22	4.6	5.1	0.94	2.03	
548984	265	140	< 2	< 4	90	< 2	< 0.5	< 0.2	11	< 0.5	81.3	12	2.5	1.0	116	< 1	1.4	13	4.5	4.6	1.06	2.28	
548985	897	243	< 2	9	34	< 2	< 0.5	< 0.2	23	< 0.5	99.4	67	5.8	0.7	23.2	< 1	4.4	11	1.3	1.0	0.19	0.40	
548986	1250	270	< 2	30	65	< 2	< 0.5	< 0.2	45	< 0.5	125	153	< 0.4	1.8	28.2	< 1	6.2	8	0.8	1.6	0.11	0.24	
548987	669	459	2	79	36	< 2	< 0.5	< 0.2	18	< 0.5	121	370	< 0.4	3.4	16.6	< 1	3.8	13	2.7	3.4	0.07	0.16	
548988	134	875	< 2	120	6	< 2	< 0.5	< 0.2	1	< 0.5	22.1	875	< 0.4	3.4	0.6	< 1	1.0	13	1.2	1.0	0.05	0.12	
548989	475	854	< 2	122	9	< 2	< 0.5	< 0.2	7	< 0.5	94.3	816	< 0.4	3.4	5.5	1	2.6	13	1.2	1.5	0.07	0.15	
548990	5	6	3	45	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.7	19	< 0.4	1.3	0.3	< 1	< 0.1	7	1.3	0.4	< 0.01	< 0.01	
548991	1220	155	< 2	30	76	< 2	< 0.5	< 0.2	31	< 0.5	97.6	256	< 0.4	3.4	75.6	< 1	5.9	14	3.3	4.9	0.08	0.17	
548992	167	872	3	122	5	< 2	< 0.5	< 0.2	1	< 0.5	33.0	821	< 0.4	3.5	0.4	< 1	1.4	14	1.2	1.5	0.07	0.16	2.68
548993	154	849	< 2	117	10	< 2	< 0.5	< 0.2	8	< 0.5	27.1	876	< 0.4	3.5	3.0	< 1	0.9	14	1.3	1.8	0.08	0.16	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548994	331	832	< 2	131	29	< 2	< 0.5	< 0.2	5	< 0.5	52.9	751	< 0.4	3.7	15.4	< 1	1.7	16	1.3	1.8	0.07	0.16	
548995	365	837	< 2	126	36	< 2	< 0.5	< 0.2	6	< 0.5	55.2	797	< 0.4	3.8	18.3	< 1	1.9	20	1.4	3.2	0.07	0.14	
548996	759	102	< 2	14	25	2	< 0.5	< 0.2	15	< 0.5	51.2	181	< 0.4	1.4	14.7	< 1	3.9	8	1.1	2.3	0.24	0.52	
548997	334	792	3	112	9	< 2	< 0.5	< 0.2	3	< 0.5	31.8	865	< 0.4	3.6	1.8	< 1	2.2	16	1.2	1.7	0.06	0.13	
548998	349	836	< 2	110	5	< 2	< 0.5	< 0.2	5	< 0.5	53.4	897	< 0.4	3.3	1.1	< 1	2.0	12	1.1	1.1	0.07	0.15	
548999	544	545	< 2	94	28	< 2	< 0.5	< 0.2	9	< 0.5	77.7	687	< 0.4	4.8	29.8	< 1	2.9	13	2.8	3.0	0.56	1.20	
549000	1220	304	27	216	968	8	0.9	2.6	602	6.9	199	1980	9.9	5.1	16.4	4	8.0	28	94.0	15.9	0.24	0.51	
549501	208	857	< 2	118	6	< 2	< 0.5	< 0.2	2	< 0.5	42.0	971	< 0.4	3.4	0.5	< 1	2.1	13	1.2	1.2	0.08	0.16	
549502	989	200	< 2	37	49	< 2	< 0.5	< 0.2	19	< 0.5	112	194	< 0.4	5.4	49.4	< 1	6.6	17	3.2	5.4	0.10	0.21	2.73
549503	302	900	< 2	105	4	< 2	0.6	< 0.2	3	< 0.5	70.0	953	< 0.4	3.4	0.4	< 1	2.9	12	1.2	1.0	0.08	0.17	
549504	652	723	< 2	94	18	< 2	< 0.5	< 0.2	5	< 0.5	128	730	< 0.4	4.9	15.2	2	5.0	14	1.9	3.2	0.07	0.16	
549505	812	192	< 2	48	38	< 2	< 0.5	< 0.2	12	< 0.5	145	138	0.5	5.1	50.5	< 1	6.3	14	3.5	6.3	0.06	0.13	
549506	191	986	< 2	119	6	< 2	< 0.5	< 0.2	2	< 0.5	49.3	935	< 0.4	3.4	0.8	< 1	2.4	13	1.3	0.6	0.06	0.14	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.30	1.81	0.76	0.010	0.34	42.57	0.87	0.55	0.120	30.17					1643								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.36	18.43	9.90	0.140	9.93	11.54	1.89	0.22	0.480	0.08			31		151	260	54	240	90	70	14		
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15		
GBW 07113 Meas	72.45	13.15	3.26	0.150	0.16	0.64	2.59	5.59	0.290	0.05			6	4	5								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																	29	40	30	150			28
LKSD-3 Cert																	30.0	47.0	35.0	152			27.0
TDB-1 Meas																260		100	350	160			
TDB-1 Cert																251		92	323	155			
W-2a Meas	53.33	15.55	10.29	0.170	6.16	11.17	2.22	0.61	1.070	0.15			36	< 1	272	100	44		110	80	18	2	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0		110	80.0	17.0	1.00	
SY-4 Meas	50.73	19.83	6.26	0.110	0.51	8.19	6.95	1.66	0.290	0.12			1	3	7								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			60				
CTA-AC-1 Cert																			54.0				
BIR-1a Meas	47.83	16.02	11.46	0.170	9.50	13.47	1.78	0.02	0.980	0.03			43	< 1	326	370	50	160	120	70	15		
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16		
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30	4		890	90	16	11	66
NCS DC70009 (GBW07241) Cert																30	3.7		960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	18		160				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	46		410				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	45		440				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																	1	< 20	< 10	30	16	2	16
JR-1 Cert																	0.83	1.67	2.68	30.6	16.1	1.88	16.3
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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NCS DC86314 Meas																							
NCS DC86314 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
USZ 28-99 Meas																							
USZ 28-99 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
548918 Orig																							
548918 Dup																							
548921 Orig	95.65	2.14	0.49	0.021	0.04	0.07	0.13	0.66	0.003	< 0.01	0.35	99.57	< 1	18	< 5	100	< 1	< 20	< 10	< 30	6	2	< 5
548921 Dup	96.51	2.09	0.49	0.021	0.04	0.07	0.13	0.65	0.003	< 0.01	0.35	100.4	< 1	19	< 5	100	< 1	< 20	< 10	< 30	6	2	< 5
548921 Orig																100	< 1	< 20	< 10	< 30	6	2	< 5
548921 Dup																60	< 1	< 20	< 10	70	42	4	< 5
548926 Orig																							
548926 Dup																							
548938 Orig	72.06	16.54	0.47	0.340	0.03	1.09	8.29	0.50	0.010	0.54	0.18	100.0	< 1	11	< 5	30	< 1	< 20	< 10	< 30	42	4	< 5
548938 Dup	72.06	16.80	0.48	0.345	0.03	1.09	8.29	0.50	0.010	0.54	0.18	100.3	< 1	12	< 5	30	< 1	< 20	< 10	< 30	41	4	< 5
548940 Orig																							
548940 Dup																							
548942 Orig																							
548942 Dup																							
548948 Orig																							
548948 Dup																							
548960 Orig																							
548960 Dup																							
548961 Orig																70	< 1	< 20	< 10	< 30	39	4	< 5
548961 Split PREP DUP	80.43	13.53	0.59	0.058	0.05	0.29	2.18	1.09	0.021	< 0.01	0.41	98.63	< 1	31	< 5	90	< 1	< 20	< 10	< 30	41	4	< 5
548968 Orig	73.41	18.21	0.47	0.060	0.08	0.50	3.94	2.77	0.016	< 0.01	0.58	100.0	< 1	222	< 5	60	< 1	< 20	< 10	< 30	48	4	< 5
548968 Dup	72.82	17.66	0.46	0.060	0.08	0.49	3.88	2.81	0.016	< 0.01	0.58	98.85	< 1	219	< 5	70	< 1	< 20	< 10	< 30	47	4	< 5
548969 Orig																							
548969 Dup																							
548983 Orig																							
548983 Dup																							
548985 Orig	78.88	12.37	0.90	0.059	0.19	0.75	4.18	1.19	0.063	< 0.01	0.80	99.38	< 1	50	7	40	< 1	< 20	< 10	110	36	3	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548985 Dup	78.15	12.61	0.93	0.058	0.19	0.76	4.22	1.21	0.062	0.01	0.80	99.00	< 1	50	6	30	< 1	< 20	< 10	120	37	3	< 5
548991 Orig																							
548991 Dup																							
549505 Orig	72.81	16.03	0.76	0.319	0.07	0.57	6.94	1.86	0.031	0.07	0.33	99.79	< 1	117	< 5	< 20	< 1	< 20	< 10	70	39	3	< 5
549505 Dup	72.05	16.68	0.73	0.326	0.07	0.56	6.90	1.83	0.032	0.08	0.33	99.59	< 1	121	< 5	< 20	< 1	< 20	< 10	70	38	3	< 5
549506 Orig	71.01	17.18	1.05	0.014	0.19	2.53	5.77	1.50	0.138	0.03	0.35	99.76	< 1	3	10	40	< 1	< 20	< 10	80	29	< 1	< 5
549506 Split PREP DUP	71.59	15.85	1.11	0.015	0.20	2.54	5.77	1.52	0.132	0.04	0.29	99.03	< 1	3	10	50	< 1	< 20	< 10	80	28	< 1	< 5
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	0.01	0.02	0.001	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas		145	16	38								107											
DNC-1 Cert		144.0	18.0	38								118											
GBW 07113 Meas		43	47	383								517											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	75					< 2			3		2.5			4.5	0.7				11.2	4.6			
LKSD-3 Cert	78.0					2.00			3.00		2.30			4.80	0.700				11.4	4.60			
TDB-1 Meas	22																		2.8				
TDB-1 Cert	23																		2.7				
W-2a Meas	21	202	20	90	8	< 2					0.9	172		2.4	0.5	2		9	2.4	0.6			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600					0.990	182		2.60	0.500	0.300		9.30	2.40	0.530			
SY-4 Meas		1189	114	546								342											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.7				22.2	4.3			
CTA-AC-1 Cert															2.65				21.8	4.4			
BIR-1a Meas		111	14	15						0.6		6		0.6				< 5					
BIR-1a Cert		110	16	18						0.58		6		0.60				3					
NCS DC86312 Meas																			23.6				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	532						1.2	1.0	1570	3.3	38.1					2140	1.7		29.5				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						22													54.6	137			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						21													36.7	428			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						21													39.4	427			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	248				15	4		< 0.2	3	1.2	19.4		0.5	4.3	1.7	2		20	28.7	8.7			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59		19.3	26.7	8.88			
NCS DC86303 Meas																					0.21	0.45	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.22	0.47	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.07	2.31	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.10	2.37	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.12	2.41	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.10	2.36	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.31	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.35	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.76	3.78	
NCS DC86314 Cert																					1.81	3.89	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Meas																					1.78	3.83	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.74	3.75	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.76	3.80	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.76	3.80	
NCS DC86314 Cert																					1.81	3.89	
USZ 28-99 Meas																					0.18		
USZ 28-99 Cert																					0.173		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.11		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.25		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.10		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium																					8.17		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.12		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
548918 Orig																					0.06	0.14	
548918 Dup																					0.06	0.14	
548921 Orig	408	8	3	< 4	2	< 2	< 0.5	< 0.2	3	< 0.5	60.2	9	< 0.4	< 0.2	1.9	< 1	5.2	< 5	< 0.1	< 0.1			
548921 Dup	403	8	< 2	< 4	2	< 2	< 0.5	< 0.2	2	< 0.5	60.4	9	< 0.4	< 0.2	2.1	< 1	4.5	< 5	< 0.1	< 0.1			
548921 Orig	430				4	< 2	< 0.5	< 0.2	3	< 0.5	59.1		0.4	< 0.2	2.3	< 1	4.6	< 5	< 0.1	< 0.1			
548921 Dup	1250				26	< 2	< 0.5	< 0.2	9	< 0.5	151		< 0.4	1.4	84.4	< 1	11.7	20	3.5	2.8			
548926 Orig																					0.56	1.19	
548926 Dup																					0.56	1.21	
548938 Orig	193	104	4	45	32	< 2	< 0.5	< 0.2	6	< 0.5	32.6	19	< 0.4	6.5	27.6	< 1	1.7	9	3.5	14.1			
548938 Dup	190	107	4	46	37	< 2	< 0.5	< 0.2	5	< 0.5	30.6	19	< 0.4	6.1	33.4	< 1	1.3	9	3.4	14.7			
548940 Orig																					0.48	1.04	
548940 Dup																					0.49	1.04	
548942 Orig																							2.70
548942 Dup																							2.68
548948 Orig																					0.17	0.36	
548948 Dup																					0.17	0.36	
548960 Orig																					0.23	0.50	
548960 Dup																					0.23	0.50	
548961 Orig	606				19	< 2	< 0.5	< 0.2	21	< 0.5	60.6		0.4	1.4	39.4	< 1	4.3	6	3.6	1.3	0.91	1.96	
548961 Split PREP DUP	666	57	< 2	< 4	15	< 2	< 0.5	< 0.2	16	< 0.5	69.4	15	1.1	2.0	44.9	< 1	4.2	6	2.8	1.5	0.91	1.96	
548968 Orig	1460	124	< 2	< 4	110	< 2	< 0.5	< 0.2	15	< 0.5	157	51	1.4	1.0	290	< 1	10.1	20	2.3	5.0			
548968 Dup	1460	123	< 2	< 4	121	< 2	< 0.5	< 0.2	16	< 0.5	157	50	1.4	1.1	281	< 1	10.7	20	3.2	5.0			
548969 Orig																					0.83	1.79	
548969 Dup																					0.84	1.80	
548983 Orig																					0.93	2.01	
548983 Dup																					0.95	2.04	
548985 Orig	890	237	< 2	9	33	3	< 0.5	< 0.2	23	< 0.5	97.9	66	4.9	0.7	22.8	< 1	4.2	10	1.3	1.0			

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
548985 Dup	903	249	< 2	9	34	< 2	< 0.5	< 0.2	22	< 0.5	101	67	6.7	0.7	23.6	< 1	4.7	11	1.3	1.1			
548991 Orig																					0.08	0.17	
548991 Dup																					0.08	0.18	
549505 Orig	824	188	< 2	49	35	< 2	< 0.5	< 0.2	11	< 0.5	148	139	0.5	5.0	49.7	< 1	6.2	14	3.6	6.3	0.06	0.13	
549505 Dup	800	197	< 2	48	41	< 2	< 0.5	< 0.2	12	< 0.5	142	137	0.5	5.2	51.2	< 1	6.3	14	3.5	6.2	0.06	0.13	
549506 Orig	191	986	< 2	119	6	< 2	< 0.5	< 0.2	2	< 0.5	49.3	935	< 0.4	3.4	0.8	< 1	2.4	13	1.3	0.6	0.06	0.14	
549506 Split PREP DUP	189	990	< 2	117	6	< 2	< 0.5	< 0.2	2	< 0.5	47.8	941	< 0.4	3.2	0.8	< 1	1.8	12	1.2	0.6	0.07	0.14	
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	3	< 4								< 3											
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 28-Nov-17
Invoice No.: A17-13533
Invoice Date: 07-Jan-18
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

101 Rock samples were submitted for analysis.

The following analytical package(s) were requested: Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

REPORT **A17-13533**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Elitsa Hrischeva, Ph.D.
Quality Control

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Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548868	0.03	0.06	71.15	17.10	0.44	0.048	0.10	1.22	6.68	1.07	0.039	0.06	0.76	98.66	< 1	82	6	30	< 1	< 20	< 10	50	38
548869	0.06	0.12	73.63	15.76	1.17	0.040	0.34	1.64	4.93	1.73	0.122	0.03	0.98	100.4	1	38	17	30	2	< 20	< 10	90	32
548870	< 0.01	< 0.01	98.36	0.54	0.36	0.005	0.03	0.03	0.10	0.10	0.029	< 0.01	0.18	99.73	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1
548871	0.19	0.42	66.66	16.85	3.58	0.147	1.50	1.39	3.15	3.43	0.321	0.16	2.00	99.21	7	28	55	120	10	60	< 10	290	50
548872	0.04	0.10	71.56	15.89	1.08	0.026	0.33	2.00	5.15	1.97	0.123	0.04	0.64	98.81	1	19	15	30	1	< 20	< 10	70	27
548873	0.19	0.41	64.17	17.47	4.43	0.110	2.08	2.88	4.37	2.38	0.399	0.17	1.80	100.3	10	49	74	110	14	60	< 10	150	33
548874	0.07	0.16	69.22	17.69	1.42	0.086	0.39	1.32	6.33	1.65	0.108	0.09	0.82	99.12	2	42	17	40	3	< 20	< 10	120	45
548875	0.08	0.16	69.67	17.17	1.41	0.078	0.38	1.21	5.88	1.68	0.110	0.09	0.84	98.51	2	41	18	50	2	< 20	< 10	120	45
548876	0.05	0.10	69.85	16.46	1.14	0.062	0.27	1.57	6.68	1.36	0.115	0.12	0.61	98.24	< 1	24	12	30	1	< 20	< 10	100	38
548877	0.06	0.12	70.17	16.45	1.58	0.023	0.46	2.53	5.03	2.18	0.185	0.11	0.42	99.15	2	5	19	< 20	2	< 20	< 10	90	27
548878	0.04	0.08	70.40	17.70	1.01	0.010	0.20	2.83	6.19	1.34	0.136	0.02	0.26	100.1	< 1	2	10	20	< 1	< 20	< 10	60	26
548879	0.04	0.08	68.08	19.48	0.74	0.096	0.13	2.03	7.65	1.02	0.069	0.24	0.62	100.2	< 1	34	7	20	< 1	< 20	< 10	50	41
548880	0.48	1.03	76.08	10.10	4.30	0.049	0.78	1.28	1.20	1.81	0.589	0.29	1.23	97.71	9	38	57	80	6	20	330	160	29
548881	0.02	0.04	68.80	18.77	0.51	0.079	0.10	1.59	8.29	0.88	0.032	0.12	0.76	99.92	< 1	46	< 5	< 20	< 1	< 20	< 10	< 30	45
548882	0.04	0.08	70.41	16.99	0.97	0.122	0.20	2.14	7.07	0.82	0.094	0.06	0.61	99.49	< 1	13	6	20	< 1	< 20	< 10	60	31
548883	0.05	0.12	69.77	17.82	0.92	0.017	0.19	2.50	6.30	1.25	0.131	0.04	0.34	99.28	< 1	8	10	30	< 1	< 20	< 10	90	28
548884	0.03	0.06	70.80	16.93	0.80	0.377	0.06	1.58	8.58	0.41	0.012	0.52	0.19	100.2	< 1	35	< 5	< 20	< 1	< 20	< 10	< 30	39
548885	0.06	0.13	69.89	17.72	0.95	0.109	0.17	2.04	7.21	0.80	0.098	0.12	0.35	99.46	< 1	20	8	20	< 1	< 20	< 10	60	32
548886	0.05	0.11	69.67	17.04	0.98	0.115	0.21	1.96	6.93	0.92	0.100	0.11	0.57	98.60	< 1	13	8	30	< 1	< 20	< 10	60	31
548887	0.04	0.08	69.43	17.77	0.98	0.148	0.15	2.19	7.02	1.00	0.093	0.12	0.29	99.20	< 1	9	8	< 20	< 1	< 20	< 10	50	31
548888	0.04	0.09	71.18	17.03	0.96	0.014	0.17	2.52	5.85	1.52	0.119	0.03	0.24	99.63	< 1	3	8	20	< 1	< 20	< 10	70	28
548889	0.03	0.07	70.42	17.34	0.57	0.099	0.04	1.33	7.07	2.55	0.014	0.21	0.68	100.3	< 1	62	< 5	< 20	< 1	< 20	< 10	< 30	41
548890	< 0.01	< 0.01	98.39	0.39	0.91	0.010	0.02	0.03	0.07	0.03	0.018	< 0.01	-0.04	99.85	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1
548891	0.06	0.12	70.00	17.12	1.02	0.018	0.17	2.33	5.81	1.47	0.122	0.02	0.30	98.39	< 1	5	8	20	< 1	< 20	< 10	70	28
548892	0.06	0.12	71.11	17.23	1.01	0.026	0.17	2.26	6.05	1.43	0.118	0.04	0.37	99.81	< 1	7	9	20	< 1	< 20	< 10	70	29
548893	0.04	0.08	68.99	18.20	0.64	0.196	0.05	1.37	7.75	0.84	0.023	0.17	0.49	98.72	< 1	197	< 5	20	< 1	< 20	< 10	30	42
548894	0.07	0.15	70.46	17.89	1.04	0.017	0.22	2.51	6.15	1.22	0.132	0.05	0.26	99.94	< 1	5	11	< 20	< 1	< 20	40	80	28
548895	0.08	0.16	70.03	17.90	1.02	0.016	0.21	2.49	6.07	1.18	0.127	0.05	0.45	99.54	< 1	5	10	20	< 1	< 20	< 10	70	27
548896	0.04	0.09	70.79	17.18	0.94	0.012	0.18	2.49	6.01	1.57	0.122	0.03	0.33	99.65	< 1	3	9	< 20	< 1	< 20	< 10	100	28
548897	0.02	0.04	72.20	15.87	0.77	0.171	0.01	0.21	5.78	4.14	0.004	0.05	0.14	99.35	< 1	12	< 5	< 20	< 1	< 20	< 10	70	41
548898	0.04	0.08	69.73	17.48	1.00	0.013	0.19	2.45	5.80	1.64	0.123	0.02	0.20	98.65	< 1	3	9	30	< 1	< 20	< 10	80	28
549507	0.04	0.08	71.22	17.09	0.97	0.015	0.20	2.49	5.92	1.46	0.120	0.03	0.32	99.85	< 1	3	9	30	< 1	< 20	< 10	70	28
549508	1.14	2.46	76.15	14.55	1.09	0.078	0.08	0.44	2.92	0.60	0.018	0.01	0.36	96.30	< 1	171	5	30	< 1	< 20	< 10	40	50
549509	0.28	0.60	78.72	12.42	0.78	0.056	0.05	0.34	3.90	1.73	0.016	< 0.01	0.42	98.45	< 1	254	6	40	< 1	< 20	< 10	< 30	35
549510	< 0.01	< 0.01	97.22	0.53	1.04	0.013	0.03	0.03	0.09	0.07	0.028	0.01	0.03	99.09	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1
549511	0.30	0.65	71.67	17.42	0.79	0.086	0.06	0.40	4.97	2.71	0.028	< 0.01	0.70	98.84	< 1	188	< 5	20	< 1	< 20	< 10	50	53
549512	0.04	0.09	76.31	13.76	0.65	0.061	0.04	0.38	4.62	2.27	0.019	< 0.01	0.54	98.66	< 1	209	< 5	30	< 1	< 20	< 10	30	39
549513	0.03	0.07	67.71	19.90	0.85	0.050	0.05	0.37	6.49	3.12	0.046	0.01	1.22	99.84	< 1	347	6	20	< 1	< 20	< 10	50	68
549514	0.06	0.13	65.04	21.71	1.08	0.059	0.09	0.46	5.45	3.59	0.064	0.01	1.87	99.43	< 1	198	7	20	< 1	< 20	< 10	80	87
549515	0.05	0.10	67.17	20.14	0.87	0.053	0.07	0.49	6.06	2.67	0.049	< 0.01	1.41	98.99	< 1	148	5	20	< 1	< 20	< 10	70	71
549516	0.04	0.09	74.40	15.73	0.84	0.042	0.12	1.66	5.62	1.45	0.078	0.02	0.38	100.3	< 1	50	7	20	< 1	< 20	< 10	50	32

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549517	0.03	0.07	71.13	17.04	0.97	0.010	0.18	2.60	6.07	1.57	0.117	0.03	0.25	99.95	< 1	2	7	30	< 1	< 20	< 10	70	27
549518	0.09	0.19	75.48	13.98	1.17	0.044	0.22	1.43	4.77	1.77	0.101	0.15	0.62	99.73	< 1	9	10	30	1	< 20	< 10	160	37
549519	0.11	0.23	84.28	8.39	1.73	0.068	0.26	0.48	1.80	1.83	0.080	0.18	0.84	99.92	< 1	11	11	50	2	< 20	< 10	220	40
549520	0.23	0.50	76.30	9.56	4.65	0.054	0.90	1.58	1.30	1.98	0.793	0.35	1.17	98.65	11	33	68	80	7	30	300	150	25
549521	0.60	1.30	79.65	12.47	1.13	0.063	0.10	0.57	3.24	0.73	0.038	0.01	0.43	98.43	< 1	71	6	40	< 1	< 20	< 10	80	41
549522	0.84	1.82	76.89	13.63	0.97	0.064	0.07	0.51	3.18	0.76	0.029	< 0.01	0.40	96.51	< 1	241	< 5	50	< 1	< 20	< 10	60	46
549523	1.05	2.26	73.47	16.46	0.95	0.076	0.03	0.45	3.28	2.12	0.010	0.04	0.34	97.22	< 1	218	< 5	40	< 1	< 20	< 10	30	49
549524	0.75	1.62	71.73	17.43	0.73	0.084	0.04	0.46	4.48	3.12	0.011	0.02	0.27	98.36	< 1	195	< 5	20	< 1	< 20	< 10	70	47
549525	0.19	0.41	77.49	13.26	0.81	0.076	0.05	0.38	3.57	2.40	0.027	< 0.01	0.60	98.66	< 1	516	< 5	40	< 1	< 20	< 10	40	39
549526	0.16	0.34	66.53	19.88	0.89	0.071	0.10	0.54	5.49	3.91	0.048	< 0.01	1.58	99.03	< 1	562	< 5	20	< 1	< 20	< 10	100	74
549527	0.29	0.62	72.06	16.94	0.90	0.068	0.06	0.62	4.64	2.92	0.027	0.04	0.85	99.12	< 1	165	< 5	40	< 1	< 20	< 10	60	47
549528	0.45	0.97	81.50	10.72	0.96	0.068	0.21	0.56	2.63	0.92	0.053	0.02	0.70	98.33	< 1	122	8	50	< 1	< 20	< 10	110	36
549529	0.12	0.25	72.07	15.55	1.30	0.074	0.24	0.97	5.39	1.65	0.074	0.19	0.90	98.40	< 1	27	12	30	2	< 20	< 10	200	49
549530	< 0.01	< 0.01	97.26	0.65	1.07	0.012	0.06	0.04	0.09	0.10	0.036	< 0.01	0.11	99.43	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	1
549531	0.10	0.22	71.96	16.20	0.70	0.225	0.08	0.81	7.37	1.02	0.028	0.30	0.34	99.04	< 1	13	< 5	< 20	< 1	< 20	< 10	80	42
549532	0.07	0.14	70.24	17.86	1.23	0.017	0.21	2.38	5.97	1.33	0.131	0.04	0.29	99.71	< 1	6	9	30	1	< 20	< 10	80	27
549533	0.29	0.63	79.11	11.43	1.33	0.083	0.25	0.49	2.72	1.77	0.088	0.03	0.91	98.22	< 1	302	9	40	1	< 20	< 10	280	41
549534	0.08	0.17	70.75	17.70	1.21	0.074	0.19	0.86	5.34	2.49	0.074	0.05	1.04	99.78	< 1	149	7	30	1	< 20	< 10	120	54
549535	0.08	0.17	71.95	15.96	0.95	0.060	0.19	0.85	5.21	2.41	0.064	0.04	1.01	98.67	< 1	138	8	30	1	< 20	< 10	150	50
549536	0.10	0.21	76.61	12.91	1.52	0.098	0.28	0.65	3.62	2.01	0.098	0.03	0.97	98.78	2	161	10	40	2	< 20	< 10	190	48
549537	0.10	0.21	78.15	12.32	1.24	0.083	0.27	0.69	3.64	1.78	0.093	0.05	0.91	99.24	< 1	123	9	40	1	< 20	< 10	170	43
549538	0.10	0.21	71.95	16.75	1.40	0.174	0.25	0.89	6.02	1.73	0.075	0.20	0.78	100.2	< 1	20	11	30	2	< 20	< 10	150	52
549539	0.06	0.14	70.94	16.36	1.07	0.015	0.24	2.58	5.94	1.49	0.143	0.04	0.29	99.10	1	9	11	< 20	< 1	< 20	< 10	80	29
549540	0.49	1.05	75.81	10.52	4.43	0.048	0.77	1.26	1.18	1.81	0.599	0.29	1.13	97.86	9	38	57	90	6	30	340	160	29
549541	0.05	0.10	71.08	16.30	1.15	0.014	0.19	2.60	5.93	1.65	0.121	0.03	0.13	99.20	< 1	3	8	30	< 1	< 20	< 10	70	27
549542	0.04	0.09	70.20	18.11	1.06	0.059	0.17	2.13	6.33	1.47	0.114	0.04	0.26	99.95	< 1	9	9	30	< 1	< 20	< 10	80	31
549543	0.04	0.09	70.61	17.46	0.97	0.084	0.10	0.53	5.97	2.35	0.041	0.02	0.79	98.94	< 1	273	< 5	30	< 1	< 20	< 10	60	47
549544	0.12	0.25	68.97	18.51	0.88	0.299	0.10	0.49	6.47	2.26	0.045	0.02	0.95	99.00	< 1	310	< 5	< 20	< 1	< 20	< 10	70	59
549545	0.11	0.23	59.69	25.63	1.62	0.150	0.24	0.37	4.16	6.00	0.138	< 0.01	2.22	100.2	< 1	1013	9	< 20	1	< 20	< 10	190	114
549546	0.04	0.08	74.69	14.55	0.77	0.215	0.07	0.49	5.47	1.43	0.029	0.01	0.64	98.36	< 1	859	< 5	30	< 1	< 20	< 10	50	43
549547	0.06	0.13	70.66	17.54	1.15	0.016	0.16	2.52	5.79	1.56	0.120	0.03	0.14	99.69	< 1	7	9	20	< 1	< 20	< 10	60	27
549548	0.07	0.15	70.36	17.91	0.73	0.228	0.06	0.65	9.09	0.86	0.025	0.08	0.24	100.2	< 1	13	< 5	< 20	< 1	< 20	< 10	70	43
549549	0.12	0.25	71.88	16.07	1.12	0.486	0.06	0.44	6.89	1.46	0.033	0.09	0.13	98.67	< 1	37	< 5	20	< 1	< 20	< 10	60	41
549550	< 0.01	< 0.01	97.20	0.48	1.10	0.014	0.02	0.03	0.09	0.05	0.022	< 0.01	-0.12	98.89	< 1	2	< 5	< 20	< 1	< 20	< 10	< 30	1
549551	0.08	0.17	74.76	14.20	1.02	0.131	0.09	0.67	5.46	1.95	0.035	0.08	0.38	98.77	< 1	69	< 5	30	1	< 20	< 10	90	36
549552	0.04	0.08	70.70	17.48	1.12	0.014	0.19	2.56	5.90	1.44	0.122	0.02	0.15	99.69	< 1	2	9	30	1	< 20	< 10	70	26
549553	0.04	0.09	75.17	14.15	0.71	0.165	0.09	0.82	5.66	0.99	0.057	0.01	0.83	98.64	< 1	35	< 5	30	< 1	< 20	< 10	40	38
549554	0.03	0.06	74.21	15.04	0.83	0.140	0.08	0.78	6.05	1.18	0.068	0.02	0.80	99.21	< 1	13	< 5	30	< 1	< 20	< 10	< 30	41
549555	0.03	0.07	74.76	14.95	0.70	0.169	0.08	1.12	6.13	1.14	0.049	0.02	1.04	100.2	< 1	19	< 5	30	< 1	< 20	< 10	40	41
549556	0.04	0.09	71.77	16.63	1.07	0.016	0.19	2.56	5.95	1.46	0.123	0.04	0.18	99.98	1	3	8	30	< 1	< 20	< 10	80	26
549557	0.06	0.12	70.91	17.00	1.17	0.019	0.18	2.40	6.04	1.42	0.130	0.04	0.19	99.51	< 1	6	7	20	< 1	< 20	< 10	70	26

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549558	0.08	0.17	77.88	12.16	1.04	0.057	0.15	0.64	4.10	1.58	0.050	0.14	0.60	98.39	< 1	28	6	50	1	20	< 10	100	35
549559	0.22	0.47	74.34	15.20	0.57	0.066	0.10	0.91	5.42	1.00	0.031	0.01	0.86	98.52	< 1	63	< 5	30	< 1	< 20	< 10	50	39
549560	0.23	0.50	75.61	9.91	4.75	0.052	0.92	1.61	1.26	1.96	0.822	0.38	1.10	98.38	11	34	66	80	7	30	290	340	23
549561	0.95	2.04	73.19	17.45	0.31	0.119	0.02	0.37	3.83	2.18	0.018	0.01	0.29	97.80	< 1	220	< 5	20	< 1	< 20	< 10	70	47
549562	0.26	0.56	76.17	14.74	0.48	0.057	0.05	0.67	5.00	1.58	0.020	0.03	0.52	99.31	< 1	87	< 5	30	< 1	< 20	< 10	50	37
549563	0.16	0.33	84.57	9.68	0.94	0.064	0.19	0.45	2.64	1.34	0.065	0.01	0.67	100.6	< 1	72	6	50	1	< 20	< 10	120	33
549564	0.11	0.25	77.06	12.61	1.65	0.118	0.36	0.68	2.64	2.49	0.114	0.25	1.14	99.12	1	16	15	50	2	< 20	< 10	270	54
549565	0.14	0.30	76.12	13.41	1.67	0.111	0.42	0.50	2.68	2.98	0.130	0.12	1.36	99.51	1	20	17	30	2	< 20	< 10	250	65
549566	0.08	0.17	72.76	16.49	1.01	0.209	0.16	0.90	6.72	1.24	0.052	0.23	0.53	100.3	< 1	15	7	30	1	< 20	< 10	110	45
549567	0.05	0.11	69.73	17.54	0.75	0.011	0.19	2.54	6.00	1.53	0.137	0.02	0.27	98.73	1	3	8	20	1	< 20	< 10	70	27
549568	0.05	0.11	70.86	17.58	0.92	0.030	0.18	2.30	6.30	1.36	0.113	0.04	0.26	99.94	< 1	15	7	30	< 1	< 20	< 10	70	27
549569	0.06	0.13	75.63	15.26	0.57	0.058	0.12	1.06	6.03	0.90	0.039	0.19	0.64	100.5	< 1	32	6	50	< 1	< 20	< 10	70	38
549570	< 0.01	< 0.01	98.39	0.44	0.71	0.008	0.04	0.03	0.07	0.05	0.031	< 0.01	0.23	100.0	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1
549571	0.24	0.51	72.99	16.13	0.53	0.187	0.10	0.77	7.01	0.57	0.022	0.16	0.39	98.84	< 1	53	< 5	20	< 1	< 20	< 10	30	42
549572	0.14	0.30	68.30	18.38	1.52	0.157	0.33	1.22	6.78	1.95	0.122	0.25	0.98	99.99	1	25	15	20	2	< 20	< 10	200	59
549573	0.07	0.16	70.63	16.55	0.75	0.014	0.16	2.39	5.80	1.68	0.105	0.03	0.32	98.42	< 1	6	7	< 20	< 1	< 20	< 10	60	29
549574	0.08	0.17	70.89	17.13	0.96	0.012	0.17	2.43	5.63	1.75	0.112	0.01	0.25	99.34	< 1	2	8	< 20	< 1	< 20	< 10	70	27
549575	0.07	0.16	69.71	17.42	0.81	0.010	0.16	2.43	5.60	1.83	0.114	0.02	0.28	98.38	< 1	2	8	20	< 1	< 20	< 10	60	28
549576	0.07	0.15	71.67	17.09	0.92	0.013	0.17	2.36	5.80	1.67	0.111	0.03	0.32	100.1	< 1	5	9	20	< 1	< 20	< 10	70	27

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548868	3	< 5	484	330	5	28	33	3	< 0.5	< 0.2	10	< 0.5	62.0	75	23.9	2.3	54.6	< 1	2.2	27	5.6	7.1	
548869	2	< 5	947	596	< 2	71	19	< 2	< 0.5	< 0.2	20	< 0.5	130	1976	2.4	3.1	22.3	< 1	5.8	12	2.2	1.8	
548870	< 1	< 5	4	5	3	39	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	22	< 0.4	1.3	0.2	< 1	< 0.1	< 5	1.3	0.4	
548871	2	< 5	2540	291	5	95	58	< 2	< 0.5	< 0.2	65	< 0.5	440	740	0.5	4.3	39.6	2	14.7	22	5.7	2.9	
548872	1	< 5	677	745	< 2	62	5	< 2	< 0.5	< 0.2	8	< 0.5	103	2236	< 0.4	2.1	4.9	< 1	6.1	15	1.8	1.7	
548873	2	< 5	2060	692	7	132	14	< 2	0.5	< 0.2	36	< 0.5	452	803	< 0.4	3.3	11.7	< 1	14.1	9	4.8	2.6	
548874	3	< 5	1110	339	< 2	100	155	< 2	< 0.5	< 0.2	30	< 0.5	172	130	< 0.4	6.5	175	1	8.0	21	6.9	9.6	
548875	3	< 5	1120	311	< 2	92	133	< 2	< 0.5	< 0.2	45	< 0.5	174	129	< 0.4	9.5	124	< 1	7.4	16	5.1	6.5	
548876	2	< 5	665	493	< 2	138	17	< 2	0.6	< 0.2	15	< 0.5	103	664	< 0.4	6.3	14.0	< 1	4.7	16	2.2	2.9	
548877	< 1	< 5	365	973	< 2	106	7	< 2	< 0.5	< 0.2	2	< 0.5	66.6	2317	< 0.4	3.3	5.0	< 1	3.1	14	3.8	1.5	2.74
548878	< 1	< 5	43	1078	< 2	117	3	< 2	< 0.5	< 0.2	< 1	< 0.5	8.5	873	< 0.4	3.1	0.3	< 1	0.5	11	1.3	0.7	
548879	2	< 5	402	566	< 2	94	29	< 2	< 0.5	< 0.2	10	< 0.5	60.5	224	< 0.4	5.0	47.5	< 1	2.0	12	11.7	4.8	
548880	4	57	1320	214	18	125	850	9	0.6	4.2	960	11.3	304	1069	15.4	3.0	21.1	6	11.6	26	46.1	7.6	
548881	3	< 5	386	396	< 2	97	29	< 2	< 0.5	< 0.2	10	< 0.5	56.6	45	< 0.4	6.5	36.2	< 1	1.9	11	5.1	6.5	
548882	1	< 5	218	758	3	114	13	< 2	< 0.5	< 0.2	3	< 0.5	58.9	522	< 0.4	3.7	4.8	< 1	1.5	15	1.8	4.2	
548883	< 1	< 5	451	1015	< 2	126	4	< 2	< 0.5	< 0.2	3	< 0.5	182	761	< 0.4	3.9	2.1	< 1	3.5	15	1.4	2.8	
548884	3	< 5	120	275	3	168	32	< 2	0.7	< 0.2	4	< 0.5	30.4	35	< 0.4	13.8	23.3	13	0.8	14	5.4	17.4	
548885	2	< 5	326	716	< 2	121	12	< 2	0.5	< 0.2	8	< 0.5	82.2	386	< 0.4	5.3	4.3	2	2.1	12	2.6	3.4	
548886	1	< 5	295	631	2	108	9	< 2	< 0.5	< 0.2	7	< 0.5	64.8	395	< 0.4	4.3	4.4	< 1	1.7	13	1.7	2.8	
548887	1	< 5	150	786	2	125	8	< 2	< 0.5	< 0.2	3	< 0.5	38.9	577	< 0.4	6.0	4.2	< 1	0.9	11	2.5	4.6	2.71
548888	< 1	< 5	133	938	< 2	107	3	< 2	< 0.5	< 0.2	2	< 0.5	22.5	887	< 0.4	3.1	0.5	< 1	0.6	11	1.2	0.6	
548889	3	< 5	951	296	< 2	68	58	< 2	< 0.5	< 0.2	8	< 0.5	101	113	< 0.4	9.2	96.0	< 1	6.7	37	12.4	17.3	
548890	< 1	< 5	2	6	3	40	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	11	< 0.4	1.5	0.2	< 1	< 0.1	< 5	1.3	0.4	
548891	< 1	< 5	199	829	< 2	107	4	< 2	< 0.5	< 0.2	3	< 0.5	44.8	795	< 0.4	3.0	2.6	< 1	1.1	11	1.2	0.8	
548892	< 1	< 5	293	814	< 2	117	7	< 2	0.5	< 0.2	6	< 0.5	51.4	759	< 0.4	3.3	5.5	< 1	1.7	11	1.3	0.9	
548893	3	< 5	361	328	< 2	87	92	< 2	< 0.5	< 0.2	10	< 0.5	75.5	30	< 0.4	6.8	103	< 1	1.9	34	6.6	14.7	
548894	< 1	< 5	313	955	< 2	121	5	< 2	< 0.5	< 0.2	2	< 0.5	104	949	< 0.4	3.2	0.7	< 1	2.4	11	1.2	0.7	
548895	< 1	< 5	295	947	< 2	116	5	< 2	< 0.5	< 0.2	3	< 0.5	98.2	913	< 0.4	3.4	0.7	< 1	2.3	11	1.2	0.7	
548896	< 1	< 5	117	935	< 2	114	4	< 2	< 0.5	< 0.2	2	< 0.5	18.8	897	< 0.4	3.3	0.5	< 1	0.6	12	1.2	0.8	
548897	3	< 5	1080	60	< 2	24	35	< 2	< 0.5	< 0.2	26	< 0.5	37.4	92	< 0.4	3.2	20.5	< 1	6.3	16	2.0	5.4	2.66
548898	< 1	< 5	140	924	< 2	112	4	< 2	< 0.5	< 0.2	2	< 0.5	19.2	922	< 0.4	3.3	0.4	< 1	1.1	14	1.3	1.0	
549507	< 1	< 5	123	917	< 2	117	3	< 2	< 0.5	< 0.2	2	< 0.5	24.4	916	< 0.4	3.2	0.5	< 1	0.7	12	1.3	1.0	
549508	3	< 5	278	103	< 2	11	17	< 2	< 0.5	< 0.2	19	< 0.5	87.7	24	3.4	1.3	27.7	< 1	1.5	11	1.6	1.4	
549509	3	< 5	782	77	< 2	5	31	< 2	< 0.5	< 0.2	11	< 0.5	118	21	1.1	1.1	112	2	5.2	11	1.6	1.9	
549510	< 1	< 5	4	4	4	43	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.6	17	< 0.4	1.6	0.3	1	0.1	< 5	1.3	0.5	
549511	3	< 5	1250	86	< 2	4	41	< 2	< 0.5	< 0.2	22	< 0.5	170	76	0.5	1.6	144	< 1	9.8	13	6.0	3.5	
549512	3	< 5	1040	80	< 2	< 4	37	< 2	< 0.5	< 0.2	15	< 0.5	148	58	0.4	1.6	171	2	8.8	11	2.8	2.6	
549513	3	< 5	1390	138	< 2	8	107	< 2	< 0.5	< 0.2	31	< 0.5	207	49	0.6	2.4	321	2	11.3	14	5.4	4.2	
549514	3	< 5	1640	177	< 2	10	67	< 2	< 0.5	< 0.2	46	< 0.5	204	54	2.5	1.9	123	2	12.7	11	4.1	1.7	
549515	3	< 5	1230	195	< 2	13	91	< 2	< 0.5	< 0.2	34	< 0.5	165	43	2.1	2.3	96.6	< 1	9.9	13	10.6	3.3	2.74
549516	1	< 5	361	626	< 2	69	19	< 2	< 0.5	< 0.2	7	< 0.5	56.8	544	< 0.4	2.5	42.8	< 1	3.9	10	1.6	0.9	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
549517	< 1	< 5	37	962	< 2	117	4	< 2	< 0.5	< 0.2	< 1	< 0.5	4.0	940	< 0.4	3.2	0.4	< 1	0.5	11	1.2	0.9	
549518	1	< 5	779	494	2	79	36	< 2	< 0.5	< 0.2	33	< 0.5	110	475	< 0.4	2.8	11.4	< 1	4.4	7	0.8	1.0	
549519	2	< 5	1240	112	< 2	28	60	2	< 0.5	< 0.2	52	< 0.5	125	122	< 0.4	1.6	21.4	< 1	7.1	6	2.2	0.9	
549520	3	40	1260	301	27	213	1020	8	1.0	2.6	814	9.8	248	2009	10.3	5.5	18.7	5	11.3	29	93.6	16.1	
549521	3	< 5	547	187	< 2	8	25	2	< 0.5	< 0.2	23	< 0.5	92.4	39	0.9	0.9	19.3	< 1	4.8	7	1.7	2.5	
549522	3	< 5	522	133	< 2	5	60	2	< 0.5	< 0.2	20	< 0.5	112	17	2.3	0.7	50.3	1	3.9	9	2.4	2.6	
549523	4	< 5	994	106	< 2	< 4	57	2	< 0.5	< 0.2	16	< 0.5	144	56	1.4	1.0	118	< 1	8.2	12	1.9	2.0	
549524	4	< 5	1740	76	< 2	5	21	< 2	< 0.5	< 0.2	15	< 0.5	258	9	1.1	1.9	96.8	< 1	13.2	16	2.1	2.6	
549525	3	< 5	1210	73	< 2	10	52	< 2	< 0.5	< 0.2	14	< 0.5	177	10	< 0.4	4.1	378	1	10.0	15	4.5	6.8	2.70
549526	3	< 5	1890	112	2	22	107	< 2	< 0.5	< 0.2	34	< 0.5	261	18	< 0.4	8.3	302	1	11.8	17	10.1	5.9	
549527	3	< 5	1350	159	< 2	18	60	< 2	< 0.5	< 0.2	14	< 0.5	139	26	1.7	5.3	325	< 1	11.9	21	9.3	10.9	
549528	3	< 5	684	152	2	15	28	3	< 0.5	< 0.2	20	< 0.5	123	52	0.6	1.1	33.3	< 1	4.5	11	1.7	3.2	
549529	3	< 5	1140	284	< 2	37	37	< 2	< 0.5	< 0.2	40	< 0.5	278	102	< 0.4	2.3	29.6	< 1	8.0	12	2.6	3.1	
549530	< 1	< 5	4	6	3	41	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	26	< 0.4	1.6	0.2	< 1	1.0	< 5	1.5	0.5	
549531	4	< 5	622	114	2	31	29	< 2	< 0.5	< 0.2	14	< 0.5	162	38	< 0.4	4.2	100	< 1	4.4	16	3.0	9.5	
549532	< 1	< 5	269	955	< 2	103	4	< 2	< 0.5	< 0.2	4	< 0.5	74.7	895	< 0.4	3.9	1.1	< 1	2.7	10	1.2	1.5	
549533	3	< 5	1210	162	< 2	24	28	< 2	< 0.5	< 0.2	25	< 0.5	177	88	0.8	1.0	34.9	< 1	7.4	28	2.7	3.1	
549534	3	< 5	1410	276	< 2	21	61	< 2	< 0.5	< 0.2	30	< 0.5	154	93	< 0.4	1.3	107	1	10.2	12	4.5	2.8	
549535	3	< 5	1330	268	< 2	21	53	< 2	< 0.5	< 0.2	26	< 0.5	144	97	< 0.4	1.2	81.0	< 1	9.9	14	2.3	2.6	2.70
549536	3	< 5	1450	188	4	20	39	2	< 0.5	< 0.2	37	< 0.5	165	94	< 0.4	1.1	41.1	< 1	10.6	7	1.6	2.5	
549537	3	< 5	1240	203	< 2	24	33	< 2	< 0.5	< 0.2	32	< 0.5	158	90	< 0.4	1.2	31.1	< 1	7.6	7	2.3	2.7	
549538	3	< 5	1100	212	< 2	55	58	4	< 0.5	< 0.2	53	< 0.5	117	107	0.4	5.0	39.8	< 1	7.4	7	2.5	5.1	
549539	< 1	< 5	211	939	3	125	6	< 2	< 0.5	< 0.2	2	< 0.5	52.4	1000	< 0.4	3.4	2.2	< 1	1.9	11	1.4	1.1	
549540	4	55	1350	210	18	128	971	9	0.5	4.1	1010	12.0	302	1077	15.1	3.2	20.8	7	12.0	26	46.3	8.0	
549541	< 1	< 5	50	928	2	106	5	< 2	< 0.5	< 0.2	2	< 0.5	9.8	1006	< 0.4	2.7	0.5	< 1	1.9	11	1.2	0.9	
549542	1	< 5	300	789	< 2	99	8	< 2	< 0.5	< 0.2	7	< 0.5	57.9	771	< 0.4	3.6	4.1	< 1	2.5	11	1.3	1.5	
549543	3	< 5	939	202	< 2	11	70	< 2	< 0.5	< 0.2	19	< 0.5	135	129	< 0.4	3.3	284	2	6.3	11	3.0	4.8	
549544	3	< 5	1210	140	< 2	17	66	< 2	< 0.5	< 0.2	23	< 0.5	225	108	< 0.4	7.4	384	< 1	8.3	14	4.5	6.4	
549545	3	< 5	3730	141	< 2	5	216	< 2	< 0.5	< 0.2	68	< 0.5	755	297	< 0.4	2.2	861	2	25.1	27	5.2	11.7	2.81
549546	3	< 5	686	122	< 2	21	50	< 2	< 0.5	< 0.2	13	< 0.5	177	76	< 0.4	2.4	128	< 1	7.2	14	3.8	5.1	
549547	< 1	< 5	153	902	< 2	106	4	< 2	< 0.5	< 0.2	2	< 0.5	33.9	936	< 0.4	3.0	0.9	< 1	2.5	11	1.2	1.2	
549548	3	< 5	270	157	< 2	54	25	< 2	< 0.5	< 0.2	9	< 0.5	32.8	60	< 0.4	5.4	46.0	< 1	2.4	12	2.7	4.1	
549549	4	< 5	630	127	< 2	57	28	< 2	< 0.5	< 0.2	16	< 0.5	126	160	0.4	5.4	31.5	< 1	4.6	15	2.2	7.8	
549550	< 1	< 5	5	6	3	43	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.0	14	< 0.4	1.5	0.7	< 1	0.5	< 5	1.5	0.6	
549551	3	< 5	966	222	< 2	27	35	< 2	< 0.5	< 0.2	18	< 0.5	291	171	< 0.4	2.3	42.7	< 1	6.8	13	3.1	4.6	
549552	< 1	< 5	105	1051	< 2	114	3	< 2	< 0.5	< 0.2	1	< 0.5	20.4	1010	< 0.4	3.3	0.3	< 1	1.6	10	1.2	0.8	
549553	3	< 5	529	207	2	37	37	302	< 0.5	< 0.2	12	< 0.5	146	106	6.6	7.7	263	< 1	3.8	35	6.5	8.0	
549554	3	< 5	631	202	< 2	26	63	5	< 0.5	< 0.2	16	< 0.5	147	126	1.3	6.1	449	< 1	4.5	19	8.1	6.9	
549555	3	< 5	581	217	< 2	28	61	< 2	< 0.5	< 0.2	14	< 0.5	136	122	< 0.4	5.8	367	< 1	4.4	19	9.0	8.9	2.81
549556	< 1	< 5	125	976	< 2	124	4	< 2	< 0.5	< 0.2	2	< 0.5	29.3	995	< 0.4	3.4	1.1	< 1	1.5	11	1.3	1.5	
549557	< 1	< 5	195	919	< 2	116	4	< 2	< 0.5	< 0.2	4	< 0.5	39.9	936	< 0.4	3.2	1.4	< 1	1.6	10	1.2	0.8	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
549558	3	< 5	973	145	< 2	25	51	2	< 0.5	< 0.2	28	< 0.5	102	65	< 0.4	2.1	61.7	< 1	5.9	8	1.7	2.6	
549559	3	< 5	607	274	< 2	9	27	< 2	< 0.5	< 0.2	17	< 0.5	92.2	39	< 0.4	1.6	93.0	< 1	4.5	12	1.9	2.7	
549560	3	35	1200	289	24	208	908	8	0.9	2.7	737	8.6	230	2002	9.4	5.2	16.6	4	10.0	27	84.2	14.4	
549561	4	< 5	1200	70	< 2	13	61	< 2	< 0.5	< 0.2	31	< 0.5	210	13	0.7	5.1	371	< 1	11.6	19	4.2	5.8	
549562	4	< 5	992	152	< 2	21	57	< 2	< 0.5	< 0.2	16	< 0.5	158	18	0.4	3.8	158	< 1	9.2	23	10.3	19.7	
549563	3	< 5	1020	141	< 2	11	45	2	< 0.5	< 0.2	32	< 0.5	153	63	< 0.4	1.4	54.4	< 1	8.0	11	1.1	1.8	
549564	3	< 5	1720	128	< 2	34	78	< 2	< 0.5	< 0.2	65	< 0.5	177	144	< 0.4	2.2	52.2	< 1	11.1	7	1.1	1.6	
549565	3	< 5	2040	138	< 2	28	105	< 2	< 0.5	< 0.2	79	< 0.5	225	170	< 0.4	2.0	57.7	3	12.4	9	2.6	2.8	
549566	3	< 5	805	185	< 2	81	45	< 2	< 0.5	< 0.2	28	< 0.5	153	88	< 0.4	5.7	23.4	< 1	6.5	8	3.6	8.1	
549567	< 1	< 5	134	949	< 2	132	5	< 2	< 0.5	< 0.2	1	< 0.5	33.6	1107	< 0.4	4.4	0.5	< 1	2.1	12	1.3	1.2	
549568	< 1	< 5	304	850	< 2	116	8	< 2	< 0.5	< 0.2	6	< 0.5	54.7	987	< 0.4	3.5	3.4	< 1	2.7	11	1.3	1.1	
549569	3	< 5	534	242	< 2	71	47	< 2	< 0.5	< 0.2	19	< 0.5	98.3	50	< 0.4	4.3	47.7	< 1	3.5	9	3.3	4.7	
549570	< 1	< 5	2	4	2	52	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	14	< 0.4	1.6	0.1	< 1	0.4	< 5	1.3	0.4	
549571	3	< 5	286	165	< 2	40	32	< 2	< 0.5	< 0.2	10	< 0.5	87.3	28	< 0.4	3.8	38.3	< 1	1.6	65	3.4	7.9	
549572	3	< 5	1400	315	< 2	86	69	< 2	< 0.5	< 0.2	49	< 0.5	326	178	< 0.4	5.3	33.2	1	8.0	23	1.7	3.8	
549573	< 1	< 5	229	891	< 2	90	3	< 2	< 0.5	< 0.2	2	< 0.5	97.2	1088	< 0.4	2.5	1.8	< 1	2.4	13	1.1	1.0	
549574	< 1	< 5	55	887	< 2	101	2	< 2	< 0.5	< 0.2	< 1	< 0.5	17.1	1063	< 0.4	2.6	0.2	< 1	0.5	13	1.0	0.8	
549575	< 1	< 5	58	896	< 2	93	3	< 2	< 0.5	< 0.2	< 1	< 0.5	17.4	1107	< 0.4	2.8	0.3	< 1	0.3	13	1.1	0.8	2.70
549576	< 1	< 5	203	915	< 2	98	3	< 2	< 0.5	< 0.2	2	< 0.5	41.8	1068	< 0.4	2.9	0.5	< 1	1.2	12	1.2	0.8	

