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**TECHNICAL REPORT FOR MNDM ASSESSMENT**  
**2017 DIAMOND SPRING AND SUMMER DRILL PROGRAM**

April 5<sup>th</sup> to July 30<sup>th</sup>, 2017

**SEYMOUR LAKE LCT PEGMATITE PROPERTY**

Northwest Region, Thunder Bay North Mining Division  
Armstrong Station, NW Ontario  
Crescent Lake Map Sheet (G-0027)  
NTS 52 I/08 NW (Lamaune)

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**April 4, 2019**

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## EXECUTIVE SUMMARY

The Seymour Lake LCT Pegmatite project (the “Project” or “Property”) was the target of a diamond drill program of 4800 drill holes totalling 5049 metres between April 5<sup>th</sup>, 2017 and July 30<sup>th</sup>, 2017.

The Seymour Lake LCT Pegmatite project is located approximately 230 kilometres north-northeast of Thunder Bay, Ontario, in the Thunder Bay North Mining Division. The unpatented mining claims that constitute the Project are accessed by the all-weather, two-lane, Jackfish Main Haulage Road, 42 kilometres east of Armstrong Station (“Armstrong”), northwestern Ontario. The Project has excellent proximity to existing rail sidings at Ferland Station on the main CN rail line, 9 kilometres south of the Project. As of the date of this Report, the Project covers approximately 165 km<sup>2</sup> (16 508 ha).

The Property is located within the Caribou Lake Greenstone Belt of the Superior Province, which trends east-northeast towards the larger Onamon-Tashota Greenstone Belt. The mining claims are underlain by Willet Assemblage mafic volcanic-dominated rocks, with lesser Marshall Assemblage dacite tuffs and related sedimentary rocks. The eastern part of the Project is underlain by a tonalite pluton, thought to be the parental intrusion to the rare metal pegmatite dikes and sills exposed at the North Aubry, South Aubry, and Pye showings, together, “Seymour Lake”.

The Seymour Lake pegmatites have been classified as belonging to the Complex-type, Spodumene-subtype (Breaks et al., 2003). Mineralization is dominated by spodumene (Li), with lesser beryl (Be), tantalite (Ta), and Rb-bearing potassium feldspar, hosted in a vertically stacked series of gently dipping pegmatite sills. Prior to Ardiden, the Project had been tested by over 4,509 metres of historic diamond drilling from 2002 to early 2016.

Surface exploration and diamond drilling has shown that the lithium mineralization is hosted in extensive outcroppings of spodumene-bearing pegmatite structures (dikes and/or sills) with widths up to 30 metres and grades up to 6.01% Li<sub>2</sub>O. In addition, historic results show tantalum and beryllium grades up to 5.64 wt% Ta<sub>2</sub>O<sub>5</sub> and 0.289 wt% BeO (Dimmell and Morgan, 2005).

The 2017 spring and summer exploration drill program successfully continued to intersect spodumene bearing pegmatite and provide valuable information about the grade and orientation of the pegmatite in the Aubry North zone.

## **INTRODUCTION**

Caracle Creek International Consulting Inc. ("Caracle Creek") of Sudbury, Ontario, Canada was contracted by Ardiden Limited ("Ardiden") of Subiaco, WA, Australia, to manage a diamond drilling program at the Seymour Lake Property (the "Property" or "Project"), Armstrong, northwestern Ontario, Canada. The Property contains spodumene pegmatite mineralization (LCT Pegmatites) at the North Aubry, South Aubry and Pye pegmatite occurrences.

Fladgate Exploration Consulting Corporation was contracted to draft this report summarizing the results of the 2017 spring and summer diamond drill program.

The diamond drill program commenced on April 5<sup>th</sup> 2017 and was completed on July 30<sup>th</sup>, 2017. A total of 40 diamond drillholes and 4800 metres were drilled, logged and selectively sampled.

This Report incorporates the results from the diamond drill program and excerpts from previous reports written about exploration on the property (Selway, 2016, Jobin-Bevans 2018).

## **TERMS OF REFERENCE**

This Report was prepared at the request of Ardiden Limited for the purpose of filing assessment work as required under the Ontario Mining Act.

## **DISCLAIMER**

This Report is based on information from Ardiden's previous work on the Property, as well as publicly available assessment reports, general geological reports and maps, and private reports as listed in "References".

## **PROPERTY LOCATION AND DESCRIPTION**

The Seymour Lake Project is located approximately 230 kilometres north-northeast of Thunder Bay, Ontario, and 59 km northeast of Armstrong, Ontario, in the Thunder Bay North Mining Division (Figure 1). Thunder Bay is a city with a population of approximately 125,000, located 925 kilometres northwest of Toronto, Ontario. The Property is centered at approximately 403482mE, 5581291mN, (NAD83 Zone 16 North) with geographic coordinates at approximately 88° 21' 26" E and 50° 22' 32" N. The Project lies within the Crescent Lake Area Map Sheet area (G-0027) and NTS 52 I/08 NW (Lamaune). All coordinates are in NAD83 Zone 16 North unless otherwise stated.