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas			11.10	1.82	0.77	0.010	0.34	42.69	0.83	0.54	0.120	30.23					1600						
NIST 694 Cert			11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740						
DNC-1 Meas			47.07	18.20	9.58	0.150	10.00	11.57	1.89	0.22	0.480	0.06			31		151	280	53	250	100	70	
DNC-1 Cert			47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	
GBW 07113 Meas			70.82	13.02	3.19	0.140	0.15	0.59	2.50	5.44	0.280	0.03			5	4	6						
GBW 07113 Cert			72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00						
LKSD-3 Meas																		90		50		160	
LKSD-3 Cert																		87.0		47.0		152	
TDB-1 Meas																		240		90	330	150	
TDB-1 Cert																		251		92	323	155	
W-2a Meas			52.40	15.51	10.60	0.170	6.37	11.07	2.22	0.62	1.080	0.15			36	< 1	266	90	43	70	110	80	18
W-2a Cert			52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0
SY-4 Meas			50.15	20.86	6.28	0.110	0.51	8.13	6.99	1.67	0.290	0.11			1	3	7						
SY-4 Cert			49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0						
CTA-AC-1 Meas																					50	40	
CTA-AC-1 Cert																					54.0	38.0	
BIR-1a Meas			47.54	16.11	10.89	0.170	9.26	13.49	1.83	0.02	0.940	0.02			43	< 1	324	370		160	120	60	
BIR-1a Cert			47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370		170	125	70	
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																		30			920	100	15
NCS DC70009 (GBW07241) Cert																		30			960	100	16.5
OREAS 100a (Fusion) Meas																			17		170		
OREAS 100a (Fusion) Cert																			18.1		169		
OREAS 101a (Fusion) Meas																			45		420		
OREAS 101a (Fusion) Cert																			48.8		430		
OREAS 101b (Fusion) Meas																			46		420		
OREAS 101b (Fusion) Cert																			47		420		
JR-1 Meas																				< 20		< 30	16
JR-1 Cert																				1.67		30.6	16.1
NCS DC86303 Meas	0.21	0.46																					

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert	0.21	0.460																					
NCS DC86303 Meas	0.21	0.46																					
NCS DC86303 Cert	0.21	0.460																					
NCS DC86303 Meas	0.21	0.46																					
NCS DC86303 Cert	0.21	0.460																					
NCS DC86303 Meas	0.21	0.45																					
NCS DC86303 Cert	0.21	0.460																					
NCS DC86304 Meas	1.08	2.32																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.09	2.35																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.07	2.29																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.08	2.32																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.09	2.36																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.09	2.36																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.08	2.33																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.09	2.34																					
NCS DC86304 Cert	1.06	2.29																					

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86304 Meas	1.08	2.33																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86304 Meas	1.08	2.31																					
NCS DC86304 Cert	1.06	2.29																					
NCS DC86314 Meas	1.80	3.87																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.79	3.85																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.79	3.85																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.81	3.89																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.80	3.87																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.79	3.85																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.80	3.87																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.79	3.85																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.76	3.78																					
NCS DC86314 Cert	1.81	3.89																					
NCS DC86314 Meas	1.76	3.79																					

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Cert	1.81	3.89																					
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.18																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.08																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.22																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.05																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.09																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.16																						
Lithium Tetraborate FX-LT 100 lot#220610B	8																						

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.22																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.12																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.27																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.13																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
Lithium Tetraborate FX-LT 100 lot#220610B Meas	8.10																						
Lithium Tetraborate FX-LT 100 lot#220610B Cert	8																						
548874 Orig	0.07	0.16																					
548874 Dup	0.07	0.16																					
548882 Orig	0.04	0.08	70.47	17.01	0.98	0.122	0.20	2.13	7.02	0.80	0.092	0.07	0.61	99.51	< 1	13	6	20	< 1	< 20	< 10	60	31
548882 Dup	0.04	0.08	70.35	16.97	0.97	0.122	0.19	2.15	7.12	0.83	0.095	0.06	0.61	99.46	< 1	13	7	20	< 1	< 20	< 10	70	31
548882 Orig																		30	< 1	< 20	< 10	60	31
548882 Dup																		20	< 1	< 20	< 10	60	30

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
548896 Orig	0.04	0.09																					
548896 Dup	0.04	0.09																					
549507 Orig			71.01	17.11	0.95	0.015	0.20	2.49	5.90	1.45	0.119	0.02	0.32	99.59	< 1	3	8	30	< 1	< 20	< 10	70	28
549507 Dup			71.44	17.07	0.98	0.015	0.21	2.49	5.95	1.48	0.121	0.03	0.32	100.1	< 1	3	10	30	< 1	< 20	< 10	70	28
549512 Orig	0.04	0.09																					
549512 Dup	0.04	0.09																					
549525 Orig	0.19	0.41	77.49	13.26	0.81	0.076	0.05	0.38	3.57	2.40	0.027	< 0.01	0.60	98.66	< 1	516	< 5	40	< 1	< 20	< 10	40	39
549525 Split PREP DUP	0.17	0.37	77.51	13.69	0.84	0.072	0.05	0.40	3.65	2.44	0.029	0.01	0.72	99.43	< 1	530	< 5	40	< 1	< 20	< 10	100	42
549526 Orig	0.16	0.34																					
549526 Dup	0.16	0.33																					
549533 Orig	0.29	0.63																					
549533 Dup	0.29	0.63																					
549537 Orig			77.96	12.38	1.24	0.083	0.27	0.69	3.63	1.77	0.093	0.05	0.91	99.08	1	125	10	40	1	< 20	< 10	170	44
549537 Dup			78.35	12.27	1.24	0.083	0.27	0.69	3.66	1.79	0.092	0.05	0.91	99.40	< 1	121	9	40	1	< 20	< 10	180	44
549537 Orig																		50	2	< 20	< 10	170	43
549537 Dup																		50	2	< 20	< 10	180	43
549547 Orig	0.06	0.14																					
549547 Dup	0.06	0.13																					
549554 Orig			73.53	15.22	0.83	0.142	0.08	0.78	5.97	1.16	0.067	0.02	0.80	98.62	< 1	14	< 5	30	< 1	< 20	< 10	< 30	41
549554 Dup			74.89	14.86	0.82	0.138	0.08	0.78	6.14	1.20	0.068	0.02	0.80	99.80	< 1	13	5	30	< 1	< 20	< 10	< 30	41
549555 Orig	0.03	0.07																					
549555 Dup	0.03	0.07																					
549569 Orig	0.06	0.13																					
549569 Dup	0.06	0.13																					
549575 Orig	0.07	0.16																					
549575 Dup	0.07	0.16																					
549576 Orig	0.07	0.15	71.67	17.09	0.92	0.013	0.17	2.36	5.80	1.67	0.111	0.03	0.32	100.1	< 1	5	9	20	< 1	< 20	< 10	70	27
549576 Split PREP DUP	0.07	0.14	72.27	16.97	0.82	0.014	0.17	2.34	5.75	1.57	0.111	0.02	0.33	100.3	< 1	6	7	20	< 1	< 20	< 10	70	28
Method Blank			< 0.01	< 0.01	0.02	0.001	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1
Method Blank			0.01	0.01	< 0.01	0.001	0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5						
Method Blank			< 0.01	< 0.01	< 0.01	0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	0.01			< 1	< 1	< 5						
Method Blank			< 0.01	< 0.01	0.02	0.002	0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5						
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					

Analyte Symbol	Li	Li2O	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1
Method Code	FUS-Na2O2	FUS-Na2O2	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank	< 0.01	< 0.01																					
Method Blank																							
Method Blank																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas			4	144	12	36								107									
DNC-1 Cert			5	144.0	18.0	38								118									
GBW 07113 Meas				43	42	390								500									
GBW 07113 Cert				43.0	43.0	403								506									
LKSD-3 Meas		29	79					< 2			3		2.1			4.7	0.8						
LKSD-3 Cert		27.0	78.0					2.00			3.00		2.30			4.80	0.700						
TDB-1 Meas			22																		2.6		
TDB-1 Cert			23																		2.7		
W-2a Meas	2	< 5	20	195	17	91	8	< 2						175	< 0.4	2.4		< 1	< 0.1		2.3	0.5	
W-2a Cert	1.00	1.20	21.0	190	24.0	94.0	7.90	0.600						182	0.0300	2.60		0.300	0.200		2.40	0.530	
SY-4 Meas				1217	114	543								348									
SY-4 Cert				1191	119	517								340									
CTA-AC-1 Meas																	2.6				21.1		
CTA-AC-1 Cert																	2.65				21.8		
BIR-1a Meas				107	11	15						0.6		7		0.6							
BIR-1a Cert				110	16	18						0.58		6		0.60							
NCS DC86312 Meas																					22.8		
NCS DC86312 Cert																					23.6		
NCS DC70009 (GBW07241) Meas	11	69	511						1.8	1.0	1650	3.3	38.7					2110	1.8		27.7		
NCS DC70009 (GBW07241) Cert	11.2	69.9	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3		
OREAS 100a (Fusion) Meas								25													49.6	133	
OREAS 100a (Fusion) Cert								24.1													51.6	135	
OREAS 101a (Fusion) Meas								21													34.1	408	
OREAS 101a (Fusion) Cert								21.9													36.6	422	
OREAS 101b (Fusion) Meas								21													38.3	425	
OREAS 101b (Fusion) Cert								21													37.1	396	
JR-1 Meas	2	16	262				14	3		< 0.2	3	1.2	19.7		0.5	4.5	2.0		1.5	21	25.4	8.7	
JR-1 Cert	1.88	16.3	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86		1.56	19.3	26.7	8.88	
NCS DC86303 Meas																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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NCS DC86304 Cert																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NCS DC86304 Meas																							
NCS DC86304 Cert																							
NCS DC86304 Meas																							
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NCS DC86314 Cert																							
NCS DC86314 Meas																							

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
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Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
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Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
548874 Orig																							
548874 Dup																							
548882 Orig	1	< 5	216	746	2	114	12	< 2	< 0.5	< 0.2	2	< 0.5	58.9	517	< 0.4	4.5	5.9	1	1.5	18	2.0	4.5	
548882 Dup	2	< 5	219	771	3	114	14	< 2	< 0.5	< 0.2	3	< 0.5	58.9	526	< 0.4	4.3	6.3	2	1.4	14	1.9	4.6	
548882 Orig	1	< 5	229				8	< 2	< 0.5	< 0.2	3	< 0.5	65.5		< 0.4	3.9	4.8	< 1	2.1	14	1.9	4.1	
548882 Dup	1	< 5	224				8	< 2	< 0.5	< 0.2	2	< 0.5	62.6		< 0.4	3.5	4.8	< 1	1.7	15	1.8	4.3	

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
548896 Orig																							
548896 Dup																							
549507 Orig	< 1	< 5	122	915	< 2	110	3	< 2	< 0.5	< 0.2	2	< 0.5	24.3	910	< 0.4	3.1	0.5	3	0.8	12	1.3	1.0	
549507 Dup	< 1	< 5	124	919	< 2	124	3	< 2	< 0.5	< 0.2	2	< 0.5	24.5	922	< 0.4	3.3	0.5	< 1	0.6	12	1.2	1.0	
549512 Orig																							
549512 Dup																							
549525 Orig	3	< 5	1210	73	< 2	10	52	< 2	< 0.5	< 0.2	14	< 0.5	177	10	< 0.4	4.1	378	1	10.0	15	4.5	6.8	
549525 Split PREP DUP	3	< 5	1270	77	< 2	13	56	< 2	< 0.5	< 0.2	16	< 0.5	184	9	< 0.4	4.4	436	< 1	10.3	18	4.8	7.0	
549526 Orig																							
549526 Dup																							
549533 Orig																							
549533 Dup																							
549537 Orig	3	< 5	1250	204	< 2	25	50	2	< 0.5	< 0.2	35	< 0.5	158	90	< 0.4	1.3	32.9	1	7.5	7	2.4	2.9	
549537 Dup	3	< 5	1240	201	2	23	56	< 2	< 0.5	< 0.2	35	< 0.5	157	90	< 0.4	1.4	34.5	1	7.7	7	2.3	3.0	
549537 Orig	3	< 5	1320				34	< 2	< 0.5	< 0.2	33	< 0.5	164		< 0.4	1.2	31.0	2	8.8	8	2.5	2.7	
549537 Dup	3	< 5	1280				32	< 2	< 0.5	< 0.2	30	< 0.5	160		< 0.4	1.1	31.2	< 1	9.2	8	2.2	2.7	
549547 Orig																							
549547 Dup																							
549554 Orig	3	< 5	631	205	< 2	26	58	5	< 0.5	< 0.2	16	< 0.5	145	124	1.3	5.9	440	< 1	4.4	19	8.3	6.8	
549554 Dup	3	< 5	631	200	2	27	68	4	< 0.5	< 0.2	16	< 0.5	149	128	1.4	6.2	459	< 1	4.6	18	7.9	7.0	
549555 Orig																							
549555 Dup																							
549569 Orig																							
549569 Dup																							
549575 Orig																							
549575 Dup																							
549576 Orig	< 1	< 5	203	915	< 2	98	3	< 2	< 0.5	< 0.2	2	< 0.5	41.8	1068	< 0.4	2.9	0.5	< 1	1.2	12	1.2	0.8	
549576 Split PREP DUP	< 1	< 5	226	881	< 2	99	3	< 2	< 0.5	< 0.2	3	< 0.5	47.1	1017	< 0.4	2.9	0.7	< 1	1.5	13	1.2	0.8	
Method Blank	< 1	< 5	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	
Method Blank				< 2	< 2	< 4								< 3									
Method Blank				< 2	< 2	< 4								< 3									
Method Blank				< 2	< 2	< 4								< 3									
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Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Spec Grav
Unit Symbol	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	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	GRAV
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							1.00
Method Blank																							1.00

Quality Analysis ... *Innovative Technologies*

Date Submitted: 28-Nov-17
Invoice No.: A17-13536
Invoice Date: 12-Jan-18
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

110 Rock samples were submitted for analysis.

The following analytical package(s) were requested: Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

REPORT **A17-13536**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Elitsa Hrischeva, Ph.D.
Quality Control

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

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549577	70.56	16.33	0.91	0.082	0.20	1.88	6.16	1.51	0.081	0.04	0.47	98.22	< 1	20	6	< 20	< 1	< 20	< 10	60	31	2	< 5
549578	71.49	16.08	0.92	0.026	0.18	2.19	5.40	2.32	0.094	0.03	0.40	99.13	< 1	6	9	90	< 1	< 20	< 10	70	33	< 1	< 5
549579	71.13	16.64	1.50	0.020	0.20	2.43	5.80	1.63	0.112	0.01	0.41	99.89	< 1	5	10	70	< 1	< 20	< 10	80	30	< 1	< 5
549580	76.12	10.21	4.37	0.052	0.78	1.30	1.21	1.83	0.602	0.32	1.24	98.03	9	41	61	70	6	20	340	160	31	5	58
549581	70.70	16.21	0.69	0.415	0.04	0.45	8.02	1.15	0.005	0.13	0.16	97.96	< 1	8	< 5	< 20	< 1	< 20	< 10	90	39	4	< 5
549582	71.47	16.90	1.23	0.021	0.18	2.49	6.26	1.10	0.126	0.03	0.41	100.2	< 1	12	11	100	< 1	< 20	< 10	90	31	< 1	< 5
549583	72.33	16.40	0.85	0.188	0.09	1.32	5.47	2.47	0.063	0.08	0.37	99.63	< 1	53	8	70	< 1	< 20	< 10	260	35	2	< 5
549584	69.67	17.50	1.18	0.201	0.13	1.64	6.84	0.96	0.088	0.03	0.40	98.65	< 1	16	9	< 20	< 1	< 20	< 10	90	36	2	< 5
549585	70.42	16.86	0.90	0.012	0.17	2.39	5.97	1.74	0.108	< 0.01	0.38	98.94	< 1	3	10	70	< 1	< 20	< 10	120	27	< 1	< 5
549586	66.35	20.50	0.80	0.142	0.13	1.25	8.13	1.50	0.060	< 0.01	1.20	100.1	< 1	27	7	60	< 1	< 20	< 10	80	54	4	< 5
549587	69.84	16.68	1.02	0.014	0.18	2.34	6.06	1.89	0.115	0.02	0.37	98.53	< 1	4	9	< 20	< 1	< 20	50	70	29	< 1	< 5
549588	72.06	16.14	1.19	0.023	0.22	2.34	5.88	1.91	0.124	0.05	0.33	100.3	< 1	2	10	120	< 1	< 20	< 10	80	28	< 1	< 5
549589	68.59	18.80	0.98	0.061	0.13	1.77	7.73	1.37	0.069	0.02	1.17	100.7	< 1	11	7	130	< 1	< 20	< 10	60	38	1	< 5
549590	98.17	0.40	1.32	0.014	0.05	0.03	0.05	0.05	0.023	< 0.01	-0.03	100.1	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
549591	71.16	16.54	0.97	0.012	0.16	2.39	5.71	1.85	0.106	0.02	0.26	99.18	< 1	2	10	20	< 1	< 20	< 10	80	31	< 1	< 5
549592	68.60	18.56	0.98	0.023	0.14	2.05	6.81	1.83	0.090	0.02	0.61	99.71	< 1	10	9	80	< 1	< 20	< 10	60	36	1	< 5
549593	63.84	21.92	1.00	0.398	0.13	1.03	8.83	1.73	0.061	0.09	1.29	100.3	< 1	15	10	< 20	< 1	< 20	< 10	40	62	4	< 5
549594	64.39	21.92	0.87	0.086	0.19	0.96	8.55	1.91	0.069	0.09	1.17	100.2	< 1	20	12	50	< 1	< 20	< 10	70	66	3	< 5
549595	63.66	22.22	1.13	0.088	0.19	0.96	8.27	2.13	0.077	0.06	1.27	100.1	< 1	20	13	50	1	< 20	< 10	60	72	3	< 5
549596	67.50	20.18	0.90	0.109	0.15	1.39	7.72	1.53	0.076	0.02	0.84	100.4	< 1	14	8	< 20	< 1	< 20	< 10	60	48	2	< 5
549597	70.96	16.68	1.00	0.016	0.19	2.25	5.89	1.74	0.108	0.01	0.54	99.38	< 1	2	10	70	< 1	< 20	< 10	60	27	< 1	< 5
549598	71.36	16.41	1.01	0.014	0.17	2.40	5.77	1.86	0.107	< 0.01	0.37	99.48	< 1	2	9	< 20	< 1	< 20	< 10	60	27	< 1	< 5
549599	70.96	17.28	0.96	0.014	0.20	2.35	5.82	1.80	0.113	< 0.01	0.32	99.83	1	3	9	200	< 1	< 20	< 10	70	27	< 1	< 5
549600	75.36	9.26	4.77	0.055	0.90	1.61	1.30	1.96	0.818	0.36	1.25	97.66	11	35	66	70	7	< 20	290	130	27	4	36
549601	69.97	17.18	1.01	0.033	0.16	2.23	6.22	1.59	0.090	0.02	0.44	98.95	< 1	10	8	100	< 1	< 20	< 10	70	32	1	< 5
549602	68.75	18.24	0.85	0.018	0.13	2.29	6.85	1.71	0.066	0.01	0.68	99.60	< 1	18	7	< 20	< 1	< 20	< 10	50	39	1	< 5
549603	65.14	20.62	0.41	0.018	0.08	2.00	8.84	1.09	0.023	< 0.01	1.13	99.36	< 1	29	< 5	70	< 1	< 20	< 10	< 30	44	2	< 5
549604	65.85	20.41	0.58	0.034	0.12	1.74	8.47	1.30	0.037	0.02	1.35	99.90	< 1	27	7	80	< 1	< 20	< 10	40	48	3	< 5
549605	68.16	18.69	1.52	0.113	0.30	1.22	5.60	2.53	0.113	0.23	1.51	100.0	< 1	22	16	20	2	< 20	< 10	320	70	3	< 5
549606	67.75	19.19	1.14	0.085	0.25	1.33	6.01	2.55	0.096	0.23	1.33	99.95	< 1	39	15	80	1	< 20	< 10	160	65	3	< 5
549607	73.05	15.27	0.99	0.110	0.17	1.84	6.25	1.43	0.076	0.25	0.66	100.1	< 1	17	9	90	1	< 20	< 10	90	37	2	< 5
549608	72.34	17.43	1.01	0.067	0.15	1.29	5.15	1.09	0.067	0.10	0.61	99.31	< 1	54	9	< 20	< 1	< 20	< 10	70	44	3	< 5
549609	71.66	16.40	0.97	0.060	0.16	1.88	6.34	1.53	0.091	0.07	0.31	99.46	< 1	13	10	110	< 1	< 20	< 10	80	34	1	< 5
549610	97.79	0.46	0.86	0.011	0.03	0.05	0.07	0.06	0.027	< 0.01	0.06	99.40	< 1	< 1	6	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
549611	72.88	15.90	1.05	0.014	0.15	2.31	5.57	1.99	0.102	< 0.01	0.20	100.2	< 1	3	11	90	< 1	< 20	< 10	70	28	< 1	< 5
549612	71.70	16.25	0.92	0.011	0.14	2.32	5.58	2.06	0.102	0.01	0.23	99.32	< 1	2	8	< 20	< 1	< 20	< 10	110	28	< 1	< 5
549613	71.11	17.15	0.93	0.012	0.15	2.32	5.64	2.07	0.099	0.01	0.19	99.70	< 1	3	8	90	< 1	< 20	< 10	60	29	< 1	< 5
549614	71.28	16.50	0.83	0.051	0.09	1.35	6.84	1.15	0.055	0.04	0.42	98.60	< 1	71	6	60	< 1	< 20	< 10	50	38	3	< 5
549615	72.21	16.07	0.71	0.048	0.08	1.32	6.69	1.15	0.051	0.04	0.43	98.80	< 1	38	6	< 20	< 1	< 20	< 10	50	38	3	< 5
549616	72.45	16.65	0.59	0.087	0.06	0.74	5.05	2.46	0.033	0.04	0.47	98.63	< 1	139	5	100	< 1	< 20	< 10	70	45	4	< 5
549617	72.58	16.09	0.85	0.082	0.09	1.63	6.93	1.04	0.059	0.09	0.25	99.69	< 1	12	9	50	< 1	< 20	< 10	50	34	2	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549618	71.84	16.28	0.89	0.046	0.13	1.78	5.95	1.76	0.084	0.06	0.33	99.15	< 1	7	8	< 20	< 1	< 20	< 10	100	31	1	< 5
549619	73.31	15.84	0.84	0.335	0.05	1.07	6.75	1.80	0.035	0.11	0.27	100.4	< 1	20	6	70	< 1	< 20	< 10	50	31	3	< 5
549620	77.27	9.26	4.81	0.051	0.89	1.62	1.25	1.93	0.803	0.31	1.26	99.45	11	33	67	70	7	30	290	150	25	4	38
549621	73.28	15.91	1.06	0.576	0.03	0.54	7.55	0.84	0.019	0.13	0.17	100.1	< 1	8	< 5	70	< 1	< 20	< 10	30	37	4	< 5
549622	72.88	15.97	1.05	0.202	0.11	1.72	6.09	1.24	0.081	0.03	0.23	99.60	< 1	6	9	< 20	< 1	< 20	< 10	80	30	2	< 5
549623	72.83	16.19	0.99	0.101	0.12	1.81	6.45	1.31	0.081	0.04	0.37	100.3	< 1	8	9	70	< 1	< 20	< 10	60	32	2	< 5
549624	72.53	15.96	0.96	0.124	0.10	1.63	5.80	2.15	0.078	0.02	0.22	99.57	< 1	5	8	60	< 1	< 20	< 10	70	32	2	< 5
549625	71.14	17.24	1.11	0.017	0.20	2.67	6.12	1.26	0.140	0.02	0.25	100.2	< 1	3	11	< 20	< 1	< 20	< 10	70	27	< 1	< 5
549626	66.82	19.43	0.58	0.098	0.10	1.41	9.45	0.97	0.050	0.02	1.16	100.1	< 1	25	6	60	< 1	< 20	< 10	< 30	47	3	< 5
549627	72.38	16.07	1.08	0.019	0.20	2.63	6.20	1.28	0.126	< 0.01	0.28	100.3	< 1	3	10	80	< 1	< 20	< 10	70	27	< 1	< 5
549628	71.98	16.37	1.02	0.019	0.20	2.45	6.18	1.38	0.131	0.02	0.30	100.0	< 1	6	10	< 20	< 1	< 20	< 10	70	27	< 1	< 5
549629	70.88	16.79	0.49	0.023	0.04	0.76	8.92	0.49	0.042	0.02	0.40	98.85	< 1	28	6	70	< 1	< 20	< 10	< 30	38	3	< 5
549630	97.85	0.46	1.04	0.013	0.02	0.02	0.10	0.06	0.022	< 0.01	-0.06	99.52	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
549631	68.54	17.81	1.10	0.073	0.22	0.72	7.07	1.98	0.140	0.03	1.00	98.68	< 1	22	12	60	1	< 20	< 10	140	51	3	< 5
549632	70.88	16.21	0.37	0.064	0.03	0.73	6.97	3.10	0.013	0.05	0.68	99.09	< 1	13	< 5	< 20	< 1	< 20	< 10	< 30	36	3	< 5
549633	70.76	17.38	0.92	0.173	0.13	1.80	7.42	0.92	0.085	0.02	0.44	100.0	< 1	15	8	90	< 1	< 20	< 10	50	32	2	< 5
549634	70.50	16.16	1.38	0.018	0.29	2.58	5.98	1.40	0.171	0.05	0.32	98.86	< 1	3	14	50	1	< 20	< 10	100	27	< 1	< 5
549635	71.13	16.72	1.10	0.013	0.21	2.59	6.00	1.22	0.150	0.02	0.28	99.43	< 1	3	11	< 20	< 1	< 20	< 10	70	27	< 1	< 5
549636	67.49	18.49	0.95	0.085	0.17	1.33	6.37	3.47	0.071	0.32	1.08	99.82	< 1	24	9	70	< 1	< 20	< 10	90	55	3	< 5
549637	71.46	17.01	1.11	0.018	0.20	2.48	6.11	1.08	0.128	0.02	0.33	99.94	< 1	5	10	50	< 1	< 20	< 10	70	28	< 1	< 5
549638	70.32	17.87	0.49	0.156	0.10	1.09	8.03	0.97	0.037	0.17	0.66	99.89	< 1	53	6	< 20	< 1	< 20	< 10	40	47	4	< 5
549639	71.37	16.71	0.63	0.212	0.05	1.02	8.39	0.52	0.012	0.29	0.25	99.46	< 1	16	< 5	60	< 1	< 20	< 10	< 30	40	3	< 5
549640	76.11	10.03	4.31	0.048	0.76	1.25	1.14	1.78	0.579	0.29	1.23	97.52	8	37	57	70	6	20	330	150	31	5	52
549641	72.09	16.78	1.10	0.015	0.19	2.53	5.87	1.34	0.126	0.02	0.28	100.3	< 1	5	11	70	< 1	< 20	< 10	70	27	< 1	< 5
549642	69.67	17.97	1.05	0.038	0.18	2.15	6.43	1.18	0.115	0.05	0.52	99.35	< 1	10	11	< 20	< 1	< 20	< 10	70	30	< 1	< 5
549643	72.47	15.60	0.81	0.077	0.10	0.49	4.04	5.20	0.043	0.01	0.67	99.51	< 1	467	5	80	< 1	< 20	< 10	90	34	3	< 5
549644	76.52	12.98	0.74	0.037	0.08	0.44	3.54	4.12	0.030	< 0.01	0.77	99.26	< 1	163	< 5	80	< 1	< 20	< 10	30	36	3	< 5
549645	77.15	15.33	0.87	0.072	0.10	0.63	3.29	0.64	0.028	0.02	0.36	98.49	< 1	164	6	30	< 1	< 20	< 10	50	45	3	< 5
549646	71.13	16.97	0.74	0.121	0.09	1.21	7.80	0.75	0.034	0.21	0.49	99.55	< 1	44	6	50	< 1	< 20	< 10	50	44	4	< 5
549647	70.56	17.24	0.90	0.551	0.05	1.21	8.50	0.61	0.016	0.34	0.29	100.3	< 1	18	< 5	60	< 1	< 20	< 10	< 30	40	4	< 5
549648	70.88	17.40	0.66	0.297	0.06	0.95	8.21	0.76	0.017	0.12	0.39	99.76	< 1	37	5	< 20	< 1	< 20	< 10	50	43	4	< 5
549649	71.16	16.80	0.80	0.399	0.03	0.78	8.20	0.54	0.008	0.21	0.22	99.14	< 1	50	< 5	60	< 1	< 20	< 10	< 30	40	4	< 5
549650	98.22	0.49	1.37	0.015	0.03	0.06	0.10	0.06	0.034	< 0.01	-0.01	100.4	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
549651	72.90	15.97	1.24	0.946	0.04	0.71	7.86	0.60	0.009	0.23	0.16	100.7	< 1	67	< 5	40	< 1	< 20	< 10	< 30	38	4	< 5
549652	71.69	16.48	1.03	0.039	0.18	1.80	6.84	1.01	0.132	0.03	0.51	99.75	< 1	18	11	< 20	< 1	< 20	< 10	100	31	< 1	< 5
549653	71.76	15.64	1.13	0.745	0.03	1.55	8.16	0.47	0.007	0.87	0.12	100.5	< 1	10	< 5	60	< 1	< 20	< 10	< 30	35	4	< 5
549654	70.36	17.08	1.11	0.017	0.19	2.72	6.09	1.08	0.140	0.03	0.30	99.11	< 1	4	11	60	< 1	< 20	< 10	60	27	< 1	< 5
549655	70.87	17.09	1.01	0.014	0.20	2.73	6.00	1.07	0.145	0.03	0.28	99.44	< 1	3	11	< 20	< 1	< 20	< 10	60	26	< 1	< 5
549656	70.34	18.02	0.96	0.017	0.19	2.65	6.21	1.26	0.138	0.04	0.34	100.2	< 1	4	11	70	< 1	< 20	< 10	80	27	< 1	< 5
549657	71.48	16.24	0.76	0.423	< 0.01	0.60	8.10	0.87	0.005	0.07	0.23	98.78	< 1	21	< 5	60	< 1	< 20	< 10	< 30	38	3	< 5
549658	71.08	17.20	1.02	0.013	0.19	2.80	6.24	1.13	0.133	0.02	0.24	100.1	< 1	2	10	< 20	< 1	< 20	< 10	60	26	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549659	72.65	15.98	0.93	0.026	0.17	2.21	5.40	2.08	0.101	< 0.01	0.26	99.81	< 1	4	8	80	< 1	< 20	< 10	70	27	< 1	< 5
549660	76.25	9.46	4.69	0.053	0.90	1.61	1.26	1.94	0.810	0.37	1.21	98.56	11	33	65	70	6	20	290	130	24	4	33
549661	73.60	16.44	0.78	0.039	0.12	1.32	6.01	1.27	0.054	0.04	0.86	100.5	< 1	22	6	70	< 1	< 20	< 10	100	42	2	< 5
549662	71.65	17.22	1.01	0.043	0.17	0.70	5.25	2.31	0.071	< 0.01	1.32	99.76	< 1	16	10	< 20	< 1	< 20	< 10	240	63	3	< 5
549663	80.04	11.38	0.63	0.028	0.08	0.63	4.30	0.95	0.029	0.01	0.76	98.83	< 1	13	6	130	< 1	< 20	< 10	60	32	2	< 5
549664	72.61	17.04	0.67	0.047	0.10	1.04	6.61	1.33	0.044	< 0.01	1.05	100.5	< 1	21	5	80	< 1	< 20	< 10	90	47	3	< 5
549665	71.26	16.89	0.96	0.015	0.19	2.22	5.78	1.73	0.104	0.02	0.48	99.65	< 1	3	8	< 20	< 1	< 20	< 10	60	26	< 1	< 5
549666	68.91	18.58	0.88	0.019	0.19	2.36	6.50	1.80	0.103	0.02	0.56	99.91	< 1	22	7	80	< 1	< 20	20	100	32	1	< 5
549667	69.91	17.92	0.63	0.064	0.10	1.63	7.98	0.84	0.045	0.11	0.52	99.74	< 1	42	5	40	< 1	< 20	< 10	40	40	3	< 5
549668	72.14	16.26	0.93	0.020	0.15	2.12	5.74	2.08	0.090	< 0.01	0.31	99.82	< 1	7	9	< 20	< 1	< 20	< 10	60	27	< 1	< 5
549669	71.01	16.23	1.86	0.018	0.44	2.21	5.14	2.43	0.191	0.08	0.40	100.0	< 1	2	17	150	2	< 20	< 10	170	30	< 1	< 5
549670	96.55	0.47	1.62	0.017	0.03	0.03	0.09	0.05	0.030	< 0.01	0.01	98.90	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
549671	73.07	15.44	0.88	0.036	0.14	1.38	6.16	1.77	0.090	0.10	0.42	99.51	< 1	10	10	< 20	< 1	< 20	< 10	120	33	1	< 5
549672	72.27	16.51	0.86	0.233	0.08	1.18	6.44	0.63	0.024	0.32	0.33	98.89	< 1	102	6	60	< 1	< 20	< 10	70	43	3	< 5
549673	71.37	16.61	0.94	0.022	0.17	2.37	5.92	1.38	0.111	0.07	0.38	99.34	< 1	5	8	< 20	< 1	< 20	< 10	70	27	< 1	< 5
549674	70.37	17.33	1.03	0.146	0.14	1.70	6.99	0.91	0.084	0.13	0.48	99.31	< 1	42	8	50	< 1	< 20	< 10	70	36	2	< 5
549675	70.75	17.17	1.02	0.167	0.15	1.66	6.92	1.00	0.087	0.13	0.53	99.57	< 1	22	7	50	< 1	< 20	< 10	80	37	2	< 5
549676	69.79	17.02	0.78	0.328	0.05	1.34	8.05	0.87	0.018	0.16	0.43	98.84	< 1	81	< 5	< 20	< 1	< 20	< 10	< 30	39	3	< 5
549677	71.55	16.41	1.06	0.173	0.11	1.69	6.67	0.81	0.075	0.04	0.35	98.94	< 1	14	6	70	< 1	< 20	< 10	60	29	2	< 5
549678	71.60	16.46	1.40	0.017	0.38	2.56	5.73	1.83	0.175	0.05	0.51	100.7	1	6	15	70	2	< 20	< 10	110	28	< 1	< 5
549679	72.40	14.34	1.79	0.193	0.32	1.15	4.55	2.65	0.086	0.65	1.08	99.21	< 1	12	13	30	2	< 20	< 10	370	60	3	< 5
549680	76.58	10.39	4.46	0.050	0.75	1.28	1.18	1.81	0.595	0.30	1.26	98.66	8	41	58	70	6	20	320	150	31	5	54
549681	77.86	12.41	1.57	0.070	0.31	0.47	2.88	3.15	0.099	0.09	1.04	99.95	< 1	15	13	90	2	< 20	< 10	210	48	3	< 5
549682	75.84	12.68	1.42	0.075	0.28	0.90	3.88	2.33	0.087	0.32	0.94	98.75	< 1	17	12	60	2	< 20	< 10	290	47	3	< 5
549683	81.28	10.45	1.13	0.063	0.18	0.60	3.32	1.28	0.071	< 0.01	0.87	99.25	< 1	26	6	40	1	< 20	< 10	120	35	3	< 5
549684	78.11	12.51	0.79	0.043	0.05	0.47	3.41	1.96	0.030	< 0.01	1.28	98.65	< 1	641	< 5	100	< 1	< 20	< 10	60	48	3	< 5
549685	77.59	13.74	0.70	0.044	0.03	0.58	4.59	1.86	0.023	< 0.01	1.19	100.3	< 1	255	< 5	90	< 1	< 20	< 10	60	46	3	< 5
549686	78.15	13.34	0.63	0.047	0.03	0.35	3.74	3.21	0.030	< 0.01	0.98	100.5	< 1	252	< 5	30	< 1	< 20	< 10	40	44	3	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549577	419	623	4	73	11	< 2	< 0.5	< 0.2	3	< 0.5	77.2	676	< 0.4	2.9	35.9	< 1	2.6	13	1.5	3.3	0.11	0.23	
549578	436	766	3	82	4	< 2	< 0.5	< 0.2	< 1	< 0.5	154	992	< 0.4	2.5	3.2	< 1	3.4	19	1.4	2.3	0.08	0.17	
549579	263	874	< 2	99	2	< 2	< 0.5	< 0.2	5	< 0.5	33.9	1043	< 0.4	2.7	0.3	< 1	1.9	14	1.4	0.9	0.07	0.14	
549580	1330	210	19	129	2040	6	0.8	4.1	1540	17.4	302	1069	16.0	4.6	22.6	10	10.4	23	47.0	8.0	0.48	1.03	
549581	290	108	3	39	28	< 2	< 0.5	< 0.2	5	< 0.5	24.4	104	< 0.4	5.2	28.6	< 1	2.4	23	2.7	10.9	0.05	0.10	
549582	454	918	< 2	113	4	< 2	< 0.5	< 0.2	7	< 0.5	117	880	< 0.4	3.0	1.2	< 1	3.5	13	1.7	1.2	0.07	0.14	
549583	1100	496	< 2	69	24	< 2	< 0.5	< 0.2	10	< 0.5	258	604	< 0.4	3.6	17.3	2	9.1	21	2.9	5.6	0.14	0.29	
549584	520	604	2	80	7	< 2	< 0.5	< 0.2	12	< 0.5	181	444	< 0.4	3.0	4.8	< 1	4.1	15	2.0	3.5	0.07	0.16	
549585	105	870	2	83	3	< 2	< 0.5	< 0.2	< 1	< 0.5	19.9	1061	< 0.4	2.4	0.5	2	0.8	13	1.1	0.8	0.03	0.07	
549586	737	417	< 2	35	24	< 2	< 0.5	< 0.2	20	< 0.5	122	213	< 0.4	5.6	61.4	3	4.3	14	4.0	8.6	0.04	0.08	2.75
549587	146	859	< 2	88	3	< 2	< 0.5	< 0.2	2	< 0.5	50.1	1063	< 0.4	2.4	3.5	2	1.3	14	1.1	1.1	0.03	0.07	
549588	51	826	4	99	4	< 2	< 0.5	< 0.2	< 1	< 0.5	4.7	1133	< 0.4	2.7	0.2	< 1	0.5	12	1.2	1.1	0.03	0.07	
549589	277	565	< 2	107	4	< 2	< 0.5	< 0.2	4	< 0.5	27.4	639	< 0.4	3.5	4.4	< 1	2.4	15	2.1	1.3	0.04	0.08	
549590	2	< 2	3	36	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	17	< 0.4	1.1	< 0.1	< 1	< 0.1	< 5	1.3	0.4	< 0.01	< 0.01	
549591	61	856	< 2	86	2	< 2	< 0.5	< 0.2	< 1	< 0.5	6.6	1068	< 0.4	2.4	0.3	< 1	0.4	16	1.3	1.2	0.05	0.10	
549592	331	735	< 2	105	7	< 2	< 0.5	< 0.2	7	< 0.5	40.3	909	< 0.4	4.2	14.0	2	1.9	17	3.2	3.1	0.04	0.09	
549593	912	224	3	92	95	< 2	< 0.5	< 0.2	26	< 0.5	151	101	< 0.4	10.3	207	3	5.4	17	8.1	14.8	0.04	0.09	
549594	1040	218	< 2	99	58	< 2	< 0.5	< 0.2	34	< 0.5	126	123	< 0.4	6.4	55.5	< 1	5.2	10	6.1	8.9	0.05	0.10	
549595	1150	221	< 2	94	65	< 2	< 0.5	< 0.2	37	< 0.5	151	141	< 0.4	6.1	64.7	< 1	6.6	9	5.7	8.7	0.05	0.12	
549596	619	449	< 2	81	30	< 2	< 0.5	< 0.2	17	< 0.5	80.6	411	< 0.4	3.9	30.1	2	4.9	12	2.1	3.9	0.04	0.08	2.76
549597	78	835	< 2	87	2	< 2	< 0.5	< 0.2	< 1	< 0.5	13.5	1015	< 0.4	2.2	0.4	1	1.0	13	1.1	1.8	0.03	0.07	
549598	90	883	< 2	90	2	< 2	< 0.5	< 0.2	1	< 0.5	10.5	1084	< 0.4	2.4	1.0	2	0.6	13	1.1	1.5	0.03	0.07	
549599	85	883	2	95	5	< 2	< 0.5	< 0.2	1	< 0.5	11.1	1074	< 0.4	2.7	0.9	< 1	0.7	15	1.2	1.5	0.04	0.09	
549600	1190	290	25	167	600	5	0.8	2.8	534	5.6	226	1994	9.6	3.7	14.4	5	9.0	24	92.7	15.6	0.23	0.49	
549601	258	737	< 2	97	7	< 2	< 0.5	< 0.2	4	< 0.5	33.5	905	< 0.4	3.2	7.6	2	1.9	14	1.3	1.1	0.05	0.11	
549602	478	725	< 2	112	8	< 2	< 0.5	< 0.2	8	< 0.5	56.8	844	< 0.4	4.0	14.0	2	3.5	15	1.9	1.3	0.04	0.08	
549603	397	544	< 2	97	13	< 2	< 0.5	< 0.2	9	< 0.5	41.7	196	< 0.4	4.3	28.7	2	2.9	18	2.3	1.5	0.03	0.06	
549604	529	445	< 2	71	88	< 2	< 0.5	< 0.2	14	< 0.5	66.2	160	< 0.4	4.2	173	3	3.6	23	8.8	7.8	0.04	0.10	
549605	1540	263	< 2	41	87	< 2	< 0.5	< 0.2	50	< 0.5	242	154	< 0.4	3.1	73.5	3	9.2	16	3.7	2.5	0.08	0.18	
549606	1450	303	< 2	98	82	< 2	0.6	< 0.2	44	< 0.5	287	159	< 0.4	6.1	134	14	10.4	18	5.4	6.2	0.07	0.16	2.73
549607	561	496	< 2	97	22	< 2	< 0.5	< 0.2	13	< 0.5	193	508	< 0.4	4.1	19.9	2	5.1	11	1.9	3.7	0.07	0.14	
549608	567	396	< 2	73	28	< 2	< 0.5	< 0.2	18	< 0.5	142	308	< 0.4	4.0	24.7	2	4.3	12	3.8	3.5	0.61	1.31	
549609	458	605	< 2	108	14	< 2	< 0.5	< 0.2	8	< 0.5	120	695	< 0.4	4.1	11.5	2	3.6	14	1.5	2.6	0.08	0.18	
549610	2	4	4	47	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	16	< 0.4	1.5	0.1	3	0.2	< 5	1.6	0.4	< 0.01	< 0.01	
549611	114	810	< 2	102	5	< 2	< 0.5	< 0.2	2	< 0.5	29.7	1030	< 0.4	3.0	0.5	2	0.7	14	1.1	1.0	0.07	0.16	
549612	50	835	< 2	102	3	< 2	< 0.5	< 0.2	< 1	< 0.5	4.3	1014	< 0.4	3.1	0.4	1	< 0.1	15	1.1	0.9	0.06	0.14	
549613	77	861	< 2	100	5	< 2	< 0.5	< 0.2	1	< 0.5	29.2	1074	< 0.4	3.1	3.1	2	0.3	15	1.1	1.1	0.07	0.15	
549614	597	382	< 2	47	46	< 2	< 0.5	< 0.2	15	< 0.5	187	309	< 0.4	3.5	261	2	4.3	17	3.1	6.2	0.11	0.25	
549615	603	391	< 2	44	38	< 2	< 0.5	< 0.2	16	< 0.5	159	310	< 0.4	3.0	324	2	4.9	19	8.5	5.3	0.10	0.23	
549616	1610	215	< 2	43	46	< 2	< 0.5	< 0.2	21	< 0.5	330	122	< 0.4	5.4	117	2	13.0	17	7.0	4.5	0.39	0.85	2.70
549617	332	489	< 2	101	24	< 2	< 0.5	< 0.2	7	< 0.5	102	481	< 0.4	5.1	28.5	2	3.8	15	2.9	4.7	0.05	0.11	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549618	463	627	< 2	92	11	< 2	< 0.5	< 0.2	11	< 0.5	50.6	800	< 0.4	3.2	3.6	1	3.5	15	1.1	1.4	0.07	0.15	
549619	550	350	< 2	71	25	< 2	< 0.5	< 0.2	14	< 0.5	50.6	417	< 0.4	5.7	15.5	2	3.8	14	1.5	5.9	0.08	0.17	
549620	1190	300	24	214	939	8	0.8	2.8	722	8.6	221	1975	10.1	4.8	18.1	7	10.7	29	87.4	14.9	0.23	0.50	
549621	281	128	< 2	92	33	< 2	< 0.5	< 0.2	14	< 0.5	24.6	94	< 0.4	11.5	17.2	2	2.9	21	2.0	12.4	0.05	0.10	
549622	249	616	< 2	95	23	< 2	< 0.5	< 0.2	7	< 0.5	47.8	758	< 0.4	4.5	10.7	2	2.1	16	2.2	4.9	0.07	0.15	
549623	271	655	< 2	99	18	< 2	< 0.5	< 0.2	7	< 0.5	62.2	740	< 0.4	4.2	5.8	2	2.0	14	1.6	2.9	0.07	0.14	
549624	434	638	2	85	23	< 2	< 0.5	< 0.2	6	< 0.5	34.7	729	< 0.4	3.6	5.8	2	3.0	17	1.9	4.0	0.06	0.13	
549625	94	1048	< 2	122	4	< 2	0.7	< 0.2	2	< 0.5	18.6	854	< 0.4	3.5	0.6	< 1	0.5	11	1.4	0.8	0.03	0.07	
549626	463	443	< 2	131	26	< 2	0.5	< 0.2	13	< 0.5	71.8	196	< 0.4	12.7	77.7	29	2.6	20	13.1	22.5	0.04	0.08	2.73
549627	126	1052	< 2	123	5	< 2	0.6	< 0.2	2	< 0.5	33.3	856	< 0.4	3.3	1.1	2	1.1	14	1.3	2.3	0.03	0.07	
549628	236	970	< 2	125	4	< 2	< 0.5	< 0.2	5	< 0.5	73.3	831	< 0.4	3.5	1.7	1	1.6	10	1.4	1.0	0.05	0.11	
549629	265	193	< 2	116	19	< 2	0.5	< 0.2	6	< 0.5	62.9	27	< 0.4	5.3	65.9	< 1	1.5	9	5.4	2.8	0.02	0.03	
549630	3	4	4	41	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	16	< 0.4	1.3	0.2	2	< 0.1	< 5	1.2	0.4	< 0.01	< 0.01	
549631	1480	177	< 2	130	30	< 2	0.5	< 0.2	34	< 0.5	280	78	< 0.4	5.4	59.2	1	8.4	12	2.7	2.5	0.08	0.16	
549632	1140	190	< 2	67	37	< 2	< 0.5	< 0.2	5	< 0.5	132	219	< 0.4	11.6	180	2	9.4	58	9.3	32.7	0.02	0.05	
549633	425	662	3	89	17	< 2	< 0.5	< 0.2	6	< 0.5	85.6	450	< 0.4	4.3	30.6	1	4.1	14	3.1	6.1	0.04	0.09	
549634	180	1019	< 2	126	4	< 2	< 0.5	< 0.2	3	< 0.5	39.4	964	< 0.4	3.0	1.4	< 1	1.7	13	1.4	1.2	0.05	0.11	
549635	122	1016	< 2	125	4	< 2	0.6	< 0.2	2	< 0.5	23.2	946	< 0.4	3.7	1.2	< 1	1.1	11	1.5	1.1	0.04	0.09	
549636	1540	331	< 2	53	58	< 2	< 0.5	< 0.2	28	< 0.5	237	389	< 0.4	4.2	60.9	2	10.6	17	3.9	3.9	0.06	0.13	2.68
549637	285	945	< 2	111	5	< 2	0.7	< 0.2	5	< 0.5	54.0	751	< 0.4	3.8	1.9	< 1	3.0	9	1.3	1.1	0.05	0.12	
549638	512	261	< 2	63	36	< 2	< 0.5	< 0.2	15	< 0.5	70.9	49	< 0.4	5.4	48.1	2	3.3	10	4.7	7.0	0.04	0.08	
549639	196	197	2	54	48	< 2	< 0.5	< 0.2	6	< 0.5	33.0	25	< 0.4	5.2	45.7	< 1	1.6	13	3.3	7.0	0.03	0.06	
549640	1360	212	17	132	1120	9	0.7	4.2	999	11.5	297	1036	13.4	3.2	22.6	7	10.9	24	44.9	7.6	0.46	0.99	
549641	163	972	< 2	119	7	< 2	0.6	< 0.2	3	< 0.5	50.2	1009	< 0.4	3.4	0.8	2	2.5	11	1.3	0.8	0.06	0.13	
549642	349	812	< 2	116	11	< 2	< 0.5	< 0.2	9	< 0.5	59.4	701	< 0.4	4.2	10.3	< 1	2.8	12	1.8	2.2	0.06	0.13	
549643	2190	245	< 2	14	31	< 2	< 0.5	< 0.2	13	< 0.5	285	342	3.2	1.6	43.2	1	17.0	20	0.5	2.1	0.07	0.15	
549644	1740	197	< 2	5	61	< 2	< 0.5	< 0.2	13	< 0.5	211	332	8.7	1.2	143	2	15.0	16	3.0	3.5	0.13	0.28	
549645	338	182	3	13	24	< 2	< 0.5	< 0.2	10	< 0.5	73.6	66	0.7	1.8	108	1	2.6	14	2.9	5.8	1.02	2.19	
549646	418	283	< 2	75	51	< 2	< 0.5	< 0.2	14	< 0.5	60.2	41	< 0.4	6.6	39.1	1	3.3	17	4.7	8.3	0.09	0.19	2.72
549647	246	222	4	110	29	< 2	< 0.5	< 0.2	6	< 0.5	41.1	42	0.7	10.8	26.3	2	2.1	22	4.7	15.7	0.03	0.06	
549648	312	238	< 2	80	28	< 2	< 0.5	< 0.2	8	< 0.5	65.2	47	< 0.4	8.5	29.4	< 1	2.3	32	6.0	12.5	0.18	0.40	
549649	163	148	< 2	59	16	< 2	< 0.5	< 0.2	4	< 0.5	67.4	21	< 0.4	7.0	18.3	< 1	1.3	19	3.0	10.3	0.10	0.21	
549650	2	6	4	45	1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	18	< 0.4	1.3	0.2	< 1	< 0.1	< 5	1.3	0.5	< 0.01	< 0.01	
549651	213	123	2	78	22	< 2	< 0.5	< 0.2	6	< 0.5	66.5	37	< 0.4	9.4	25.1	< 1	1.2	27	3.1	16.9	0.09	0.19	
549652	633	687	2	132	10	< 2	0.6	< 0.2	18	< 0.5	198	398	< 0.4	3.8	4.3	< 1	4.1	18	1.5	1.0	0.07	0.16	
549653	112	140	4	92	23	< 2	< 0.5	< 0.2	4	< 0.5	32.8	29	< 0.4	11.8	24.4	< 1	1.2	25	4.1	17.4	0.05	0.11	
549654	144	1107	< 2	138	5	< 2	< 0.5	< 0.2	2	< 0.5	49.5	768	< 0.4	4.0	4.4	< 1	1.1	10	2.3	0.8	0.07	0.14	
549655	148	1047	< 2	145	4	< 2	0.6	< 0.2	2	< 0.5	52.5	761	< 0.4	4.0	0.6	< 1	1.1	10	1.5	0.8	0.07	0.15	
549656	162	1072	< 2	142	6	< 2	0.7	< 0.2	3	< 0.5	41.1	777	< 0.4	4.1	1.6	< 1	1.0	11	1.5	1.0	0.07	0.15	2.72
549657	233	145	3	40	41	< 2	< 0.5	< 0.2	2	< 0.5	36.3	75	< 0.4	5.2	36.3	< 1	1.6	22	4.8	11.9	0.04	0.09	
549658	115	1049	< 2	135	3	< 2	0.5	< 0.2	1	< 0.5	30.9	809	< 0.4	3.7	0.5	3	0.8	10	1.3	0.7	0.06	0.12	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549659	164	804	< 2	100	5	< 2	< 0.5	< 0.2	1	< 0.5	52.8	1156	< 0.4	3.2	2.8	< 1	1.1	13	1.1	1.1	0.05	0.10	
549660	1200	310	26	204	879	8	1.1	2.8	766	8.8	227	2022	8.9	5.0	17.5	5	9.3	26	86.1	14.6	0.23	0.49	
549661	645	389	< 2	35	59	< 2	< 0.5	< 0.2	18	< 0.5	139	277	< 0.4	2.1	96.0	1	5.0	8	2.2	1.3	0.03	0.07	
549662	1210	167	< 2	13	99	< 2	< 0.5	< 0.2	34	< 0.5	218	174	< 0.4	4.6	268	2	8.0	7	5.1	2.9	0.05	0.10	
549663	469	168	< 2	23	88	< 2	< 0.5	< 0.2	13	< 0.5	83.8	67	0.4	8.3	259	1	3.6	8	8.7	2.7	0.02	0.05	
549664	654	300	< 2	25	96	< 2	< 0.5	< 0.2	19	< 0.5	117	102	< 0.4	2.9	201	2	4.4	12	2.2	2.5	0.03	0.06	
549665	147	832	< 2	112	4	< 2	< 0.5	< 0.2	2	< 0.5	20.8	1019	< 0.4	3.1	2.0	< 1	1.6	12	1.1	1.0	0.04	0.08	
549666	284	902	< 2	114	10	< 2	0.5	< 0.2	4	< 0.5	76.0	968	< 0.4	3.6	3.0	3	2.0	18	1.1	0.7	0.05	0.10	2.75
549667	426	468	< 2	112	25	< 2	< 0.5	< 0.2	10	< 0.5	104	232	< 0.4	6.7	25.5	< 1	2.9	17	4.4	6.3	0.03	0.07	
549668	282	797	< 2	99	5	< 2	< 0.5	< 0.2	2	< 0.5	84.1	1416	< 0.4	2.9	2.0	< 1	2.5	13	1.0	0.9	0.06	0.13	
549669	100	806	2	114	8	< 2	< 0.5	< 0.2	2	< 0.5	28.0	1388	< 0.4	3.3	0.6	< 1	0.7	12	1.1	0.9	0.09	0.20	
549670	3	5	3	46	< 1	2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	15	< 0.4	1.4	0.2	4	< 0.1	< 5	1.3	0.5	< 0.01	< 0.01	
549671	593	450	< 2	112	19	< 2	< 0.5	< 0.2	19	< 0.5	95.8	622	< 0.4	3.6	7.3	< 1	3.6	11	1.0	1.2	0.08	0.17	
549672	292	229	3	71	31	< 2	< 0.5	< 0.2	12	< 0.5	66.3	42	< 0.4	7.8	64.2	< 1	1.5	21	4.5	9.6	0.46	0.98	
549673	252	892	3	100	4	< 2	0.5	< 0.2	3	< 0.5	67.7	1038	< 0.4	3.4	1.0	< 1	1.9	15	1.2	1.3	0.06	0.13	
549674	498	531	< 2	97	13	< 2	< 0.5	< 0.2	12	< 0.5	132	348	< 0.4	4.5	6.9	< 1	2.9	19	3.0	11.1	0.10	0.21	
549675	564	547	2	96	17	< 2	< 0.5	< 0.2	14	< 0.5	136	399	< 0.4	4.5	10.2	< 1	3.6	17	2.7	5.3	0.10	0.21	
549676	340	340	4	85	26	< 2	< 0.5	< 0.2	5	< 0.5	87.0	89	< 0.4	6.2	47.5	< 1	2.6	27	7.2	12.6	0.09	0.18	2.65
549677	317	620	< 2	76	16	< 2	< 0.5	< 0.2	7	< 0.5	110	519	< 0.4	4.0	7.6	< 1	2.4	26	2.1	4.3	0.08	0.16	
549678	157	941	< 2	119	5	< 2	0.5	< 0.2	3	< 0.5	40.4	1065	< 0.4	3.5	0.9	< 1	1.0	15	1.9	1.4	0.06	0.12	
549679	1450	127	2	47	49	< 2	< 0.5	< 0.2	50	< 0.5	115	163	< 0.4	3.5	28.7	< 1	7.3	15	1.5	2.5	0.11	0.24	
549680	1300	231	20	121	702	9	< 0.5	4.0	788	9.9	287	1050	13.8	2.8	20.8	6	11.5	27	48.6	8.2	0.48	1.02	
549681	1600	185	< 2	29	55	< 2	< 0.5	< 0.2	45	< 0.5	136	170	< 0.4	1.4	49.6	1	10.4	11	2.3	1.4	0.11	0.23	
549682	1310	238	2	40	42	< 2	< 0.5	< 0.2	40	< 0.5	121	206	< 0.4	1.9	26.0	< 1	8.3	9	4.6	1.4	0.10	0.21	
549683	899	199	< 2	15	61	< 2	< 0.5	< 0.2	25	< 0.5	125	70	< 0.4	1.3	58.9	< 1	6.4	10	4.0	1.7	0.14	0.30	
549684	875	135	< 2	4	19	< 2	< 0.5	< 0.2	21	< 0.5	115	19	1.4	1.7	38.9	< 1	6.0	14	6.2	2.3	0.04	0.08	
549685	764	140	< 2	< 4	37	< 2	< 0.5	< 0.2	17	< 0.5	99.0	13	2.3	0.4	103	< 1	5.3	10	2.6	1.5	0.02	0.05	
549686	1310	89	< 2	5	140	< 2	< 0.5	< 0.2	20	< 0.5	135	40	0.7	1.5	549	1	9.2	18	8.1	7.7	0.02	0.05	2.72

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.39	1.79	0.76	0.013	0.33	42.74	0.90	0.54	0.119	30.21					1602								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.88	18.12	9.55	0.144	9.99	11.45	1.90	0.22	0.480	0.06			31		152	280	53	250	100	70			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70			
LKSD-3 Meas																90		50		160			29
LKSD-3 Cert																87.0		47.0		152			27.0
TDB-1 Meas																240		90	330	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.73	15.30	10.59	0.164	6.15	11.16	2.25	0.62	1.062	0.17			35	< 1	273	90	43	70	110	80	18	2	< 5
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20
SY-4 Meas	50.77	20.27	6.23	0.106	0.49	8.11	6.91	1.64	0.283	0.12			1	3	6								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			50	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.14	15.74	11.16	0.175	9.56	13.54	1.79	0.02	0.987	0.02			43	< 1	327	370		160	120	60			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370		170	125	70			
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30			920	100	15	11	69
NCS DC70009 (GBW07241) Cert																30			960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		170				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	45		420				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	46		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20		< 30	16	2	16
JR-1 Cert																		1.67		30.6	16.1	1.88	16.3
NCS DC86303 Meas																							
NCS DC86303 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86303 Meas																							
NCS DC86303 Cert																							
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NCS DC86304 Meas																							
NCS DC86304 Cert																							
NCS DC86304 Meas																							
NCS DC86304 Cert																							
NCS DC86314 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
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NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
549583 Orig																							
549583 Dup																							
549591 Orig	70.85	16.58	0.93	0.012	0.15	2.39	5.70	1.84	0.104	0.02	0.26	98.84	< 1	2	10	20	< 1	< 20	< 10	70	30	< 1	< 5
549591 Dup	71.48	16.50	1.00	0.012	0.16	2.38	5.71	1.87	0.109	0.03	0.26	99.51	< 1	2	9	30	< 1	< 20	< 10	80	31	< 1	< 5
549605 Orig																							
549605 Dup																							
549608 Orig	72.60	17.19	1.02	0.068	0.16	1.30	5.15	1.09	0.068	0.10	0.61	99.37	< 1	55	10	< 20	< 1	< 20	< 10	70	43	2	< 5
549608 Dup	72.08	17.68	1.00	0.066	0.15	1.27	5.14	1.09	0.066	0.09	0.61	99.25	< 1	53	9	20	1	< 20	< 10	70	44	3	< 5
549613 Orig																							
549613 Dup																							
549626 Orig	66.82	19.43	0.58	0.098	0.10	1.41	9.45	0.97	0.050	0.02	1.16	100.1	< 1	25	6	60	< 1	< 20	< 10	< 30	47	3	< 5
549626 Split PREP DUP	67.01	19.71	0.61	0.103	0.10	1.42	9.27	0.95	0.049	< 0.01	1.18	100.4	< 1	24	6	70	< 1	< 20	< 10	< 30	47	3	< 5
549627 Orig																							
549627 Dup																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549634 Orig																							
549634 Dup																							
549638 Orig	70.84	17.96	0.50	0.156	0.10	1.09	8.11	0.99	0.038	0.18	0.66	100.6	< 1	53	5	< 20	< 1	< 20	< 10	40	47	4	< 5
549638 Dup	69.79	17.78	0.48	0.156	0.10	1.08	7.95	0.95	0.036	0.15	0.66	99.15	< 1	52	7	< 20	< 1	< 20	< 10	40	46	3	< 5
549648 Orig																							
549648 Dup																							
549652 Orig																							
549652 Dup																							
549655 Orig	70.45	17.40	1.03	0.014	0.20	2.72	6.00	1.07	0.148	0.02	0.28	99.33	< 1	3	10	< 20	< 1	< 20	< 10	60	25	< 1	< 5
549655 Dup	71.29	16.79	1.00	0.014	0.20	2.74	6.01	1.08	0.142	0.03	0.28	99.56	< 1	3	13	< 20	< 1	< 20	< 10	70	27	< 1	< 5
549656 Orig																							
549656 Dup																							
549670 Orig																							
549670 Dup																							
549675 Orig	70.75	17.17	1.02	0.167	0.15	1.66	6.92	1.00	0.087	0.13	0.53	99.57	< 1	22	7	50	< 1	< 20	< 10	80	37	2	< 5
549675 Split PREP DUP	70.55	17.25	0.99	0.179	0.15	1.67	7.09	1.03	0.091	0.13	0.58	99.71	< 1	25	8	40	< 1	< 20	< 10	80	37	2	< 5
549677 Orig																							
549677 Dup																							
549685 Orig	77.85	13.45	0.70	0.044	0.03	0.58	4.57	1.85	0.023	< 0.01	1.19	100.3	< 1	259	< 5	90	< 1	< 20	< 10	60	46	3	< 5
549685 Dup	77.33	14.02	0.70	0.044	0.02	0.58	4.61	1.87	0.024	< 0.01	1.19	100.4	< 1	250	< 5	100	< 1	< 20	< 10	60	46	3	< 5
549686 Orig	78.15	13.34	0.63	0.047	0.03	0.35	3.74	3.21	0.030	< 0.01	0.98	100.5	< 1	252	< 5	30	< 1	< 20	< 10	40	44	3	< 5
549686 Split PREP DUP	76.67	13.38	0.67	0.051	0.03	0.35	3.71	3.22	0.031	0.01	1.00	99.13	< 1	259	< 5	30	< 1	< 20	< 10	30	37	2	< 5
549686 Orig																							
549686 Dup																							
Method Blank	0.02	0.02	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	0.01	< 0.01	0.001	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	0.02	0.01	0.002	0.02	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							
Method Blank																							
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Method Blank																							
Method Blank																							

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas	4	146	14	39								107											
DNC-1 Cert	5	144.0	18.0	38								118											
LKSD-3 Meas	79					< 2			3		2.1			4.7	0.8								
LKSD-3 Cert	78.0					2.00			3.00		2.30			4.80	0.700								
TDB-1 Meas	22																		2.6				
TDB-1 Cert	23																		2.7				
W-2a Meas	20	197	19	89	8	< 2						174	< 0.4	2.4		< 1	< 0.1		2.3	0.5			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600						182	0.0300	2.60		0.300	0.200		2.40	0.530			
SY-4 Meas		1197	114	539								343											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.6				21.1				
CTA-AC-1 Cert															2.65				21.8				
BIR-1a Meas		111	12	16						0.6		7		0.6									
BIR-1a Cert		110	16	18						0.58		6		0.60									
NCS DC86312 Meas																			22.8				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	511						1.8	1.0	1650	3.3	38.7					2110	1.8		27.7				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						25													49.6	133			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						21													34.1	408			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						21													38.3	425			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	262				14	3		< 0.2	3	1.2	19.7		0.5	4.5	2.0		1.5	21	25.4	8.7			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86		1.56	19.3	26.7	8.88			
NCS DC86303 Meas																					0.22	0.47	
NCS DC86303 Cert																					0.21	0.460	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.07	2.30	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.30	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.29	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.30	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.30	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.83	3.93	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.78	3.83	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.87	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.74	3.75	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.84	3.96	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.08		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.10		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.07		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium																					8.29		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.96		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.01		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.21		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
549583 Orig																					0.14	0.29	
549583 Dup																					0.14	0.29	
549591 Orig	60	853	< 2	80	1	< 2	< 0.5	< 0.2	< 1	< 0.5	6.4	1055	< 0.4	2.1	0.3	< 1	0.5	16	1.3	1.2	0.05	0.10	
549591 Dup	61	860	< 2	91	2	< 2	< 0.5	< 0.2	< 1	< 0.5	6.7	1082	< 0.4	2.7	0.3	< 1	0.4	16	1.3	1.2	0.05	0.10	
549605 Orig																					0.08	0.18	
549605 Dup																					0.08	0.18	
549608 Orig	571	395	< 2	74	29	< 2	< 0.5	< 0.2	18	< 0.5	142	311	< 0.4	4.1	25.1	2	4.2	12	3.8	3.6			
549608 Dup	562	397	< 2	72	26	< 2	< 0.5	< 0.2	17	< 0.5	142	306	< 0.4	3.9	24.2	2	4.3	11	3.9	3.5			
549613 Orig																					0.07	0.15	
549613 Dup																					0.07	0.15	
549626 Orig	463	443	< 2	131	26	< 2	0.5	< 0.2	13	< 0.5	71.8	196	< 0.4	12.7	77.7	29	2.6	20	13.1	22.5	0.04	0.08	
549626 Split PREP DUP	455	442	< 2	130	29	< 2	0.6	< 0.2	13	< 0.5	71.0	190	< 0.4	11.8	78.4	1	2.7	19	13.6	22.8	0.04	0.08	
549627 Orig																					0.04	0.08	
549627 Dup																					0.03	0.07	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549634 Orig																					0.05	0.11	
549634 Dup																					0.05	0.11	
549638 Orig	524	266	< 2	63	37	< 2	< 0.5	< 0.2	16	< 0.5	71.9	50	< 0.4	5.9	46.4	1	3.4	10	4.8	7.1			
549638 Dup	500	256	< 2	63	35	< 2	< 0.5	< 0.2	14	< 0.5	69.8	48	< 0.4	5.0	49.7	2	3.1	10	4.5	6.9			
549648 Orig																					0.19	0.40	
549648 Dup																					0.18	0.39	
549652 Orig																					0.07	0.16	
549652 Dup																					0.08	0.16	
549655 Orig	144	1060	2	144	4	< 2	0.6	< 0.2	2	< 0.5	51.5	756	< 0.4	4.2	0.5	1	1.1	10	1.4	0.8			
549655 Dup	151	1034	< 2	146	4	< 2	0.6	< 0.2	2	< 0.5	53.5	767	< 0.4	3.8	0.6	< 1	1.1	9	1.5	0.8			
549656 Orig																					0.07	0.16	
549656 Dup																					0.07	0.15	
549670 Orig																					< 0.01	< 0.01	
549670 Dup																					< 0.01	< 0.01	
549675 Orig	564	547	2	96	17	< 2	< 0.5	< 0.2	14	< 0.5	136	399	< 0.4	4.5	10.2	< 1	3.6	17	2.7	5.3	0.10	0.21	
549675 Split PREP DUP	567	545	< 2	93	16	< 2	< 0.5	< 0.2	14	< 0.5	135	403	< 0.4	4.0	10.8	< 1	3.7	18	2.7	5.1	0.10	0.22	
549677 Orig																					0.08	0.17	
549677 Dup																					0.08	0.16	
549685 Orig	754	141	< 2	< 4	37	< 2	< 0.5	< 0.2	18	< 0.5	98.4	13	2.3	0.5	97.5	< 1	5.3	9	2.6	1.4			
549685 Dup	773	139	< 2	< 4	36	< 2	< 0.5	< 0.2	16	< 0.5	99.6	13	2.4	0.4	108	< 1	5.3	10	2.6	1.5			
549686 Orig	1310	89	< 2	5	140	< 2	< 0.5	< 0.2	20	< 0.5	135	40	0.7	1.5	549	1	9.2	18	8.1	7.7	0.02	0.05	
549686 Split PREP DUP	1070	90	< 2	6	118	< 2	< 0.5	< 0.2	16	< 0.5	110	40	0.5	1.5	479	< 1	7.9	16	7.7	6.4	0.02	0.05	
549686 Orig																							2.73
549686 Dup																							2.71
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00
Method Blank																							1.00
Method Blank																					< 0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 01-Dec-17
Invoice No.: A17-13699
Invoice Date: 12-Jan-18
Your Reference: Case Lake Pegmatite

POWER METALS CORP
40 Mission Hill
Sudbury Ontario P3E 6M1
Canada

ATTN: Julie Selway (cc invoice)

CERTIFICATE OF ANALYSIS

120 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-13699**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Elitsa Hrischeva, Ph.D.
Quality Control

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

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549687	75.19	14.30	0.58	0.054	0.04	0.31	3.80	4.06	0.030	< 0.01	0.98	99.34	< 1	132	< 5	30	1	< 20	< 10	40	51	4	< 5
549688	75.03	14.71	0.65	0.059	0.02	0.31	4.20	3.52	0.029	< 0.01	0.94	99.47	< 1	213	< 5	200	< 1	< 20	< 10	50	50	4	< 5
549689	75.06	14.96	0.57	0.048	0.03	0.32	4.64	3.00	0.023	< 0.01	0.93	99.59	< 1	430	< 5	150	< 1	< 20	< 10	40	50	4	< 5
549690	99.05	0.50	0.60	0.007	0.02	0.03	0.08	0.10	0.022	< 0.01	0.17	100.6	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
549691	75.39	15.65	0.79	0.107	0.04	0.37	3.57	3.07	0.030	< 0.01	1.10	100.1	< 1	408	< 5	30	< 1	< 20	< 10	50	58	4	< 5
549692	76.98	15.59	0.72	0.073	0.08	0.48	3.84	1.01	0.021	< 0.01	0.56	99.35	< 1	60	< 5	190	< 1	< 20	< 10	30	53	4	< 5
549693	77.73	16.19	0.72	0.086	0.10	0.35	2.47	1.48	0.018	< 0.01	0.67	99.83	< 1	49	< 5	210	< 1	< 20	< 10	50	58	4	< 5
549694	73.52	18.19	0.67	0.069	0.04	0.36	3.35	2.71	0.010	< 0.01	0.41	99.32	< 1	203	< 5	30	< 1	< 20	< 10	< 30	56	4	< 5
549695	74.58	16.70	0.61	0.060	0.03	0.35	3.55	2.99	0.014	< 0.01	0.46	99.36	< 1	253	< 5	140	< 1	< 20	< 10	< 30	50	5	< 5
549696	78.13	14.87	0.77	0.098	0.05	0.58	2.82	0.73	0.022	0.14	0.56	98.77	< 1	205	< 5	210	< 1	< 20	< 10	< 30	51	4	< 5
549697	81.08	11.66	0.64	0.078	0.05	0.69	3.34	0.26	0.011	0.12	0.43	98.36	< 1	67	< 5	40	< 1	< 20	< 10	< 30	33	3	< 5
549698	82.81	10.70	0.71	0.067	0.05	0.39	2.59	0.49	0.016	< 0.01	0.55	98.37	< 1	376	5	240	< 1	< 20	< 10	< 30	34	3	< 5
549699	75.40	15.46	0.54	0.068	0.03	0.21	2.60	4.33	0.011	< 0.01	0.44	99.09	< 1	829	< 5	190	< 1	< 20	< 10	< 30	39	4	< 5
549700	75.74	9.24	4.59	0.054	0.88	1.59	1.30	1.97	0.802	0.38	1.20	97.74	10	35	67	70	7	< 20	300	130	25	4	43
549701	79.60	12.83	0.56	0.057	0.03	0.23	2.55	2.29	0.013	< 0.01	0.40	98.56	< 1	848	< 5	40	< 1	< 20	< 10	30	37	4	< 5
549702	81.52	13.33	0.81	0.066	0.04	0.45	2.43	0.30	0.014	0.04	0.36	99.37	< 1	27	< 5	240	< 1	< 20	< 10	< 30	47	4	< 5
549703	76.95	16.78	0.80	0.072	0.05	0.52	3.09	0.44	0.016	< 0.01	0.52	99.24	< 1	167	< 5	220	< 1	< 20	< 10	40	55	4	< 5
549704	78.79	15.21	0.83	0.073	0.05	0.39	2.38	0.46	0.015	0.01	0.54	98.75	< 1	95	< 5	40	< 1	< 20	< 10	< 30	52	4	< 5
549705	78.81	15.67	0.93	0.080	0.06	0.44	2.55	0.30	0.015	< 0.01	0.40	99.26	< 1	93	< 5	190	< 1	< 20	< 10	< 30	54	4	< 5
549706	77.27	16.88	0.76	0.079	0.05	0.48	2.88	0.56	0.014	0.02	0.52	99.52	< 1	283	< 5	240	< 1	< 20	< 10	< 30	61	4	< 5
549707	79.92	14.52	0.69	0.095	0.05	0.17	1.57	1.95	0.013	< 0.01	0.38	99.36	< 1	119	< 5	50	< 1	< 20	< 10	< 30	50	4	< 5
549708	78.72	15.72	0.83	0.114	0.04	0.22	1.51	0.90	0.013	< 0.01	0.39	98.44	< 1	194	< 5	340	< 1	< 20	< 10	40	52	3	< 5
549709	78.71	13.84	0.63	0.064	0.04	0.53	3.10	0.98	0.015	< 0.01	0.71	98.63	< 1	200	6	130	< 1	< 20	< 10	< 30	42	3	< 5
549710	97.34	0.74	0.78	0.010	0.07	0.05	0.16	0.09	0.048	< 0.01	0.23	99.53	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	2	< 5
549711	74.96	15.60	0.84	0.091	0.09	0.77	4.25	1.26	0.036	< 0.01	1.00	98.89	< 1	223	< 5	30	< 1	< 20	< 10	70	54	4	< 5
549712	84.25	8.07	1.20	0.055	0.21	0.57	2.11	1.40	0.070	0.14	0.73	98.80	< 1	26	8	170	1	< 20	< 10	150	34	3	< 5
549713	76.66	13.65	0.89	0.044	0.16	0.90	5.07	1.28	0.056	< 0.01	0.88	99.61	< 1	24	5	120	1	< 20	< 10	120	42	4	< 5
549714	73.76	14.66	1.79	0.108	0.40	0.81	3.35	2.73	0.124	0.28	1.41	99.40	1	18	16	20	2	< 20	< 10	330	69	4	< 5
549715	73.90	15.03	1.97	0.120	0.43	0.78	3.12	2.95	0.138	0.28	1.46	100.2	1	19	18	60	2	< 20	< 10	390	73	4	< 5
549716	74.11	14.40	1.56	0.101	0.35	1.08	3.60	2.44	0.104	0.45	1.32	99.52	1	19	14	110	2	< 20	< 10	350	67	4	< 5
549717	81.09	9.81	1.27	0.073	0.28	0.72	2.51	1.92	0.080	0.31	1.02	99.07	< 1	18	12	60	1	< 20	< 10	230	47	4	< 5
549718	74.25	14.00	1.49	0.094	0.33	0.84	3.86	2.36	0.106	0.27	1.27	98.88	1	31	14	80	2	< 20	< 10	260	61	4	< 5
549719	72.03	15.78	1.36	0.145	0.31	0.93	3.93	2.48	0.102	0.31	1.41	98.79	< 1	15	12	60	2	< 20	< 10	360	74	4	< 5
549720	75.29	9.59	4.70	0.054	0.88	1.60	1.30	1.97	0.826	0.37	1.20	97.79	11	35	66	70	7	20	300	140	25	4	39
549721	73.06	16.22	0.70	0.117	0.10	0.80	7.56	0.88	0.029	0.31	0.43	100.2	< 1	20	6	< 20	< 1	< 20	< 10	80	51	4	< 5
549722	72.99	15.95	0.84	0.342	0.12	1.04	6.91	0.52	0.046	0.20	0.24	99.18	< 1	76	< 5	60	< 1	< 20	< 10	90	43	4	< 5
549723	71.11	17.18	1.55	0.120	0.41	2.12	5.31	1.54	0.174	0.08	0.45	100.0	1	12	18	110	2	40	< 10	140	36	3	< 5
549724	68.81	17.48	2.08	0.021	0.65	3.27	5.36	1.51	0.281	0.10	0.48	100.0	2	3	31	20	3	< 20	< 10	100	28	2	< 5
549725	68.56	17.37	1.95	0.019	0.62	3.44	5.29	1.37	0.287	0.09	0.52	99.52	2	3	30	110	3	< 20	< 10	100	28	1	< 5
549726	73.14	13.84	0.66	0.029	0.05	0.26	2.21	7.59	0.024	< 0.01	0.51	98.31	< 1	44	< 5	190	< 1	< 20	< 10	40	27	3	< 5
549727	76.87	13.45	0.46	0.027	0.04	0.23	2.07	5.61	0.009	< 0.01	0.47	99.25	< 1	77	< 5	30	< 1	< 20	< 10	< 30	31	5	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549728	77.32	13.28	0.86	0.053	0.09	0.42	3.72	2.67	0.038	0.05	0.72	99.21	< 1	128	< 5	160	< 1	< 20	< 10	180	45	4	< 5
549729	70.01	17.16	1.98	0.030	0.59	2.93	5.16	1.51	0.257	0.09	0.59	100.3	2	7	29	120	3	< 20	< 10	110	29	2	< 5
549730	97.28	0.41	0.61	0.006	0.02	0.07	0.06	0.06	0.021	< 0.01	0.22	98.76	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	2	< 5
549731	72.25	15.37	1.37	0.172	0.30	0.88	5.34	1.81	0.099	0.20	0.90	98.69	< 1	114	12	< 20	2	< 20	< 10	760	54	4	< 5
549732	77.99	12.05	1.51	0.080	0.31	0.55	2.72	2.13	0.093	0.16	1.16	98.75	< 1	15	12	110	2	< 20	< 10	190	56	4	< 5
549733	84.68	8.82	1.18	0.052	0.20	0.40	2.20	1.36	0.064	0.05	0.71	99.72	< 1	15	7	100	1	< 20	< 10	150	34	3	< 5
549734	84.66	8.84	0.54	0.018	0.06	0.39	3.56	0.53	0.023	< 0.01	0.52	99.14	< 1	150	< 5	40	< 1	< 20	< 10	90	26	4	< 5
549735	85.39	9.01	0.58	0.018	0.06	0.45	3.99	0.49	0.021	0.02	0.44	100.5	< 1	44	5	150	< 1	< 20	< 10	70	23	3	< 5
549736	77.18	13.60	0.55	0.025	0.05	0.80	6.04	0.58	0.023	0.03	0.66	99.53	< 1	46	< 5	100	< 1	< 20	< 10	50	36	3	< 5
549737	75.45	15.10	0.67	0.038	0.09	0.78	5.63	1.17	0.044	0.01	0.94	99.91	< 1	110	5	20	< 1	< 20	< 10	50	44	3	< 5
549738	72.84	17.19	0.83	0.038	0.16	0.70	5.35	2.07	0.079	< 0.01	1.27	100.5	< 1	31	8	110	< 1	< 20	< 10	110	60	3	< 5
549739	73.37	15.02	0.91	0.084	0.17	0.89	5.44	1.57	0.059	0.11	0.98	98.60	< 1	345	7	80	< 1	< 20	< 10	110	50	3	< 5
549740	76.43	9.91	4.31	0.051	0.76	1.25	1.15	1.77	0.589	0.30	1.28	97.80	9	39	58	70	6	20	320	150	29	4	55
549741	71.93	16.42	1.09	0.179	0.20	0.99	6.09	1.26	0.079	0.12	0.81	99.18	< 1	100	9	< 20	1	< 20	< 10	160	48	4	< 5
549742	72.52	15.86	1.21	0.098	0.27	0.88	5.34	1.86	0.090	0.25	1.08	99.45	< 1	36	15	100	1	< 20	< 10	170	53	3	< 5
549743	69.81	17.69	1.34	0.140	0.29	1.28	5.99	1.61	0.120	0.08	0.99	99.35	< 1	35	12	80	2	< 20	< 10	180	54	3	< 5
549744	77.25	13.86	0.80	0.080	0.14	0.73	4.90	1.31	0.057	0.02	0.97	100.1	< 1	17	6	30	< 1	< 20	< 10	110	42	3	< 5
549745	72.99	15.46	1.65	0.091	0.33	0.66	4.36	2.22	0.150	0.05	1.15	99.11	1	18	22	80	1	< 20	40	270	53	3	< 5
549746	69.89	15.80	1.99	0.077	0.56	2.44	4.97	1.52	0.245	0.28	0.88	98.66	1	35	26	60	2	< 20	< 10	160	37	2	< 5
549747	69.84	15.73	1.80	0.056	0.59	2.89	5.09	1.20	0.236	0.29	0.78	98.52	2	37	25	70	3	< 20	< 10	150	32	2	< 5
549748	69.28	16.76	1.79	0.082	0.46	2.01	5.05	1.81	0.200	0.37	0.99	98.81	1	27	24	< 20	2	< 20	10	300	43	3	< 5
549749	71.26	16.87	1.06	0.167	0.18	1.45	6.75	1.36	0.052	0.62	0.84	100.6	< 1	17	9	60	< 1	< 20	< 10	110	54	4	< 5
549750	98.43	0.55	0.44	0.006	0.07	0.03	0.10	0.07	0.031	< 0.01	0.26	100.0	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	1	< 5
549751	73.26	15.23	0.67	0.276	0.04	0.71	7.74	0.41	0.010	0.17	0.30	98.82	< 1	11	< 5	60	< 1	< 20	< 10	< 30	42	5	< 5
549752	68.19	19.47	0.57	0.139	0.07	1.05	8.63	0.95	0.027	0.16	1.09	100.4	< 1	15	< 5	< 20	< 1	< 20	< 10	140	55	4	< 5
549753	79.92	11.05	1.15	0.089	0.16	0.78	3.97	1.01	0.069	0.03	0.75	98.98	< 1	14	8	130	1	< 20	< 10	130	30	3	< 5
549754	92.51	4.42	0.66	0.054	0.07	0.27	1.44	0.50	0.021	< 0.01	0.39	100.3	< 1	9	< 5	80	< 1	< 20	< 10	40	14	2	< 5
549755	89.92	5.97	0.77	0.069	0.07	0.32	1.75	0.76	0.027	0.02	0.49	100.2	< 1	19	< 5	30	< 1	< 20	< 10	40	21	3	< 5
549756	69.11	17.37	1.96	0.042	0.57	2.75	5.38	1.26	0.246	0.13	0.82	99.64	2	36	26	80	3	< 20	10	140	33	2	< 5
549757	70.54	16.91	1.33	0.186	0.28	1.72	6.63	1.19	0.120	0.40	0.71	100.0	< 1	20	14	60	1	< 20	< 10	200	44	3	< 5
549758	74.90	14.48	0.89	0.076	0.14	0.97	5.33	1.27	0.056	0.09	0.90	99.12	< 1	41	9	30	1	< 20	< 10	110	46	4	< 5
549759	77.94	12.70	0.75	0.211	0.05	0.71	5.27	0.66	0.026	0.02	0.68	99.03	< 1	30	< 5	130	< 1	< 20	< 10	< 30	34	4	< 5
549760	75.75	9.13	4.63	0.051	0.88	1.61	1.28	1.97	0.802	0.38	1.25	97.72	11	33	65	70	7	20	300	140	24	4	37
549761	68.04	19.30	1.04	0.186	0.18	1.00	6.73	2.02	0.075	0.25	1.22	100.0	< 1	18	9	70	< 1	< 20	< 10	140	67	4	< 5
549762	69.97	16.99	0.99	0.130	0.17	1.09	6.47	1.55	0.065	0.38	0.90	98.71	< 1	29	10	< 20	< 1	< 20	< 10	230	56	4	< 5
549763	73.44	15.15	0.71	0.172	0.05	0.88	8.03	0.43	0.013	0.26	0.25	99.38	< 1	13	< 5	50	< 1	< 20	< 10	< 30	41	4	< 5
549764	72.75	15.81	0.58	0.120	0.09	1.00	7.37	0.78	0.032	0.36	0.54	99.43	< 1	12	< 5	40	< 1	< 20	< 10	60	45	4	< 5
549765	71.84	15.75	0.84	0.275	0.11	0.86	7.74	0.71	0.047	0.22	0.46	98.85	< 1	14	7	< 20	< 1	< 20	< 10	150	41	4	< 5
549766	72.15	15.91	1.55	0.127	0.38	1.58	6.12	1.29	0.163	0.12	0.65	100.1	1	31	18	60	2	< 20	< 10	130	37	3	< 5
549767	71.83	16.71	1.21	0.190	0.24	1.08	6.67	1.09	0.099	0.06	0.64	99.83	< 1	29	11	50	1	< 20	< 10	230	45	3	< 5
549768	73.60	14.27	1.38	0.160	0.35	1.89	6.05	0.90	0.144	0.09	0.33	99.17	1	7	15	20	2	< 20	< 10	90	33	3	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549769	70.79	15.41	1.95	0.045	0.57	2.82	4.91	1.59	0.249	0.09	0.61	99.05	2	8	27	50	3	< 20	< 10	120	29	2	< 5
549770	97.74	0.40	1.17	0.012	0.04	0.31	0.12	0.05	0.020	< 0.01	0.12	99.96	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
549771	74.92	15.13	0.62	0.173	0.07	0.82	7.21	0.83	0.022	0.08	0.63	100.5	< 1	35	< 5	60	< 1	< 20	< 10	40	43	4	< 5
549772	72.96	16.21	1.15	0.106	0.23	0.74	5.53	2.00	0.107	0.08	1.08	100.2	< 1	21	12	< 20	1	< 20	< 10	130	48	4	< 5
549773	69.75	17.38	1.37	0.069	0.18	1.05	6.64	1.82	0.070	0.08	0.71	99.11	< 1	38	7	70	< 1	< 20	< 10	100	45	3	< 5
549774	72.02	16.93	0.59	0.048	0.09	0.65	7.85	0.96	0.031	0.05	0.69	99.91	< 1	30	< 5	30	< 1	< 20	< 10	70	52	4	< 5
549775	71.79	17.06	0.54	0.048	0.08	0.63	7.60	0.86	0.025	0.05	0.72	99.43	< 1	57	< 5	< 20	< 1	< 20	< 10	80	51	4	< 5
549776	74.01	15.82	1.16	0.037	0.04	0.48	7.70	0.63	0.011	0.07	0.09	100.1	< 1	69	< 5	40	< 1	< 20	< 10	< 30	44	4	< 5
549777	70.36	16.25	1.75	0.064	0.56	2.34	5.34	1.55	0.215	0.08	0.89	99.40	2	7	23	90	3	< 20	< 10	110	30	2	< 5
549778	66.53	15.92	3.49	0.023	1.37	3.33	4.88	1.92	0.490	0.25	0.71	98.92	2	2	59	< 20	7	< 20	< 10	290	31	1	< 5
549779	72.81	15.44	1.55	0.091	0.36	0.83	4.61	3.64	0.130	0.10	0.67	100.3	< 1	15	16	100	2	< 20	10	180	43	3	< 5
549780	77.64	10.22	4.39	0.049	0.77	1.26	1.17	1.79	0.591	0.28	1.23	99.40	9	39	57	70	6	20	330	160	29	5	56
549781	73.68	15.55	1.22	0.415	0.14	0.65	6.51	1.26	0.042	0.18	0.53	100.2	< 1	21	7	60	< 1	< 20	< 10	90	50	5	< 5
549782	68.58	16.28	3.12	0.054	1.12	3.02	4.61	1.68	0.379	0.48	0.85	100.2	2	17	45	20	6	< 20	20	370	39	2	< 5
549783	78.08	13.28	1.17	0.051	0.19	0.73	4.19	1.58	0.067	0.05	0.72	100.1	< 1	22	8	130	1	< 20	< 10	110	39	3	< 5
549784	76.94	13.94	0.75	0.039	0.09	0.82	5.43	1.20	0.035	0.04	0.82	100.1	< 1	137	< 5	70	< 1	< 20	< 10	60	39	3	< 5
549785	71.67	16.14	0.52	0.037	0.04	0.79	5.51	2.98	0.027	0.02	0.82	98.55	< 1	323	< 5	< 20	< 1	< 20	< 10	60	43	4	< 5
549786	71.51	16.45	0.50	0.021	0.04	0.27	4.62	5.18	0.013	< 0.01	0.45	99.07	< 1	265	< 5	90	< 1	< 20	< 10	< 30	34	4	< 5
549787	69.41	16.76	0.41	0.013	0.04	0.16	2.72	9.37	0.007	< 0.01	0.32	99.23	< 1	129	< 5	< 20	< 1	< 20	< 10	< 30	29	4	< 5
549788	76.95	13.58	0.58	0.020	0.06	0.23	2.93	5.66	0.012	0.01	0.58	100.6	< 1	98	8	110	< 1	< 20	< 10	< 30	30	3	< 5
549789	77.39	13.81	0.55	0.037	0.03	0.33	4.05	3.12	0.023	< 0.01	0.73	100.1	< 1	259	6	90	< 1	< 20	< 10	40	40	3	< 5
549790	98.09	0.28	0.27	0.004	0.03	0.01	0.04	0.04	0.015	< 0.01	0.11	98.88	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	2	< 5
549791	75.31	14.16	0.68	0.032	0.03	0.37	4.18	3.53	0.018	0.01	0.71	99.02	< 1	261	< 5	30	< 1	< 20	< 10	80	38	4	< 5
549792	72.62	16.64	0.69	0.067	0.03	0.80	5.78	2.02	0.023	< 0.01	1.06	99.75	< 1	408	< 5	70	< 1	< 20	< 10	30	42	3	< 5
549793	74.85	15.33	1.01	0.054	0.10	0.64	5.27	1.80	0.043	0.02	0.85	99.96	< 1	164	< 5	< 20	< 1	< 20	< 10	80	43	4	< 5
549794	72.54	16.57	1.20	0.064	0.23	0.99	5.75	1.76	0.073	0.14	0.77	100.1	< 1	117	9	100	1	< 20	< 10	230	46	4	< 5
549795	72.79	15.99	1.50	0.081	0.26	1.01	5.41	1.90	0.088	0.19	0.79	100.0	< 1	57	12	50	1	< 20	< 10	250	49	4	< 5
549796	71.93	16.12	1.03	0.089	0.19	1.10	5.82	1.60	0.062	0.30	0.88	99.12	< 1	20	7	< 20	1	< 20	< 10	160	51	4	< 5
549797	71.88	16.09	0.64	0.106	0.07	0.69	7.89	0.64	0.020	0.15	0.42	98.60	< 1	12	< 5	50	< 1	< 20	< 10	60	45	4	< 5
549798	69.79	16.98	1.52	0.092	0.43	2.03	5.98	1.44	0.185	0.12	0.53	99.09	1	18	19	80	2	< 20	20	180	33	3	< 5
549799	69.34	16.58	1.95	0.028	0.63	2.98	5.17	1.50	0.272	0.12	0.52	99.10	2	10	29	< 20	3	< 20	10	110	27	2	< 5
549800	76.36	9.37	4.40	0.051	0.88	1.57	1.29	1.95	0.818	0.36	1.21	98.25	11	34	64	70	6	20	300	140	22	4	37
549801	70.16	16.93	1.88	0.055	0.59	2.77	5.12	2.01	0.246	0.14	0.59	100.5	2	7	27	80	3	< 20	< 10	130	33	2	< 5
549802	76.12	13.82	0.80	0.032	0.11	0.97	5.52	1.46	0.035	0.03	0.65	99.55	< 1	26	5	90	< 1	< 20	< 10	80	36	3	< 5
549803	98.60	0.43	0.45	0.008	< 0.01	0.02	0.11	0.04	0.002	< 0.01	0.07	99.73	< 1	1	< 5	60	< 1	< 20	< 10	< 30	1	2	< 5
549804	97.07	1.43	0.64	0.008	0.01	0.05	0.36	0.56	0.003	< 0.01	0.02	100.2	< 1	2	< 5	190	< 1	< 20	< 10	< 30	2	2	< 5
549805	81.27	10.50	0.69	0.024	0.08	0.68	4.51	0.70	0.027	< 0.01	0.50	98.99	< 1	20	< 5	90	< 1	< 20	< 10	50	27	4	< 5
549806	98.34	0.33	0.53	0.008	0.02	0.02	0.05	0.07	0.002	< 0.01	0.03	99.39	< 1	1	< 5	50	< 1	< 20	< 10	< 30	< 1	2	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549687	1680	74	< 2	12	74	< 2	< 0.5	< 0.2	23	< 0.5	175	30	< 0.4	3.1	364	1	13.4	26	8.1	5.8	0.02	0.04	
549688	1600	71	< 2	4	61	< 2	< 0.5	< 0.2	21	< 0.5	196	25	< 0.4	2.8	219	1	13.3	17	3.7	5.1	0.02	0.04	
549689	1250	59	< 2	7	60	< 2	< 0.5	< 0.2	18	< 0.5	183	16	0.5	1.7	210	1	10.6	17	4.9	6.3	0.02	0.05	
549690	5	2	4	47	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	17	< 0.4	1.4	0.6	< 1	0.7	< 5	1.4	0.5	< 0.01	< 0.01	
549691	1330	70	< 2	7	44	< 2	< 0.5	< 0.2	24	< 0.5	174	19	< 0.4	2.0	171	2	10.2	19	11.7	4.4	0.24	0.52	
549692	583	89	< 2	4	46	< 2	< 0.5	< 0.2	21	< 0.5	90.4	13	< 0.4	1.4	111	1	4.6	11	3.6	2.5	0.83	1.80	
549693	695	66	< 2	< 4	56	< 2	< 0.5	< 0.2	29	< 0.5	144	44	< 0.4	0.9	154	< 1	5.7	13	2.6	2.3	1.14	2.45	
549694	1210	89	< 2	< 4	61	< 2	< 0.5	< 0.2	24	< 0.5	174	64	0.6	0.5	132	< 1	11.4	13	0.8	1.9	1.15	2.48	
549695	1350	95	< 2	< 4	64	< 2	< 0.5	< 0.2	21	< 0.5	212	56	< 0.4	0.5	119	< 1	12.5	13	0.5	1.6	0.86	1.85	
549696	378	88	< 2	13	683	< 2	< 0.5	< 0.2	21	< 0.5	101	10	1.6	2.0	684	3	3.7	26	10.9	17.5	1.10	2.37	2.80
549697	134	133	4	9	21	2	< 0.5	< 0.2	6	< 0.5	40.6	11	1.1	1.0	28.1	< 1	0.6	13	4.3	5.3	0.60	1.29	
549698	302	83	2	5	70	< 2	< 0.5	< 0.2	12	< 0.5	91.9	10	3.7	0.9	172	1	1.5	14	3.3	3.9	0.62	1.34	
549699	2020	94	< 2	8	179	< 2	< 0.5	< 0.2	14	< 0.5	365	101	1.6	2.9	695	3	18.3	25	5.0	6.4	0.64	1.38	
549700	1170	298	28	187	694	7	0.8	2.8	651	7.7	217	2031	11.6	4.3	15.7	3	9.8	28	92.2	15.7	0.23	0.50	
549701	1070	74	< 2	7	150	2	< 0.5	< 0.2	13	< 0.5	297	47	2.3	2.2	632	2	10.1	21	6.0	4.9	0.67	1.44	
549702	211	94	< 2	< 4	19	< 2	< 0.5	< 0.2	19	< 0.5	44.1	5	3.3	0.4	60.6	< 1	2.2	9	1.6	2.8	1.02	2.20	
549703	244	143	< 2	6	13	< 2	< 0.5	< 0.2	13	< 0.5	62.9	11	1.1	0.7	31.8	< 1	1.8	12	3.4	4.1	1.28	2.75	
549704	244	93	< 2	5	16	< 2	< 0.5	< 0.2	12	< 0.5	45.3	9	0.7	0.9	47.1	< 1	1.8	8	3.6	3.4	1.32	2.84	
549705	168	115	< 2	8	13	< 2	< 0.5	< 0.2	13	< 0.5	45.8	10	1.1	0.8	21.1	< 1	1.3	9	2.9	2.9	1.37	2.94	
549706	325	116	< 2	< 4	17	< 2	< 0.5	< 0.2	23	< 0.5	115	9	4.2	0.5	41.7	< 1	2.3	11	1.1	1.5	1.40	3.01	2.80
549707	1020	49	< 2	< 4	76	2	< 0.5	< 0.2	24	< 0.5	165	24	1.0	1.4	543	1	8.7	13	3.0	3.8	1.16	2.50	
549708	440	42	3	8	35	< 2	< 0.5	< 0.2	21	< 0.5	89.1	16	1.6	3.4	258	< 1	3.7	13	4.5	5.1	1.58	3.40	
549709	384	131	< 2	6	32	< 2	< 0.5	< 0.2	15	< 0.5	52.6	13	0.7	0.8	37.6	< 1	2.5	10	3.8	4.2	0.65	1.40	
549710	4	6	5	55	1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	24	< 0.4	1.5	0.6	8	0.2	< 5	1.4	0.5	< 0.01	< 0.01	
549711	686	223	< 2	8	25	< 2	< 0.5	< 0.2	25	< 0.5	118	34	0.5	0.8	31.3	1	4.5	8	2.2	1.9	0.50	1.08	
549712	1000	145	< 2	21	46	< 2	< 0.5	< 0.2	40	< 0.5	134	86	< 0.4	1.0	23.3	2	6.8	< 5	1.0	0.9	0.08	0.18	
549713	837	329	< 2	11	36	< 2	< 0.5	< 0.2	31	< 0.5	106	78	< 0.4	0.6	28.3	1	6.2	7	0.5	0.8	0.05	0.12	
549714	1880	171	< 2	35	94	< 2	< 0.5	< 0.2	80	< 0.5	225	158	0.6	2.2	57.7	1	13.1	7	1.1	2.2	0.13	0.28	
549715	2090	163	< 2	30	107	< 2	< 0.5	< 0.2	90	< 0.5	257	168	< 0.4	1.9	64.6	2	14.3	5	1.3	1.8	0.13	0.29	
549716	1680	191	< 2	39	105	< 2	< 0.5	< 0.2	79	< 0.5	197	148	< 0.4	2.4	54.7	< 1	11.6	8	3.4	3.5	0.12	0.27	2.77
549717	1290	124	2	34	52	3	< 0.5	< 0.2	51	< 0.5	321	116	< 0.4	1.7	25.3	1	9.0	7	2.8	2.9	0.11	0.23	
549718	1700	177	< 2	45	76	< 2	< 0.5	< 0.2	71	< 0.5	485	137	< 0.4	2.6	39.8	< 1	12.8	8	1.9	3.3	0.14	0.31	
549719	2120	127	3	75	98	< 2	< 0.5	< 0.2	86	< 0.5	665	123	< 0.4	8.3	85.2	< 1	16.0	52	3.2	5.9	0.14	0.31	
549720	1180	302	28	192	724	7	0.8	2.7	637	7.5	215	2040	10.4	4.4	15.8	3	9.7	26	90.4	15.3	0.23	0.50	
549721	563	88	2	67	64	< 2	< 0.5	< 0.2	26	< 0.5	165	37	< 0.4	6.2	32.4	< 1	4.9	24	3.6	16.7	0.04	0.09	
549722	265	262	4	56	68	< 2	< 0.5	< 0.2	8	< 0.5	179	158	< 0.4	4.7	42.1	< 1	2.9	11	3.9	9.4	0.08	0.16	
549723	649	878	2	115	34	< 2	< 0.5	< 0.2	11	< 0.5	171	681	< 0.4	3.7	19.6	< 1	6.1	14	3.8	4.2	0.18	0.40	
549724	189	1338	3	182	5	< 2	< 0.5	< 0.2	2	< 0.5	45.8	1067	< 0.4	4.2	1.3	2	2.1	14	4.4	1.6	0.06	0.14	
549725	115	1356	3	192	7	< 2	< 0.5	< 0.2	2	< 0.5	29.8	1128	< 0.4	4.2	0.6	< 1	1.1	13	4.5	2.4	0.05	0.11	
549726	2560	268	4	6	12	< 2	< 0.5	< 0.2	16	< 0.5	131	1018	< 0.4	0.2	8.7	< 1	18.1	14	0.5	1.3	0.04	0.09	2.68
549727	2290	147	< 2	< 4	18	< 2	< 0.5	< 0.2	15	< 0.5	221	216	< 0.4	1.1	30.5	< 1	22.9	17	0.5	1.5	0.36	0.76	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549728	1240	146	< 2	7	83	< 2	< 0.5	< 0.2	55	< 0.5	113	173	0.6	0.9	43.4	< 1	11.2	11	2.9	2.8	0.16	0.34	
549729	300	1175	2	165	12	< 2	< 0.5	< 0.2	4	< 0.5	68.8	951	< 0.4	4.2	3.4	< 1	3.6	13	4.3	2.4	0.07	0.15	
549730	3	< 2	3	45	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	14	< 0.4	1.4	0.2	4	0.4	< 5	1.5	0.5	< 0.01	< 0.01	
549731	943	246	< 2	39	73	< 2	< 0.5	< 0.2	44	< 0.5	100	256	1.4	3.3	33.3	< 1	5.8	12	2.1	4.6	0.05	0.11	
549732	1450	139	< 2	16	96	< 2	< 0.5	< 0.2	66	< 0.5	144	130	< 0.4	1.4	35.7	< 1	9.1	7	1.7	0.8	0.07	0.16	
549733	899	144	< 2	15	55	< 2	< 0.5	< 0.2	42	< 0.5	106	89	< 0.4	0.9	25.0	5	6.5	7	0.9	0.4	0.04	0.10	
549734	339	119	< 2	5	29	< 2	< 0.5	< 0.2	13	< 0.5	63.1	28	0.6	0.6	44.0	< 1	2.6	10	1.3	1.6	0.02	0.04	
549735	275	127	< 2	5	26	< 2	< 0.5	< 0.2	9	< 0.5	36.9	28	1.0	0.6	34.5	< 1	3.1	15	2.2	1.2	0.01	0.03	
549736	362	209	< 2	19	50	< 2	< 0.5	< 0.2	10	< 0.5	68.5	26	< 0.4	2.0	130	1	2.1	23	6.2	4.3	0.02	0.03	2.66
549737	717	197	< 2	15	34	< 2	< 0.5	< 0.2	20	< 0.5	159	39	< 0.4	2.5	182	6	4.6	50	5.5	14.7	0.02	0.04	
549738	1360	214	< 2	19	51	< 2	< 0.5	< 0.2	39	< 0.5	310	68	< 0.4	2.9	147	2	8.6	32	4.0	9.8	0.03	0.07	
549739	971	218	< 2	37	55	< 2	< 0.5	< 0.2	30	< 0.5	175	66	0.7	3.6	114	1	6.6	22	7.3	6.2	0.03	0.08	
549740	1250	210	19	152	1040	8	0.6	4.1	939	11.0	274	1016	15.6	3.4	20.1	5	11.0	24	46.1	8.0	0.49	1.05	
549741	934	281	2	60	48	< 2	< 0.5	< 0.2	31	< 0.5	140	103	< 0.4	4.0	42.9	2	7.4	15	3.2	13.3	0.04	0.09	
549742	1210	189	3	44	77	< 2	< 0.5	< 0.2	47	< 0.5	111	116	< 0.4	3.3	44.3	< 1	7.2	6	2.4	3.2	0.06	0.12	
549743	1240	442	2	61	53	< 2	< 0.5	< 0.2	38	< 0.5	267	315	< 0.4	4.2	56.2	2	9.0	16	4.0	13.8	0.05	0.11	
549744	890	171	2	43	38	25	< 0.5	< 0.2	23	< 0.5	142	50	< 0.4	6.5	76.5	2	5.6	15	7.8	6.8	0.03	0.06	
549745	1520	197	3	91	47	< 2	< 0.5	< 0.2	55	< 0.5	183	161	< 0.4	3.5	43.3	2	10.5	58	3.4	20.0	0.09	0.20	
549746	1210	917	3	145	26	< 2	< 0.5	< 0.2	35	< 0.5	250	884	< 0.4	3.6	14.1	7	9.8	8	4.1	3.7	0.12	0.25	2.75
549747	979	1070	4	146	18	< 2	< 0.5	< 0.2	22	< 0.5	256	1062	< 0.4	3.5	8.4	< 1	8.7	9	3.8	3.9	0.11	0.23	
549748	1300	662	3	132	28	< 2	< 0.5	< 0.2	40	< 0.5	225	581	< 0.4	3.9	17.0	2	9.6	24	3.7	14.2	0.13	0.27	
549749	760	179	3	65	61	< 2	< 0.5	< 0.2	34	< 0.5	83.0	79	< 0.4	6.1	35.6	2	5.6	24	3.7	12.6	0.06	0.13	
549750	4	8	4	54	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	18	< 0.4	1.5	0.2	< 1	0.4	< 5	1.6	0.5	< 0.01	< 0.01	
549751	155	132	3	28	57	< 2	< 0.5	< 0.2	7	< 0.5	26.2	16	< 0.4	3.8	69.8	< 1	1.1	9	3.4	10.8	0.02	0.05	
549752	480	185	2	53	64	< 2	< 0.5	< 0.2	16	< 0.5	88.3	27	< 0.4	6.9	118	1	3.3	23	5.8	8.7	0.03	0.07	
549753	613	232	< 2	28	23	< 2	< 0.5	< 0.2	18	< 0.5	104	185	< 0.4	1.3	38.7	< 1	4.2	32	1.7	11.0	0.04	0.09	
549754	281	69	< 2	16	38	< 2	< 0.5	< 0.2	11	< 0.5	45.2	33	< 0.4	1.7	348	1	2.1	15	3.4	3.2	0.02	0.05	
549755	417	81	< 2	22	62	< 2	< 0.5	< 0.2	14	< 0.5	67.3	37	< 0.4	2.2	350	2	2.8	12	3.5	2.9	0.03	0.06	
549756	972	1153	3	150	14	< 2	< 0.5	< 0.2	17	< 0.5	409	1127	< 0.4	3.3	8.0	< 1	8.5	24	4.0	4.9	0.10	0.22	2.73
549757	867	445	3	94	41	< 2	< 0.5	< 0.2	24	< 0.5	235	377	< 0.4	5.1	41.6	2	6.7	15	3.0	11.7	0.07	0.14	
549758	778	230	< 2	41	37	< 2	< 0.5	< 0.2	27	< 0.5	113	66	< 0.4	3.8	40.6	1	5.3	13	3.9	8.3	0.04	0.08	
549759	385	155	< 2	48	85	< 2	< 0.5	< 0.2	11	< 0.5	75.8	30	< 0.4	6.3	926	1	2.8	28	12.2	18.5	0.02	0.04	
549760	1180	296	26	205	797	8	0.5	2.6	722	9.2	252	2013	9.9	4.4	19.0	5	11.2	29	90.5	15.3	0.23	0.49	
549761	1150	178	2	54	86	< 2	< 0.5	< 0.2	46	< 0.5	134	88	< 0.4	5.0	91.5	2	8.3	18	5.3	9.1	0.04	0.08	
549762	991	158	2	61	65	< 2	< 0.5	< 0.2	37	< 0.5	166	71	< 0.4	3.8	50.8	< 1	6.6	13	2.4	4.6	0.05	0.10	
549763	192	119	2	38	42	< 2	< 0.5	< 0.2	7	< 0.5	39.0	14	< 0.4	4.0	44.0	1	1.8	12	2.8	8.7	< 0.01	0.02	
549764	454	126	3	51	30	< 2	< 0.5	< 0.2	17	< 0.5	76.0	32	< 0.4	4.7	23.6	< 1	2.9	17	4.1	10.4	0.02	0.05	
549765	445	175	3	70	35	< 2	< 0.5	< 0.2	16	< 0.5	116	84	< 0.4	6.0	27.8	< 1	3.0	14	2.7	9.1	0.04	0.08	
549766	1120	600	3	116	16	< 2	< 0.5	< 0.2	27	< 0.5	443	379	< 0.4	4.2	9.7	< 1	8.5	10	3.4	4.1	0.11	0.23	2.70
549767	758	381	3	84	32	< 2	< 0.5	< 0.2	28	< 0.5	197	233	< 0.4	5.0	12.7	< 1	5.4	13	4.9	7.4	0.09	0.20	
549768	252	756	< 2	108	29	< 2	< 0.5	< 0.2	4	< 0.5	86.7	936	< 0.4	4.4	20.2	9	2.6	16	4.4	5.6	0.04	0.09	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549769	390	1153	< 2	152	8	< 2	< 0.5	< 0.2	12	< 0.5	95.1	1221	< 0.4	3.8	5.2	< 1	3.2	14	4.1	2.5	0.07	0.16	
549770	< 2	4	2	44	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	12	< 0.4	1.5	0.2	< 1	0.1	< 5	1.4	0.4	< 0.01	< 0.01	
549771	395	159	3	109	136	< 2	< 0.5	< 0.2	22	< 0.5	51.1	21	1.1	17.8	142	2	2.6	20	14.6	13.1	0.03	0.06	
549772	1340	169	< 2	115	50	< 2	< 0.5	< 0.2	67	< 0.5	189	178	< 0.4	9.2	74.9	< 1	8.4	8	8.4	4.1	0.09	0.20	
549773	940	327	< 2	68	64	< 2	< 0.5	< 0.2	33	< 0.5	148	263	< 0.4	7.5	132	1	7.8	12	10.8	7.1	0.15	0.32	
549774	502	129	2	21	45	< 2	< 0.5	< 0.2	47	< 0.5	67.2	39	< 0.4	2.5	27.9	1	3.4	< 5	2.6	1.1	0.04	0.08	
549775	439	122	< 2	18	77	< 2	< 0.5	< 0.2	40	0.7	74.0	34	< 0.4	2.6	66.7	3	2.9	< 5	0.9	1.0	0.07	0.15	
549776	236	92	< 2	15	70	< 2	< 0.5	< 0.2	18	< 0.5	46.5	21	< 0.4	2.4	55.2	< 1	1.7	< 5	1.6	1.7	0.04	0.08	2.69
549777	353	996	4	142	15	< 2	< 0.5	< 0.2	7	< 0.5	136	1372	< 0.4	4.0	7.7	< 1	3.0	15	4.4	2.9	0.06	0.13	
549778	243	1108	2	201	5	< 2	< 0.5	< 0.2	2	< 0.5	77.7	1489	< 0.4	5.0	0.4	< 1	2.1	10	4.0	1.4	0.08	0.17	
549779	1350	326	5	39	53	< 2	< 0.5	< 0.2	31	< 0.5	104	499	< 0.4	1.8	29.6	< 1	9.0	16	2.3	1.7	0.05	0.12	
549780	1290	228	20	171	1540	9	< 0.5	4.0	1250	15.5	327	1034	15.2	4.2	26.4	8	13.3	24	47.1	7.9	0.48	1.03	
549781	659	139	2	80	91	< 2	< 0.5	< 0.2	36	< 0.5	72.9	109	< 0.4	6.1	56.2	< 1	4.8	17	3.2	5.5	0.04	0.08	
549782	978	845	3	152	25	< 2	< 0.5	< 0.2	20	< 0.5	210	1047	< 0.4	4.1	7.0	< 1	5.9	10	3.6	5.4	0.10	0.22	
549783	921	293	2	16	35	< 2	< 0.5	< 0.2	29	0.6	112	131	< 0.4	1.0	17.3	2	5.4	7	0.9	0.6	0.04	0.09	
549784	587	241	< 2	10	22	< 2	< 0.5	< 0.2	15	< 0.5	76.0	42	0.8	0.9	22.7	2	4.1	14	4.3	1.8	0.02	0.05	
549785	1330	247	< 2	12	186	< 2	< 0.5	< 0.2	12	< 0.5	148	65	1.9	1.3	260	1	8.8	24	7.8	6.0	0.02	0.03	
549786	2180	139	< 2	4	20	< 2	< 0.5	< 0.2	7	< 0.5	187	96	0.7	1.0	94.9	< 1	16.6	20	2.5	2.4	< 0.01	0.02	2.64
549787	4840	131	< 2	< 4	21	< 2	< 0.5	< 0.2	4	< 0.5	582	109	< 0.4	0.3	81.6	< 1	43.4	26	1.1	2.7	< 0.01	0.01	
549788	2410	67	< 2	< 4	21	< 2	< 0.5	< 0.2	10	< 0.5	309	35	2.4	0.4	58.1	< 1	20.8	17	1.0	2.3	0.01	0.02	
549789	1290	73	3	16	77	< 2	< 0.5	< 0.2	17	0.5	138	32	2.5	5.4	298	3	10.8	23	7.0	6.7	0.01	0.03	
549790	3	< 2	4	39	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	8	< 0.4	1.2	0.1	< 1	0.9	< 5	1.3	0.4	< 0.01	< 0.01	
549791	1450	99	< 2	< 4	50	< 2	< 0.5	< 0.2	12	< 0.5	136	66	0.9	0.8	183	< 1	9.9	17	3.6	3.8	0.01	0.03	
549792	816	230	< 2	12	33	< 2	< 0.5	< 0.2	13	< 0.5	97.4	39	2.1	1.3	70.3	< 1	5.4	28	5.2	2.9	0.02	0.04	
549793	912	208	< 2	14	27	< 2	< 0.5	< 0.2	19	< 0.5	116	43	1.2	1.4	50.9	< 1	5.8	12	4.6	2.0	0.05	0.11	
549794	1130	356	< 2	35	47	< 2	< 0.5	< 0.2	37	< 0.5	125	115	< 0.4	1.8	46.5	< 1	6.7	7	1.7	1.0	0.07	0.15	
549795	1280	326	< 2	44	49	< 2	< 0.5	< 0.2	42	< 0.5	137	119	< 0.4	2.2	47.2	< 1	7.5	8	2.5	1.3	0.08	0.17	
549796	994	250	< 2	25	46	< 2	< 0.5	< 0.2	31	< 0.5	104	85	< 0.4	2.0	46.8	< 1	5.7	14	3.4	2.1	0.04	0.09	2.73
549797	339	126	< 2	25	53	< 2	< 0.5	< 0.2	10	< 0.5	32.0	29	< 0.4	3.0	84.4	< 1	2.0	12	6.2	3.0	0.01	0.03	
549798	789	818	2	110	22	< 2	< 0.5	< 0.2	7	< 0.5	166	692	< 0.4	4.0	25.9	< 1	5.7	11	3.7	3.4	0.06	0.12	
549799	430	1247	3	163	6	< 2	< 0.5	< 0.2	4	< 0.5	131	1325	< 0.4	4.0	3.1	< 1	3.2	13	4.1	1.8	0.07	0.15	
549800	1240	311	26	185	629	8	0.5	2.6	580	6.8	227	2035	9.9	3.9	16.0	5	9.8	27	90.4	15.5	0.23	0.49	
549801	512	1134	4	150	22	< 2	< 0.5	< 0.2	12	< 0.5	102	1230	< 0.4	3.9	5.4	< 1	3.6	17	4.1	3.7	0.07	0.14	
549802	766	306	< 2	9	24	< 2	< 0.5	< 0.2	20	< 0.5	86.7	90	< 0.4	0.7	10.6	< 1	5.2	11	0.6	0.9	0.04	0.08	
549803	9	3	2	< 4	< 1	3	< 0.5	< 0.2	< 1	< 0.5	2.3	< 3	< 0.4	< 0.2	< 0.1	< 1	0.3	< 5	< 0.1	< 0.1	< 0.01	0.02	
549804	353	17	< 2	< 4	4	< 2	< 0.5	< 0.2	< 1	< 0.5	60.2	10	< 0.4	< 0.2	1.0	< 1	2.7	< 5	0.1	< 0.1	< 0.01	0.02	
549805	459	176	< 2	< 4	19	< 2	< 0.5	< 0.2	11	< 0.5	59.9	29	0.8	0.5	15.8	3	2.7	6	0.6	0.3	0.02	0.05	
549806	27	< 2	< 2	< 4	< 1	3	< 0.5	< 0.2	< 1	< 0.5	2.7	< 3	< 0.4	< 0.2	0.4	< 1	0.2	< 5	< 0.1	< 0.1	< 0.01	0.01	2.45

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.21	1.82	0.78	0.013	0.33	42.72	0.87	0.55	0.117	30.22					1598								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.74	18.74	9.69	0.145	9.97	11.41	1.94	0.23	0.495	0.06			32		152	280	53	250	100	70			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70			
GBW 07113 Meas	71.88	13.09	3.13	0.140	0.15	0.59	2.54	5.38	0.267	0.03			5	4	< 5								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																90		50		160			29
LKSD-3 Cert																87.0		47.0		152			27.0
TDB-1 Meas																240		90	330	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	51.87	15.68	10.93	0.168	6.28	11.18	2.14	0.60	1.094	0.15			35	< 1	272	90	43	70	110	80	18	2	< 5
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20
SY-4 Meas	50.76	20.15	6.20	0.106	0.50	8.17	6.92	1.66	0.281	0.13			< 1	3	7								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			50	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.80	15.79	11.29	0.173	9.62	13.54	1.87	0.02	0.970	0.01			44	< 1	329	370		160	120	60			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370		170	125	70			
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30			920	100	15	11	69
NCS DC70009 (GBW07241) Cert																30			960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		170				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	45		420				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	46		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20		< 30	16	2	16
JR-1 Cert																		1.67		30.6	16.1	1.88	16.3
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86304 Meas																							
NCS DC86304 Cert																							
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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Cert																							
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Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
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Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
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Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
100 lot#220610B Cert																							
549693 Orig																							
549693 Dup																							
549701 Orig	79.58	12.93	0.57	0.058	0.04	0.23	2.53	2.29	0.013	< 0.01	0.40	98.64	< 1	865	< 5	40	< 1	< 20	< 10	30	36	4	< 5
549701 Dup	79.62	12.73	0.55	0.057	0.03	0.22	2.56	2.28	0.012	< 0.01	0.40	98.47	< 1	832	< 5	40	< 1	< 20	< 10	40	37	4	< 5
549715 Orig																							
549715 Dup																							
549718 Orig	74.24	13.66	1.48	0.093	0.33	0.84	3.88	2.37	0.106	0.28	1.27	98.56	1	31	15	80	2	< 20	< 10	260	60	4	< 5
549718 Dup	74.27	14.35	1.49	0.095	0.33	0.84	3.83	2.34	0.107	0.27	1.27	99.20	1	32	14	90	2	< 20	< 10	260	62	4	< 5
549723 Orig																							
549723 Dup																							
549736 Orig	77.18	13.60	0.55	0.025	0.05	0.80	6.04	0.58	0.023	0.03	0.66	99.53	< 1	46	< 5	100	< 1	< 20	< 10	50	36	3	< 5
549736 Split PREP DUP	76.89	13.78	0.55	0.026	0.06	0.82	6.04	0.64	0.026	0.02	0.69	99.55	< 1	52	< 5	80	< 1	< 20	< 10	40	36	4	< 5
549737 Orig																							
549737 Dup																							
549744 Orig																							
549744 Dup																							
549748 Orig	69.38	16.72	1.75	0.080	0.46	2.01	5.08	1.82	0.197	0.38	0.99	98.85	1	27	24	< 20	2	< 20	10	290	43	2	< 5
549748 Dup	69.19	16.79	1.83	0.084	0.47	2.02	5.02	1.80	0.204	0.36	0.99	98.76	1	28	24	20	2	< 20	10	300	43	3	< 5
549758 Orig																							
549758 Dup																							
549765 Orig	71.50	16.05	0.82	0.281	0.11	0.87	7.80	0.72	0.048	0.22	0.46	98.87	< 1	14	7	< 20	< 1	< 20	< 10	140	40	4	< 5
549765 Dup	72.19	15.46	0.85	0.269	0.11	0.86	7.67	0.70	0.046	0.21	0.46	98.83	< 1	14	7	< 20	< 1	< 20	< 10	160	41	4	< 5
549766 Orig																							
549766 Dup																							
549766 Orig																							
549766 Dup																							
549780 Orig																							
549780 Dup																							
549780 Orig																							
549780 Dup																							
549786 Orig	71.51	16.45	0.50	0.021	0.04	0.27	4.62	5.18	0.013	< 0.01	0.45	99.07	< 1	265	< 5	90	< 1	< 20	< 10	< 30	34	4	< 5
549786 Split PREP DUP	71.77	15.75	0.61	0.022	0.03	0.27	4.53	5.11	0.013	0.02	0.45	98.58	< 1	258	< 5	100	< 1	< 20	< 10	< 30	35	4	< 5
549787 Orig																							
549787 Dup																							
549795 Orig	72.64	16.08	1.51	0.081	0.26	1.01	5.42	1.91	0.088	0.20	0.79	99.98	< 1	58	11	50	1	< 20	< 10	250	48	4	< 5
549795 Dup	72.93	15.91	1.49	0.081	0.26	1.00	5.41	1.89	0.088	0.19	0.79	100.1	< 1	56	13	60	1	< 20	< 10	250	49	4	< 5
549801 Orig																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549801 Dup																							
549806 Orig	98.34	0.33	0.53	0.008	0.02	0.02	0.05	0.07	0.002	< 0.01	0.03	99.39	< 1	1	< 5	50	< 1	< 20	< 10	< 30	< 1	2	< 5
549806 Split PREP DUP	97.74	0.29	0.56	0.007	< 0.01	0.02	0.05	0.07	0.001	< 0.01	0.04	98.77	< 1	1	< 5	60	< 1	< 20	< 10	< 30	< 1	2	< 5
Method Blank	< 0.01	0.02	0.01	0.002	0.01	0.01	< 0.01	< 0.01	0.002	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	0.04	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.003	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	< 0.01	0.01	0.002	0.02	0.01	< 0.01	< 0.01	0.002	< 0.01			< 1	< 1	< 5								
Method Blank																							
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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas	4	149	17	38								108											
DNC-1 Cert	5	144.0	18.0	38								118											
GBW 07113 Meas		42	44	393								502											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	79					< 2			3		2.1			4.7	0.8								
LKSD-3 Cert	78.0					2.00			3.00		2.30			4.80	0.700								
TDB-1 Meas	22																		2.6				
TDB-1 Cert	23																		2.7				
W-2a Meas	20	199	20	91	8	< 2						165	< 0.4	2.4		< 1	< 0.1		2.3	0.5			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600						182	0.0300	2.60		0.300	0.200		2.40	0.530			
SY-4 Meas		1182	118	531								343											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.6				21.1				
CTA-AC-1 Cert															2.65				21.8				
BIR-1a Meas		110	15	15						0.6		5		0.6									
BIR-1a Cert		110	16	18						0.58		6		0.60									
NCS DC86312 Meas																			22.8				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	511						1.8	1.0	1650	3.3	38.7					2110	1.8		27.7				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						25													49.6	133			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						21													34.1	408			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						21													38.3	425			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	262				14	3		< 0.2	3	1.2	19.7		0.5	4.5	2.0		1.5	21	25.4	8.7			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86		1.56	19.3	26.7	8.88			
NCS DC86303 Meas																					0.21	0.45	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.06	2.28	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.29	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.35	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.31	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.31	
NCS DC86304 Cert																					1.06	2.29	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.30	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.81	3.90	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.85	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.76	3.79	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.81	3.90	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.86	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.77	3.82	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.86	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.76	3.79	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.87	4.04	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.77	3.81	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.78	3.84	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.20		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.01		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.09		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.12		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.09		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.13		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.21		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.05		
Lithium																					8		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.10		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.22		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.94		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.18		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.20		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.13		
Lithium Tetraborate FX-LT																					8		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
100 lot#220610B Cert																							
549693 Orig																					1.14	2.45	
549693 Dup																					1.14	2.45	
549701 Orig	1060	74	< 2	6	146	2	< 0.5	< 0.2	13	< 0.5	296	47	2.1	2.0	610	1	9.8	20	5.8	4.8	0.67	1.45	
549701 Dup	1080	74	< 2	7	153	2	< 0.5	< 0.2	13	< 0.5	299	47	2.6	2.3	654	2	10.5	21	6.2	5.1	0.67	1.43	
549715 Orig																					0.13	0.29	
549715 Dup																					0.13	0.29	
549718 Orig	1690	177	2	44	71	< 2	< 0.5	< 0.2	68	< 0.5	480	137	< 0.4	2.4	39.1	< 1	12.5	8	1.9	3.3			
549718 Dup	1710	177	< 2	46	81	< 2	< 0.5	< 0.2	73	< 0.5	490	136	< 0.4	2.7	40.6	4	13.1	8	1.9	3.3			
549723 Orig																					0.18	0.40	
549723 Dup																					0.18	0.40	
549736 Orig	362	209	< 2	19	50	< 2	< 0.5	< 0.2	10	< 0.5	68.5	26	< 0.4	2.0	130	1	2.1	23	6.2	4.3	0.02	0.03	
549736 Split PREP DUP	404	220	< 2	19	43	< 2	< 0.5	< 0.2	12	< 0.5	74.2	29	< 0.4	2.0	78.2	1	2.4	19	6.6	3.4	0.02	0.04	
549737 Orig																					0.02	0.04	
549737 Dup																					0.02	0.04	
549744 Orig																					0.03	0.06	
549744 Dup																					0.03	0.06	
549748 Orig	1290	657	3	133	26	< 2	< 0.5	< 0.2	39	< 0.5	222	585	< 0.4	3.8	17.4	2	9.6	24	3.6	14.2			
549748 Dup	1320	667	2	132	30	< 2	< 0.5	< 0.2	40	< 0.5	228	577	< 0.4	4.1	16.6	1	9.7	23	3.7	14.2			
549758 Orig																					0.04	0.08	
549758 Dup																					0.04	0.08	
549765 Orig	439	179	3	70	36	< 2	< 0.5	< 0.2	15	< 0.5	113	84	< 0.4	6.1	28.4	< 1	2.9	13	2.7	9.2			
549765 Dup	451	170	3	71	34	< 2	< 0.5	< 0.2	16	< 0.5	119	83	< 0.4	5.9	27.2	< 1	3.0	14	2.7	9.1			
549766 Orig																					0.11	0.23	
549766 Dup																					0.11	0.23	
549766 Orig																					0.11	0.23	
549766 Dup																					0.11	0.23	
549780 Orig																					0.48	1.03	
549780 Dup																					0.48	1.04	
549780 Orig																					0.48	1.03	
549780 Dup																					0.48	1.02	
549786 Orig	2180	139	< 2	4	20	< 2	< 0.5	< 0.2	7	< 0.5	187	96	0.7	1.0	94.9	< 1	16.6	20	2.5	2.4	< 0.01	0.02	
549786 Split PREP DUP	2210	135	< 2	4	21	< 2	< 0.5	< 0.2	7	< 0.5	185	95	0.6	1.1	90.3	< 1	17.3	20	2.3	2.2	< 0.01	0.02	
549787 Orig																					< 0.01	0.01	
549787 Dup																					< 0.01	0.01	
549795 Orig	1270	326	< 2	45	47	< 2	< 0.5	< 0.2	41	< 0.5	136	118	< 0.4	2.3	45.7	5	7.3	7	2.5	1.2			
549795 Dup	1290	327	< 2	44	50	< 2	< 0.5	< 0.2	42	< 0.5	137	119	< 0.4	2.1	48.7	< 1	7.7	8	2.4	1.3			
549801 Orig																					0.07	0.14	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549801 Dup																					0.07	0.14	
549806 Orig	27	< 2	< 2	< 4	< 1	3	< 0.5	< 0.2	< 1	< 0.5	2.7	< 3	< 0.4	< 0.2	0.4	< 1	0.2	< 5	< 0.1	< 0.1	< 0.01	0.01	
549806 Split PREP DUP	24	< 2	< 2	< 4	< 1	3	< 0.5	< 0.2	< 1	< 0.5	2.5	< 3	< 0.4	< 0.2	0.3	< 1	< 0.1	< 5	< 0.1	< 0.1	< 0.01	0.02	
Method Blank		< 2	< 2	< 4								< 3											
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00
Method Blank																							1.00
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 01-Dec-17
Invoice No.: A17-13700
Invoice Date: 12-Jan-18
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

90 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-13700**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Elitsa Hrischeva, Ph.D.
Quality Control

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	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549807	90.13	4.97	0.43	0.006	0.02	0.05	0.53	3.53	0.002	0.01	0.08	99.76	< 1	3	< 5	40	< 1	< 20	< 10	< 30	7	2	< 5
549808	97.51	0.63	0.54	0.008	0.02	0.02	0.12	0.21	0.002	< 0.01	0.03	99.10	< 1	1	< 5	70	< 1	< 20	< 10	< 30	2	2	< 5
549809	82.53	8.37	0.49	0.010	0.04	0.05	0.92	5.86	0.003	< 0.01	0.12	98.39	< 1	2	< 5	170	< 1	< 20	< 10	< 30	13	2	< 5
549810	89.13	5.76	0.39	0.008	0.02	0.05	1.00	3.42	0.003	0.02	0.18	99.97	< 1	3	< 5	70	< 1	< 20	< 10	< 30	10	2	< 5
549811	74.83	14.23	0.59	0.017	0.03	0.61	4.94	2.85	0.014	0.01	0.54	98.66	< 1	382	< 5	100	< 1	< 20	< 10	< 30	33	3	< 5
549812	80.49	11.91	1.07	0.046	0.21	0.74	3.89	1.32	0.065	0.01	0.76	100.5	< 1	28	7	100	1	< 20	< 10	120	35	2	< 5
549813	76.65	13.99	0.61	0.048	0.06	0.63	5.40	1.36	0.025	0.02	0.73	99.52	< 1	148	< 5	30	< 1	< 20	< 10	40	36	3	< 5
549814	75.95	14.13	1.53	0.065	0.27	0.82	4.41	1.74	0.097	0.02	0.90	99.92	< 1	74	9	100	2	< 20	< 10	160	44	3	< 5
549815	80.96	10.85	1.15	0.048	0.17	0.66	3.54	1.19	0.062	0.02	0.66	99.32	< 1	51	7	50	1	< 20	< 10	100	33	3	< 5
549816	73.50	15.09	1.83	0.095	0.40	0.76	3.57	2.71	0.122	0.18	1.31	99.56	1	19	14	130	2	< 20	< 10	230	63	3	< 5
549817	69.95	16.04	1.92	0.115	0.55	2.53	5.31	1.28	0.224	0.18	0.58	98.69	2	20	25	20	3	< 20	20	140	37	2	< 5
549818	70.65	17.01	1.17	0.135	0.29	1.81	6.95	0.80	0.118	0.22	0.43	99.57	1	24	13	50	2	< 20	< 10	220	36	2	< 5
549819	76.96	13.96	0.64	0.088	0.09	0.47	4.45	2.97	0.034	0.01	0.60	100.3	< 1	23	< 5	30	< 1	< 20	< 10	420	35	3	< 5
549820	75.43	9.60	4.66	0.053	0.91	1.60	1.23	1.91	0.819	0.38	1.21	97.81	11	32	64	80	7	20	300	140	23	4	38
549821	71.69	16.03	1.11	0.242	0.23	1.18	6.71	0.78	0.094	0.07	0.41	98.54	< 1	21	10	70	1	< 20	< 10	70	37	3	< 5
549822	71.26	16.50	1.48	0.129	0.44	2.17	6.07	1.24	0.179	0.10	0.38	99.95	1	8	20	< 20	2	< 20	10	110	33	2	< 5
549823	69.76	16.10	1.92	0.028	0.65	3.07	5.35	1.76	0.256	0.12	0.43	99.45	2	5	30	80	4	< 20	< 10	110	28	< 1	< 5
549824	68.25	17.81	1.63	0.019	0.49	2.33	4.21	4.73	0.201	0.10	0.42	100.2	1	5	23	< 20	3	< 20	< 10	80	26	1	< 5
549825	87.54	8.03	0.63	0.047	0.06	0.22	1.46	1.59	0.017	< 0.01	0.34	99.92	< 1	87	< 5	140	< 1	< 20	< 10	30	27	3	< 5
549826	91.02	5.15	0.56	0.036	0.04	0.15	0.58	1.07	0.005	< 0.01	0.16	98.77	< 1	59	< 5	60	< 1	< 20	< 10	< 30	16	2	< 5
549827	78.51	13.23	0.85	0.056	0.12	0.29	2.23	2.84	0.031	0.02	0.59	98.75	< 1	242	< 5	120	< 1	< 20	30	110	43	3	< 5
549828	72.61	16.27	0.87	0.063	0.20	1.08	7.02	1.12	0.076	0.09	0.50	99.89	< 1	54	7	< 20	1	< 20	< 10	80	44	3	< 5
549829	70.00	16.80	1.90	0.026	0.58	2.86	5.16	1.65	0.240	0.09	0.48	99.78	2	6	27	110	3	< 20	10	90	25	< 1	< 5
549830	98.44	0.60	0.38	0.005	0.04	0.03	0.09	0.08	0.027	< 0.01	0.22	99.89	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
549831	63.08	22.86	0.72	0.153	0.09	0.70	7.96	2.53	0.039	< 0.01	1.42	99.55	< 1	27	< 5	< 20	< 1	< 20	< 10	110	74	3	< 5
549832	65.21	21.50	0.47	0.129	0.03	0.80	10.03	0.97	0.015	0.01	0.90	100.1	< 1	21	< 5	70	< 1	< 20	< 10	< 30	50	3	< 5
549833	67.78	19.33	0.92	0.637	0.02	0.51	10.30	0.23	0.003	0.02	0.22	99.96	< 1	8	< 5	< 20	< 1	< 20	< 10	40	45	4	< 5
549834	65.58	16.77	3.90	0.130	1.51	3.20	4.58	1.75	0.510	0.27	1.61	99.81	2	17	61	60	8	< 20	30	190	34	1	< 5
549835	64.67	17.15	4.00	0.125	1.49	3.20	4.64	1.66	0.537	0.26	1.56	99.29	2	17	60	20	8	< 20	30	210	33	1	< 5
549836	69.62	16.96	1.62	0.108	0.47	2.07	5.20	3.03	0.196	0.18	0.62	100.1	1	21	23	60	2	< 20	< 10	100	31	1	< 5
549837	78.57	12.28	1.12	0.088	0.20	0.43	2.95	3.19	0.065	0.06	0.73	99.70	< 1	34	9	30	1	< 20	< 10	120	39	3	< 5
549838	86.07	8.11	1.62	0.072	0.28	0.16	1.07	2.01	0.088	0.03	0.88	100.4	< 1	11	11	120	2	< 20	< 10	160	41	2	< 5
549839	78.06	12.20	1.79	0.087	0.35	0.33	2.36	2.82	0.108	0.05	1.18	99.32	1	16	12	30	2	< 20	< 10	230	54	3	< 5
549840	76.26	10.41	4.47	0.050	0.77	1.26	1.16	1.78	0.609	0.30	1.22	98.30	9	38	59	80	6	20	340	160	29	5	56
549841	73.80	15.71	1.77	0.096	0.37	0.74	3.48	3.17	0.128	0.11	1.29	100.7	1	130	13	80	3	< 20	< 10	240	59	3	< 5
549842	75.32	15.07	1.00	0.086	0.19	0.77	5.32	1.34	0.062	0.09	0.61	99.85	< 1	15	8	< 20	< 1	< 20	< 10	90	47	3	< 5
549843	71.98	16.79	1.31	0.190	0.29	1.47	5.46	1.70	0.113	0.07	0.40	99.78	1	139	13	90	1	< 20	10	90	37	2	< 5
549844	72.50	16.60	0.75	0.357	0.05	0.39	8.07	0.95	0.011	0.05	0.20	99.94	< 1	21	< 5	< 20	< 1	< 20	< 10	30	43	4	< 5
549845	70.76	16.34	1.39	0.123	0.41	2.07	6.32	1.52	0.170	0.08	0.35	99.53	1	9	20	110	2	< 20	< 10	70	31	2	< 5
549846	68.81	17.19	1.95	0.021	0.64	3.08	5.62	1.60	0.274	0.10	0.45	99.74	2	4	28	20	3	< 20	10	100	26	< 1	< 5
549847	66.91	19.03	0.40	0.028	0.03	0.26	3.23	9.70	0.010	0.01	0.42	100.0	< 1	297	< 5	90	< 1	< 20	< 10	< 30	32	3	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549848	69.36	16.96	1.29	0.013	0.38	2.38	5.08	2.86	0.158	0.06	0.42	98.97	1	3	18	20	2	< 20	< 10	50	27	< 1	< 5
549849	69.89	16.99	1.80	0.031	0.55	2.72	5.25	1.80	0.224	0.10	0.59	99.94	2	9	25	80	3	< 20	< 10	90	28	< 1	< 5
549850	97.69	0.46	0.47	0.006	0.02	0.02	0.09	0.06	0.019	< 0.01	0.19	99.03	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
549851	71.16	18.32	0.70	0.253	0.05	0.82	7.35	0.53	0.015	0.08	0.82	100.1	< 1	143	< 5	< 20	< 1	< 20	< 10	40	46	3	< 5
549852	74.36	17.84	0.65	0.056	0.03	0.75	5.34	0.44	0.014	< 0.01	0.66	100.2	< 1	106	< 5	100	< 1	< 20	< 10	< 30	48	3	< 5
549853	89.44	7.22	0.53	0.057	0.07	0.15	0.80	0.28	0.011	< 0.01	0.41	98.94	< 1	924	< 5	50	< 1	< 20	< 10	40	28	3	< 5
549854	91.61	6.76	0.56	0.073	0.06	0.06	0.15	0.08	0.006	0.01	0.25	99.62	< 1	2	< 5	220	< 1	< 20	< 10	< 30	27	2	< 5
549855	93.41	4.99	0.51	0.052	0.06	0.07	0.38	0.17	0.004	< 0.01	0.22	99.84	< 1	16	< 5	60	< 1	< 20	< 10	< 30	19	2	< 5
549856	87.94	8.71	0.67	0.053	0.06	0.23	1.61	0.42	0.016	< 0.01	0.45	100.2	< 1	90	< 5	140	< 1	< 20	< 10	< 30	33	3	< 5
549857	77.92	13.87	0.66	0.069	0.06	0.56	4.41	1.49	0.021	< 0.01	1.16	100.2	< 1	208	< 5	50	< 1	< 20	< 10	50	48	3	< 5
549858	72.18	16.96	0.82	0.246	0.08	0.59	6.24	0.79	0.017	0.10	0.57	98.57	< 1	147	< 5	70	< 1	< 20	< 10	110	45	3	< 5
549859	73.10	16.62	0.91	0.425	0.07	0.44	6.33	1.12	0.026	0.05	0.49	99.57	< 1	228	< 5	< 20	< 1	< 20	< 10	60	43	4	< 5
549860	75.26	10.13	4.83	0.054	0.92	1.62	1.31	2.00	0.824	0.41	1.22	98.57	12	34	66	80	7	20	300	120	23	3	38
549861	68.75	17.27	2.00	0.027	0.65	2.94	5.33	1.44	0.269	0.11	1.07	99.85	2	11	30	90	3	< 20	10	110	27	< 1	< 5
549862	64.82	16.93	4.18	0.036	1.67	3.31	4.89	2.32	0.555	0.33	0.99	100.0	2	5	70	< 20	9	< 20	10	240	33	< 1	< 5
549863	71.90	15.53	1.81	0.085	0.38	0.56	3.87	2.80	0.115	0.14	1.34	98.53	1	17	16	90	2	< 20	< 10	250	65	3	< 5
549864	78.53	12.26	1.33	0.073	0.27	0.80	3.84	1.83	0.077	0.29	0.88	100.2	< 1	64	10	50	1	< 20	< 10	180	46	3	< 5
549865	76.09	13.57	0.89	0.053	0.11	0.64	4.81	1.32	0.042	0.02	0.79	98.35	< 1	155	6	80	< 1	< 20	< 10	80	39	3	< 5
549866	74.12	16.41	0.48	0.042	0.03	0.98	6.51	0.71	0.012	0.02	0.73	100.0	< 1	65	< 5	20	< 1	< 20	< 10	< 30	42	3	< 5
549867	75.92	13.94	0.88	0.048	0.09	0.60	4.82	1.36	0.040	0.01	0.89	98.60	< 1	124	< 5	80	< 1	< 20	< 10	60	41	3	< 5
549868	72.87	16.51	0.77	0.041	0.10	0.89	5.32	1.82	0.053	0.05	1.10	99.52	< 1	49	7	30	< 1	< 20	< 10	90	48	3	< 5
549869	72.82	16.00	0.67	0.039	0.03	0.46	4.56	2.90	0.034	0.01	0.92	98.45	< 1	282	< 5	90	< 1	< 20	< 10	50	49	3	< 5
549870	98.98	0.38	0.32	0.005	0.03	0.02	0.06	0.04	0.023	0.01	0.24	100.1	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
549871	73.57	16.10	0.60	0.059	0.04	0.49	4.96	2.76	0.022	< 0.01	0.91	99.50	< 1	81	< 5	30	< 1	< 20	< 10	< 30	46	3	< 5
549872	74.06	15.99	0.52	0.021	0.05	0.92	6.24	0.98	0.022	0.02	0.88	99.69	< 1	166	< 5	90	< 1	< 20	< 10	< 30	40	3	< 5
549873	76.07	13.71	0.76	0.042	0.08	0.69	4.71	1.39	0.034	0.03	0.92	98.44	< 1	155	5	30	< 1	< 20	< 10	50	42	3	< 5
549874	75.50	15.05	0.92	0.053	0.15	0.83	4.32	1.74	0.074	0.04	1.18	99.84	< 1	228	5	100	1	< 20	< 10	110	45	3	< 5
549875	74.90	15.19	0.75	0.041	0.14	0.94	5.07	1.53	0.064	0.02	1.07	99.73	< 1	78	6	30	< 1	< 20	< 10	80	45	3	< 5
549876	75.43	14.57	0.40	0.028	0.03	0.80	5.50	0.87	0.015	0.03	0.75	98.41	< 1	819	< 5	80	< 1	< 20	< 10	< 30	36	3	< 5
549877	76.52	14.41	0.77	0.032	0.06	0.30	3.43	3.26	0.033	< 0.01	1.05	99.88	< 1	302	< 5	30	< 1	< 20	< 10	40	50	3	< 5
549878	80.71	11.40	0.57	0.021	0.03	0.31	3.25	2.29	0.019	0.01	0.74	99.35	< 1	94	< 5	110	< 1	< 20	< 10	< 30	35	2	< 5
549879	75.75	14.76	0.44	0.028	0.04	0.77	6.02	1.05	0.015	0.01	0.92	99.80	< 1	156	< 5	20	< 1	< 20	< 10	< 30	41	3	< 5
549880	76.85	9.88	4.28	0.048	0.75	1.25	1.16	1.74	0.554	0.30	1.17	97.98	8	37	56	80	6	20	350	150	29	4	55
549881	76.70	13.73	1.06	0.054	0.18	0.72	4.71	1.63	0.071	0.05	1.06	99.99	< 1	65	9	70	1	< 20	< 10	140	46	3	< 5
549882	72.81	16.00	0.94	0.112	0.18	1.07	6.20	1.48	0.057	0.35	0.77	99.98	< 1	15	7	30	1	< 20	< 10	150	51	3	< 5
549883	72.03	16.38	0.93	0.151	0.18	0.90	6.99	1.01	0.078	0.15	0.63	99.42	< 1	48	8	70	1	< 20	< 10	80	40	3	< 5
549884	74.36	15.08	1.13	0.125	0.22	0.58	5.62	1.67	0.077	0.12	0.86	99.84	< 1	15	10	40	1	< 20	< 10	140	51	3	< 5
549885	72.50	15.64	1.16	0.098	0.24	0.84	5.48	1.81	0.078	0.20	0.98	99.02	< 1	18	12	60	1	< 20	< 10	210	54	3	< 5
549886	72.26	16.03	1.11	0.126	0.18	0.90	6.16	1.55	0.058	0.20	0.97	99.55	< 1	22	7	20	< 1	< 20	< 10	120	54	3	< 5
549887	70.23	17.66	1.04	0.086	0.19	1.14	5.98	1.86	0.066	0.40	1.10	99.74	< 1	56	8	70	1	< 20	< 10	100	62	3	< 5
549888	75.79	14.55	0.62	0.095	0.12	0.72	6.51	0.88	0.035	0.09	0.62	100.0	< 1	54	5	20	< 1	< 20	< 10	70	42	3	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549889	71.85	15.86	0.97	0.067	0.17	0.91	5.91	1.60	0.067	0.08	1.01	98.51	< 1	146	6	60	< 1	< 20	< 10	110	51	3	< 5
549890	98.21	0.44	0.49	0.006	0.03	0.02	0.09	0.05	0.021	< 0.01	0.15	99.52	< 1	1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
549891	72.65	15.16	1.02	0.161	0.20	1.48	6.34	1.10	0.080	0.12	0.37	98.71	1	33	11	< 20	1	< 20	< 10	50	34	3	< 5
549892	71.82	15.14	1.57	0.029	0.47	2.45	5.14	2.08	0.170	0.08	0.49	99.42	2	8	20	130	2	< 20	< 10	70	27	< 1	< 5
549893	72.51	15.81	1.34	0.036	0.38	2.11	5.09	2.21	0.151	0.06	0.43	100.1	1	4	19	20	2	< 20	< 10	60	26	1	< 5
549894	77.00	13.58	0.93	0.052	0.16	0.90	4.76	1.29	0.067	0.03	0.79	99.57	< 1	42	9	100	< 1	< 20	< 10	60	36	2	< 5
549895	77.92	13.43	0.89	0.038	0.14	0.90	4.68	1.32	0.061	0.03	0.74	100.1	< 1	38	10	30	< 1	< 20	< 10	80	40	3	< 5
549896	71.97	15.29	1.32	0.100	0.34	2.15	4.92	2.15	0.136	0.06	0.50	98.94	1	6	16	60	2	< 20	< 10	80	29	1	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549807	1860	48	< 2	< 4	< 1	2	< 0.5	< 0.2	< 1	< 0.5	419	121	8.2	< 0.2	0.3	< 1	18.1	8	< 0.1	< 0.1	< 0.01	0.01	
549808	83	5	< 2	< 4	< 1	4	< 0.5	< 0.2	< 1	< 0.5	8.8	4	< 0.4	< 0.2	0.7	< 1	0.6	< 5	< 0.1	< 0.1	< 0.01	0.01	
549809	3300	65	< 2	4	3	< 2	< 0.5	< 0.2	2	< 0.5	543	45	< 0.4	< 0.2	2.1	1	28.4	14	< 0.1	< 0.1	< 0.01	0.01	
549810	1480	39	< 2	< 4	1	4	< 0.5	< 0.2	2	< 0.5	227	30	< 0.4	< 0.2	3.1	1	13.6	12	< 0.1	< 0.1	< 0.01	0.01	
549811	1010	168	< 2	< 4	31	< 2	< 0.5	< 0.2	9	< 0.5	128	33	< 0.4	0.6	132	17	10.5	12	0.8	2.1	0.01	0.03	
549812	861	230	< 2	8	31	< 2	< 0.5	< 0.2	26	< 0.5	102	86	< 0.4	0.7	17.4	< 1	6.9	16	1.3	1.1	0.04	0.09	
549813	584	154	< 2	7	28	< 2	< 0.5	< 0.2	13	< 0.5	75.6	31	< 0.4	2.5	144	< 1	4.9	12	2.2	4.1	0.02	0.04	
549814	1220	285	< 2	9	45	< 2	< 0.5	< 0.2	38	< 0.5	151	98	< 0.4	0.6	22.0	< 1	8.5	11	0.6	1.7	0.06	0.13	
549815	878	215	< 2	11	38	2	< 0.5	< 0.2	27	< 0.5	112	69	< 0.4	1.0	26.6	< 1	6.4	7	1.0	1.8	0.04	0.09	
549816	1730	188	< 2	17	73	< 2	< 0.5	< 0.2	67	< 0.5	152	182	< 0.4	1.1	32.4	< 1	10.4	7	1.7	1.8	0.11	0.24	2.72
549817	793	921	3	136	20	< 2	< 0.5	< 0.2	20	< 0.5	155	991	< 0.4	4.2	7.2	< 1	7.1	20	3.9	4.0	0.09	0.20	
549818	459	576	3	86	31	< 2	< 0.5	< 0.2	9	< 0.5	98.6	506	< 0.4	4.4	38.6	< 1	4.6	13	4.0	6.3	0.06	0.13	
549819	1320	125	< 2	16	36	< 2	< 0.5	< 0.2	14	< 0.5	138	65	< 0.4	2.7	124	10	9.8	33	3.2	5.0	0.03	0.07	
549820	1200	297	26	182	764	8	0.6	2.8	658	8.1	234	2005	10.2	4.2	17.7	4	11.4	28	86.8	15.0	0.23	0.49	
549821	573	414	< 2	60	35	< 2	< 0.5	< 0.2	11	< 0.5	182	349	< 0.4	3.2	33.7	< 1	5.5	12	4.6	8.8	0.10	0.21	
549822	362	849	2	104	26	< 2	< 0.5	< 0.2	8	< 0.5	101	984	< 0.4	3.8	16.4	< 1	3.7	19	4.4	6.8	0.07	0.15	
549823	133	1182	< 2	152	6	< 2	0.5	< 0.2	3	< 0.5	41.8	1346	< 0.4	3.5	1.3	< 1	1.4	16	4.3	1.7	0.06	0.13	
549824	1200	986	< 2	109	4	< 2	< 0.5	< 0.2	2	< 0.5	58.2	1482	1.7	2.7	0.9	< 1	9.1	18	3.2	1.5	0.04	0.09	
549825	639	77	3	10	21	< 2	< 0.5	< 0.2	17	< 0.5	64.8	139	< 0.4	2.4	27.3	< 1	5.3	6	1.9	2.1	0.41	0.88	
549826	449	39	< 2	10	6	3	< 0.5	< 0.2	6	< 0.5	50.1	55	< 0.4	2.6	17.7	< 1	3.7	5	0.5	1.5	0.38	0.81	2.74
549827	1320	112	< 2	14	74	< 2	< 0.5	< 0.2	31	< 0.5	129	166	0.4	2.6	220	< 1	8.5	16	2.1	5.8	0.60	1.29	
549828	500	348	< 2	45	36	< 2	< 0.5	< 0.2	33	< 0.5	64.4	406	< 0.4	2.4	30.0	< 1	4.2	7	2.7	1.9	0.05	0.11	
549829	271	1246	< 2	144	5	< 2	0.5	< 0.2	4	< 0.5	69.0	1622	< 0.4	3.5	1.3	< 1	2.6	15	3.9	2.0	0.06	0.12	
549830	4	5	2	49	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	20	< 0.4	1.5	0.2	< 1	0.2	< 5	1.2	0.4	< 0.01	< 0.01	
549831	1200	143	< 2	48	163	< 2	< 0.5	< 0.2	30	< 0.5	155	77	< 0.4	13.3	505	2	7.7	23	10.0	13.1	0.02	0.05	
549832	372	122	< 2	56	55	< 2	< 0.5	< 0.2	12	< 0.5	43.4	58	< 0.4	11.4	128	< 1	3.1	9	5.4	9.3	< 0.01	0.02	
549833	47	94	< 2	36	39	< 2	< 0.5	< 0.2	3	< 0.5	3.6	32	< 0.4	6.6	65.4	< 1	0.6	15	2.2	3.6	< 0.01	< 0.01	
549834	634	906	2	188	10	< 2	0.5	< 0.2	19	< 0.5	123	1110	< 0.4	4.6	7.0	< 1	4.2	22	3.9	3.6	0.10	0.20	
549835	645	939	3	180	7	< 2	0.6	< 0.2	18	< 0.5	135	1119	< 0.4	4.4	3.7	4	4.9	17	3.8	2.9	0.10	0.21	
549836	819	841	< 2	112	22	< 2	< 0.5	< 0.2	13	< 0.5	80.7	1057	< 0.4	3.4	15.2	< 1	6.0	31	3.3	1.0	0.07	0.15	2.72
549837	1300	228	< 2	23	41	< 2	< 0.5	< 0.2	33	< 0.5	97.8	556	< 0.4	1.1	20.4	< 1	9.2	23	0.8	0.6	0.07	0.15	
549838	1300	68	< 2	9	70	< 2	< 0.5	< 0.2	53	< 0.5	109	131	< 0.4	0.5	22.1	< 1	8.0	< 5	0.5	0.3	0.10	0.21	
549839	1780	150	< 2	22	77	< 2	< 0.5	< 0.2	62	< 0.5	152	220	< 0.4	1.6	29.3	8	11.2	5	0.8	0.6	0.14	0.30	
549840	1370	219	19	164	1380	10	0.6	4.4	1210	13.4	323	1069	16.0	3.8	23.8	6	13.5	26	46.4	8.1	0.48	1.03	
549841	1930	250	< 2	34	95	< 2	< 0.5	< 0.2	73	< 0.5	187	349	< 0.4	2.1	35.4	< 1	13.9	10	1.5	2.0	0.14	0.31	
549842	742	237	< 2	42	70	< 2	< 0.5	< 0.2	27	< 0.5	80.2	214	< 0.4	3.3	51.6	< 1	6.3	10	2.5	5.2	0.25	0.54	
549843	748	568	< 2	80	40	< 2	< 0.5	< 0.2	10	< 0.5	126	702	< 0.4	4.3	25.8	< 1	6.6	30	4.9	8.1	0.30	0.66	
549844	353	99	< 2	32	64	< 2	< 0.5	< 0.2	10	< 0.5	37.0	55	< 0.4	4.6	39.1	< 1	3.2	14	3.9	4.2	0.05	0.11	
549845	308	837	2	106	33	< 2	< 0.5	< 0.2	4	< 0.5	70.3	883	< 0.4	3.8	17.6	< 1	2.6	18	4.2	4.2	0.05	0.11	
549846	168	1288	3	174	5	< 2	0.6	< 0.2	2	< 0.5	37.2	1417	< 0.4	4.1	0.4	< 1	1.4	14	4.2	1.7	0.06	0.13	2.75
549847	3380	304	< 2	7	89	< 2	< 0.5	< 0.2	11	< 0.5	221	817	0.6	0.9	87.8	< 1	25.8	23	1.0	1.8	0.02	0.04	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549848	178	970	3	81	2	3	< 0.5	< 0.2	< 1	< 0.5	19.5	1665	< 0.4	2.7	0.2	< 1	1.0	19	2.1	1.8	0.04	0.08	
549849	439	1035	3	133	5	< 2	< 0.5	< 0.2	9	< 0.5	78.7	1330	< 0.4	3.5	2.5	< 1	3.0	15	3.9	2.2	0.07	0.15	
549850	3	5	4	35	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	14	< 0.4	1.1	0.1	< 1	< 0.1	< 5	1.0	0.4	0.07	0.15	
549851	276	176	< 2	96	134	4	< 0.5	< 0.2	15	< 0.5	39.4	27	1.9	14.1	99.8	< 1	1.3	30	10.6	19.1	0.32	0.68	
549852	265	149	< 2	< 4	67	< 2	< 0.5	< 0.2	11	< 0.5	46.2	9	3.3	0.3	131	1	1.3	30	4.8	10.3	0.62	1.33	
549853	181	29	< 2	< 4	9	2	< 0.5	< 0.2	16	< 0.5	207	5	0.5	0.3	8.7	< 1	1.6	< 5	0.7	1.5	0.64	1.38	
549854	31	12	2	< 4	4	< 2	< 0.5	< 0.2	23	< 0.5	9.5	4	< 0.4	0.6	1.9	1	0.3	< 5	< 0.1	0.5	0.90	1.94	
549855	62	15	< 2	< 4	< 1	3	< 0.5	< 0.2	10	< 0.5	11.8	4	< 0.4	0.2	0.8	< 1	0.3	< 5	< 0.1	0.5	0.56	1.20	
549856	286	45	2	< 4	73	< 2	< 0.5	< 0.2	21	< 0.5	48.5	6	< 0.4	0.5	65.8	2	1.2	< 5	0.9	2.4	0.67	1.44	2.77
549857	651	104	< 2	11	151	2	< 0.5	< 0.2	22	< 0.5	73.7	8	0.8	1.9	176	1	3.2	14	2.3	6.1	0.13	0.28	
549858	393	109	< 2	22	29	< 2	< 0.5	< 0.2	13	< 0.5	51.3	37	< 0.4	2.9	52.7	< 1	2.4	12	2.7	4.7	0.32	0.69	
549859	552	102	< 2	28	31	< 2	< 0.5	< 0.2	18	< 0.5	76.2	63	< 0.4	4.0	62.4	< 1	3.4	16	2.8	3.6	0.10	0.21	
549860	1240	307	26	170	566	8	0.6	2.8	575	6.6	235	2049	9.9	3.7	16.2	5	10.4	29	87.5	15.1	0.23	0.50	
549861	448	1095	2	144	6	< 2	< 0.5	< 0.2	7	< 0.5	88.2	1095	< 0.4	3.5	0.9	< 1	4.1	14	3.7	1.6	0.09	0.19	
549862	439	1092	3	190	6	< 2	< 0.5	< 0.2	6	< 0.5	121	1752	< 0.4	4.3	4.9	< 1	3.6	11	3.9	1.8	0.10	0.21	
549863	1680	198	< 2	27	55	< 2	< 0.5	< 0.2	61	< 0.5	140	198	< 0.4	1.6	32.6	< 1	9.0	10	1.4	0.9	0.10	0.22	
549864	1100	167	< 2	33	63	2	< 0.5	< 0.2	44	< 0.5	108	119	< 0.4	2.2	27.7	3	5.5	10	4.1	1.0	0.07	0.15	
549865	741	209	< 2	9	22	< 2	< 0.5	< 0.2	19	< 0.5	107	45	0.8	0.9	21.5	2	5.4	9	2.1	0.7	0.06	0.14	
549866	244	248	< 2	4	26	< 2	< 0.5	< 0.2	8	< 0.5	42.2	16	1.1	0.5	34.0	< 1	2.1	18	2.4	4.3	0.21	0.44	2.76
549867	622	193	< 2	7	18	< 2	< 0.5	< 0.2	16	< 0.5	81.1	39	< 0.4	0.7	28.3	< 1	3.8	13	2.0	0.6	0.02	0.05	
549868	900	279	< 2	15	24	< 2	< 0.5	< 0.2	23	< 0.5	90.8	53	1.3	1.1	29.2	1	5.5	10	3.8	0.9	0.02	0.05	
549869	1400	148	< 2	6	72	< 2	< 0.5	< 0.2	20	< 0.5	158	33	2.0	1.7	377	2	9.4	20	8.8	5.3	0.02	0.03	
549870	< 2	3	3	51	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	10	< 0.4	1.6	0.2	< 1	0.7	< 5	1.3	0.5	< 0.01	< 0.01	
549871	1150	131	< 2	4	39	< 2	< 0.5	< 0.2	18	< 0.5	94.6	38	0.4	0.7	162	4	8.3	24	6.7	4.3	0.01	0.03	
549872	453	281	< 2	19	16	< 2	< 0.5	< 0.2	11	< 0.5	60.2	25	1.4	2.1	20.9	1	3.4	16	8.5	10.9	0.01	0.03	
549873	719	208	< 2	9	17	< 2	< 0.5	< 0.2	19	< 0.5	82.6	33	0.7	0.9	35.2	< 1	4.6	14	3.3	1.4	0.02	0.04	
549874	1030	256	< 2	12	33	< 2	< 0.5	< 0.2	30	< 0.5	127	68	< 0.4	0.8	25.1	< 1	6.2	24	2.3	3.5	0.03	0.06	
549875	907	295	< 2	14	29	< 2	< 0.5	< 0.2	27	< 0.5	114	68	0.6	1.2	24.1	1	5.6	17	2.7	3.0	0.02	0.04	
549876	380	217	< 2	16	83	< 2	< 0.5	< 0.2	9	< 0.5	108	18	2.4	3.3	268	< 1	2.9	17	9.3	10.9	0.02	0.04	2.69
549877	1340	75	< 2	10	75	< 2	< 0.5	< 0.2	31	< 0.5	139	45	1.1	5.6	289	1	8.7	35	10.5	10.7	0.02	0.04	
549878	860	81	< 2	6	48	< 2	< 0.5	< 0.2	20	< 0.5	79.1	72	0.9	3.2	184	2	6.3	20	2.8	5.4	0.01	0.03	
549879	435	212	< 2	8	23	< 2	< 0.5	< 0.2	12	< 0.5	56.5	28	3.9	1.4	42.9	31	3.4	13	2.2	2.2	0.02	0.04	
549880	1370	204	18	157	1360	9	0.6	4.4	1170	13.4	305	1023	14.2	4.1	23.3	8	11.7	26	45.8	7.7	0.49	1.05	
549881	1100	224	< 2	26	49	< 2	< 0.5	< 0.2	37	< 0.5	125	76	< 0.4	1.8	40.4	1	7.9	15	2.8	2.3	0.04	0.08	
549882	951	171	< 2	37	74	< 2	< 0.5	< 0.2	37	< 0.5	102	78	< 0.4	3.3	59.3	< 1	6.4	15	4.3	7.3	0.03	0.07	
549883	755	258	< 2	70	52	< 2	< 0.5	< 0.2	21	< 0.5	121	145	< 0.4	4.4	48.8	< 1	5.3	13	3.8	23.8	0.04	0.08	
549884	1110	147	< 2	39	69	< 2	< 0.5	< 0.2	42	< 0.5	115	110	< 0.4	3.8	48.4	< 1	6.6	11	2.6	2.2	0.04	0.09	
549885	1190	185	< 2	35	77	< 2	< 0.5	< 0.2	46	< 0.5	113	102	< 0.4	2.5	48.6	< 1	7.3	8	2.5	2.7	0.04	0.09	
549886	918	174	< 2	33	75	< 2	< 0.5	< 0.2	37	< 0.5	82.7	80	< 0.4	3.3	50.8	1	5.9	14	2.5	4.2	0.03	0.07	2.70
549887	1400	177	< 2	48	69	< 2	< 0.5	< 0.2	44	< 0.5	192	72	< 0.4	6.7	64.1	4	8.2	27	15.2	8.1	0.04	0.09	
549888	550	161	< 2	22	64	< 2	< 0.5	< 0.2	21	< 0.5	62.6	42	< 0.4	2.7	59.1	< 1	3.9	13	3.4	4.4	0.02	0.04	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549889	1030	220	< 2	29	87	< 2	< 0.5	< 0.2	35	< 0.5	126	66	< 0.4	2.9	83.2	< 1	6.2	13	4.4	4.2	0.03	0.07	
549890	3	3	4	46	1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	14	< 0.4	1.3	0.3	< 1	0.4	< 5	1.6	0.5	< 0.01	< 0.01	
549891	441	507	3	72	38	< 2	< 0.5	< 0.2	8	< 0.5	93.4	780	< 0.4	3.9	34.2	4	3.3	16	3.4	9.1	0.03	0.07	
549892	285	997	3	118	11	< 2	< 0.5	< 0.2	4	< 0.5	62.3	2165	< 0.4	3.0	2.7	< 1	2.1	20	3.1	2.3	0.06	0.13	
549893	228	915	< 2	106	16	< 2	< 0.5	< 0.2	2	< 0.5	43.3	1963	< 0.4	3.0	5.2	< 1	1.7	21	2.8	3.2	0.05	0.10	
549894	766	295	< 2	45	56	< 2	< 0.5	< 0.2	19	< 0.5	130	441	< 0.4	3.6	142	< 1	4.5	17	3.6	4.8	0.03	0.07	
549895	797	279	< 2	40	72	< 2	< 0.5	< 0.2	20	< 0.5	147	413	< 0.4	3.7	186	< 1	5.4	15	5.3	5.6	0.03	0.06	
549896	368	917	< 2	94	14	< 2	< 0.5	< 0.2	6	< 0.5	109	2369	< 0.4	3.1	9.6	3	3.4	19	2.5	3.2	0.05	0.11	2.70

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.10	1.82	0.77	0.010	0.34	42.69	0.83	0.54	0.120	30.23					1600								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.07	18.20	9.58	0.150	10.00	11.57	1.89	0.22	0.480	0.06			31		151	280	53	250	100	70			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70			
GBW 07113 Meas	70.82	13.02	3.19	0.140	0.15	0.59	2.50	5.44	0.280	0.03			5	4	6								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																90		50		160			29
LKSD-3 Cert																87.0		47.0		152			27.0
TDB-1 Meas																240		90	330	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.40	15.51	10.60	0.170	6.37	11.07	2.22	0.62	1.080	0.15			36	< 1	266	90	43	70	110	80	18	2	< 5
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20
SY-4 Meas	50.15	20.86	6.28	0.110	0.51	8.13	6.99	1.67	0.290	0.11			1	3	7								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			50	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	47.54	16.11	10.89	0.170	9.26	13.49	1.83	0.02	0.940	0.02			43	< 1	324	370		160	120	60			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370		170	125	70			
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30			920	100	15	11	69
NCS DC70009 (GBW07241) Cert																30			960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		170				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	45		420				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	46		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20		< 30	16	2	16
JR-1 Cert																		1.67		30.6	16.1	1.88	16.3
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86304 Meas																							
NCS DC86304 Cert																							
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NCS DC86314 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Cert																							
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Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
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Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
549808 Orig																							
549808 Dup																							
549808 Orig																							
549808 Dup																							
549814 Orig	75.80	14.05	1.49	0.065	0.26	0.81	4.41	1.75	0.096	0.01	0.90	99.64	< 1	74	9	90	2	< 20	< 10	160	43	3	< 5
549814 Dup	76.11	14.20	1.56	0.064	0.27	0.84	4.40	1.72	0.098	0.02	0.90	100.2	< 1	74	9	110	2	< 20	< 10	160	44	3	< 5
549822 Orig																							
549822 Dup																							
549830 Orig																							
549830 Dup																							
549831 Orig	62.97	22.97	0.72	0.153	0.09	0.70	8.04	2.54	0.040	< 0.01	1.42	99.64	< 1	27	5	< 20	< 1	< 20	< 10	130	73	3	< 5
549831 Dup	63.18	22.75	0.72	0.153	0.08	0.70	7.89	2.52	0.039	0.02	1.42	99.46	< 1	28	< 5	< 20	< 1	< 20	< 10	100	74	3	< 5
549844 Orig																							
549844 Dup																							
549852 Orig																							
549852 Dup																							
549856 Orig	87.94	8.71	0.67	0.053	0.06	0.23	1.61	0.42	0.016	< 0.01	0.45	100.2	< 1	90	< 5	140	< 1	< 20	< 10	< 30	33	3	< 5
549856 Split PREP DUP	87.39	8.73	0.61	0.053	0.06	0.23	1.63	0.40	0.015	0.02	0.43	99.56	< 1	84	< 5	200	< 1	< 20	< 10	< 30	33	3	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549856 Split PREP DUP																							
549861 Orig	68.51	17.55	2.00	0.027	0.65	2.94	5.31	1.44	0.273	0.11	1.07	99.89	2	11	30	80	3	< 20	10	120	27	< 1	< 5
549861 Dup	68.99	16.98	2.01	0.027	0.64	2.94	5.35	1.45	0.265	0.10	1.07	99.82	2	12	30	90	3	< 20	10	100	27	1	< 5
549865 Orig																							
549865 Dup																							
549873 Orig																							
549873 Dup																							
549876 Orig																							
549876 Dup																							
549878 Orig	80.08	11.48	0.56	0.020	0.03	0.31	3.26	2.26	0.019	0.01	0.74	98.77	< 1	93	< 5	100	< 1	< 20	< 10	< 30	35	2	< 5
549878 Dup	81.33	11.32	0.57	0.021	0.03	0.31	3.24	2.33	0.019	0.01	0.74	99.93	< 1	94	< 5	120	< 1	< 20	< 10	< 30	35	2	< 5
549887 Orig																							
549887 Dup																							
549895 Orig	77.99	13.28	0.88	0.038	0.14	0.91	4.63	1.31	0.061	0.02	0.74	100.0	< 1	39	11	30	< 1	< 20	< 10	80	40	3	< 5
549895 Dup	77.84	13.57	0.90	0.039	0.15	0.88	4.74	1.34	0.062	0.03	0.74	100.3	< 1	37	10	30	< 1	< 20	< 10	80	40	3	< 5
549896 Orig	71.97	15.29	1.32	0.100	0.34	2.15	4.92	2.15	0.136	0.06	0.50	98.94	1	6	16	60	2	< 20	< 10	80	29	1	< 5
549896 Split PREP DUP	72.15	15.47	1.38	0.093	0.35	2.16	4.96	2.18	0.137	0.07	0.46	99.41	1	6	16	60	2	< 20	< 10	80	27	1	< 5
Method Blank	< 0.01	< 0.01	0.02	0.001	< 0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	0.01	0.01	< 0.01	0.001	0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	< 0.01	< 0.01	0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	0.01			< 1	< 1	< 5								
Method Blank	< 0.01	< 0.01	0.02	0.002	0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							
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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas	4	144	12	36								107											
DNC-1 Cert	5	144.0	18.0	38								118											
GBW 07113 Meas		43	42	390								500											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	79					< 2			3		2.1			4.7	0.8								
LKSD-3 Cert	78.0					2.00			3.00		2.30			4.80	0.700								
TDB-1 Meas	22																		2.6				
TDB-1 Cert	23																		2.7				
W-2a Meas	20	195	17	91	8	< 2						175	< 0.4	2.4		< 1	< 0.1		2.3	0.5			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600						182	0.0300	2.60		0.300	0.200		2.40	0.530			
SY-4 Meas		1217	114	543								348											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.6				21.1				
CTA-AC-1 Cert															2.65				21.8				
BIR-1a Meas		107	11	15						0.6		7		0.6									
BIR-1a Cert		110	16	18						0.58		6		0.60									
NCS DC86312 Meas																			22.8				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	511						1.8	1.0	1650	3.3	38.7					2110	1.8		27.7				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						25													49.6	133			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						21													34.1	408			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						21													38.3	425			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	262				14	3		< 0.2	3	1.2	19.7		0.5	4.5	2.0		1.5	21	25.4	8.7			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86		1.56	19.3	26.7	8.88			
NCS DC86303 Meas																					0.21	0.45	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.06	2.28	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.29	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.35	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.31	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.31	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86304 Meas																					1.07	2.30	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.81	3.90	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.85	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.81	3.90	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.86	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.77	3.82	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.86	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.76	3.79	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.87	4.04	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.77	3.81	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.78	3.84	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.20		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.01		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.09		
Lithium																					8		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.13		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.21		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.05		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.10		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.22		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					7.94		
Lithium Tetraborate FX-LT																					8		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.18		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.20		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.13		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
549808 Orig																					< 0.01	0.01	
549808 Dup																					< 0.01	0.01	
549808 Orig																					< 0.01	0.01	
549808 Dup																					< 0.01	0.01	
549814 Orig	1210	286	< 2	9	42	< 2	< 0.5	< 0.2	34	< 0.5	151	97	< 0.4	0.5	22.3	< 1	8.3	10	0.6	1.7			
549814 Dup	1240	285	< 2	10	48	< 2	< 0.5	< 0.2	42	< 0.5	151	98	< 0.4	0.8	21.8	< 1	8.7	11	0.6	1.7			
549822 Orig																					0.07	0.15	
549822 Dup																					0.07	0.15	
549830 Orig																					< 0.01	< 0.01	
549830 Dup																					< 0.01	< 0.01	
549831 Orig	1200	144	< 2	49	169	< 2	< 0.5	< 0.2	30	< 0.5	153	78	< 0.4	13.2	519	2	7.0	22	9.8	13.3			
549831 Dup	1210	141	< 2	48	157	< 2	< 0.5	< 0.2	30	< 0.5	156	76	< 0.4	13.3	492	2	8.3	24	10.1	12.9			
549844 Orig																					0.05	0.11	
549844 Dup																					0.05	0.11	
549852 Orig																					0.62	1.34	
549852 Dup																					0.61	1.32	
549856 Orig	286	45	2	< 4	73	< 2	< 0.5	< 0.2	21	< 0.5	48.5	6	< 0.4	0.5	65.8	2	1.2	< 5	0.9	2.4	0.67	1.44	2.77
549856 Split PREP DUP	267	44	2	< 4	72	< 2	< 0.5	< 0.2	20	< 0.5	44.9	6	< 0.4	0.5	64.4	< 1	1.3	< 5	0.8	2.2	0.65	1.39	2.79

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549856 Split PREP DUP																					0.66	1.43	
549861 Orig	443	1094	2	141	5	< 2	0.6	< 0.2	7	< 0.5	87.3	1095	< 0.4	3.5	0.9	< 1	4.3	13	3.7	1.6			
549861 Dup	452	1097	2	147	6	< 2	< 0.5	< 0.2	7	< 0.5	89.1	1095	< 0.4	3.5	1.0	< 1	3.8	14	3.6	1.6			
549865 Orig																					0.07	0.14	
549865 Dup																					0.06	0.14	
549873 Orig																					0.02	0.04	
549873 Dup																					0.02	0.04	
549876 Orig																							2.70
549876 Dup																							2.68
549878 Orig	856	81	< 2	6	48	< 2	< 0.5	< 0.2	21	< 0.5	79.3	73	0.8	3.4	180	2	6.2	19	2.7	5.3			
549878 Dup	864	81	< 2	6	48	< 2	< 0.5	< 0.2	19	< 0.5	78.9	72	0.9	2.9	188	2	6.3	20	2.8	5.4			
549887 Orig																					0.04	0.09	
549887 Dup																					0.04	0.09	
549895 Orig	788	274	< 2	40	72	< 2	< 0.5	< 0.2	20	< 0.5	146	409	< 0.4	3.4	188	< 1	5.3	15	5.3	5.7	0.03	0.06	
549895 Dup	805	285	2	41	72	2	< 0.5	< 0.2	20	< 0.5	149	417	< 0.4	3.9	184	1	5.6	15	5.3	5.6	0.03	0.06	
549896 Orig	368	917	< 2	94	14	< 2	< 0.5	< 0.2	6	< 0.5	109	2369	< 0.4	3.1	9.6	3	3.4	19	2.5	3.2	0.05	0.11	2.70
549896 Split PREP DUP	359	917	2	96	12	< 2	< 0.5	< 0.2	5	< 0.5	108	2381	< 0.4	3.1	8.7	< 1	3.2	19	2.6	3.2	0.05	0.11	2.72
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00
Method Blank																							1.00
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 04-Dec-17
Invoice No.: A17-13889
Invoice Date: 12-Jan-18
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

120 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-13889**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Elitsa Hrischeva, Ph.D.
Quality Control

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

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549897	70.63	16.37	1.41	0.213	0.31	1.58	6.31	1.47	0.111	0.16	0.57	99.12	1	16	12	< 20	1	< 20	< 10	340	40	3	< 5
549898	69.14	18.25	0.96	0.220	0.19	0.83	6.77	1.63	0.057	0.21	1.07	99.34	< 1	64	9	70	< 1	< 20	< 10	120	59	4	< 5
549899	67.01	20.36	1.37	0.094	0.34	1.31	6.02	2.40	0.116	0.07	1.49	100.6	1	28	13	40	2	< 20	< 10	130	56	3	< 5
549900	76.19	9.27	4.56	0.054	0.90	1.59	1.29	1.95	0.789	0.38	1.19	98.17	11	34	66	70	7	20	290	130	24	3	28
549901	70.12	16.72	0.75	0.161	0.07	0.99	8.19	0.73	0.021	0.42	0.38	98.55	< 1	96	< 5	< 20	< 1	< 20	< 10	150	48	4	< 5
549902	70.82	17.17	0.82	0.501	0.03	0.55	8.48	0.34	0.006	0.06	0.19	98.96	< 1	19	< 5	50	< 1	< 20	< 10	< 30	43	5	< 5
549903	71.33	16.48	0.69	0.308	0.06	0.81	8.47	0.42	0.012	0.20	0.26	99.04	< 1	64	< 5	40	< 1	< 20	< 10	< 30	43	4	< 5
549904	71.59	16.23	0.69	0.219	0.07	0.98	7.84	0.56	0.019	0.37	0.31	98.88	< 1	39	< 5	< 20	< 1	< 20	< 10	40	44	4	< 5
549905	71.28	16.60	0.70	0.355	0.06	0.93	8.30	0.43	0.011	0.39	0.32	99.37	< 1	37	< 5	70	< 1	< 20	< 10	120	43	4	< 5
549906	74.12	14.76	0.93	0.228	0.14	0.75	6.01	2.12	0.044	0.06	0.41	99.57	< 1	12	6	50	< 1	< 20	< 10	70	34	3	< 5
549907	71.91	15.44	1.36	0.071	0.35	1.98	5.25	1.82	0.134	0.06	0.44	98.80	1	50	16	20	2	< 20	< 10	120	30	2	< 5
549908	70.61	16.42	1.62	0.023	0.46	2.65	4.96	1.99	0.191	0.08	0.41	99.41	2	3	21	90	2	< 20	< 10	80	26	1	< 5
549909	73.83	16.08	0.89	0.073	0.16	0.52	3.99	3.29	0.050	< 0.01	0.81	99.71	< 1	377	6	90	1	< 20	< 10	60	48	3	< 5
549910	96.78	0.45	1.32	0.015	0.03	0.02	0.08	0.05	0.024	< 0.01	-0.06	98.71	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
549911	67.46	16.03	4.79	0.123	1.71	2.03	2.94	2.94	0.458	0.11	1.31	99.90	10	50	75	140	16	60	20	190	37	3	< 5
549912	62.72	17.66	6.17	0.080	2.40	3.08	3.67	2.63	0.611	0.14	1.05	100.2	15	4	110	200	23	80	30	110	26	2	< 5
549913	65.76	16.60	5.70	0.065	2.14	2.61	3.56	2.41	0.538	0.10	0.85	100.3	13	2	100	170	20	70	40	90	25	2	< 5
549914	75.23	15.06	0.78	0.019	0.09	1.55	3.38	1.84	0.033	< 0.01	0.94	98.92	< 1	3	6	< 20	< 1	< 20	10	40	33	1	< 5
549915	74.92	15.07	0.86	0.021	0.09	1.56	3.41	1.88	0.033	< 0.01	0.96	98.80	< 1	3	7	60	< 1	< 20	10	50	34	1	< 5
549916	72.54	15.35	1.93	0.029	0.49	1.92	3.68	1.72	0.115	0.02	0.89	98.69	3	4	23	60	4	< 20	20	40	33	2	< 5
549917	63.20	16.37	7.68	0.103	2.55	3.07	3.09	2.59	0.651	0.14	0.91	100.3	15	2	113	170	23	80	50	100	23	2	< 5
549918	61.38	17.14	8.15	0.091	2.62	2.92	3.29	2.68	0.682	0.13	0.82	99.91	16	1	117	170	23	80	40	90	21	2	< 5
549919	59.52	16.35	11.02	0.097	2.99	2.66	2.56	2.88	0.628	0.14	0.72	99.58	18	1	128	180	25	100	50	90	22	3	< 5
549920	75.82	9.56	4.61	0.052	0.90	1.62	1.29	2.01	0.795	0.36	1.21	98.21	11	33	64	80	7	< 20	300	150	24	4	38
549921	60.90	13.98	12.55	0.109	3.65	3.14	0.87	2.89	0.575	0.20	0.80	99.66	16	2	116	210	25	110	60	80	21	3	< 5
549922	59.41	16.11	11.88	0.108	3.38	3.13	2.06	2.73	0.576	0.14	0.94	100.5	18	2	126	230	26	110	50	120	21	2	< 5
549923	74.87	14.75	1.20	0.018	0.23	1.94	3.82	1.53	0.057	< 0.01	0.90	99.30	2	3	12	30	2	< 20	< 10	60	34	1	< 5
549924	58.47	14.70	15.65	0.128	3.47	2.76	1.06	2.54	0.561	0.14	0.32	99.79	19	2	133	260	29	130	40	100	21	4	< 5
549925	70.85	17.01	1.18	0.019	0.27	2.40	6.01	1.56	0.147	0.05	0.49	100.0	< 1	3	10	110	< 1	< 20	< 10	170	31	1	< 5
549926	73.26	14.01	1.77	0.191	0.34	0.83	3.85	2.80	0.099	0.42	0.95	98.52	1	17	13	90	2	< 20	< 10	380	59	3	< 5
549927	78.77	12.51	1.11	0.060	0.23	0.60	3.52	1.42	0.051	< 0.01	0.89	99.15	< 1	34	5	40	< 1	< 20	< 10	100	43	3	< 5
549928	78.27	15.17	1.03	0.085	0.11	0.56	2.94	0.64	0.030	0.02	0.56	99.40	< 1	431	< 5	180	< 1	< 20	< 10	50	51	4	< 5
549929	77.75	14.62	0.74	0.070	0.07	0.33	2.33	2.13	0.021	0.02	0.50	98.59	< 1	296	< 5	150	< 1	< 20	< 10	60	50	4	< 5
549930	98.06	0.42	0.64	0.008	0.03	0.02	0.06	0.05	0.020	< 0.01	0.11	99.44	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
549931	73.87	16.59	0.67	0.070	0.06	0.47	3.63	2.61	0.021	< 0.01	0.70	98.68	< 1	219	< 5	40	< 1	< 20	< 10	40	56	5	< 5
549932	72.23	17.99	0.74	0.069	0.05	0.50	4.32	2.65	0.011	< 0.01	0.41	98.98	< 1	9	< 5	140	< 1	< 20	< 10	< 30	53	5	< 5
549933	77.91	14.77	0.57	0.057	0.05	0.46	3.82	1.49	0.012	< 0.01	0.39	99.55	< 1	20	< 5	120	< 1	< 20	< 10	< 30	45	5	< 5
549934	76.58	15.11	0.44	0.068	0.03	0.48	4.39	2.21	0.007	0.02	0.33	99.66	< 1	177	< 5	30	< 1	< 20	< 10	< 30	39	5	< 5
549935	78.94	13.13	0.54	0.038	0.03	0.44	4.03	1.99	0.006	0.02	0.32	99.49	< 1	221	< 5	110	< 1	< 20	< 10	< 30	37	5	< 5
549936	72.40	15.50	0.37	0.032	0.03	0.30	4.03	6.65	0.005	0.02	0.37	99.72	< 1	151	< 5	80	< 1	< 20	< 10	< 30	34	4	< 5
549937	66.05	18.11	0.21	0.006	< 0.01	0.05	1.78	13.19	0.001	0.02	0.24	99.68	< 1	3	< 5	< 20	< 1	< 20	< 10	< 30	28	3	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549938	84.58	8.29	0.31	0.007	0.01	0.04	0.84	5.86	0.001	< 0.01	0.16	100.1	< 1	3	< 5	160	< 1	< 20	< 10	< 30	11	2	< 5
549939	99.01	0.36	0.69	0.009	< 0.01	0.02	0.08	0.07	0.002	< 0.01	-0.01	100.3	< 1	1	< 5	180	< 1	< 20	< 10	< 30	< 1	2	< 5
549940	77.15	10.44	4.40	0.050	0.75	1.26	1.18	1.81	0.595	0.29	1.17	99.10	8	38	54	80	6	< 20	340	170	31	6	57
549941	99.12	0.22	0.35	0.005	0.02	0.02	0.04	0.05	0.002	< 0.01	0.08	99.89	< 1	< 1	< 5	60	< 1	< 20	< 10	< 30	< 1	2	< 5
549942	99.03	0.27	0.53	0.007	0.01	0.02	0.04	0.08	0.001	< 0.01	0.11	100.1	< 1	< 1	< 5	230	< 1	< 20	< 10	< 30	< 1	2	< 5
549943	97.54	1.09	0.60	0.008	0.02	0.03	0.11	0.64	0.002	< 0.01	0.06	100.1	< 1	< 1	< 5	210	< 1	< 20	< 10	< 30	2	2	< 5
549944	68.87	16.95	0.26	0.007	0.02	0.07	1.62	11.66	0.001	0.02	0.23	99.71	< 1	2	< 5	< 20	< 1	< 20	< 10	< 30	26	3	< 5
549945	71.38	16.06	0.35	0.021	0.03	0.32	3.83	6.51	0.006	0.01	0.36	98.88	< 1	111	< 5	110	< 1	< 20	< 10	< 30	33	4	< 5
549946	75.32	15.59	0.57	0.059	0.05	0.41	4.25	2.08	0.014	0.09	0.38	98.82	< 1	211	< 5	60	< 1	< 20	< 10	< 30	46	4	< 5
549947	77.05	13.79	0.63	0.059	0.06	0.48	3.98	2.17	0.018	< 0.01	0.47	98.70	< 1	235	< 5	30	< 1	< 20	< 10	< 30	41	4	< 5
549948	74.56	17.04	0.82	0.097	0.06	0.51	3.64	1.67	0.025	0.01	0.51	98.95	< 1	62	< 5	120	< 1	< 20	< 10	< 30	56	5	< 5
549949	79.50	13.49	0.63	0.080	0.06	0.41	2.90	0.89	0.016	< 0.01	0.42	98.38	< 1	164	< 5	120	< 1	< 20	< 10	30	49	4	< 5
549950	98.24	0.54	0.65	0.008	0.03	0.02	0.11	0.07	0.031	< 0.01	0.10	99.80	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
549951	83.23	12.62	0.72	0.072	0.07	0.38	2.28	0.63	0.023	< 0.01	0.51	100.5	< 1	149	< 5	50	< 1	< 20	< 10	30	43	3	< 5
549952	80.41	13.63	0.81	0.070	0.07	0.52	2.93	0.42	0.020	0.01	0.48	99.37	< 1	382	< 5	130	< 1	< 20	< 10	30	45	3	< 5
549953	75.88	15.91	0.85	0.083	0.08	0.58	3.63	0.93	0.027	< 0.01	0.60	98.58	< 1	429	< 5	90	< 1	< 20	< 10	50	48	4	< 5
549954	77.20	13.79	1.09	0.065	0.16	0.76	4.16	1.17	0.055	0.05	0.74	99.23	< 1	102	6	30	1	< 20	< 10	110	43	4	< 5
549955	79.85	11.75	1.04	0.055	0.13	0.67	3.82	0.95	0.046	0.02	0.55	98.89	< 1	69	< 5	110	< 1	< 20	< 10	100	35	3	< 5
549956	73.96	15.29	1.13	0.097	0.22	1.18	5.27	1.66	0.069	0.39	0.93	100.2	< 1	22	10	70	1	< 20	< 10	210	54	4	< 5
549957	74.32	14.43	0.76	0.243	0.11	1.06	6.05	0.82	0.027	0.37	0.70	98.89	< 1	10	< 5	80	< 1	< 20	< 10	50	44	4	< 5
549958	75.92	13.78	0.82	0.107	0.16	0.89	5.43	1.42	0.045	0.34	0.94	99.85	< 1	15	6	80	< 1	< 20	< 10	100	51	3	< 5
549959	65.12	20.75	1.21	0.126	0.26	1.30	7.08	2.46	0.107	0.32	1.50	100.2	< 1	15	12	110	1	< 20	< 10	130	74	3	< 5
549960	76.19	9.28	4.63	0.054	0.90	1.59	1.26	1.92	0.806	0.36	1.21	98.21	11	34	63	80	7	20	300	140	25	4	37
549961	57.86	26.22	1.55	0.110	0.34	0.63	5.86	4.70	0.130	0.01	2.64	100.1	< 1	19	9	40	2	< 20	< 10	120	128	4	< 5
549962	68.82	18.00	0.97	0.230	0.14	0.84	7.22	1.36	0.042	0.22	0.74	98.59	< 1	13	< 5	50	< 1	< 20	< 10	110	57	4	< 5
549963	68.79	19.14	0.98	0.231	0.15	0.56	7.36	1.84	0.051	0.12	1.00	100.2	< 1	11	6	90	< 1	< 20	< 10	60	69	5	< 5
549964	69.84	17.65	0.65	0.227	0.06	0.59	8.40	0.72	0.018	0.08	0.53	98.77	< 1	21	< 5	70	< 1	< 20	< 10	< 30	51	4	< 5
549965	66.13	20.51	0.59	0.110	0.06	0.82	9.74	0.83	0.024	0.03	0.86	99.71	< 1	10	< 5	40	< 1	< 20	< 10	< 30	60	4	< 5
549966	70.26	16.95	1.28	0.030	0.41	2.53	5.58	1.87	0.181	0.06	0.53	99.67	1	7	15	150	2	< 20	< 10	130	32	1	< 5
549967	71.25	16.00	1.51	0.022	0.31	2.59	5.49	1.63	0.146	0.05	0.39	99.39	< 1	9	13	90	2	< 20	< 10	100	32	1	< 5
549968	75.04	16.26	0.82	0.293	0.06	0.51	4.97	0.36	0.012	0.05	0.45	98.82	< 1	150	< 5	100	< 1	< 20	< 10	30	49	5	< 5
549969	70.36	16.82	0.92	0.734	0.03	0.50	8.42	0.37	0.008	0.11	0.25	98.51	< 1	18	< 5	50	< 1	< 20	< 10	< 30	46	5	< 5
549970	96.64	0.61	0.81	0.011	0.03	0.20	0.17	0.09	0.025	< 0.01	0.11	98.69	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	1	< 5
549971	70.84	16.93	0.77	0.514	0.02	0.71	8.44	0.33	0.009	0.25	0.18	99.00	< 1	33	< 5	40	< 1	< 20	< 10	< 30	46	5	< 5
549972	69.65	17.99	0.95	0.674	0.08	0.90	7.95	0.91	0.032	0.26	0.61	100.0	< 1	13	< 5	60	< 1	< 20	< 10	50	55	5	< 5
549973	71.38	16.64	1.15	0.020	0.26	2.48	5.68	1.41	0.144	0.05	0.46	99.67	< 1	7	11	60	1	< 20	< 10	100	30	1	< 5
549974	70.36	16.66	0.98	0.014	0.19	2.57	5.89	1.42	0.113	0.03	0.39	98.61	< 1	3	8	< 20	< 1	< 20	< 10	110	29	1	< 5
549975	71.56	16.99	0.99	0.015	0.18	2.54	5.88	1.46	0.120	0.04	0.26	100.0	< 1	3	9	130	< 1	< 20	< 10	80	29	1	< 5
549976	83.01	8.91	1.38	0.061	0.24	0.56	2.28	1.70	0.076	0.17	0.77	99.14	< 1	14	10	100	1	< 20	< 10	430	40	3	< 5
549977	74.57	16.63	0.70	0.055	0.07	0.92	4.79	0.44	0.016	0.05	0.54	98.79	< 1	139	< 5	20	< 1	< 20	< 10	70	53	4	< 5
549978	75.10	15.30	1.29	0.074	0.34	1.11	3.24	2.23	0.074	0.03	0.46	99.24	2	206	17	120	2	< 20	< 10	50	43	4	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
549979	76.08	15.40	0.58	0.088	0.04	0.47	3.49	2.32	0.018	< 0.01	0.41	98.89	< 1	184	< 5	80	< 1	< 20	< 10	30	49	5	< 5
549980	76.83	10.16	4.46	0.050	0.75	1.30	1.16	1.76	0.610	0.31	1.16	98.56	8	38	56	80	6	20	340	170	31	5	51
549981	76.27	15.73	0.57	0.068	0.04	0.42	3.64	2.40	0.020	0.01	0.46	99.63	< 1	176	< 5	140	< 1	< 20	< 10	60	55	5	< 5
549982	80.25	12.92	0.60	0.066	0.03	0.47	3.42	1.58	0.012	< 0.01	0.30	99.64	< 1	129	< 5	90	< 1	< 20	< 10	80	47	5	< 5
549983	74.99	17.26	0.52	0.060	0.04	0.67	4.22	1.96	0.014	0.01	0.47	100.2	< 1	263	< 5	30	< 1	< 20	< 10	< 30	52	4	< 5
549984	76.98	14.26	0.52	0.055	0.06	0.96	5.16	1.19	0.025	0.02	0.67	99.91	< 1	221	< 5	80	< 1	< 20	< 10	40	42	4	< 5
549985	79.77	11.93	1.04	0.061	0.19	0.75	3.84	1.51	0.063	0.09	0.96	100.2	< 1	92	10	110	1	< 20	< 10	160	48	4	< 5
549986	72.81	16.46	1.34	0.114	0.28	1.09	5.00	2.06	0.088	0.29	1.12	100.7	< 1	19	12	40	1	< 20	< 10	320	64	4	< 5
549987	74.40	14.87	0.59	0.131	0.07	0.73	5.91	1.21	0.022	0.20	0.44	98.58	< 1	489	< 5	100	< 1	< 20	< 10	50	47	4	< 5
549988	73.18	15.99	0.73	0.158	0.09	1.20	6.75	1.08	0.050	0.03	0.33	99.59	< 1	30	< 5	110	< 1	< 20	< 10	40	38	3	< 5
549989	72.14	16.38	0.89	0.011	0.19	2.48	5.45	1.53	0.137	0.02	0.42	99.65	< 1	2	9	20	< 1	< 20	< 10	80	30	1	< 5
549990	98.98	0.40	0.63	0.008	0.03	0.02	0.08	0.05	0.022	< 0.01	0.11	100.3	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	1	< 5
549991	72.17	15.83	0.92	0.047	0.14	2.04	5.90	0.94	0.102	0.02	0.39	98.50	< 1	15	8	80	< 1	< 20	< 10	100	33	2	< 5
549992	77.81	12.05	0.47	0.028	0.05	0.24	2.45	6.27	0.016	0.08	0.41	99.87	< 1	38	< 5	30	< 1	< 20	< 10	50	25	3	< 5
549993	79.03	12.42	0.82	0.095	0.08	0.40	3.29	2.73	0.036	0.01	0.56	99.47	< 1	69	< 5	120	< 1	< 20	< 10	60	38	3	< 5
549994	72.43	16.25	0.90	0.124	0.14	1.85	5.47	1.01	0.084	0.33	0.43	99.02	< 1	39	6	80	< 1	< 20	< 10	90	32	2	< 5
549995	71.58	16.87	1.05	0.113	0.14	1.74	5.42	1.15	0.085	0.25	0.48	98.88	< 1	63	< 5	30	< 1	< 20	< 10	90	34	2	< 5
549996	70.10	18.18	0.93	0.016	0.15	2.30	5.92	1.43	0.107	0.02	0.35	99.52	< 1	8	8	70	< 1	< 20	< 10	70	30	1	< 5
549997	70.94	17.86	0.60	0.441	0.02	0.41	8.20	0.56	0.002	0.08	0.14	99.25	< 1	11	< 5	< 20	< 1	< 20	< 10	< 30	42	5	< 5
549998	70.84	18.14	0.82	0.014	0.16	2.52	5.74	1.34	0.118	0.04	0.27	100.0	< 1	4	9	60	< 1	< 20	< 10	70	28	1	< 5
549999	69.20	18.96	0.98	0.014	0.17	2.53	5.72	1.35	0.117	0.02	0.35	99.41	< 1	4	8	< 20	< 1	< 20	< 10	80	29	1	< 5
550000	75.17	10.33	4.61	0.052	0.90	1.65	1.30	2.03	0.785	0.36	1.15	98.34	10	33	65	70	6	< 20	290	140	23	4	36
530001	70.45	17.66	0.86	0.242	0.08	0.51	7.74	1.38	0.021	0.05	0.70	99.68	< 1	10	< 5	50	< 1	< 20	< 10	50	42	4	< 5
530002	72.93	15.74	0.65	0.328	0.04	0.48	6.47	2.21	0.008	0.07	0.20	99.12	< 1	12	< 5	20	< 1	< 20	< 10	60	36	4	< 5
530003	71.90	16.85	0.81	0.261	0.08	0.98	6.34	2.12	0.042	0.08	0.23	99.69	< 1	32	< 5	50	< 1	< 20	< 10	80	34	3	< 5
530004	70.18	17.95	1.01	0.015	0.15	2.50	6.01	1.43	0.106	0.02	0.19	99.56	< 1	4	7	< 20	< 1	< 20	< 10	70	29	1	< 5
530005	69.39	18.46	0.93	0.016	0.19	2.59	6.34	1.35	0.128	0.02	0.30	99.72	< 1	7	9	60	< 1	< 20	< 10	70	29	1	< 5
530006	72.72	15.32	1.56	0.087	0.36	0.97	3.96	2.61	0.110	0.25	1.06	99.00	1	17	15	30	2	< 20	< 10	370	60	3	< 5
530007	77.65	12.88	0.97	0.057	0.21	0.86	4.30	1.45	0.056	0.08	0.79	99.30	< 1	70	6	90	1	< 20	< 10	100	39	3	< 5
530008	76.78	15.55	0.57	0.056	0.08	0.67	3.94	0.89	0.029	0.02	0.54	99.13	< 1	147	< 5	30	< 1	< 20	< 10	40	46	4	< 5
530009	77.04	14.71	0.73	0.083	0.06	0.38	3.21	2.11	0.021	< 0.01	0.45	98.80	< 1	198	< 5	140	< 1	< 20	< 10	< 30	43	4	< 5
530010	98.42	0.65	0.82	0.010	0.04	0.03	0.13	0.10	0.039	< 0.01	0.06	100.3	< 1	< 1	6	< 20	< 1	< 20	< 10	< 30	< 1	2	< 5
530011	80.72	11.65	0.48	0.060	0.08	0.56	3.86	0.73	0.024	< 0.01	0.82	98.99	< 1	85	< 5	40	< 1	< 20	< 10	40	35	3	< 5
530012	70.69	18.22	0.96	0.063	0.16	0.76	4.68	1.91	0.067	0.01	1.32	98.83	< 1	134	6	90	< 1	< 20	< 10	110	62	3	< 5
530013	70.52	17.70	0.83	0.050	0.15	0.86	6.19	1.83	0.058	0.04	1.18	99.40	< 1	20	7	20	1	< 20	< 10	100	57	3	< 5
530014	72.84	15.86	0.95	0.062	0.17	1.00	5.59	1.49	0.062	0.06	1.05	99.12	< 1	70	8	90	< 1	< 20	< 10	110	49	4	< 5
530015	74.14	15.16	0.83	0.054	0.16	1.02	5.42	1.38	0.056	0.05	1.00	99.26	< 1	71	6	20	< 1	< 20	< 10	120	46	4	< 5
530016	75.45	13.89	1.18	0.065	0.24	1.03	4.83	1.53	0.070	0.20	0.72	99.21	< 1	21	10	60	1	< 20	< 10	240	48	4	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549897	582	517	4	73	32	< 2	< 0.5	< 0.2	20	< 0.5	119	1106	< 0.4	3.3	24.1	2	4.2	48	2.9	7.7	0.07	0.14	
549898	915	131	2	44	79	< 2	< 0.5	< 0.2	38	< 0.5	138	75	< 0.4	4.8	96.0	2	5.6	13	4.7	3.5	0.05	0.11	
549899	1430	434	< 2	69	55	< 2	< 0.5	< 0.2	51	< 0.5	314	717	< 0.4	3.2	127	2	9.5	12	3.1	5.8	0.11	0.24	
549900	1110	293	26	199	952	9	0.8	2.6	686	7.2	208	2002	8.1	5.1	14.6	5	8.1	17	94.5	16.2	0.23	0.50	
549901	363	133	< 2	57	47	< 2	< 0.5	< 0.2	14	< 0.5	135	50	< 0.4	5.4	72.6	2	3.2	18	6.6	9.8	0.04	0.08	
549902	102	117	3	26	35	< 2	< 0.5	< 0.2	4	< 0.5	37.3	18	< 0.4	3.0	64.6	8	1.0	8	3.0	9.1	0.02	0.04	
549903	179	136	3	45	30	< 2	< 0.5	< 0.2	9	< 0.5	64.3	19	< 0.4	6.7	19.7	2	1.3	47	8.2	18.5	0.02	0.05	
549904	290	126	3	44	15	< 2	< 0.5	< 0.2	12	< 0.5	93.1	27	< 0.4	4.6	9.6	2	1.8	11	4.1	22.0	0.03	0.07	
549905	171	111	4	41	42	< 2	< 0.5	< 0.2	6	< 0.5	66.6	23	< 0.4	4.3	36.1	2	1.1	38	4.8	16.4	0.04	0.09	
549906	932	295	4	45	56	< 2	< 0.5	< 0.2	6	< 0.5	188	568	< 0.4	3.9	29.3	< 1	7.2	10	3.7	9.8	0.06	0.12	2.70
549907	435	805	2	85	9	< 2	< 0.5	< 0.2	8	< 0.5	110	2205	< 0.4	3.1	5.2	3	3.8	23	2.8	3.9	0.07	0.14	
549908	209	1105	4	110	5	< 2	< 0.5	< 0.2	2	< 0.5	51.7	2226	< 0.4	2.7	0.9	1	2.0	19	3.0	2.7	0.06	0.14	
549909	1440	158	< 2	12	73	< 2	< 0.5	< 0.2	33	< 0.5	184	256	< 0.4	1.0	94.1	< 1	9.8	8	10.2	6.6	0.39	0.85	
549910	3	3	5	40	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.5	23	< 0.4	1.2	0.3	2	0.5	< 5	1.3	0.5	< 0.01	< 0.01	
549911	1810	288	8	96	34	< 2	< 0.5	< 0.2	66	< 0.5	527	310	< 0.4	3.0	41.2	4	13.0	22	4.0	5.6	0.16	0.35	
549912	171	495	14	125	7	< 2	< 0.5	< 0.2	1	< 0.5	192	580	< 0.4	3.4	1.1	1	1.8	15	3.6	1.5	0.08	0.18	
549913	91	476	11	114	5	< 2	< 0.5	< 0.2	< 1	< 0.5	40.3	694	< 0.4	2.9	1.2	2	0.8	14	3.4	1.5	0.05	0.11	
549914	45	280	4	39	1	< 2	< 0.5	< 0.2	< 1	< 0.5	3.8	774	< 0.4	1.9	0.5	2	0.3	35	0.2	3.7	< 0.01	0.02	
549915	38	277	3	41	3	< 2	< 0.5	< 0.2	< 1	< 0.5	2.3	784	< 0.4	2.6	0.3	2	0.1	34	0.3	4.1	< 0.01	0.02	
549916	39	313	4	43	3	< 2	< 0.5	< 0.2	< 1	< 0.5	8.3	563	< 0.4	2.3	0.4	1	< 0.1	31	0.6	3.5	0.02	0.04	2.70
549917	91	318	13	128	5	< 2	< 0.5	< 0.2	< 1	< 0.5	34.8	396	< 0.4	3.2	0.5	2	0.3	15	3.7	1.1	0.06	0.13	
549918	87	364	13	127	5	< 2	< 0.5	< 0.2	< 1	< 0.5	30.6	457	< 0.4	3.2	0.5	2	0.4	11	3.8	1.1	0.06	0.13	
549919	100	335	14	126	5	< 2	< 0.5	< 0.2	< 1	< 0.5	39.3	487	< 0.4	3.0	0.5	1	0.3	10	4.1	1.1	0.06	0.14	
549920	1180	294	27	187	855	8	0.5	3.0	820	9.1	274	2018	10.9	4.1	20.9	7	10.7	30	88.9	15.1	0.23	0.50	
549921	121	196	12	120	5	< 2	< 0.5	< 0.2	< 1	< 0.5	45.0	400	< 0.4	2.8	0.5	1	1.2	8	3.8	1.0	0.06	0.13	
549922	101	300	12	116	5	< 2	< 0.5	< 0.2	< 1	< 0.5	37.5	469	< 0.4	2.9	0.5	3	0.6	15	4.6	1.3	0.06	0.12	
549923	36	324	4	41	2	< 2	< 0.5	< 0.2	< 1	< 0.5	3.4	802	< 0.4	2.5	0.2	2	0.1	42	0.3	4.2	< 0.01	0.02	
549924	99	214	12	105	5	< 2	< 0.5	< 0.2	< 1	< 0.5	34.8	438	< 0.4	2.3	0.4	1	0.3	9	3.5	1.1	0.05	0.11	
549925	138	925	< 2	131	8	< 2	< 0.5	< 0.2	4	< 0.5	23.3	816	< 0.4	3.6	1.2	< 1	0.7	17	1.5	1.0	0.04	0.08	
549926	1500	181	3	48	76	< 2	< 0.5	< 0.2	70	< 0.5	149	268	< 0.4	3.0	29.5	2	8.7	11	1.1	1.3	0.11	0.24	2.67
549927	800	236	< 2	11	30	2	< 0.5	< 0.2	30	< 0.5	136	137	< 0.4	0.8	29.8	3	5.7	22	1.8	0.9	0.20	0.44	
549928	411	143	< 2	7	32	< 2	< 0.5	< 0.2	20	< 0.5	161	41	4.4	0.7	34.1	1	2.7	13	2.3	2.8	0.96	2.07	
549929	1080	93	< 2	< 4	35	< 2	< 0.5	< 0.2	31	< 0.5	216	40	4.2	0.4	148	2	9.1	14	0.8	1.7	0.94	2.03	
549930	3	< 2	5	54	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	16	< 0.4	1.5	0.2	< 1	0.5	6	1.6	0.5	< 0.01	< 0.01	
549931	1260	110	< 2	5	77	< 2	< 0.5	< 0.2	27	< 0.5	203	30	3.3	1.0	273	3	10.4	13	2.4	3.6	0.74	1.60	
549932	1280	99	< 2	9	59	< 2	< 0.5	< 0.2	24	< 0.5	165	22	< 0.4	2.2	178	61	11.9	13	3.3	2.0	0.83	1.79	
549933	761	77	2	8	13	< 2	< 0.5	< 0.2	16	< 0.5	109	17	< 0.4	2.3	47.1	2	6.8	8	5.1	1.1	0.71	1.52	
549934	1030	78	3	8	25	< 2	< 0.5	< 0.2	10	< 0.5	164	18	< 0.4	1.5	86.0	2	10.0	13	6.1	1.4	0.48	1.02	
549935	983	72	< 2	4	25	< 2	< 0.5	< 0.2	10	< 0.5	173	17	< 0.4	0.7	86.6	1	9.3	11	2.3	1.4	0.43	0.94	
549936	3350	102	< 2	5	22	< 2	< 0.5	< 0.2	6	< 0.5	457	47	1.0	1.2	76.9	2	35.4	25	4.1	1.6	0.08	0.17	2.76
549937	8410	160	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1810	156	< 0.4	< 0.2	0.5	< 1	106	34	< 0.1	< 0.1	< 0.01	0.02	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549938	3410	94	< 2	< 4	2	< 2	< 0.5	< 0.2	< 1	< 0.5	951	375	< 0.4	< 0.2	0.9	2	46.7	15	< 0.1	< 0.1	0.01	0.02	
549939	30	< 2	< 2	< 4	2	26	< 0.5	< 0.2	< 1	< 0.5	4.5	7	< 0.4	< 0.2	0.4	1	2.6	< 5	< 0.1	< 0.1	0.01	0.03	
549940	1300	219	20	166	1620	9	< 0.5	4.2	1380	16.8	356	1042	16.1	3.9	28.8	10	13.3	27	46.6	8.1	0.48	1.04	
549941	17	< 2	< 2	< 4	< 1	4	< 0.5	< 0.2	< 1	< 0.5	3.4	7	< 0.4	< 0.2	< 0.1	1	1.2	< 5	< 0.1	< 0.1	< 0.01	0.02	
549942	43	3	< 2	< 4	4	< 2	< 0.5	< 0.2	< 1	< 0.5	10.4	9	< 0.4	< 0.2	0.4	< 1	0.8	< 5	< 0.1	< 0.1	< 0.01	0.02	
549943	443	11	< 2	< 4	3	< 2	< 0.5	< 0.2	< 1	< 0.5	138	19	3.8	< 0.2	0.2	< 1	4.9	< 5	< 0.1	< 0.1	0.01	0.02	
549944	9360	153	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	2210	92	< 0.4	< 0.2	0.1	< 1	115	28	< 0.1	< 0.1	< 0.01	0.02	
549945	5310	98	< 2	5	18	< 2	< 0.5	< 0.2	3	< 0.5	843	28	< 0.4	0.8	112	5	48.0	22	1.6	2.3	0.12	0.26	
549946	908	65	3	30	96	< 2	< 0.5	< 0.2	17	< 0.5	130	13	< 0.4	10.5	376	< 1	7.0	9	6.4	8.5	0.69	1.48	2.77
549947	1020	95	2	10	62	< 2	< 0.5	< 0.2	14	< 0.5	144	37	< 0.4	2.7	243	< 1	7.6	7	5.1	4.2	0.47	1.01	
549948	957	107	< 2	15	187	< 2	< 0.5	< 0.2	35	< 0.5	123	39	< 0.4	7.1	735	2	7.4	16	7.3	7.4	0.90	1.94	
549949	477	74	< 2	6	73	< 2	< 0.5	< 0.2	25	< 0.5	85.7	24	1.2	1.6	200	< 1	3.8	7	4.5	3.3	0.96	2.07	
549950	3	3	5	44	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	24	< 0.4	1.2	0.2	< 1	0.3	22	1.3	0.4	< 0.01	< 0.01	
549951	389	86	3	5	71	3	< 0.5	< 0.2	20	< 0.5	82.8	19	1.5	0.6	174	< 1	2.6	< 5	1.3	2.2	0.87	1.87	
549952	264	123	< 2	9	56	< 2	< 0.5	< 0.2	13	< 0.5	94.4	18	2.0	0.9	41.0	< 1	1.8	< 5	3.6	4.3	0.96	2.07	
549953	537	171	< 2	8	34	< 2	< 0.5	< 0.2	13	< 0.5	127	82	4.0	0.8	69.1	< 1	3.1	28	4.7	9.4	0.79	1.70	
549954	893	237	< 2	12	26	< 2	< 0.5	< 0.2	23	< 0.5	136	64	< 0.4	0.7	31.3	2	5.3	9	2.6	1.7	0.23	0.49	
549955	755	201	< 2	12	21	< 2	< 0.5	< 0.2	18	< 0.5	114	53	< 0.4	0.5	21.4	1	4.5	7	1.8	1.4	0.15	0.32	
549956	1170	198	2	52	39	< 2	< 0.5	< 0.2	39	< 0.5	131	97	< 0.4	3.0	34.9	1	6.5	13	4.3	11.4	0.07	0.16	2.72
549957	585	97	4	33	29	< 2	< 0.5	< 0.2	13	< 0.5	86.5	34	< 0.4	4.0	93.1	1	3.6	44	8.1	17.1	0.02	0.05	
549958	1070	116	< 2	38	60	< 2	< 0.5	< 0.2	29	< 0.5	174	61	< 0.4	4.9	76.6	< 1	5.8	9	2.5	9.2	0.03	0.07	
549959	1850	240	3	77	88	< 2	< 0.5	< 0.2	60	< 0.5	287	240	< 0.4	5.6	96.0	1	11.1	38	3.7	9.0	0.07	0.14	
549960	1150	298	27	206	978	8	0.7	2.8	702	8.1	220	1966	10.2	5.0	17.0	4	9.7	21	97.9	16.6	0.23	0.49	
549961	3670	179	2	46	90	< 2	< 0.5	< 0.2	106	< 0.5	686	187	< 0.4	6.4	154	4	23.0	21	6.6	7.6	0.08	0.18	
549962	963	156	3	52	53	< 2	< 0.5	< 0.2	30	< 0.5	148	69	< 0.4	3.7	52.9	< 1	6.5	7	2.7	6.5	0.04	0.09	
549963	1070	99	< 2	54	80	< 2	< 0.5	< 0.2	34	< 0.5	148	64	< 0.4	5.5	105	29	6.7	9	3.1	12.5	0.04	0.10	
549964	367	110	< 2	32	67	< 2	< 0.5	< 0.2	12	< 0.5	52.9	33	< 0.4	5.0	102	2	2.5	6	4.0	7.1	0.01	0.03	
549965	460	120	3	64	60	< 2	< 0.5	< 0.2	17	< 0.5	52.8	42	< 0.4	9.1	76.3	< 1	2.8	9	12.0	13.3	0.02	0.04	
549966	216	870	3	120	8	< 2	< 0.5	< 0.2	15	< 0.5	40.2	1207	< 0.4	3.2	1.3	1	1.6	19	2.0	2.4	0.05	0.10	2.69
549967	343	877	< 2	118	8	< 2	< 0.5	< 0.2	6	< 0.5	56.9	874	< 0.4	3.6	3.5	< 1	2.3	12	1.9	1.6	0.07	0.16	
549968	182	97	< 2	41	58	< 2	< 0.5	< 0.2	11	< 0.5	43.1	16	0.7	7.4	65.2	< 1	1.0	15	3.1	7.1	0.71	1.52	
549969	128	58	4	45	52	< 2	< 0.5	< 0.2	5	< 0.5	18.0	9	< 0.4	7.4	67.8	< 1	0.5	14	2.7	7.2	0.04	0.08	
549970	3	6	4	42	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	54	< 0.4	1.4	0.2	< 1	< 0.1	< 5	1.5	0.4	< 0.01	< 0.01	
549971	130	64	4	50	51	< 2	< 0.5	< 0.2	6	< 0.5	16.9	11	< 0.4	7.1	94.4	< 1	0.4	9	8.0	8.6	0.02	0.03	
549972	527	96	6	87	56	< 2	< 0.5	< 0.2	25	< 0.5	50.7	31	< 0.4	12.4	104	1	2.6	9	6.5	11.7	0.03	0.07	
549973	373	897	2	116	7	< 2	< 0.5	< 0.2	6	< 0.5	68.0	906	< 0.4	3.3	2.3	< 1	2.6	9	1.6	2.0	0.07	0.15	
549974	119	915	2	113	4	< 2	< 0.5	< 0.2	2	< 0.5	27.4	892	< 0.4	3.2	0.9	2	0.8	14	1.1	1.0	0.05	0.10	
549975	122	915	3	112	6	< 2	< 0.5	< 0.2	2	< 0.5	27.8	921	< 0.4	3.3	1.0	< 1	0.6	21	1.2	1.1	0.05	0.10	
549976	1190	146	< 2	30	52	< 2	< 0.5	< 0.2	49	< 0.5	127	141	0.4	1.4	21.8	< 1	6.1	< 5	0.4	0.5	0.10	0.22	2.75
549977	283	243	2	16	19	< 2	< 0.5	< 0.2	12	< 0.5	70.2	28	11.8	1.3	19.3	< 1	1.7	14	4.2	2.2	0.91	1.96	
549978	1040	149	3	9	44	< 2	< 0.5	< 0.2	13	< 0.5	133	96	15.5	0.7	89.4	< 1	7.9	32	2.0	1.8	0.72	1.56	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
549979	1250	125	< 2	9	55	< 2	< 0.5	< 0.2	21	< 0.5	163	57	2.4	2.6	164	< 1	9.8	12	4.1	2.6	0.75	1.62	
549980	1430	214	19	159	1290	9	< 0.5	4.1	1220	15.6	344	1027	14.7	3.6	27.2	8	12.2	24	45.9	7.7	0.48	1.04	
549981	1340	88	2	18	71	< 2	< 0.5	< 0.2	27	< 0.5	179	33	< 0.4	5.1	273	< 1	10.6	15	2.5	4.6	0.87	1.86	
549982	827	84	< 2	11	88	< 2	< 0.5	< 0.2	21	< 0.5	118	34	0.4	2.9	339	3	7.0	14	2.1	3.9	0.89	1.92	
549983	990	193	< 2	9	84	< 2	< 0.5	< 0.2	22	< 0.5	152	94	6.2	2.2	234	< 1	7.7	28	1.5	5.7	0.85	1.83	
549984	713	244	3	17	75	< 2	< 0.5	< 0.2	16	< 0.5	112	49	2.0	1.8	108	< 1	5.1	33	8.2	12.0	0.18	0.39	
549985	1260	204	< 2	24	53	< 2	< 0.5	< 0.2	45	< 0.5	178	70	< 0.4	1.6	40.8	< 1	7.7	80	1.8	1.3	0.07	0.15	
549986	1650	204	3	64	80	< 2	< 0.5	< 0.2	65	< 0.5	215	111	< 0.4	3.7	49.9	< 1	9.7	23	3.2	3.7	0.10	0.22	2.78
549987	707	103	< 2	34	63	< 2	< 0.5	< 0.2	14	< 0.5	177	73	< 0.4	4.0	88.4	1	5.1	13	3.1	9.8	0.10	0.21	
549988	430	374	2	77	36	< 2	< 0.5	< 0.2	5	< 0.5	102	347	< 0.4	4.9	38.5	< 1	3.6	11	2.4	6.7	0.07	0.15	
549989	83	920	3	142	5	< 2	< 0.5	< 0.2	< 1	< 0.5	17.7	1015	< 0.4	4.0	0.4	3	0.7	10	1.3	1.1	0.06	0.13	
549990	2	3	5	50	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	16	< 0.4	1.4	0.3	< 1	< 0.1	< 5	1.2	0.4	< 0.01	< 0.01	
549991	377	687	2	129	10	< 2	< 0.5	< 0.2	8	< 0.5	73.0	634	< 0.4	5.6	5.0	< 1	2.3	21	1.3	2.1	0.06	0.13	
549992	2820	175	< 2	13	18	3	< 0.5	< 0.2	8	< 0.5	226	278	< 0.4	1.1	10.3	< 1	21.7	8	0.6	0.7	0.03	0.06	
549993	1200	156	2	30	139	< 2	< 0.5	< 0.2	16	< 0.5	113	134	< 0.4	2.3	192	< 1	10.1	41	29.6	10.7	0.17	0.37	
549994	528	495	3	71	17	9	< 0.5	< 0.2	16	< 0.5	87.2	463	< 0.4	4.9	26.2	2	4.6	13	2.5	4.9	0.05	0.12	
549995	587	501	3	67	19	< 2	< 0.5	< 0.2	21	< 0.5	92.9	452	< 0.4	4.8	25.1	1	4.7	12	2.2	3.8	0.05	0.12	
549996	253	834	< 2	95	9	< 2	0.5	< 0.2	11	0.6	83.1	838	< 0.4	2.4	1.7	1	2.4	11	1.2	1.2	0.08	0.17	2.68
549997	112	89	< 2	25	32	< 2	< 0.5	< 0.2	1	< 0.5	32.2	47	< 0.4	3.8	36.2	1	1.0	19	2.8	11.5	0.06	0.13	
549998	187	872	2	95	3	< 2	< 0.5	< 0.2	3	< 0.5	60.9	879	< 0.4	2.5	0.9	< 1	1.6	11	1.2	0.8	0.07	0.15	
549999	196	927	3	94	2	< 2	< 0.5	< 0.2	2	< 0.5	58.7	894	< 0.4	2.2	0.5	1	1.7	14	1.3	2.8	0.06	0.12	
550000	1220	296	26	165	553	8	< 0.5	2.7	587	6.7	258	2008	11.3	3.3	17.7	5	11.6	27	91.3	16.0	0.23	0.50	
530001	483	175	3	23	30	< 2	< 0.5	< 0.2	9	< 0.5	64.0	155	0.6	2.2	29.5	< 1	4.2	13	3.3	8.7	0.05	0.12	
530002	720	176	3	17	14	< 2	< 0.5	< 0.2	4	< 0.5	67.1	246	< 0.4	1.9	13.6	< 1	5.8	18	2.4	10.0	0.06	0.12	
530003	754	366	3	45	23	< 2	< 0.5	< 0.2	7	< 0.5	93.0	358	< 0.4	2.4	20.6	< 1	6.0	22	3.0	9.0	0.07	0.14	
530004	183	955	2	98	3	< 2	< 0.5	< 0.2	2	< 0.5	43.4	952	< 0.4	3.2	0.4	< 1	1.9	11	1.2	1.2	0.06	0.13	
530005	217	1035	2	108	6	< 2	< 0.5	< 0.2	3	< 0.5	58.1	879	< 0.4	2.9	5.2	< 1	2.0	9	1.5	1.0	0.06	0.12	
530006	1630	258	2	56	60	< 2	< 0.5	< 0.2	65	< 0.5	172	233	< 0.4	2.6	25.9	< 1	10.1	12	1.0	2.1	0.14	0.31	2.73
530007	838	272	< 2	21	46	< 2	< 0.5	< 0.2	27	< 0.5	96.5	134	4.2	1.3	23.1	< 1	5.9	< 5	3.3	2.0	0.18	0.38	
530008	521	189	< 2	8	62	< 2	< 0.5	< 0.2	15	< 0.5	94.3	39	11.5	0.8	117	< 1	4.1	15	4.2	4.7	0.64	1.37	
530009	994	127	< 2	6	35	< 2	< 0.5	< 0.2	14	< 0.5	146	90	7.4	1.5	135	1	8.5	10	2.2	2.3	0.62	1.33	
530010	4	3	5	55	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	30	< 0.4	1.6	0.2	< 1	0.6	< 5	1.5	0.5	< 0.01	< 0.01	
530011	394	156	< 2	6	77	2	< 0.5	< 0.2	12	< 0.5	61.8	24	0.4	1.0	103	6	2.7	11	5.5	4.3	0.28	0.61	
530012	1110	223	< 2	14	36	< 2	< 0.5	< 0.2	31	< 0.5	198	70	2.1	1.0	66.0	1	7.8	26	2.7	2.9	0.41	0.88	
530013	1000	280	< 2	26	31	< 2	< 0.5	< 0.2	28	< 0.5	160	74	< 0.4	1.8	55.6	5	6.9	17	3.4	1.8	0.06	0.14	
530014	959	283	3	22	57	< 2	< 0.5	< 0.2	38	< 0.5	121	71	< 0.4	2.3	67.4	2	7.1	23	3.8	5.3	0.08	0.17	
530015	893	279	< 2	22	45	< 2	< 0.5	< 0.2	30	< 0.5	112	64	< 0.4	1.9	52.6	1	6.8	18	4.7	5.2	0.08	0.16	
530016	1060	270	< 2	39	33	< 2	< 0.5	< 0.2	36	< 0.5	161	95	< 0.4	1.7	24.6	< 1	7.3	12	3.3	2.5	0.09	0.20	2.74

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.00	1.86	0.78	0.010	0.34	42.34	0.86	0.52	0.120	30.13					1596								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	48.04	17.54	9.54	0.140	9.87	11.65	1.96	0.22	0.450	0.09			31		150	280	53	250	100	70			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70			
LKSD-3 Meas																90		50		160			29
LKSD-3 Cert																87.0		47.0		152			27.0
TDB-1 Meas																240		90	330	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	51.62	15.13	10.70	0.170	6.31	11.35	2.16	0.59	1.050	0.15			35	< 1	269	90	43	70	110	80	18	2	< 5
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20
SY-4 Meas	49.84	20.68	6.15	0.110	0.50	8.14	6.87	1.67	0.280	0.13			1	3	6								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			50	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.41	16.04	11.33	0.170	9.53	13.50	1.84	0.02	0.980	0.02			44	< 1	329	370		160	120	60			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370		170	125	70			
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30			920	100	15	11	69
NCS DC70009 (GBW07241) Cert																30			960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		170				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	45		420				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	46		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20		< 30	16	2	16
JR-1 Cert																		1.67		30.6	16.1	1.88	16.3
NCS DC86303 Meas																							
NCS DC86303 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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NCS DC86304 Cert																							
NCS DC86304 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86304 Cert																							
NCS DC86304 Meas																							
NCS DC86304 Cert																							
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NCS DC86314 Meas																							
NCS DC86314 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
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NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
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Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
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Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
549910 Orig																							
549910 Dup																							
549911 Orig	67.46	16.19	4.85	0.124	1.73	2.04	2.97	2.96	0.468	0.11	1.31	100.2	10	50	77	140	16	60	20	180	37	3	< 5
549911 Dup	67.45	15.86	4.74	0.121	1.68	2.02	2.92	2.92	0.448	0.11	1.31	99.58	10	50	74	140	16	60	20	190	37	3	< 5
549918 Orig																							
549918 Dup																							
549928 Orig	78.15	14.98	1.01	0.084	0.11	0.56	2.93	0.64	0.029	0.02	0.56	99.06	< 1	426	< 5	180	< 1	< 20	< 10	50	50	4	< 5
549928 Dup	78.39	15.36	1.04	0.086	0.10	0.56	2.95	0.64	0.030	0.02	0.56	99.74	< 1	436	< 5	170	< 1	< 20	< 10	50	51	4	< 5
549932 Orig																							
549932 Dup																							
549940 Orig																							
549940 Dup																							
549946 Orig	75.32	15.59	0.57	0.059	0.05	0.41	4.25	2.08	0.014	0.09	0.38	98.82	< 1	211	< 5	60	< 1	< 20	< 10	< 30	46	4	< 5
549946 Split PREP DUP	76.22	15.94	0.55	0.059	0.06	0.41	4.28	2.09	0.014	0.02	0.40	100.1	< 1	232	< 5	70	< 1	< 20	< 10	< 30	45	4	< 5
549953 Orig																							
549953 Dup																							
549958 Orig	76.03	13.69	0.82	0.106	0.16	0.89	5.45	1.43	0.045	0.33	0.94	99.88	< 1	15	6	70	< 1	< 20	< 10	80	50	3	< 5
549958 Dup	75.80	13.87	0.82	0.108	0.17	0.89	5.41	1.41	0.045	0.34	0.94	99.81	< 1	15	6	80	< 1	< 20	< 10	120	51	3	< 5
549961 Orig																							
549961 Dup																							
549975 Orig	71.97	16.58	1.00	0.016	0.18	2.56	5.93	1.47	0.120	0.02	0.26	100.1	< 1	3	9	140	< 1	< 20	< 10	70	29	1	< 5
549975 Dup	71.15	17.40	0.99	0.015	0.17	2.52	5.83	1.45	0.121	0.06	0.26	99.96	< 1	3	9	110	< 1	< 20	< 10	80	29	1	< 5
549983 Orig																							
549983 Dup																							
549996 Orig	70.10	18.18	0.93	0.016	0.15	2.30	5.92	1.43	0.107	0.02	0.35	99.52	< 1	8	8	70	< 1	< 20	< 10	70	30	1	< 5
549996 Split PREP DUP	69.46	18.99	1.02	0.017	0.15	2.29	5.97	1.45	0.111	0.02	0.39	99.87	< 1	9	8	70	< 1	< 20	< 10	70	30	1	< 5
549997 Orig																							
549997 Dup																							
530004 Orig																							
530004 Dup																							
530005 Orig	69.46	18.44	0.92	0.016	0.19	2.57	6.27	1.32	0.128	0.02	0.30	99.62	< 1	7	9	60	< 1	< 20	< 10	60	28	1	< 5
530005 Dup	69.33	18.49	0.94	0.016	0.19	2.61	6.41	1.38	0.129	0.02	0.30	99.82	< 1	7	9	70	< 1	< 20	< 10	70	29	1	< 5
530010 Orig																							
530010 Dup																							
530016 Orig	75.45	13.89	1.18	0.065	0.24	1.03	4.83	1.53	0.070	0.20	0.72	99.21	< 1	21	10	60	1	< 20	< 10	240	48	4	< 5
530016 Split	74.64	14.18	1.21	0.067	0.23	1.01	4.71	1.50	0.070	0.20	0.86	98.69	< 1	23	12	70	2	< 20	< 10	230	47	4	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
PULP DUP																							
Method Blank	< 0.01	0.01	< 0.01	0.002	0.01	0.02	< 0.01	< 0.01	0.001	0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	0.01	0.02	0.002	0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	0.02	0.02	< 0.01	0.003	< 0.01			< 1	< 1	< 5								
Method Blank																							
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Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas	4	139	17	38								108											
DNC-1 Cert	5	144.0	18.0	38								118											
LKSD-3 Meas	79					< 2			3		2.1			4.7	0.8								
LKSD-3 Cert	78.0					2.00			3.00		2.30			4.80	0.700								
TDB-1 Meas	22																		2.6				
TDB-1 Cert	23																		2.7				
W-2a Meas	20	188	20	89	8	< 2						174	< 0.4	2.4		< 1	< 0.1		2.3	0.5			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600						182	0.0300	2.60		0.300	0.200		2.40	0.530			
SY-4 Meas		1210	118	543								353											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.6				21.1				
CTA-AC-1 Cert															2.65				21.8				
BIR-1a Meas		110	15	15						0.6		7		0.6									
BIR-1a Cert		110	16	18						0.58		6		0.60									
NCS DC86312 Meas																			22.8				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	511						1.8	1.0	1650	3.3	38.7					2110	1.8		27.7				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						25													49.6	133			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						21													34.1	408			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						21													38.3	425			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	262				14	3		< 0.2	3	1.2	19.7		0.5	4.5	2.0		1.5	21	25.4	8.7			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86		1.56	19.3	26.7	8.88			
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.45	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.06	2.28	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.29	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.35	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.29	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.36	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.36	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.33	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.31	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.80	3.88	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.81	3.90	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.85	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.87	
NCS DC86314 Cert																					1.81	3.89	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NCS DC86314 Meas																					1.79	3.85	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.85	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.81	3.89	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.87	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.85	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.80	3.87	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.79	3.85	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.76	3.78	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.76	3.79	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.20		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT																					8.01		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.09		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.18		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.08		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.22		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.05		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B																					8.09		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.16		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.22		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.12		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.27		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.13		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.10		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
549910 Orig																					< 0.01	< 0.01	
549910 Dup																					< 0.01	< 0.01	
549911 Orig	1810	293	8	95	31	< 2	< 0.5	< 0.2	64	< 0.5	528	312	< 0.4	3.0	40.3	3	12.3	13	4.0	5.7			
549911 Dup	1810	283	8	97	36	< 2	< 0.5	< 0.2	67	< 0.5	526	308	< 0.4	2.9	42.1	4	13.6	30	4.0	5.6			
549918 Orig																					0.06	0.13	
549918 Dup																					0.06	0.13	
549928 Orig	410	141	< 2	7	32	< 2	< 0.5	< 0.2	20	< 0.5	160	41	4.3	0.7	35.2	1	2.8	18	2.4	2.8			
549928 Dup	412	145	< 2	7	31	< 2	< 0.5	< 0.2	19	< 0.5	163	41	4.4	0.7	32.9	1	2.6	8	2.3	2.8			
549932 Orig																					0.82	1.77	
549932 Dup																					0.85	1.82	
549940 Orig																					0.48	1.04	
549940 Dup																					0.48	1.04	
549946 Orig	908	65	3	30	96	< 2	< 0.5	< 0.2	17	< 0.5	130	13	< 0.4	10.5	376	< 1	7.0	9	6.4	8.5	0.69	1.48	
549946 Split PREP DUP	919	66	< 2	41	102	< 2	< 0.5	< 0.2	17	< 0.5	134	13	< 0.4	11.3	424	< 1	7.7	13	6.6	8.9	0.68	1.47	
549953 Orig																					0.78	1.68	
549953 Dup																					0.80	1.72	
549958 Orig	1060	119	2	39	57	< 2	< 0.5	< 0.2	28	0.8	169	62	< 0.4	4.8	74.0	2	5.6	7	2.5	9.2			
549958 Dup	1090	113	< 2	37	63	< 2	< 0.5	< 0.2	29	< 0.5	178	61	< 0.4	4.9	79.1	< 1	6.0	11	2.6	9.2			
549961 Orig																					0.08	0.18	
549961 Dup																					0.08	0.18	
549975 Orig	123	898	3	111	6	< 2	< 0.5	< 0.2	2	< 0.5	27.8	931	< 0.4	3.2	1.0	< 1	0.5	28	1.2	1.1	0.05	0.11	
549975 Dup	121	931	3	113	6	< 2	< 0.5	< 0.2	2	< 0.5	27.7	911	< 0.4	3.3	1.0	< 1	0.6	14	1.2	1.1	0.05	0.10	
549983 Orig																					0.84	1.81	
549983 Dup																					0.86	1.85	
549996 Orig	253	834	< 2	95	9	< 2	0.5	< 0.2	11	0.6	83.1	838	< 0.4	2.4	1.7	1	2.4	11	1.2	1.2	0.08	0.17	
549996 Split PREP DUP	254	854	2	90	4	< 2	< 0.5	< 0.2	6	< 0.5	82.3	848	< 0.4	2.2	1.7	< 1	2.1	12	1.2	1.2	0.08	0.17	
549997 Orig																					0.06	0.13	
549997 Dup																					0.06	0.13	
530004 Orig																					0.06	0.13	
530004 Dup																					0.06	0.13	
530005 Orig	212	1018	2	107	7	< 2	< 0.5	< 0.2	3	< 0.5	57.2	865	< 0.4	2.9	5.1	< 1	2.0	9	1.5	1.0			
530005 Dup	221	1052	3	109	5	< 2	< 0.5	< 0.2	3	< 0.5	58.9	894	< 0.4	2.9	5.3	< 1	1.9	9	1.4	1.0			
530010 Orig																					< 0.01	< 0.01	
530010 Dup																					< 0.01	< 0.01	
530016 Orig	1060	270	< 2	39	33	< 2	< 0.5	< 0.2	36	< 0.5	161	95	< 0.4	1.7	24.6	< 1	7.3	12	3.3	2.5	0.09	0.20	
530016 Split	1070	277	< 2	37	36	< 2	< 0.5	< 0.2	38	< 0.5	166	95	< 0.4	1.7	32.9	< 1	7.5	10	2.8	2.6	0.09	0.20	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
PULP DUP																							
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
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Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00
Method Blank																							1.00
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 04-Dec-17
Invoice No.: A17-13892
Invoice Date: 12-Jan-18
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

105 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-13892**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Elitsa Hrischeva, Ph.D.
Quality Control

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

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
530017	70.83	17.14	0.97	0.212	0.16	1.32	7.07	1.15	0.053	0.56	0.56	100.0	< 1	15	8	< 20	< 1	< 20	< 10	100	46	3	< 5
530018	70.50	17.50	0.80	0.009	0.19	2.63	6.09	1.51	0.117	0.02	0.36	99.72	< 1	2	8	< 20	< 1	< 20	< 10	60	26	< 1	< 5
530019	70.11	17.87	0.94	0.010	0.22	2.60	6.08	1.61	0.141	0.04	0.42	100.0	< 1	2	11	20	< 1	< 20	< 10	100	27	< 1	< 5
530020	75.63	9.53	4.66	0.054	0.91	1.62	1.32	1.95	0.810	0.29	1.33	98.11	11	34	64	80	7	< 20	310	140	25	4	41
530021	69.52	17.64	1.00	0.020	0.17	2.34	6.09	1.17	0.132	0.04	0.48	98.61	< 1	10	10	< 20	< 1	< 20	< 10	80	28	< 1	< 5
530022	73.40	16.29	0.55	0.327	0.05	0.56	7.77	0.88	0.019	0.11	0.33	100.3	< 1	110	< 5	< 20	< 1	< 20	< 10	30	39	4	< 5
530023	73.48	16.22	0.53	0.327	0.02	0.44	8.37	0.35	0.002	0.08	0.16	99.97	< 1	16	< 5	< 20	< 1	< 20	< 10	< 30	38	4	< 5
530024	69.47	17.66	0.86	0.019	0.19	2.35	6.23	1.12	0.134	0.03	0.46	98.53	< 1	18	10	< 20	< 1	< 20	< 10	80	28	< 1	< 5
530025	72.23	16.67	0.61	0.293	0.03	0.43	8.05	0.44	0.003	0.13	0.12	98.99	< 1	7	< 5	< 20	< 1	< 20	< 10	< 30	39	4	< 5
530026	71.38	17.75	0.79	0.018	0.16	2.46	5.97	1.40	0.117	0.05	0.30	100.4	< 1	7	8	< 20	< 1	< 20	< 10	80	28	< 1	< 5
530027	71.00	16.73	0.85	0.351	0.08	0.74	7.55	0.79	0.025	0.06	0.47	98.65	< 1	33	< 5	20	< 1	< 20	< 10	60	41	3	< 5
530028	72.53	16.00	0.62	0.371	0.03	0.59	7.02	1.02	0.010	0.07	0.30	98.55	< 1	252	< 5	< 20	< 1	< 20	< 10	< 30	35	3	< 5
530029	70.79	17.39	0.94	0.021	0.17	2.47	5.87	1.39	0.130	0.06	0.37	99.60	< 1	8	11	20	< 1	< 20	< 10	70	26	< 1	< 5
530030	97.80	0.35	0.40	0.006	0.03	0.01	0.04	0.03	0.017	< 0.01	0.20	98.88	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
530031	71.59	16.70	0.55	0.212	0.06	0.49	6.09	2.53	0.018	0.08	0.39	98.71	< 1	9	< 5	< 20	< 1	< 20	< 10	40	35	3	< 5
530032	70.66	16.83	1.63	0.021	0.40	2.57	5.50	1.31	0.204	0.10	0.50	99.73	< 1	4	18	30	2	< 20	< 10	140	28	< 1	< 5
530033	71.22	16.75	0.75	0.072	0.12	1.76	6.66	1.31	0.086	0.06	0.32	99.11	< 1	14	6	< 20	< 1	< 20	< 10	60	30	1	< 5
530034	71.18	16.10	1.04	0.017	0.19	2.37	5.92	1.27	0.120	0.05	0.36	98.61	< 1	6	9	20	< 1	< 20	< 10	60	27	< 1	< 5
530035	71.48	15.67	0.81	0.018	0.18	2.47	6.05	1.26	0.118	0.03	0.36	98.43	< 1	4	8	< 20	< 1	< 20	< 10	60	26	< 1	< 5
530036	71.41	15.20	1.09	0.415	0.13	0.96	5.15	3.46	0.036	0.13	0.37	98.35	< 1	78	< 5	30	< 1	< 20	< 10	100	34	3	< 5
530037	71.61	15.33	0.52	0.055	0.10	1.00	4.65	4.53	0.047	0.20	0.40	98.44	< 1	92	< 5	20	< 1	< 20	< 10	80	33	2	< 5
530038	72.10	16.39	0.98	0.011	0.19	2.66	5.67	1.31	0.130	0.03	0.29	99.75	< 1	2	9	30	< 1	< 20	< 10	70	26	< 1	< 5
530039	70.97	16.59	0.79	0.026	0.16	2.25	6.47	1.05	0.116	0.10	0.35	98.88	< 1	11	8	20	< 1	< 20	< 10	70	28	< 1	< 5
530040	76.16	10.12	4.30	0.047	0.75	1.24	1.13	1.76	0.575	0.29	1.18	97.55	8	39	55	70	6	< 20	320	150	29	5	57
530041	72.25	16.99	0.69	0.130	0.09	1.14	7.62	0.93	0.027	0.31	0.33	100.5	< 1	31	< 5	< 20	< 1	< 20	< 10	50	44	3	< 5
530042	72.52	16.31	0.47	0.216	0.03	0.69	7.82	0.58	0.008	0.08	0.23	98.96	< 1	27	< 5	< 20	< 1	< 20	< 10	< 30	41	4	< 5
530043	71.57	16.99	0.92	0.567	0.02	0.87	8.56	0.32	0.005	0.29	0.14	100.3	< 1	16	< 5	< 20	< 1	< 20	< 10	< 30	38	4	< 5
530044	70.59	16.40	1.15	1.102	0.03	0.42	8.45	0.26	0.002	0.09	0.11	98.60	< 1	77	< 5	< 20	< 1	< 20	< 10	< 30	41	5	< 5
530045	71.57	15.89	1.02	0.016	0.17	2.43	5.66	1.56	0.112	0.07	0.30	98.78	< 1	3	7	20	< 1	< 20	< 10	60	27	< 1	< 5
530046	71.59	16.49	0.86	0.016	0.17	2.33	5.86	1.52	0.117	0.04	0.33	99.32	< 1	7	8	20	< 1	< 20	< 10	80	28	< 1	< 5
530047	71.31	17.49	0.91	0.218	0.11	1.23	7.78	0.75	0.050	0.10	0.40	100.3	< 1	45	6	< 20	< 1	< 20	< 10	70	40	3	< 5
530048	73.04	16.19	0.81	0.084	0.14	2.12	6.20	1.23	0.101	0.05	0.33	100.3	< 1	10	7	20	< 1	< 20	< 10	60	30	1	< 5
530049	72.57	15.96	0.85	0.037	0.11	1.75	6.83	1.15	0.078	0.08	0.25	99.67	< 1	20	6	20	< 1	< 20	< 10	50	30	1	< 5
530050	98.18	0.31	0.27	0.004	0.02	0.02	0.03	0.04	0.018	< 0.01	0.19	99.08	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
530051	72.79	15.78	0.92	0.011	0.17	2.40	5.84	1.66	0.114	0.04	0.31	100.0	< 1	2	8	20	< 1	< 20	< 10	70	27	< 1	< 5
530052	74.10	14.76	0.69	0.193	0.04	0.37	5.37	3.89	0.011	0.05	0.31	99.77	< 1	11	< 5	< 20	< 1	< 20	< 10	170	38	3	< 5
530053	71.21	16.34	0.94	0.055	0.16	2.02	6.21	1.92	0.106	0.04	0.30	99.31	< 1	4	6	20	< 1	< 20	< 10	100	29	1	< 5
530054	72.40	15.16	0.60	0.196	0.03	0.29	6.14	3.82	0.004	0.05	0.19	98.89	< 1	7	< 5	< 20	< 1	< 20	< 10	60	38	3	< 5
530055	74.67	14.34	0.84	0.228	0.03	0.31	6.54	2.51	0.004	0.08	0.13	99.67	< 1	10	< 5	< 20	< 1	< 20	< 10	80	39	3	< 5
530056	72.55	14.55	0.85	0.494	0.03	0.24	6.57	3.03	0.007	0.03	0.18	98.52	< 1	6	< 5	20	< 1	< 20	< 10	200	36	3	< 5
530057	68.84	15.88	2.63	0.024	0.92	3.15	5.34	1.77	0.361	0.18	0.58	99.70	1	2	40	30	5	< 20	< 10	150	29	< 1	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
530058	72.82	14.80	1.07	0.093	0.03	0.17	3.38	5.41	0.008	0.04	0.89	98.71	< 1	6	< 5	40	< 1	< 20	< 10	190	58	3	< 5
530059	71.24	16.40	0.86	0.102	0.04	0.10	2.83	7.79	0.008	0.03	0.64	100.0	< 1	5	< 5	20	< 1	< 20	< 10	90	47	3	< 5
530060	75.58	9.09	4.61	0.053	0.91	1.61	1.29	1.97	0.820	0.38	1.20	97.52	11	35	64	70	7	< 20	280	130	24	4	36
530061	72.09	14.93	0.47	0.089	0.04	0.22	4.33	5.91	0.011	0.06	0.36	98.49	< 1	33	< 5	< 20	< 1	< 20	< 10	30	36	3	< 5
530062	75.11	14.60	0.73	0.234	0.04	0.29	7.53	0.78	0.006	0.07	0.29	99.69	< 1	11	< 5	< 20	< 1	< 20	< 10	30	43	4	< 5
530063	73.41	16.10	0.52	0.094	0.04	0.33	7.84	1.18	0.003	0.08	0.27	99.87	< 1	17	< 5	20	< 1	< 20	< 10	40	42	4	< 5
530064	69.81	16.28	1.94	0.024	0.56	2.85	5.24	1.24	0.243	0.12	0.50	98.80	1	15	26	30	3	< 20	< 10	100	32	1	< 5
530065	69.21	16.49	1.81	0.023	0.60	2.95	5.05	1.42	0.253	0.12	0.47	98.38	1	6	28	30	3	< 20	< 10	100	28	< 1	< 5
530066	72.55	16.97	1.14	0.157	0.12	0.41	3.34	3.33	0.040	0.07	0.89	99.01	< 1	34	< 5	30	< 1	< 20	< 10	110	66	3	< 5
530067	72.42	17.95	0.82	0.105	0.09	0.40	3.67	2.18	0.017	< 0.01	0.52	98.16	< 1	222	< 5	40	< 1	< 20	< 10	60	56	4	< 5
530068	75.52	15.36	0.45	0.065	0.05	0.37	2.87	2.84	0.011	0.02	0.61	98.17	< 1	80	< 5	40	< 1	< 20	< 10	30	45	4	< 5
530069	76.77	13.37	0.76	0.151	0.06	0.34	5.51	1.72	0.017	0.03	0.33	99.05	< 1	65	< 5	30	< 1	< 20	< 10	70	40	3	< 5
530070	98.68	0.51	1.24	0.013	0.03	0.02	0.05	0.06	0.025	0.01	-0.16	100.5	< 1	2	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
530071	70.41	16.77	1.72	0.017	0.57	3.00	5.32	1.35	0.245	0.12	0.49	100.0	1	4	24	30	3	< 20	< 10	100	27	< 1	< 5
530072	68.20	17.94	1.99	0.021	0.58	3.09	5.27	1.49	0.297	0.12	0.46	99.46	1	4	26	30	3	< 20	10	100	28	< 1	< 5
530073	71.44	15.99	0.89	0.050	0.18	1.28	5.05	2.94	0.072	0.03	0.45	98.38	< 1	97	8	20	< 1	< 20	< 10	50	31	2	< 5
530074	72.38	15.86	0.77	0.043	0.10	1.08	5.13	2.83	0.029	0.01	0.50	98.72	< 1	112	< 5	20	< 1	< 20	< 10	40	35	2	< 5
530075	74.32	14.93	0.61	0.037	0.12	1.10	4.68	3.63	0.034	< 0.01	0.47	99.88	< 1	90	6	20	< 1	< 20	< 10	40	32	1	< 5
530076	73.02	15.98	0.53	0.056	0.03	0.40	5.24	2.73	0.014	< 0.01	0.70	98.70	< 1	205	< 5	30	< 1	< 20	< 10	50	44	3	< 5
530077	74.14	16.06	0.53	0.063	0.04	0.44	5.11	1.88	0.018	< 0.01	0.76	99.05	< 1	182	< 5	40	< 1	< 20	< 10	50	52	2	< 5
530078	72.51	15.28	0.76	0.229	0.04	0.52	5.44	3.93	0.012	0.03	0.39	99.15	< 1	425	< 5	20	< 1	< 20	< 10	40	41	3	< 5
530079	74.86	13.63	0.64	0.010	0.08	1.41	4.22	3.65	0.028	0.01	0.18	98.73	< 1	10	< 5	30	< 1	< 20	10	30	29	< 1	< 5
530080	76.43	10.17	4.46	0.048	0.77	1.25	1.19	1.80	0.579	0.30	1.13	98.13	8	39	56	80	6	20	340	160	29	4	54
530081	71.52	16.36	0.98	0.015	0.19	2.41	5.94	1.54	0.110	< 0.01	0.24	99.30	< 1	4	10	30	< 1	< 20	< 10	70	28	< 1	< 5
530082	77.72	12.16	1.41	0.065	0.31	0.53	2.61	3.35	0.092	0.16	0.91	99.32	< 1	14	13	60	2	< 20	< 10	300	45	2	< 5
530083	74.50	15.65	1.22	0.076	0.19	0.73	3.75	1.08	0.060	< 0.01	0.72	97.94	< 1	553	6	50	1	< 20	< 10	100	50	3	< 5
530084	78.60	13.50	0.51	0.063	0.07	0.51	3.73	1.24	0.022	< 0.01	0.62	98.87	< 1	32	< 5	50	< 1	< 20	< 10	40	43	3	< 5
530085	72.62	17.29	0.96	0.078	0.11	0.40	3.20	3.96	0.059	< 0.01	0.83	99.47	< 1	210	< 5	50	< 1	< 20	< 10	100	58	4	< 5
530086	79.65	13.83	0.59	0.067	0.07	0.24	1.99	1.61	0.035	< 0.01	0.67	98.77	< 1	25	< 5	70	< 1	< 20	< 10	50	54	3	< 5
530087	75.87	14.52	0.54	0.062	0.07	0.48	4.34	1.83	0.014	< 0.01	0.53	98.23	< 1	126	< 5	50	< 1	< 20	< 10	< 30	41	4	< 5
530088	72.76	16.39	0.35	0.048	0.03	0.44	4.44	4.09	0.009	0.02	0.42	99.01	< 1	217	< 5	30	< 1	< 20	< 10	< 30	39	4	< 5
530089	66.36	17.99	0.31	0.007	< 0.01	0.04	1.96	13.15	0.001	0.03	0.14	100.0	< 1	3	< 5	< 20	< 1	< 20	< 10	< 30	27	3	< 5
530090	97.81	0.40	0.58	0.007	0.03	0.04	0.04	0.05	0.026	< 0.01	0.08	99.05	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
530091	83.15	8.13	0.77	0.013	0.01	0.04	0.82	5.66	0.002	< 0.01	-0.03	98.55	< 1	2	< 5	60	< 1	< 20	10	< 30	13	2	< 5
530092	98.39	0.25	0.61	0.008	0.01	0.02	0.03	0.04	0.002	< 0.01	-0.04	99.33	< 1	< 1	< 5	90	< 1	< 20	< 10	< 30	< 1	1	< 5
530093	96.53	0.94	0.95	0.012	0.03	0.03	0.22	0.18	0.001	< 0.01	-0.14	98.75	< 1	19	< 5	100	< 1	< 20	< 10	< 30	2	2	< 5
530094	97.42	1.22	0.60	0.016	0.03	0.04	0.04	0.08	0.001	< 0.01	0.00	99.46	< 1	< 1	< 5	80	< 1	< 20	< 10	< 30	5	2	< 5
530095	97.51	1.23	0.98	0.019	0.03	0.06	0.11	0.10	0.002	< 0.01	-0.05	99.98	< 1	9	< 5	90	< 1	< 20	< 10	< 30	5	2	< 5
530096	80.96	11.61	0.58	0.053	0.06	0.37	3.37	1.38	0.004	< 0.01	0.23	98.58	< 1	14	< 5	60	< 1	< 20	< 10	< 30	31	4	< 5
530097	72.38	18.27	0.79	0.065	0.03	0.48	5.19	2.51	0.005	0.02	0.24	99.98	< 1	67	< 5	30	< 1	< 20	< 10	< 30	45	3	< 5
530098	72.55	17.20	0.77	0.059	0.03	0.35	4.60	3.14	0.011	0.01	0.34	99.07	< 1	370	< 5	30	< 1	< 20	< 10	< 30	43	3	< 5

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
530099	69.61	19.77	1.06	0.082	0.08	0.42	3.72	4.63	0.033	< 0.01	0.97	100.4	< 1	221	< 5	30	< 1	< 20	< 10	40	64	3	< 5
530100	75.18	9.41	4.51	0.051	0.91	1.59	1.31	1.98	0.759	0.37	1.16	97.23	11	35	65	70	6	< 20	280	120	24	3	31
530101	78.83	12.91	0.93	0.048	0.05	0.37	3.04	1.96	0.023	< 0.01	0.54	98.70	< 1	281	< 5	50	< 1	< 20	< 10	< 30	42	2	< 5
530102	79.86	12.16	0.93	0.048	0.03	0.29	2.95	2.00	0.007	< 0.01	0.11	98.39	< 1	210	< 5	50	< 1	< 20	< 10	< 30	33	3	< 5
530103	76.20	15.18	0.82	0.061	0.03	0.43	4.07	1.85	0.010	< 0.01	0.23	98.88	< 1	129	< 5	40	< 1	< 20	< 10	< 30	43	3	< 5
530104	76.72	15.55	0.98	0.093	0.03	0.41	3.53	1.40	0.017	< 0.01	0.23	98.95	< 1	39	< 5	40	< 1	< 20	< 10	< 30	48	3	< 5
530105	74.53	17.24	0.88	0.071	0.04	0.56	4.15	1.25	0.010	< 0.01	0.23	98.97	< 1	171	< 5	40	< 1	< 20	< 10	< 30	50	3	< 5
530106	77.04	15.85	1.11	0.074	0.06	0.37	3.11	0.56	0.011	0.01	0.25	98.44	< 1	184	< 5	50	< 1	< 20	< 10	< 30	48	3	< 5
530107	72.60	17.82	0.74	0.043	0.09	0.78	5.72	1.28	0.027	< 0.01	0.95	100.1	< 1	100	< 5	40	< 1	< 20	< 10	80	50	3	< 5
530108	71.93	16.42	1.34	0.078	0.25	0.92	5.16	2.27	0.075	0.21	0.99	99.64	< 1	28	11	30	1	< 20	< 10	310	57	3	< 5
530109	71.89	17.10	0.97	0.201	0.11	0.81	7.50	0.88	0.029	0.29	0.41	100.2	< 1	14	5	20	< 1	< 20	< 10	60	45	3	< 5
530110	98.80	0.44	1.14	0.012	0.04	0.03	0.08	0.05	0.022	< 0.01	-0.13	100.5	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
530111	71.30	16.89	1.21	0.016	0.21	2.38	6.16	1.40	0.124	0.03	0.18	99.91	< 1	3	10	20	< 1	< 20	< 10	60	28	< 1	< 5
530112	71.34	16.20	1.14	0.046	0.18	2.27	5.82	1.57	0.114	0.04	0.24	98.96	< 1	16	8	20	< 1	< 20	10	90	31	1	< 5
530113	75.96	12.90	0.89	0.104	0.10	0.46	3.99	3.22	0.032	0.04	0.63	98.33	< 1	266	< 5	40	< 1	< 20	< 10	50	36	3	< 5
530114	72.68	15.53	1.33	0.041	0.25	1.84	5.08	1.66	0.132	0.05	0.61	99.20	< 1	81	8	30	1	< 20	< 10	130	40	2	< 5
530115	74.62	14.78	1.24	0.039	0.22	1.72	4.78	1.44	0.111	0.06	0.53	99.54	< 1	72	8	30	1	< 20	< 10	100	34	2	< 5
530116	70.21	17.71	1.17	0.042	0.20	1.45	5.78	2.86	0.099	0.12	0.48	100.1	< 1	20	9	20	1	< 20	20	150	47	2	< 5
530117	70.40	17.44	1.29	0.039	0.24	1.70	5.54	1.96	0.120	0.05	0.47	99.24	< 1	131	9	20	1	< 20	< 10	110	37	2	< 5
530118	70.94	15.97	0.89	0.039	0.16	1.21	4.76	3.82	0.083	0.05	0.66	98.58	< 1	30	6	20	< 1	< 20	< 10	70	34	2	< 5
530119	81.72	10.75	0.79	0.032	0.07	0.34	4.58	1.21	0.029	0.04	0.30	99.85	< 1	90	< 5	30	< 1	< 20	10	60	33	3	< 5
530120	76.16	9.27	4.49	0.052	0.89	1.57	1.29	1.96	0.790	0.37	1.18	98.02	10	34	63	70	7	20	300	140	24	4	33
530121	73.28	16.02	1.11	0.057	0.14	0.79	6.63	1.22	0.084	0.05	0.44	99.82	< 1	12	9	< 20	< 1	< 20	< 10	110	49	3	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
530017	685	232	3	65	34	< 2	< 0.5	< 0.2	27	< 0.5	162	109	< 0.4	4.8	37.3	2	3.8	10	2.3	2.7	0.08	0.18	
530018	85	1036	< 2	103	4	< 2	0.5	< 0.2	2	< 0.5	26.4	888	< 0.4	3.8	0.3	2	0.9	12	1.2	2.0	0.05	0.11	
530019	40	1041	< 2	107	6	< 2	0.7	< 0.2	2	< 0.5	5.8	930	< 0.4	4.8	0.9	< 1	0.3	11	1.3	0.9	0.04	0.10	
530020	1180	296	26	209	970	8	0.9	2.7	728	7.5	228	1996	11.8	4.5	15.8	5	9.5	31	94.1	16.5	0.23	0.49	
530021	415	906	< 2	112	5	< 2	< 0.5	< 0.2	8	< 0.5	74.3	777	< 0.4	3.3	1.7	< 1	3.5	11	1.4	1.4	0.08	0.17	
530022	325	109	3	49	64	< 2	< 0.5	< 0.2	9	< 0.5	55.2	54	0.9	6.4	52.9	< 1	2.9	21	3.3	9.0	0.10	0.22	
530023	64	79	< 2	43	52	< 2	< 0.5	< 0.2	1	< 0.5	11.0	16	0.5	7.9	45.1	< 1	0.9	19	3.7	10.7	0.08	0.17	
530024	489	922	< 2	113	4	< 2	< 0.5	< 0.2	9	< 0.5	90.0	762	< 0.4	3.1	3.8	< 1	3.2	11	1.5	1.1	0.07	0.15	
530025	91	80	< 2	17	26	< 2	< 0.5	< 0.2	1	< 0.5	15.7	15	< 0.4	3.0	53.9	3	0.9	9	2.2	8.3	0.09	0.20	
530026	252	946	< 2	102	4	< 2	< 0.5	< 0.2	3	< 0.5	60.8	806	< 0.4	2.9	3.6	2	1.7	11	1.3	1.1	0.08	0.17	2.73
530027	398	195	< 2	37	21	< 2	< 0.5	< 0.2	12	< 0.5	80.5	40	< 0.4	4.7	21.7	< 1	2.4	34	6.5	17.6	0.06	0.14	
530028	358	159	3	35	36	< 2	< 0.5	< 0.2	4	< 0.5	109	62	0.8	5.1	55.2	< 1	2.7	38	8.3	18.2	0.05	0.11	
530029	291	899	< 2	108	4	< 2	< 0.5	< 0.2	3	< 0.5	83.1	815	< 0.4	3.2	3.3	< 1	2.3	11	1.4	2.1	0.06	0.12	
530030	< 2	3	3	45	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	10	< 0.4	1.5	0.2	< 1	< 0.1	< 5	1.3	0.5	< 0.01	< 0.01	
530031	961	163	< 2	24	15	< 2	< 0.5	< 0.2	7	< 0.5	151	240	< 0.4	2.9	16.0	< 1	6.8	23	2.9	8.9	0.04	0.08	
530032	453	914	< 2	127	3	< 2	< 0.5	< 0.2	3	< 0.5	165	868	< 0.4	3.4	1.1	< 1	4.0	10	1.5	0.9	0.11	0.24	
530033	320	613	2	72	13	< 2	< 0.5	< 0.2	4	< 0.5	69.5	517	< 0.4	2.7	8.2	< 1	2.6	10	1.5	2.2	0.06	0.12	
530034	220	854	< 2	105	4	< 2	< 0.5	< 0.2	3	< 0.5	68.7	758	< 0.4	3.0	1.6	< 1	1.6	10	1.4	1.7	0.05	0.11	
530035	190	921	< 2	101	4	< 2	< 0.5	< 0.2	2	< 0.5	63.5	808	< 0.4	3.3	0.9	< 1	1.4	15	1.3	1.8	0.05	0.11	
530036	1250	319	2	46	55	< 2	< 0.5	< 0.2	12	< 0.5	211	414	< 0.4	7.7	132	1	8.8	33	4.7	17.4	0.03	0.07	2.76
530037	1630	349	< 2	42	39	< 2	< 0.5	< 0.2	8	< 0.5	287	413	1.2	2.8	91.7	1	12.4	36	7.4	11.5	0.04	0.09	
530038	70	961	< 2	124	3	< 2	< 0.5	< 0.2	1	< 0.5	28.1	832	< 0.4	3.3	0.7	< 1	1.4	10	1.4	1.0	0.06	0.13	
530039	361	822	< 2	115	5	< 2	< 0.5	< 0.2	6	< 0.5	78.4	721	< 0.4	4.0	5.2	31	2.9	13	1.6	4.3	0.08	0.17	
530040	1320	211	19	122	730	8	0.6	4.2	805	10.0	297	1024	15.7	2.7	19.7	6	11.5	26	45.7	7.7	0.48	1.04	
530041	391	242	< 2	39	31	< 2	< 0.5	< 0.2	13	< 0.5	41.2	66	< 0.4	4.5	34.3	1	3.3	18	4.1	7.3	0.16	0.34	
530042	160	176	< 2	36	37	< 2	< 0.5	< 0.2	7	< 0.5	27.8	30	< 0.4	8.2	27.0	< 1	1.4	24	4.0	14.2	0.20	0.42	
530043	56	146	3	78	21	< 2	< 0.5	< 0.2	3	< 0.5	12.2	12	< 0.4	9.5	18.0	< 1	0.5	40	4.5	23.0	0.04	0.09	
530044	21	93	< 2	78	19	< 2	< 0.5	< 0.2	2	< 0.5	12.6	8	< 0.4	13.0	24.8	< 1	0.2	38	5.7	35.6	0.03	0.07	
530045	155	859	< 2	101	2	< 2	< 0.5	< 0.2	2	< 0.5	36.3	992	< 0.4	2.8	1.1	< 1	1.1	14	1.2	0.7	0.07	0.14	
530046	199	864	< 2	105	4	< 2	< 0.5	< 0.2	4	< 0.5	39.9	939	< 0.4	3.3	2.1	< 1	1.5	12	1.3	1.1	0.06	0.13	2.73
530047	411	356	< 2	61	29	< 2	< 0.5	< 0.2	13	< 0.5	67.2	117	< 0.4	4.9	24.4	< 1	2.4	22	5.6	2.8	0.07	0.15	
530048	274	784	< 2	99	8	< 2	< 0.5	< 0.2	4	< 0.5	66.6	780	< 0.4	3.8	3.5	< 1	2.0	14	1.8	1.2	0.07	0.14	
530049	187	592	< 2	77	14	< 2	< 0.5	< 0.2	3	< 0.5	67.1	619	< 0.4	3.3	11.6	< 1	1.5	12	1.6	4.4	0.06	0.12	
530050	< 2	3	2	45	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	12	< 0.4	1.5	0.1	< 1	< 0.1	< 5	1.2	0.4	< 0.01	< 0.01	
530051	108	884	< 2	113	3	< 2	< 0.5	< 0.2	1	< 0.5	15.6	1062	< 0.4	3.4	0.6	1	0.6	12	1.2	1.5	0.04	0.09	
530052	1080	118	< 2	19	45	< 2	< 0.5	< 0.2	8	< 0.5	45.8	167	1.0	2.1	21.1	< 1	6.9	29	3.1	9.2	0.02	0.05	
530053	261	765	< 2	100	14	< 2	< 0.5	< 0.2	2	< 0.5	25.5	884	< 0.4	3.5	6.6	1	2.0	20	1.6	2.8	0.04	0.08	
530054	984	85	< 2	23	50	< 2	< 0.5	< 0.2	13	< 0.5	64.8	129	< 0.4	3.4	29.7	2	6.2	20	2.5	8.4	0.02	0.03	
530055	658	70	< 2	27	53	< 2	< 0.5	< 0.2	17	< 0.5	51.4	100	< 0.4	4.2	22.1	2	4.5	19	2.9	9.0	0.02	0.04	
530056	713	59	< 2	52	63	< 2	< 0.5	< 0.2	9	< 0.5	34.6	64	< 0.4	7.2	31.2	< 1	4.7	39	6.0	20.9	0.01	0.03	2.71
530057	144	1156	2	180	6	< 2	0.6	< 0.2	3	< 0.5	44.8	1204	< 0.4	4.9	0.6	< 1	1.3	13	4.1	1.9	0.08	0.17	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
530058	1990	66	< 2	9	69	< 2	< 0.5	< 0.2	75	< 0.5	144	98	< 0.4	1.2	14.2	< 1	11.9	16	1.2	2.5	0.05	0.11	
530059	2780	97	< 2	17	50	< 2	< 0.5	< 0.2	46	< 0.5	162	178	< 0.4	2.6	15.8	< 1	18.7	57	1.2	4.1	0.04	0.08	
530060	1160	309	27	213	910	7	0.9	2.8	715	9.2	227	2018	10.6	5.5	17.7	6	11.5	29	91.2	15.8	0.23	0.49	
530061	1990	126	< 2	13	46	< 2	< 0.5	< 0.2	17	< 0.5	207	263	< 0.4	3.0	44.7	< 1	15.0	14	1.7	3.4	0.02	0.05	
530062	301	53	< 2	20	63	< 2	< 0.5	< 0.2	16	< 0.5	48.5	9	< 0.4	3.8	42.9	< 1	2.8	10	2.7	7.3	0.05	0.12	
530063	389	51	< 2	11	65	< 2	< 0.5	< 0.2	13	< 0.5	45.8	17	< 0.4	2.5	58.7	< 1	2.9	10	2.7	4.7	0.03	0.07	
530064	373	1145	2	146	12	< 2	< 0.5	< 0.2	20	< 0.5	122	1020	< 0.4	4.2	2.7	< 1	2.7	10	3.9	1.5	0.11	0.24	
530065	309	1143	< 2	130	5	< 2	< 0.5	< 0.2	5	< 0.5	163	1666	< 0.4	3.4	2.5	< 1	2.0	11	4.1	2.6	0.10	0.21	
530066	1480	86	< 2	18	98	< 2	< 0.5	< 0.2	54	< 0.5	402	116	< 0.4	2.2	127	< 1	9.3	25	3.3	4.9	0.61	1.31	2.77
530067	1280	96	3	24	86	2	< 0.5	< 0.2	30	< 0.5	10400	40	0.4	6.1	265	< 1	10.2	19	4.2	6.6	0.99	2.13	
530068	1360	96	< 2	11	30	< 2	< 0.5	< 0.2	19	< 0.5	27300	134	0.7	1.4	39.4	< 1	11.6	9	2.0	1.9	0.65	1.39	
530069	724	82	2	23	67	< 2	< 0.5	< 0.2	30	< 0.5	178	77	0.4	3.4	38.4	< 1	5.5	13	4.1	3.7	0.07	0.15	
530070	4	3	3	41	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	3.5	17	< 0.4	1.4	0.5	< 1	0.5	< 5	1.4	0.5	< 0.01	< 0.01	
530071	206	1168	< 2	121	4	< 2	0.6	< 0.2	3	< 0.5	128	1034	< 0.4	3.9	1.1	< 1	1.7	12	3.9	3.1	0.06	0.14	
530072	200	1109	2	180	3	< 2	0.7	< 0.2	3	< 0.5	74.9	1008	< 0.4	4.3	0.6	< 1	1.7	12	4.6	3.2	0.07	0.16	
530073	720	443	< 2	35	32	< 2	< 0.5	< 0.2	4	< 0.5	113	899	< 0.4	2.4	103	< 1	5.4	27	4.9	5.5	0.10	0.21	
530074	693	328	< 2	16	9	< 2	< 0.5	< 0.2	5	< 0.5	119	1275	< 0.4	1.6	28.3	< 1	5.5	18	0.7	5.0	0.04	0.08	
530075	807	377	< 2	25	24	< 2	< 0.5	< 0.2	6	< 0.5	133	1739	< 0.4	1.9	37.9	< 1	7.0	24	0.7	4.3	0.04	0.09	
530076	1360	69	< 2	5	43	< 2	< 0.5	< 0.2	14	< 0.5	190	17	0.4	2.4	174	< 1	10.5	14	5.6	7.8	0.03	0.07	2.68
530077	1010	73	< 2	< 4	25	< 2	< 0.5	< 0.2	12	< 0.5	154	14	< 0.4	1.0	98.7	< 1	7.5	9	3.3	5.3	0.29	0.62	
530078	1610	150	< 2	22	18	< 2	< 0.5	< 0.2	10	< 0.5	216	236	< 0.4	3.4	32.3	< 1	13.8	16	4.0	6.0	0.02	0.05	
530079	295	378	< 2	18	1	< 2	< 0.5	< 0.2	< 1	< 0.5	41.1	1289	< 0.4	1.1	0.7	< 1	3.2	21	0.1	2.2	0.03	0.07	
530080	1330	213	20	121	652	8	0.5	4.7	785	9.1	293	1057	15.1	2.6	19.0	6	11.3	25	46.3	7.9	0.48	1.03	
530081	125	886	< 2	125	5	< 2	< 0.5	< 0.2	2	< 0.5	22.7	879	< 0.4	3.6	0.5	< 1	1.6	13	1.2	2.5	0.05	0.11	
530082	1710	193	< 2	16	33	3	< 0.5	< 0.2	40	< 0.5	127	388	< 0.4	0.8	16.5	1	10.2	8	0.4	0.6	0.11	0.24	
530083	789	229	< 2	15	38	2	< 0.5	< 0.2	31	< 0.5	199	62	1.9	0.9	14.0	3	4.9	8	1.1	0.9	0.72	1.54	
530084	679	131	< 2	< 4	18	2	< 0.5	< 0.2	14	< 0.5	85.1	33	0.7	0.2	51.6	2	5.0	7	1.0	1.3	0.63	1.36	
530085	2310	125	< 2	6	171	2	< 0.5	< 0.2	38	< 0.5	291	102	4.2	0.9	264	< 1	17.7	16	4.1	3.5	0.58	1.24	
530086	1110	57	< 2	9	12	3	< 0.5	< 0.2	23	< 0.5	151	23	27.7	3.4	47.3	1	8.0	13	5.7	1.2	0.82	1.76	2.83
530087	942	78	< 2	11	47	< 2	< 0.5	< 0.2	16	< 0.5	118	25	< 0.4	3.1	166	< 1	8.8	14	5.2	4.1	0.50	1.07	
530088	2280	97	< 2	< 4	21	< 2	< 0.5	< 0.2	8	< 0.5	260	21	< 0.4	0.8	96.8	< 1	20.6	17	1.5	2.3	0.41	0.89	
530089	10200	148	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1430	43	< 0.4	< 0.2	0.4	< 1	98.2	28	< 0.1	< 0.1	< 0.01	0.02	
530090	6	4	< 2	39	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.1	11	< 0.4	1.3	0.2	9	3.1	< 5	1.5	0.5	< 0.01	< 0.01	
530091	4170	68	< 2	< 4	< 1	3	< 0.5	< 0.2	1	< 0.5	803	60	< 0.4	< 0.2	0.9	< 1	41.5	15	< 0.1	< 0.1	0.02	0.04	
530092	18	3	< 2	< 4	< 1	5	< 0.5	< 0.2	< 1	< 0.5	4.0	< 3	< 0.4	< 0.2	0.6	< 1	2.4	< 5	< 0.1	< 0.1	0.01	0.02	
530093	74	4	< 2	< 4	< 1	5	< 0.5	< 0.2	1	< 0.5	16.1	< 3	< 0.4	< 0.2	0.5	< 1	1.4	< 5	< 0.1	< 0.1	0.03	0.05	
530094	38	3	< 2	< 4	< 1	4	< 0.5	< 0.2	2	< 0.5	7.5	< 3	< 0.4	< 0.2	2.7	< 1	0.7	< 5	< 0.1	< 0.1	0.13	0.28	
530095	51	4	< 2	< 4	< 1	5	< 0.5	< 0.2	2	< 0.5	8.5	< 3	< 0.4	0.4	4.9	12	0.5	< 5	< 0.1	0.2	0.10	0.22	
530096	840	42	2	6	15	3	< 0.5	< 0.2	11	< 0.5	116	12	< 0.4	1.1	91.8	< 1	9.9	10	0.6	1.5	0.50	1.07	2.76
530097	1340	66	< 2	< 4	15	< 2	< 0.5	< 0.2	13	< 0.5	188	10	< 0.4	1.4	87.0	3	11.3	12	1.1	2.1	0.78	1.68	
530098	1350	64	< 2	< 4	80	< 2	< 0.5	< 0.2	15	< 0.5	199	15	< 0.4	1.4	362	2	11.6	22	5.1	7.6	0.57	1.23	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
530099	1950	95	< 2	5	92	< 2	< 0.5	< 0.2	33	< 0.5	193	33	< 0.4	2.5	318	2	16.2	18	4.7	6.3	0.62	1.34	
530100	1170	292	26	186	708	8	0.7	2.8	605	7.7	220	2042	9.6	4.6	16.1	21	10.7	26	88.0	15.2	0.23	0.49	
530101	889	86	< 2	< 4	24	2	< 0.5	< 0.2	17	< 0.5	120	20	< 0.4	0.7	88.2	4	7.1	8	2.1	2.2	0.39	0.84	
530102	859	67	< 2	< 4	13	2	< 0.5	< 0.2	10	< 0.5	123	27	< 0.4	0.6	47.4	2	7.7	10	1.8	2.4	0.55	1.18	
530103	815	77	< 2	< 4	24	< 2	< 0.5	< 0.2	15	< 0.5	107	23	< 0.4	1.1	88.8	1	7.0	12	3.2	3.5	0.74	1.59	
530104	668	78	< 2	6	100	2	< 0.5	< 0.2	22	< 0.5	77.8	22	< 0.4	2.7	333	2	5.4	17	12.7	8.7	0.95	2.05	
530105	527	119	< 2	6	117	< 2	< 0.5	< 0.2	21	< 0.5	87.1	41	2.2	2.6	256	1	4.6	16	2.8	4.5	1.01	2.18	
530106	248	97	< 2	9	128	2	< 0.5	< 0.2	20	< 0.5	63.4	28	0.7	3.5	249	2	2.0	14	3.4	5.4	1.18	2.54	2.86
530107	613	230	< 2	9	27	< 2	< 0.5	< 0.2	19	< 0.5	74.3	34	1.0	1.4	51.6	1	3.8	15	4.8	7.2	0.27	0.59	
530108	1360	244	< 2	43	70	< 2	< 0.5	< 0.2	50	< 0.5	151	106	< 0.4	2.8	51.0	1	8.4	16	3.0	4.0	0.10	0.22	
530109	446	137	< 2	60	48	< 2	< 0.5	< 0.2	19	< 0.5	56.3	41	< 0.4	7.2	38.8	< 1	3.2	18	4.1	11.3	0.14	0.31	
530110	3	4	3	48	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.5	11	< 0.4	1.5	0.4	< 1	0.2	< 5	1.3	0.5	< 0.01	< 0.01	
530111	148	948	< 2	124	5	< 2	< 0.5	< 0.2	2	< 0.5	41.9	803	< 0.4	4.0	0.5	30	1.2	14	1.4	1.9	0.06	0.13	
530112	310	825	< 2	105	14	< 2	< 0.5	< 0.2	6	< 0.5	48.2	783	< 0.4	3.6	7.3	< 1	1.8	14	1.8	2.9	0.06	0.13	
530113	1380	160	< 2	21	59	< 2	< 0.5	< 0.2	23	< 0.5	115	330	1.2	3.5	103	< 1	8.7	18	6.7	7.2	0.06	0.13	
530114	942	689	< 2	101	29	< 2	< 0.5	< 0.2	36	< 0.5	120	624	< 0.4	3.5	11.5	< 1	5.8	10	1.3	1.1	0.08	0.18	
530115	803	627	< 2	87	24	< 2	< 0.5	< 0.2	29	< 0.5	108	571	< 0.4	2.9	12.0	< 1	4.6	9	1.1	1.1	0.08	0.18	
530116	1410	537	< 2	116	33	< 2	< 0.5	< 0.2	30	< 0.5	115	750	< 0.4	5.1	12.3	< 1	9.1	43	1.3	3.8	0.08	0.18	2.72
530117	1050	693	< 2	109	20	3	< 0.5	< 0.2	23	< 0.5	129	694	< 0.4	4.4	8.6	< 1	7.3	16	1.8	1.8	0.08	0.17	
530118	1700	495	< 2	67	13	< 2	< 0.5	< 0.2	18	< 0.5	136	605	< 0.4	2.7	11.7	< 1	12.1	14	1.4	1.2	0.06	0.12	
530119	628	91	< 2	44	25	< 2	< 0.5	< 0.2	18	< 0.5	66.5	59	4.4	2.7	24.8	1	4.6	8	3.2	3.4	0.04	0.08	
530120	1200	295	27	206	962	8	0.8	3.0	708	8.8	221	2021	9.4	5.2	17.7	5	10.1	29	90.4	15.2	0.22	0.48	
530121	764	262	< 2	133	65	< 2	< 0.5	< 0.2	32	< 0.5	85.1	214	< 0.4	8.4	75.2	< 1	4.8	7	2.4	2.8	0.07	0.15	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.10	1.82	0.76	0.010	0.34	42.87	0.86	0.53	0.120	30.17					1606								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.58	17.84	9.39	0.150	10.17	11.39	1.89	0.22	0.460	0.07			31		149	280	53	250	100	70			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70			
LKSD-3 Meas																90		50		160			29
LKSD-3 Cert																87.0		47.0		152			27.0
TDB-1 Meas																240		90	330	150			
TDB-1 Cert																251		92	323	155			
BaSO4 Meas																							
BaSO4 Cert																							
W-2a Meas	53.26	15.75	10.71	0.170	6.33	11.09	2.21	0.61	1.070	0.15			35	< 1	267	90	43	70	110	80	18	2	< 5
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20
SY-4 Meas	51.19	20.76	6.21	0.110	0.52	8.07	6.97	1.68	0.290	0.13			< 1	3	7								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			50	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.60	15.66	11.09	0.170	9.52	13.52	1.78	0.02	0.960	0.04			42	< 1	326	370		160	120	60			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370		170	125	70			
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30			920	100	15	11	69
NCS DC70009 (GBW07241) Cert																30			960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		170				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	45		420				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	46		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20		< 30	16	2	16
JR-1 Cert																		1.67		30.6	16.1	1.88	16.3
NCS DC86303 Meas																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86303 Cert																							
NCS DC86303 Meas																							
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NCS DC86314 Meas																							
NCS DC86314 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
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NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
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Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
530023 Orig																							
530023 Dup																							
530031 Orig	71.70	16.69	0.55	0.214	0.06	0.48	6.17	2.56	0.018	0.09	0.39	98.93	< 1	9	< 5	< 20	< 1	< 20	< 10	40	35	3	< 5
530031 Dup	71.48	16.71	0.54	0.209	0.06	0.49	6.01	2.50	0.018	0.08	0.39	98.48	< 1	9	< 5	< 20	< 1	< 20	< 10	40	35	3	< 5
530045 Orig																							
530045 Dup																							
530048 Orig	72.81	16.32	0.81	0.085	0.14	2.13	6.17	1.23	0.101	0.05	0.33	100.2	< 1	10	7	20	< 1	< 20	< 10	60	30	1	< 5
530048 Dup	73.28	16.06	0.81	0.083	0.14	2.11	6.23	1.23	0.100	0.04	0.33	100.4	< 1	10	7	20	< 1	< 20	< 10	60	29	1	< 5
530053 Orig																							
530053 Dup																							
530066 Orig	72.55	16.97	1.14	0.157	0.12	0.41	3.34	3.33	0.040	0.07	0.89	99.01	< 1	34	< 5	30	< 1	< 20	< 10	110	66	3	< 5
530066 Split PREP DUP	73.98	15.85	0.90	0.169	0.10	0.49	3.27	3.18	0.028	0.11	0.55	98.61	< 1	21	< 5	30	< 1	< 20	< 10	100	55	3	< 5
530067 Orig																							
530067 Dup																							
530074 Orig																							
530074 Dup																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
530076 Orig																							
530076 Dup																							
530078 Orig	72.29	15.43	0.76	0.226	0.04	0.51	5.38	3.88	0.012	0.04	0.39	98.96	< 1	430	< 5	20	< 1	< 20	< 10	30	40	3	< 5
530078 Dup	72.72	15.14	0.76	0.231	0.04	0.52	5.50	3.99	0.012	0.03	0.39	99.34	< 1	420	< 5	20	< 1	< 20	< 10	40	41	3	< 5
530088 Orig																							
530088 Dup																							
530095 Orig	97.82	1.23	0.99	0.019	0.03	0.06	0.11	0.10	0.002	< 0.01	-0.05	100.3	< 1	9	< 5	90	< 1	< 20	< 10	< 30	5	2	< 5
530095 Dup	97.21	1.23	0.96	0.019	0.03	0.06	0.11	0.10	0.002	< 0.01	-0.05	99.66	< 1	9	< 5	90	< 1	< 20	< 10	< 30	5	2	< 5
530096 Orig																							
530096 Dup																							
530110 Orig																							
530110 Dup																							
530116 Orig	70.21	17.71	1.17	0.042	0.20	1.45	5.78	2.86	0.099	0.12	0.48	100.1	< 1	20	9	20	1	< 20	20	150	47	2	< 5
530116 Split PREP DUP	69.69	17.46	1.30	0.043	0.21	1.50	5.69	2.77	0.103	0.12	0.49	99.38	< 1	20	10	20	1	< 20	20	160	44	2	< 5
530117 Orig																							
530117 Dup																							
530121 Orig	73.44	15.84	1.11	0.056	0.14	0.78	6.68	1.24	0.083	0.05	0.44	99.87	< 1	12	9	< 20	< 1	< 20	< 10	120	50	3	< 5
530121 Dup	73.11	16.19	1.11	0.058	0.14	0.79	6.57	1.21	0.085	0.05	0.44	99.77	< 1	12	9	< 20	< 1	< 20	< 10	110	48	3	< 5
Method Blank	0.02	0.01	0.02	0.002	0.01	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	< 0.01	< 0.01	0.01	0.002	0.02	< 0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							
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Method Blank																							

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas	4	146	17	38								112											
DNC-1 Cert	5	144.0	18.0	38								118											
LKSD-3 Meas	79					< 2			3		2.1			4.7	0.8								
LKSD-3 Cert	78.0					2.00			3.00		2.30			4.80	0.700								
TDB-1 Meas	22																		2.6				
TDB-1 Cert	23																		2.7				
BaSO4 Meas												579800											
BaSO4 Cert												588356											
W-2a Meas	20	195	20	88	8	< 2						180	< 0.4	2.4		< 1	< 0.1		2.3	0.5			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600						182	0.0300	2.60		0.300	0.200		2.40	0.530			
SY-4 Meas		1207	120	530								352											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas															2.6				21.1				
CTA-AC-1 Cert															2.65				21.8				
BIR-1a Meas		108	14	16						0.6		7		0.6									
BIR-1a Cert		110	16	18						0.58		6		0.60									
NCS DC86312 Meas																			22.8				
NCS DC86312 Cert																			23.6				
NCS DC70009 (GBW07241) Meas	511						1.8	1.0	1650	3.3	38.7					2110	1.8		27.7				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3				
OREAS 100a (Fusion) Meas						25													49.6	133			
OREAS 100a (Fusion) Cert						24.1													51.6	135			
OREAS 101a (Fusion) Meas						21													34.1	408			
OREAS 101a (Fusion) Cert						21.9													36.6	422			
OREAS 101b (Fusion) Meas						21													38.3	425			
OREAS 101b (Fusion) Cert						21													37.1	396			
JR-1 Meas	262				14	3		< 0.2	3	1.2	19.7		0.5	4.5	2.0		1.5	21	25.4	8.7			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86		1.56	19.3	26.7	8.88			
NCS DC86303																					0.21	0.46	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Meas																							
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.22	0.47	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.22	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.07	2.30	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.11	2.40	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.09	2.34	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.11	2.38	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.83	3.93	
NCS DC86314																					1.81	3.89	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
Cert																							
NCS DC86314 Meas																					1.75	3.77	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.77	3.81	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.76	3.79	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.77	3.81	
NCS DC86314 Cert																					1.81	3.89	
NCS DC86314 Meas																					1.76	3.78	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.08		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.10		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.06		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT																					8.10		

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.23		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.07		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.10		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
530023 Orig																					0.08	0.17	
530023 Dup																					0.08	0.18	
530031 Orig	952	160	3	24	14	< 2	< 0.5	< 0.2	7	< 0.5	152	242	< 0.4	2.8	15.9	< 1	6.5	23	2.7	8.9	0.04	0.08	
530031 Dup	970	167	< 2	25	16	< 2	< 0.5	< 0.2	7	< 0.5	151	238	< 0.4	3.0	16.2	1	7.0	22	3.1	8.8	0.04	0.08	
530045 Orig																					0.07	0.14	
530045 Dup																					0.07	0.14	
530048 Orig	273	766	< 2	99	7	< 2	< 0.5	< 0.2	4	< 0.5	66.8	782	< 0.4	3.8	3.6	2	2.0	13	1.9	1.2			
530048 Dup	274	801	< 2	99	8	< 2	< 0.5	< 0.2	4	< 0.5	66.3	778	< 0.4	3.8	3.4	< 1	2.1	14	1.8	1.2			
530053 Orig																					0.04	0.08	
530053 Dup																					0.04	0.08	
530066 Orig	1480	86	< 2	18	98	< 2	< 0.5	< 0.2	54	< 0.5	402	116	< 0.4	2.2	127	< 1	9.3	25	3.3	4.9	0.61	1.31	2.77
530066 Split PREP DUP	1440	111	2	16	100	< 2	< 0.5	< 0.2	54	< 0.5	365	176	0.6	1.9	127	< 1	9.8	21	2.9	5.2	0.65	1.39	2.78
530067 Orig																					0.99	2.14	
530067 Dup																					0.99	2.12	
530074 Orig																					0.04	0.08	

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O	Spec Grav
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2	GRAV
530074 Dup																					0.03	0.07	
530076 Orig																							2.67
530076 Dup																							2.69
530078 Orig	1600	148	< 2	23	13	< 2	< 0.5	< 0.2	8	< 0.5	216	234	< 0.4	3.3	31.9	< 1	13.3	16	4.3	6.0			
530078 Dup	1630	152	< 2	22	23	< 2	< 0.5	< 0.2	11	< 0.5	216	237	< 0.4	3.5	32.8	2	14.2	16	3.6	6.0			
530088 Orig																					0.41	0.88	
530088 Dup																					0.42	0.90	
530095 Orig	51	4	< 2	< 4	< 1	5	< 0.5	< 0.2	2	< 0.5	8.5	< 3	< 0.4	0.3	5.1	10	0.5	< 5	< 0.1	0.2			
530095 Dup	51	4	< 2	< 4	< 1	5	< 0.5	< 0.2	2	< 0.5	8.5	< 3	< 0.4	0.4	4.7	14	0.5	< 5	< 0.1	0.1			
530096 Orig																					0.51	1.09	
530096 Dup																					0.49	1.06	
530110 Orig																					< 0.01	< 0.01	
530110 Dup																					< 0.01	< 0.01	
530116 Orig	1410	537	< 2	116	33	< 2	< 0.5	< 0.2	30	< 0.5	115	750	< 0.4	5.1	12.3	< 1	9.1	43	1.3	3.8	0.08	0.18	2.72
530116 Split PREP DUP	1370	541	< 2	113	36	< 2	< 0.5	< 0.2	31	< 0.5	116	746	< 0.4	4.8	13.9	2	9.0	31	1.3	4.0	0.09	0.19	2.74
530117 Orig																					0.08	0.17	
530117 Dup																					0.08	0.17	
530121 Orig	779	263	< 2	135	66	< 2	< 0.5	< 0.2	33	< 0.5	85.7	214	< 0.4	6.6	77.1	< 1	5.1	6	2.5	2.8			
530121 Dup	749	261	< 2	131	63	< 2	1.0	< 0.2	31	< 0.5	84.4	213	< 0.4	10.2	73.3	< 1	4.4	8	2.3	2.8			
Method Blank	< 2	< 2	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1			
Method Blank		< 2	< 2	< 4								< 3											
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00
Method Blank																							1.00
Method Blank																					< 0.01	< 0.01	

Appendix 8 – Prospecting sheet, daily prospecting tracks and sample maps

Table 14-4 Prospecting table, UTM NAD 83, Zone 17.

Date	Waypoint	Easting (m)	Northing (m)	Elevation (m)	Cell claim	Sample No.	Lithology	Description
Sept 21 2017	Channel Sample	578590	5431389		313849		PEG	historical channel sample. I didn't see any spd but the outcrop is covered heavily by lichen and moss.
Sept 21 2017	contact	578645	5431401		313849		PEG	peg metased contact area on east dyke, stongly fol seds with quartz veining proximal to pegmatite, roughly planar contact at 285/78
Sept 4 2017	JK-17-001	579588	5442765		237587		Granite	very cg red granite, cg kspar-smokey quartz with minor biotite/dark musc, flat surface could not get grab
Sept 4 2017	JK-17-002	579561	5442816	358	237587		Granite	same granite as previous, same outcrop but at diff location. Weak mg peg patches and veins, nonmineralized.
Sept 4 2017	JK-17-003	579530	5442800	359	237587		Granite	litho check, mg massive pink granite. No veining, no dykes observed
Sept 4 2017	JK-17-004	579530	5442800		237587		Granite	pegmatitic granite, strongly pottaasic granite. Kspar-greenish musc-lesser quartz. Some of the musc has a weak reddish hue, if the peg is a dyke it may be up to 2m side but I could not find continuous exposure or contacts.
Sept 4 2017	JK-17-005	579530	5442800		237587		Granite	another stop in the same area as the last. Broke off another piece of boulder to expose much of the same PEG as previously described.
Sept 4 2017	JK-17-006	579476	5443272		285283		Granite	large outcrop of granite, smooth surface to outcrop, very little fracturing. Minor peg patches but observation of PEG dyke.

Date	Waypoint	Easting (m)	Northing (m)	Elevation (m)	Cell claim	Sample No.	Lithology	Description
Sept 4 2017	JK-17-007	579537	5443638		182708		Granite	another outcrop of mg pinkish granite, very homogenous since last stop, no PEG observed with minor small quartz veins cutting surface of outcrop. Some larger quartz veins have very cg pink kspar. No mineralization observed
Sept 4 2017	JK-17-008	579350	5443656		182708		Granite	same as the previous descriptions for pink, mg granite. Again the litho has been very homogenous, massive granite. May be a slight increase in the quartz %
Sept 4 2017	JK-17-009	579359	5443644	349	182708		PEG	small pegmatitic patch surrounded by mg pink granite. Pegmatite is largely cg pink kspar up to 2.5cm. Minor quartz blebbs but no musc observed. nonmineralized
Sept 4 2017	JK-17-010	579260	5443674	340	189471		PEG	pegmatite boulder, very cg white kspar up to 8cm with quartz blebs. Cg books of biotite. No mineralization
Sept 4 2017	JK-17-011	579438	5443876		108029		Granite	pink fg-mg massive granite. Quartz-kspar-biotite-plag. Orange weathered surface. No mineralization
Sept 4 2017	JK-17-012	579316	5444137	333	108029		PEG	small subangular boulder 0.5mx0.5m. Quartz kspar minor biotite pegmatite. Nonmineralized. Boulder was found under thick moss.
Sept 4 2017	JK-17-013	579316	5444137	333	108029		PEG	same as the previous description for the pegmatite boulder. This is another boulder in proximity <2m away, same composition and description. Good to find a couple of peg boulders in such proximity to eachother.
Sept 4 2017	JK-17-014	579356	5444136	337	108029		PEG	quartz rich pegmatite in outcrop. Mostly quartz-kspar-biotite. No mineralization. Some blocky kspar up to 6cm. Couldn't find contacts as they are lost under the moss. Uncovered about 2mx2m round.

Date	Waypoint	Easting (m)	Northing (m)	Elevation (m)	Cell claim	Sample No.	Lithology	Description
Sept 4 2017	JK-17-015	579696	5444269	338	285282		PEG	large peg boulder on the side of an old forest access trail. Very cg white kspar up to 8cm, quartz blebs and cg books of biotite. Kspar does have a pinkish color in places. No mineralization
Sept 21 2017	JK-17-20	578548	5431375	355	158106	529458	PEG	outcrop on far east dyke, first outcrop closes to creek. Quartz-white kspar-musc rich pegmatite. White kspar 2-3cm with megacrystic 7-8cm locally , cg greenish musc, smokey massive quartz.
Sept 21 2017	JK-17-21	578595	5431395		313849	529451	PEG	midway up series of outcrops, from creek heading east, that make up east dyke. Sampled kspar-quartz-musc rich peg with minor spd. Fg-cg spd is patchy and easiest to observe under a moss matt that I pulled back. Spd ranges from 0.5-4cm, 10% locally. Hard to sample
Sept 21 2017	JK-17-22	578693	5431388		313849	529452	PEG	pulled back moss to show reddish sodic aplite with laminated garnets and fg gren musc rich pods, peg enarby is very cg white kspar-quartz-musc with no spd observed
Sept 21 2017	JK-17-23	578697	5431381		313849		PEG	very cg blocky white kspar with lesser quartz and musc. No spd observed. nonhomogeneous outcrop with variable textures - peg, granite, aplitic. Sample on flag reads "363"
Sept 21 2017	JK-17-24	579200	5431500		186076		PEG	very large outcrop at far east end of outcrops, 50mx15m roughly, nonhomogeneous with peg, granite, aplitic textures with several quartz veins. Vcg blocky kspar-quartz-musc. Quartz rich pods and several aplitic patches showing banded and laminated garnets with irregular wavy contacts. looks like dyke is in contact with granodiorite/tonalite in some places near edges of outcrop.

Date	Waypoint	Easting (m)	Northing (m)	Elevation (m)	Cell claim	Sample No.	Lithology	Description
Sept 21 2017	JK-17-25	579217	5431504		186076	529453	PEG	sampled very angular subcrop from outcrop, frost heaved piece. No spod observed. cg white kspar-quartz-green musc. Possible weathered 1cm white spd?
Sept 21 2017	JK-17-26	578761	5431413		313849	529454	PEG	felspar-quartz-musc peg, no spd observed, green cg musc rich.
Sept 21 2017	JK-17-27	578700	5431385		313849	529455	PEG	sampled similar peg to historic sample 363, no spd observed
Sept 21 2017	JK-17-28	578584	5431394		313849	529456	PEG	took a sample from the historic channel sample. No spd observed but there is a lot of lichen and moss even in the channel. Looks like mostly feldspar-quartz-green musc.
Sept 22 2017	JK-17-29	579811	5438843	342	265967		Granite	very large exposure of mg massive pink granite. /granodiorite. Few peg veins, one is 40cm wide, no sample, mostly kspar-quartz minor musc. Vein strikes at 260, couldn't get dip
Sept 22 2017	JK-17-30	579556	5438855	340	265967		Granite	10m round mg massive pink granite/granodiorite. Few narrow white feldspar-quartz peg veins. No spd observed
Sept 22 2017	JK-17-31	579384	5438846	337	303078		Granite	very large mg massive granodiorite outcrop with peg patches and veins. One dyke is 0.6m wide, strikes at 260, composed of white-pink kspar-quartz-lesser green musc. There is a fair amount of peg patches and blebs on surface of outcrop and this area should be revisited. I had to leave because i seen a bear and thought i may be near a den.
Sept 21 2017	JK-17-32	577924	5431832		334480		Granite	tonalite/granodiorite, covered with white lichen. Mg, massive, beige to pinkish weathered surface, nonmin and unaltered. Few small subrounded boulders about 1mx.5m in the area show kspar-quartz rich peg veins.

Date	Waypoint	Easting (m)	Northing (m)	Elevation (m)	Cell claim	Sample No.	Lithology	Description
Sept 21 2017	JK-17-33	577827	5431779		334480		Granite	large 20m by 10m outcrop, largely covered by moss and lichen, litho is beige to orange weathered tonalite, mg, massive. Cg quartz vein 5-8cm wide strikes at 200, couldn't get dip. Vein is cut and offset, sinistrally with cm scale displacement, by 4cm aplitic vein striking at 080.
Sept 21 2017	JK-17-34	577771	5431769	357	334480		Granite	tonalite outcrop with ample exposure. Aplitic vein with a white and pinkish hue due to fg garnets, 10cm wide. No mineralization observed in aplite, strikes at 080/40dip.
Sept 30 2017	JK-17-35	578593	5431399		313849	529457	PEG	revisited east dyke where observed spd min. near historic channel sample on the north end of the outcrop. cleaned off more moss and moved tree to increase spd exposure and take pictures and another sample. Sampled a spd peg with mg white kpar-quartz-musc. spd ranges in size from cm-6cm long, makes up around 5% locally. did not observe spd over entire outcrop but is present over 5m, from n end towards s end.
Oct 19 2017	JK-17-36	579643	5431687		166565		Tonalite	tonalite boulder near swamp, 5x4m, mg, semi massive, local cg musc and peg patches.
Oct 19 2017	JK-17-37	579719	5431992		281365		PEG	pegmatite outcrop around 30-35mx5m, white very cg kspar, cg massive quartz and green musc occasionally in "books"
Oct 19 2017	JK-17-38	579657	5432084		281365		Granite	very low lying granodiorite/tonalite outcrop near swamps edge, no peg veining or dykes observed
Oct 20 2017	JK-17-39	579119	5431987		156103		Tonalite	largely moss covered tonalite outcrop, mg and semi massive, outcrop runs N-S roughly 30mx5m width. Localized massive white quartz "blowout", no peg observed

Date	Waypoint	Easting (m)	Northing (m)	Elevation (m)	Cell claim	Sample No.	Lithology	Description
Oct 20 2017	JK-17-40	579120	5432018		156103		PEG	found low lying cg PEG outcrop, 95% covered by several inches of moss, very cg white kspar-quartz>musc. Outcrop runs about 30m in 060 trend and about 3-6m wide.
Oct 20 2017	JK-17-41	579041	5432247	371	138539		PEG	outcrop near the historic grabs by horne and others on the north east dyke. Outcorp covered 99% by matt of moss and lichen and varies from 3-6m but likely much wider under surface. Uncovered pinkish aplite with localized patches of fg green musc rich gives aplite pinkish hue. Localized mg euhedral kspar both pink and white. contact with tonalite is planar and strikes at 010/80.
Oct 20 2017	JK-17-42	579053	5432288	372	138539		PEG	northeast dyke near the horne grabs, very cg spod from 3cm-12cm length, up to 2-3cm wide. Peg dominated by white cg kspar-massive glassy quartz-spod-musc. Spod around 5-15% locally. Spd over the strike length of outcrop is variable in size and frequency while texture of peg stays fairly homogeneous. took a chip sample of spd off the surface of the outcrop, very hard to get a good rep as it is a smooth flat surface. two ends of the outcrop - 579050/5432291 to 579083/5432297 and vary from 3-6m wide but may be larger under surface of moss.
Oct 20 2017	JK-17-43	579053	5432292	370	138539	529459	Spod	actual location of the grab sample, chipped out what we could from surface of spd peg, mostly chips of spd went into the bag.

Date	Waypoint	Easting (m)	Northing (m)	Elevation (m)	Cell claim	Sample No.	Lithology	Description
Oct 20 2017	JK-17-44	579104	5432372	369	138539		tonalite	went to the largest of the north east dykes on jians map with the historic grabs (biggest and most northern). Dominantly tonalite and 90% covered by thick matt of moss. Found small veins of aplite and one in particular hosts a single 1cm spd crystal on end (looking down long axis).
Oct 20 2017	JK-17-45	579104	5432372	369	138539	529460	Spod	very large mega crystic spodumene hosted in small 60-80cm peg dyke within tonalite. Roughly planar habit with some irregular outer contacts. Green spd megacryst is about 30cm long by 8-10cm wide, and seems to have a cluster of very cg spd radiating from it, or clustering around it. identified at least two megacrysts.
Oct 20 2017	JK-17-46	578988	5432328		142510		Tonalite	smaller multi meter tonalite outcrop 100% covered by moss. Found local strong massive milky quartz veins striking roughly N-S
Oct 21 2017	JK-17-47	578573	5432028		311825		PEG	pegmatite boulder on the edge of a swamp, subrounded and about 4m round, peg consists of cg white kspar- massive glassy quartz-lesser musc. No spd observed
Oct 21 2017	JK-17-48	578721	5432028		311825		Tonalite	another tonalite boulder on the edge of a swamp, roughly 3m round and no peg observed, nonmineralized and unaltered
Oct 21 2017	JK-17-49	578797	5432131		311825		Tonalite	large subangular tonalite boulder/subcrop, unaltered and nonmineralized, no veining or spd observed
Oct 21 2017	JK-17-50	579038	5432290	366	138539		PEG	starting to sample and take photos of the far east dyke at the western most edge working east. Cg white kspar-glassy quartz-musc-spd. Spd ranges in size from 0.5-2.5cm and ranges in frequency from 5% to 10%

Date	Waypoint	Easting (m)	Northing (m)	Elevation (m)	Cell claim	Sample No.	Lithology	Description
								locally. In places it seems as though there is almost a tonalite matrix? showing fg granitic texture.
Oct 21 2017	JK-17-51	579051	5432298	367	138539		PEG	quartz feldspar rich feldspar peg, likely white kspar, pinkish aplitic whisps throughout, spod is fg-cg (1-3cm) and makes up about 5-10% of visible outcrop locally. A secong location at the same station just a meter or two away shows coarser grained spd with localized increase in frequency (up to 20%).
Oct 21 2017	JK-17-52	579055	5432295	370	138539	529463	PEG	photo location of very cg 32-2cm spd crystal in northeast dyke PEG, approx location of sample 529463, actual utms of sample - 579053/5432292. took chip sample of spd rich peg
Oct 21 2017	JK-17-53	579065	5432293	367	138539	529461	PEG	quartz rich "core" in peg system, massive milky quartz with spd megacrysts having up to 14cm cross section, various orientations of long axis , many have beige weathered surface with greenish hue, very large blocky pinkish kspar nearby. Spd makes up to 40% of exposed quartz pod, more under the moss but became the moss and roots became hard to remove from outcrop.
Oct 21 2017	JK-17-54	579071	5432296	368	138539		PEG	more spd bearing kspar-quartz-musc peg, may have finer grained strong white albite rich zones, spd makes up about 5-10% locally with some areas having spd up to 10cm length
Oct 21 2017	JK-17-54b	579076	5432294	368	138539	529462	PEG	sampled a quartz-feldspar-musc mg peg from northeast dyke as a representative sample for geochem, no spd observed

Date	Waypoint	Easting (m)	Northing (m)	Elevation (m)	Cell claim	Sample No.	Lithology	Description
Oct 21 2017	JK-17-55	579045	5432290		138539	529464	PEG	sampled from western extent of the northeast dyke, mg kspar-quartz>musc peg with possible trace spd
Oct 21 2017	JK-17-56	579045	5432290		138539	529465	PEG	sampled same area of the northeast dyke as previous taken sample, this sample has up to 5% spd and is taken from the western end of the far east dyke.

Prospecting sheet abbreviations

CG- coarse grained

Musc- muscovite

Grab- grab sample

Diff- different

Mg- medium grained

Litho- lithology

Peg- pegmatite

Fg—fine grained

Plag- plagioclase

Spd- spodumene

Metased- metasedimentary

Nonmin- nonmineralized

Geochem- geochemistry

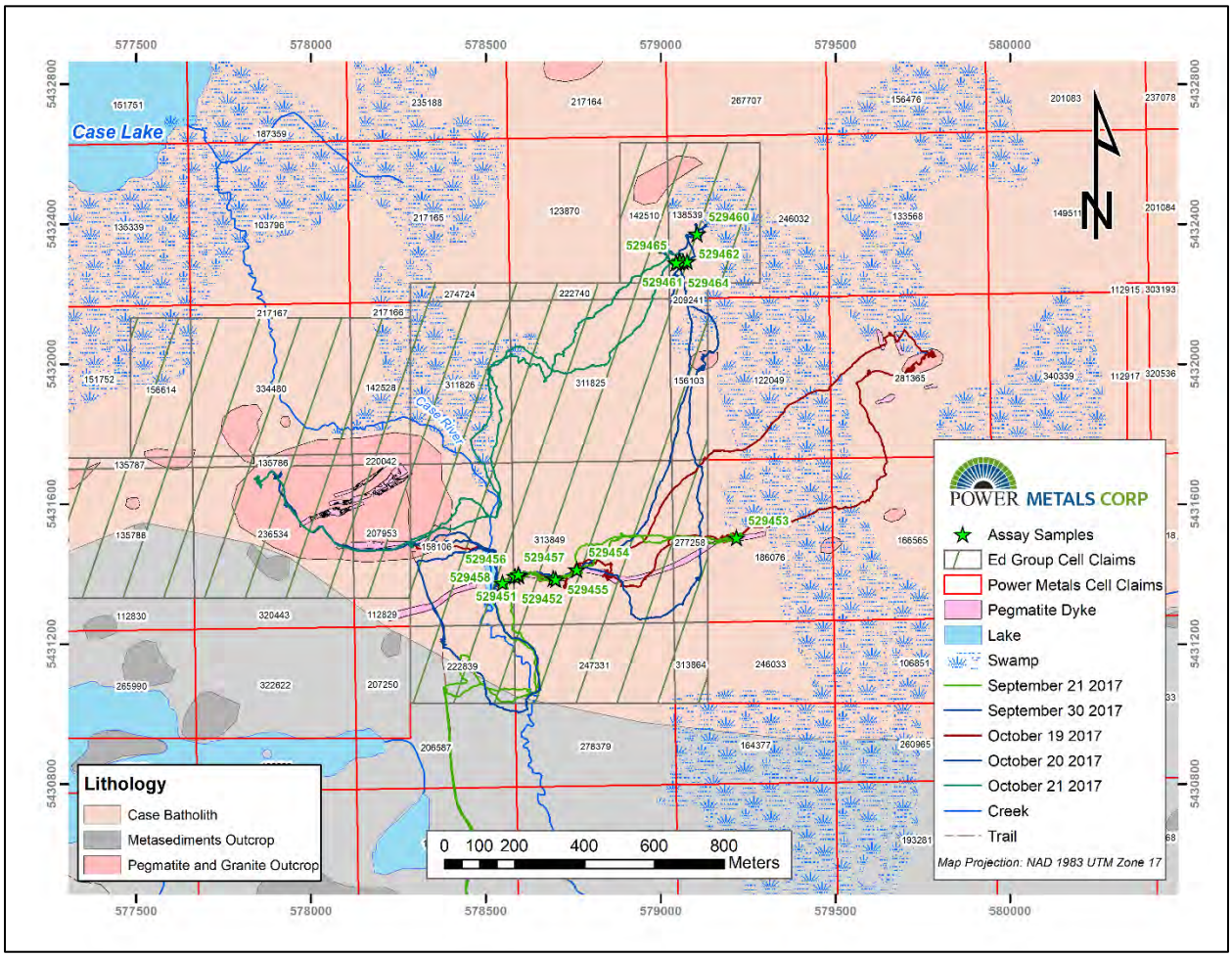

Figure 14-2 Sample locations and GPS tracks from the East Dyke and Northeast Dyke.

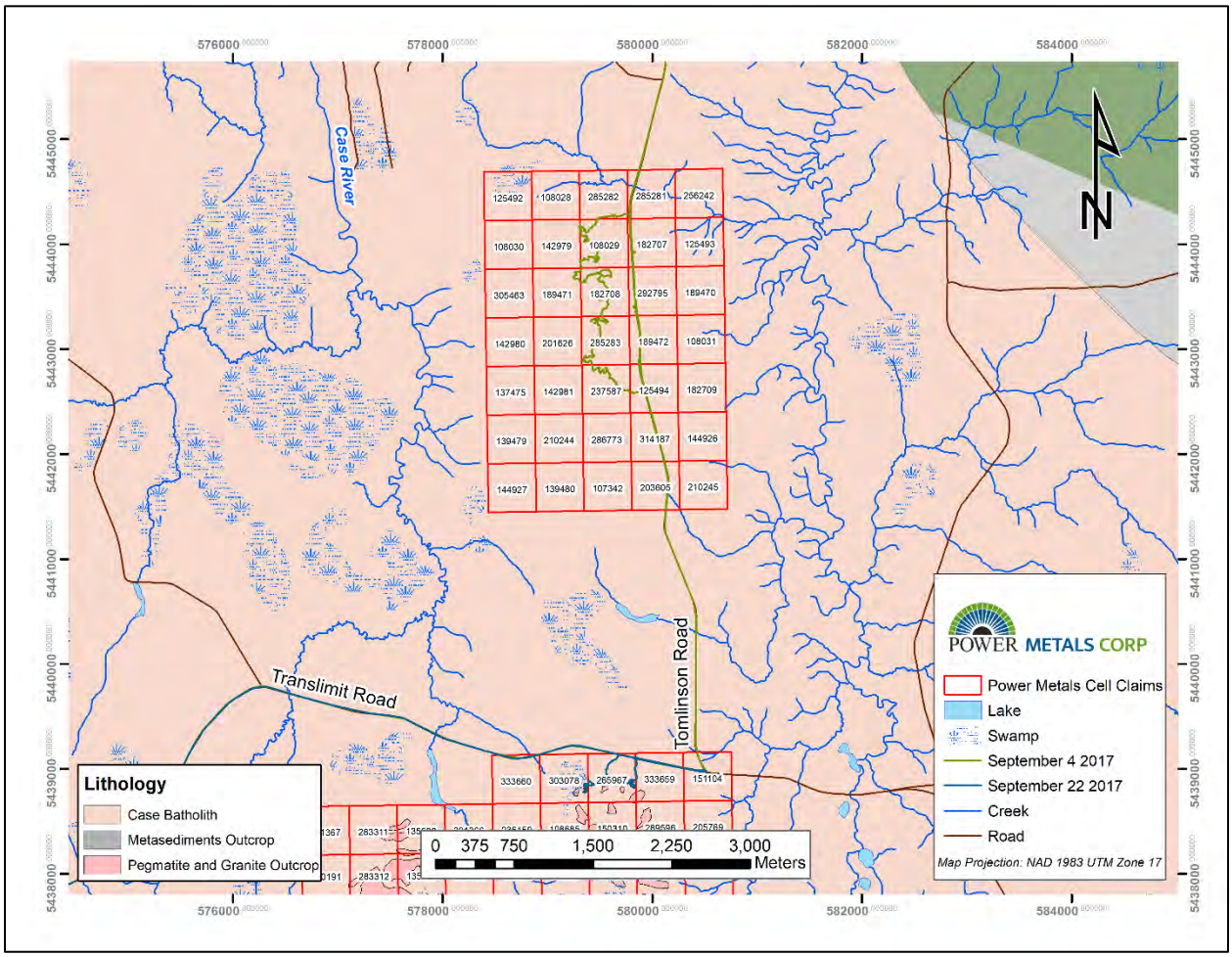

Figure 14-3 GPS tracks for Dome 1 and 7.

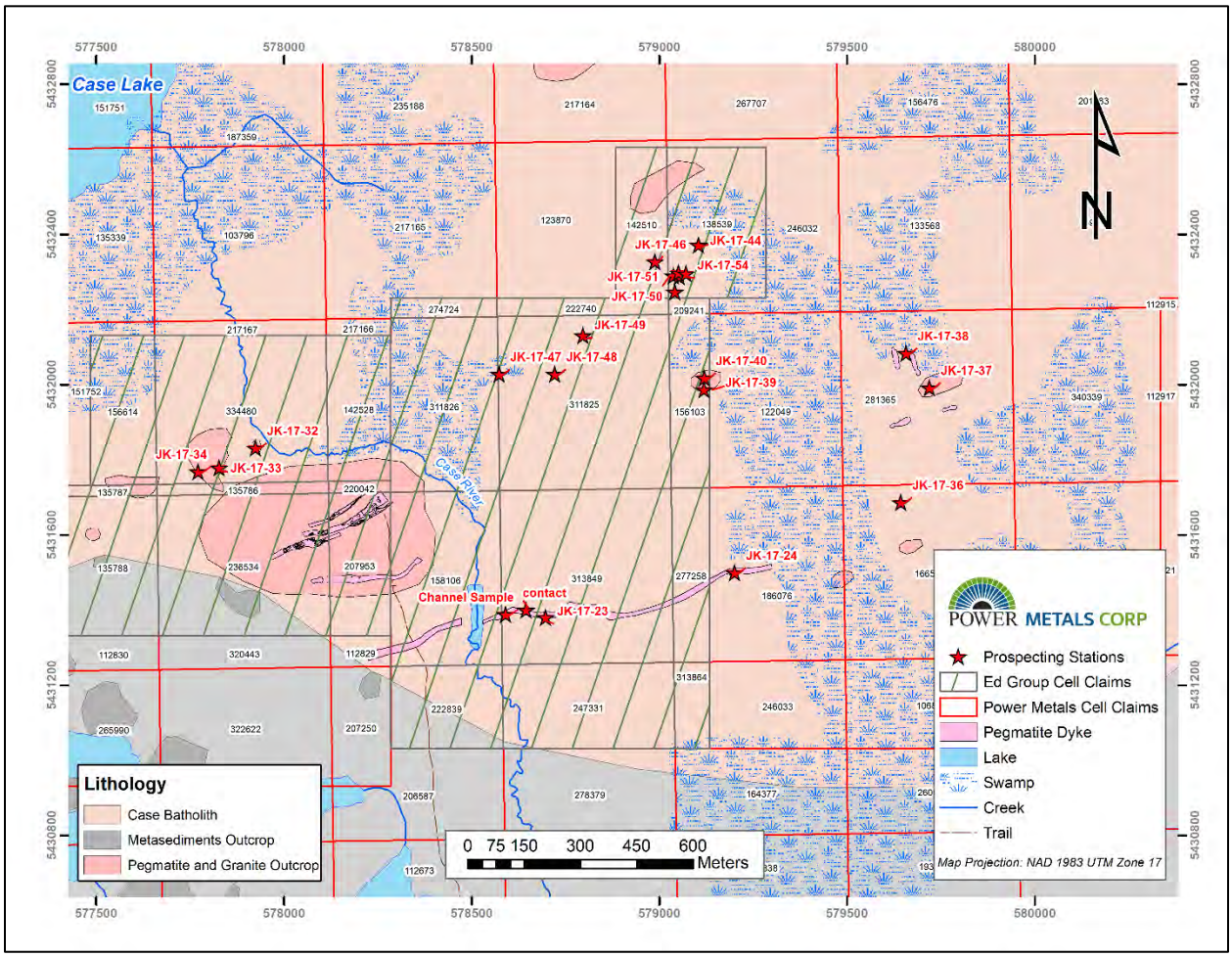

Figure 14-4 Sample stations map for samples described but not assayed, Main Dyke area.

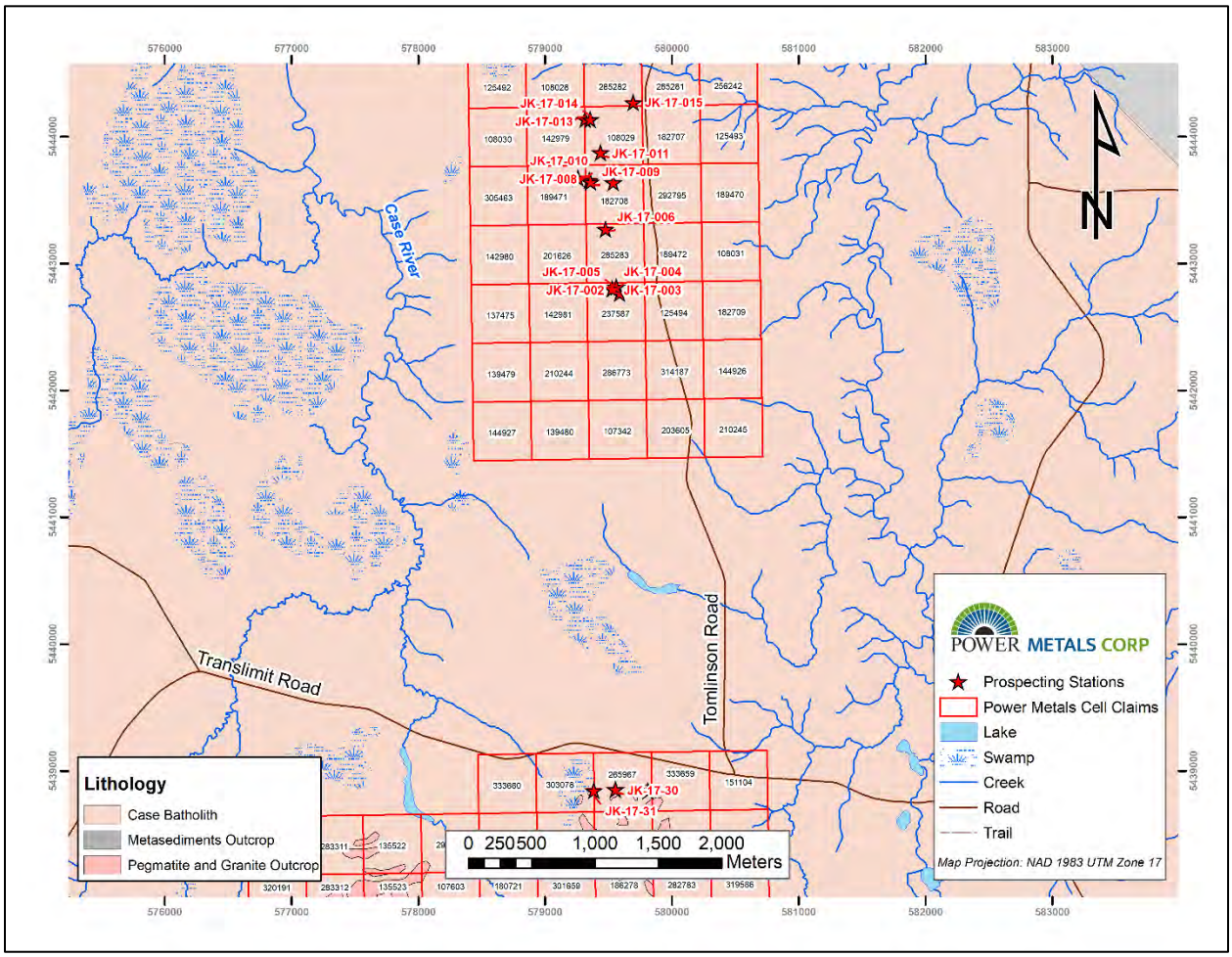

Figure 14-5 Sample stations map for samples described but not assayed, Dome 1 and 7.

Appendix 9 – Grab Sample Assay Certificate

Quality Analysis ... *Innovative Technologies*

Date Submitted: 05-Oct-17
Invoice No.: A17-11003
Invoice Date: 09-Nov-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

8 Rock samples were submitted for analysis.

The following analytical package(s) were requested: Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

REPORT **A17-11003**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
529451	78.85	13.57	0.46	0.053	0.02	0.29	3.94	1.20	0.008	0.01	0.56	98.97	< 1	655	< 5	< 20	< 1	< 20	< 10	< 30	48	5	< 5
529452	72.46	16.38	0.63	0.127	0.03	0.26	6.88	1.74	0.013	0.01	0.84	99.38	< 1	8	< 5	< 20	< 1	< 20	< 10	40	47	4	< 5
529453	73.71	14.23	0.39	0.014	0.02	0.07	2.65	7.96	0.004	0.03	0.46	99.56	< 1	3	< 5	< 20	< 1	< 20	< 10	< 30	27	3	< 5
529454	76.28	14.14	0.76	0.130	0.02	0.22	5.66	1.41	0.008	0.02	0.90	99.55	< 1	96	< 5	< 20	< 1	< 20	< 10	40	44	3	< 5
529455	75.44	14.05	0.67	0.057	0.02	0.18	3.68	4.94	0.013	0.06	0.64	99.77	< 1	5	< 5	20	< 1	< 20	< 10	30	35	3	< 5
529456	74.24	14.60	0.58	0.043	0.02	0.28	5.24	3.22	0.009	0.05	0.58	98.86	< 1	7	< 5	< 20	< 1	< 20	< 10	60	32	3	< 5
529457	74.24	16.81	0.70	0.080	0.02	0.11	1.92	3.33	0.008	< 0.01	0.69	97.91	< 1	134	< 5	< 20	< 1	< 20	< 10	40	64	5	< 5
529458	75.23	14.10	0.48	0.027	0.02	0.09	2.86	6.36	0.007	0.02	0.67	99.87	< 1	16	< 5	20	< 1	< 20	< 10	50	36	3	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2
529451	664	57	< 2	6	101	< 2	< 0.5	< 0.2	19	< 0.5	258	6	0.5	1.5	181	< 1	4.9	7	0.8	2.2	0.48	1.03
529452	512	11	2	17	67	< 2	< 0.5	< 0.2	9	< 0.5	37.7	4	3.5	3.1	36.9	3	2.9	< 5	2.0	1.4	0.02	0.04
529453	1520	21	< 2	< 4	14	< 2	< 0.5	< 0.2	3	< 0.5	58.8	6	2.6	0.3	3.8	< 1	10.4	16	0.5	0.4	< 0.01	0.01
529454	588	14	< 2	16	94	< 2	< 0.5	< 0.2	13	< 0.5	52.2	3	3.8	2.4	53.2	< 1	3.3	5	4.4	4.0	0.02	0.04
529455	1110	17	4	13	56	< 2	< 0.5	< 0.2	7	< 0.5	60.0	4	23.6	1.1	21.1	< 1	7.1	23	3.2	3.2	0.02	0.04
529456	748	15	< 2	< 4	35	2	< 0.5	< 0.2	4	< 0.5	45.0	4	3.5	0.2	14.4	< 1	5.1	13	1.0	1.1	0.01	0.02
529457	1690	57	< 2	< 4	43	< 2	< 0.5	< 0.2	32	< 0.5	240	20	< 0.4	1.0	41.5	< 1	13.1	8	0.4	0.6	1.19	2.56
529458	1500	22	< 2	< 4	45	< 2	< 0.5	< 0.2	7	< 0.5	70.5	6	1.2	0.4	13.6	< 1	10.3	15	2.2	1.3	0.01	0.03

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
NIST 694 Meas	11.12	1.89	0.73	0.010	0.34	42.85	0.85	0.54	0.120	30.20					1605								
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2					1740								
DNC-1 Meas	47.60	18.83	10.18	0.148	9.99	11.59	1.91	0.22	0.499	0.07			32		154	280	55	250	90	70	14		
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			31		148	270	57	247	100	70	15		
GBW 07113 Meas	72.43	12.69	3.19	0.150	0.14	0.59	2.47	5.39	0.280	0.04			5	4	7								
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			5.00	4.00	5.00								
LKSD-3 Meas																	28			150			26
LKSD-3 Cert																	30.0			152			27.0
TDB-1 Meas																260		100	350				
TDB-1 Cert																251		92	323				
W-2a Meas	52.26	15.76	10.71	0.160	6.17	10.99	2.18	0.61	1.080	0.13			35	< 1	261	90	42	70	110	80	18	2	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	
SY-4 Meas	50.09	21.12	6.24	0.110	0.50	8.07	6.90	1.65	0.290	0.12			< 1	3	7								
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			1.1	2.6	8.0								
CTA-AC-1 Meas																			50	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.27	15.17	11.28	0.170	9.49	13.52	1.82	0.02	0.960	0.02			43	< 1	326	370	50	170	120	70	16		
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			44	0.58	310	370	52	170	125	70	16		
NCS DC86312 Meas																							
NCS DC86312 Cert																							
ZW-C Meas																				960	93		
ZW-C Cert																				1050.000	99		
NCS DC70009 (GBW07241) Meas																30	4		870	90	17	10	65
NCS DC70009 (GBW07241) Cert																30	3.7		960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		160				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	45		400				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	43		410				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																< 20	< 1	< 20	< 10	< 30	17	2	17

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
JR-1 Cert																2.83	0.83	1.67	2.68	30.6	16.1	1.88	16.3
NCS DC86304 Meas																							
NCS DC86304 Cert																							
OREAS 922 (Peroxide Fusion) Meas																							
OREAS 922 (Peroxide Fusion) Cert																							
529452 Orig																							
529452 Dup																							
529458 Orig	74.49	14.19	0.48	0.028	0.02	0.09	2.87	6.38	0.007	0.03	0.67	99.24	< 1	16	< 5	20	< 1	< 20	< 10	50	36	3	< 5
529458 Dup	75.98	14.01	0.48	0.027	0.02	0.09	2.85	6.34	0.007	0.01	0.67	100.5	< 1	16	< 5	20	< 1	< 20	< 10	40	36	3	< 5
Method Blank																< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
Method Blank	0.02	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 1	< 1	< 5								
Method Blank																							

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2
NIST 694 Meas																						
NIST 694 Cert																						
DNC-1 Meas		141	17	35						0.9		106										
DNC-1 Cert		144.0	18.0	38						0.96		118										
GBW 07113 Meas		39	45	391								501										
GBW 07113 Cert		43.0	43.0	403								506										
LKSD-3 Meas	75					< 2	2.8				2.1			4.7	0.8				11.2	4.2		
LKSD-3 Cert	78.0					2.00	2.70				2.30			4.80	0.700				11.4	4.60		
TDB-1 Meas	22																		2.8			
TDB-1 Cert	23																		2.7			
W-2a Meas	20	188	19	85		< 2				0.7		169		2.4	0.5		0.1		2.2	0.5		
W-2a Cert	21.0	190	24.0	94.0		0.600				0.790		182		2.60	0.500		0.200		2.40	0.530		
SY-4 Meas		1214	113	539								343										
SY-4 Cert		1191	119	517								340										
CTA-AC-1 Meas														1.2	2.9				22.4	4.0		
CTA-AC-1 Cert														1.13	2.65				21.8	4.4		
BIR-1a Meas		104	15	14						0.5		5										
BIR-1a Cert		110	16	18						0.58		6										
NCS DC86312 Meas																			24.7			
NCS DC86312 Cert																			23.6			
ZW-C Meas	8590				199						269				84.9	312	32.1					
ZW-C Cert	8500				198						260				82	320	34					
NCS DC70009 (GBW07241) Meas	496						1.9	1.3	1640	3.0	38.0					2150	1.7		27.5			
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8		28.3			
OREAS 100a (Fusion) Meas						23													50.7	137		
OREAS 100a (Fusion) Cert						24.1													51.6	135		
OREAS 101a (Fusion) Meas						20													34.0	409		
OREAS 101a (Fusion) Cert						21.9													36.6	422		
OREAS 101b (Fusion) Meas						19													36.2	401		
OREAS 101b (Fusion) Cert						21													37.1	396		
JR-1 Meas	243				15	3		< 0.2	3		20.1		0.6	4.4	1.8		1.5	19	25.0	8.3		
JR-1 Cert	257				15.2	3.25		0.028	2.86		20.8		0.56	4.51	1.86		1.56	19.3	26.7	8.88		
NCS DC86304																					1.08	2.33

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2
Meas																						
NCS DC86304 Cert																					1.06	2.29
OREAS 922 (Peroxide Fusion) Meas																					< 0.01	
OREAS 922 (Peroxide Fusion) Cert																					0.003	
529452 Orig																					0.02	0.04
529452 Dup																					0.02	0.04
529458 Orig	1490	22	< 2	< 4	41	< 2	< 0.5	< 0.2	6	< 0.5	70.2	6	1.2	0.4	13.3	< 1	10.3	15	2.1	1.3		
529458 Dup	1500	21	< 2	< 4	49	3	< 0.5	< 0.2	7	< 0.5	70.8	6	1.1	0.4	13.8	< 1	10.3	15	2.2	1.3		
Method Blank	< 2				< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5		< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1		
Method Blank		< 2	< 2	< 4								< 3										
Method Blank																					< 0.01	< 0.01

Quality Analysis ... *Innovative Technologies*

Date Submitted: 06-Nov-17
Invoice No.: A17-12446
Invoice Date: 08-Dec-17
Your Reference: Case Lake Pegmatite

POWER METALS CORP
Suite 545-999 Canada Place
Vancouver BC V6C 3E1
Canada

ATTN: Johnathon More

CERTIFICATE OF ANALYSIS

7 Rock samples were submitted for analysis.

The following analytical package(s) were requested: Code 4Litho-Pegmatite Special Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

Code 8-Peroxide ICP Sodium Peroxide Fusion ICP

REPORT **A17-12446**

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

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

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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
529459	64.41	25.31	2.03	0.177	0.06	0.04	0.28	0.21	0.018	< 0.01	0.58	93.11	< 1	5	< 5	< 20	< 1	< 20	< 10	< 30	104	2	< 5
529460	62.20	25.41	1.76	0.232	0.02	0.05	0.53	1.18	0.011	< 0.01	0.86	92.24	< 1	3	< 5	< 20	< 1	< 20	< 10	40	135	10	< 5
529461	64.84	24.59	0.77	0.188	0.05	0.03	0.31	1.22	0.021	< 0.01	0.83	92.85	< 1	4	< 5	< 20	< 1	< 20	< 10	< 30	129	10	< 5
529462	72.97	15.54	1.39	0.089	0.19	0.44	5.65	1.69	0.051	0.11	1.11	99.23	< 1	100	11	130	2	< 20	< 10	100	54	2	< 5
529463	66.99	22.84	1.85	0.146	0.05	0.06	0.72	0.51	0.021	< 0.01	0.50	93.68	< 1	173	7	< 20	< 1	< 20	< 10	30	97	4	< 5
529464	74.99	14.82	0.98	0.041	0.14	0.47	6.27	1.09	0.033	0.07	0.71	99.61	1	26	7	130	< 1	< 20	< 10	60	43	< 1	< 5
529465	79.84	11.11	1.11	0.028	0.11	0.27	4.84	0.90	0.028	< 0.01	0.55	98.76	< 1	17	9	210	1	< 20	< 10	60	35	1	< 5

Analyte Symbol	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Lower Limit	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2
529459	72	10	< 2	< 4	15	< 2	< 0.5	< 0.2	109	1.1	105	15	< 0.4	2.5	28.4	2	0.2	29	0.4	0.6	3.32	7.14
529460	1300	51	< 2	< 4	14	< 2	< 0.5	< 0.2	105	1.1	1290	40	< 0.4	1.2	69.6	2	8.7	12	0.3	2.0	3.14	6.75
529461	854	22	< 2	< 4	< 1	< 2	< 0.5	< 0.2	137	< 0.5	380	27	< 0.4	2.5	14.8	44	8.1	7	0.3	0.2	3.15	6.79
529462	1110	112	3	33	78	8	< 0.5	< 0.2	71	< 0.5	252	40	< 0.4	5.4	116	2	7.9	9	7.3	4.2	0.14	0.30
529463	356	17	< 2	< 4	51	< 2	< 0.5	< 0.2	106	< 0.5	456	10	< 0.4	2.2	103	3	3.8	6	0.5	0.9	2.81	6.04
529464	730	128	< 2	15	37	8	< 0.5	< 0.2	41	< 0.5	167	27	< 0.4	2.3	56.3	2	5.1	7	1.6	2.2	0.03	0.07
529465	569	71	< 2	< 4	26	13	< 0.5	< 0.2	31	< 0.5	93.5	50	< 0.4	1.1	41.8	1	4.1	8	1.5	2.8	0.03	0.06

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr
Unit Symbol	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5	2	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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-ICP
NIST 694 Meas	11.38	1.78	0.76	0.010	0.34	42.61	0.87	0.56	0.130	30.22			1605										
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2			1740										
DNC-1 Meas	46.20	17.72	9.71	0.150	9.82	11.31	1.88	0.22	0.470	0.06	31		148	260	54	240	90	70	14				145
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070	31		148	270	57	247	100	70	15				144.0
LKSD-3 Meas															29	40	30	150			28	75	
LKSD-3 Cert															30.0	47.0	35.0	152			27.0	78.0	
TDB-1 Meas														260		100	350	160				22	
TDB-1 Cert														251		92	323	155				23	
W-2a Meas	52.79	15.81	11.05	0.170	6.25	11.21	2.23	0.63	1.070	0.14	36	< 1	271	100	44		110	80	18	2		21	203
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130	36.0	1.30	262	92.0	43.0		110	80.0	17.0	1.00		21.0	190
SY-4 Meas	50.65	20.87	6.27	0.110	0.51	8.24	7.00	1.70	0.300	0.12	1	3	8										1204
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131	1.1	2.6	8.0										1191
CTA-AC-1 Meas																	60						
CTA-AC-1 Cert																	54.0						
BIR-1a Meas	48.27	16.00	11.89	0.170	9.38	13.66	1.81	0.02	0.970	0.03	43	< 1	323	370	50	160	120	70	15				107
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021	44	0.58	310	370	52	170	125	70	16				110
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas														30	4		890	90	16	11	66	532	
NCS DC70009 (GBW07241) Cert														30	3.7		960	100	16.5	11.2	69.9	500	
OREAS 100a (Fusion) Meas															18		160						
OREAS 100a (Fusion) Cert															18.1		169						
OREAS 101a (Fusion) Meas															46		410						
OREAS 101a (Fusion) Cert															48.8		430						
OREAS 101b (Fusion) Meas															45		440						
OREAS 101b (Fusion) Cert															47		420						
JR-1 Meas															1	< 20	< 10	30	16	2	16	248	
JR-1 Cert															0.83	1.67	2.68	30.6	16.1	1.88	16.3	257	
NCS DC86303 Meas																							
NCS DC86303 Cert																							

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr
Unit Symbol	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	1	1	5	20	1	20	10	30	1	1	5	2	2
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	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-ICP
NCS DC86304 Meas																							
NCS DC86304 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
529465 Orig																							
529465 Dup																							
Method Blank	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5	< 2	< 2
Method Blank																							

Analyte Symbol	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Lower Limit	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2
NIST 694 Meas																				
NIST 694 Cert																				
DNC-1 Meas	16	36								110										
DNC-1 Cert	18.0	38								118										
LKSD-3 Meas				< 2			3		2.5			4.5	0.7				11.2	4.6		
LKSD-3 Cert				2.00			3.00		2.30			4.80	0.700				11.4	4.60		
TDB-1 Meas																	2.8			
TDB-1 Cert																	2.7			
W-2a Meas	20	90	8	< 2					0.9	175		2.4	0.5	2		9	2.4	0.6		
W-2a Cert	24.0	94.0	7.90	0.600					0.990	182		2.60	0.500	0.300		9.30	2.40	0.530		
SY-4 Meas	116	525								353										
SY-4 Cert	119	517								340										
CTA-AC-1 Meas													2.7				22.2	4.3		
CTA-AC-1 Cert													2.65				21.8	4.4		
BIR-1a Meas	14	15						0.6		6		0.6				< 5				
BIR-1a Cert	16	18						0.58		6		0.60				3				
NCS DC86312 Meas																	23.6			
NCS DC86312 Cert																	23.6			
NCS DC70009 (GBW07241) Meas					1.2	1.0	1570	3.3	38.1					2140	1.7		29.5			
NCS DC70009 (GBW07241) Cert					1.8	1.3	1700	3.1	41					2200	1.8		28.3			
OREAS 100a (Fusion) Meas				22													54.6	137		
OREAS 100a (Fusion) Cert				24.1													51.6	135		
OREAS 101a (Fusion) Meas				21													36.7	428		
OREAS 101a (Fusion) Cert				21.9													36.6	422		
OREAS 101b (Fusion) Meas				21													39.4	427		
OREAS 101b (Fusion) Cert				21													37.1	396		
JR-1 Meas			15	4		< 0.2	3	1.2	19.4		0.5	4.3	1.7	2		20	28.7	8.7		
JR-1 Cert			15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59		19.3	26.7	8.88		
NCS DC86303 Meas																			0.21	0.45
NCS DC86303 Cert																			0.21	0.460
NCS DC86304																			1.08	2.32

Analyte Symbol	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	Hf	Ta	W	Tl	Pb	Th	U	Li	Li2O
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Lower Limit	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.2	0.1	1	0.1	5	0.1	0.1	0.01	0.01
Method Code	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-Na2O2	FUS-Na2O2
Meas																				
NCS DC86304 Cert																			1.06	2.29
NCS DC86314 Meas																			1.74	3.74
NCS DC86314 Cert																			1.81	3.89
Lithium Tetraborate FX-LT 100 lot#220610B Meas																			8.12	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																			8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																			8.11	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																			8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																			8.15	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																			8	
529465 Orig																			0.03	0.06
529465 Dup																			0.03	0.06
Method Blank	< 2	< 4	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 3	< 0.4	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1		
Method Blank																			< 0.01	< 0.01