The unpatented mining claims that constitute the Project are accessed by the all-weather, two-lane, Jackfish Main Haulage Road, 42 kilometres east of Armstrong Station ("Armstrong"), northwestern Ontario. The Project has excellent proximity to existing rail sidings at Ferland Station on the main CN rail line, 9 kilometres south of the Project.



**Figure 1 - Regional Location Map**

As of the date of this Report, the Project covers approximately 165 km<sup>2</sup> (16 508 ha) and under the newly introduced (April 10<sup>th</sup>, 2018) Mining Lands Administration System (“MLAS”), the Property consists of 826 boundary and standard mining claim cells (Figure 2). The claims are registered 100% in the name of Ardiden Limited and require \$307,000 per year in mineral exploration assessment work to keep the claims current.

**Ontario Mining Lands Administration System**

On April 10, 2018, Ontario converted its manual system of ground and paper staking and

maintaining unpatented mining claims to an online system. All active, unpatented claims were converted from their legally defined location by claim posts on the ground or by township survey to a cell-based provincial grid. Mining claims are now legally defined by their cell position on the grid and coordinate location in the MLAS Map Viewer (<https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/mlas-map-viewer>).

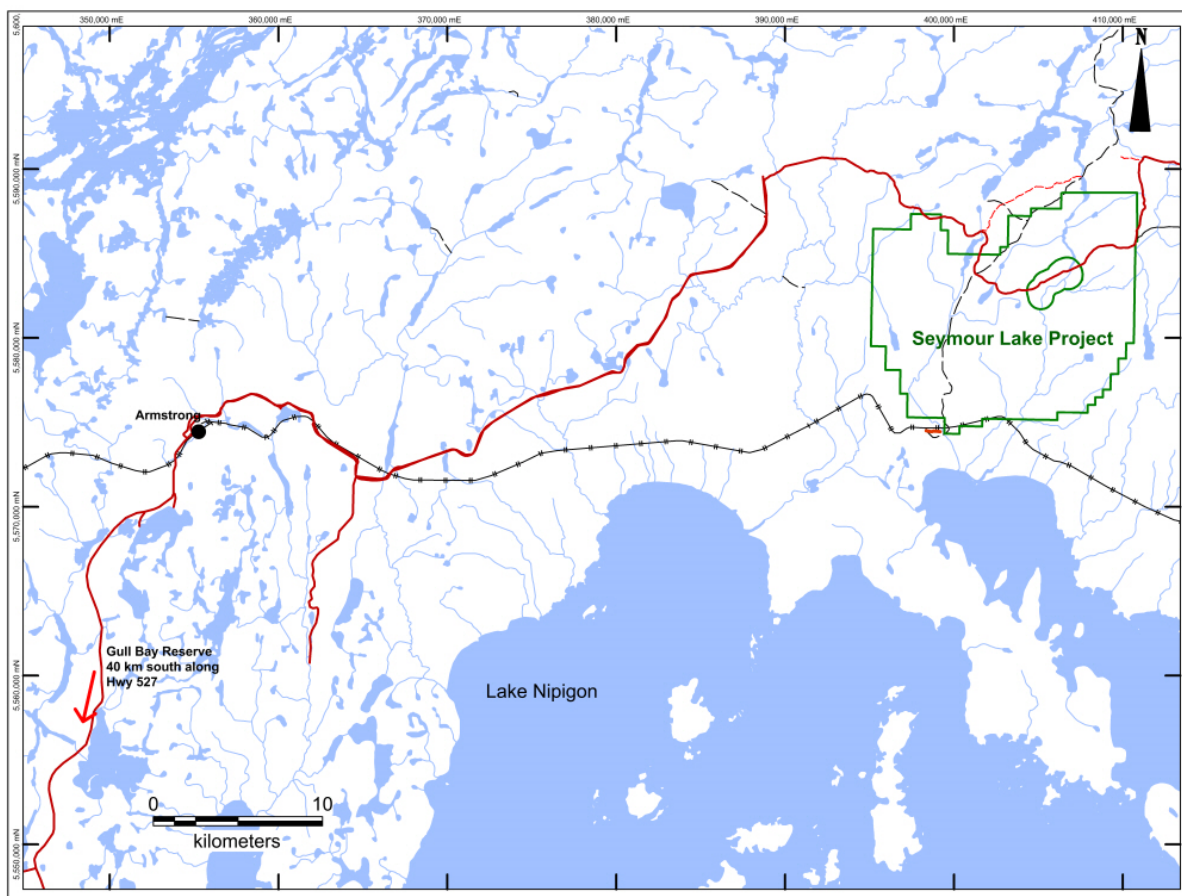
In the new MLAS system, registering a mining claim is now completed by paying a single registration fee of \$50 per cell. Assessment work requirements are \$400 per cell claim and \$200 per boundary claim or any claim that is encumbered. Unlike some other jurisdictions, the MLAS does not introduce any other requirement such as an annual claim renewal fee, or a graduated system for fees and assessment work.

### **ACCESSIBILITY, LOCAL RESOURCES AND INFRASTRUCTURE**

The Seymour Lake Property is located between kilometre 57 to kilometre 60 of the all-weather, two-lane, Jackfish Main Haulage Road, 42 kilometres east of Armstrong Station, northwestern Ontario. The Project has excellent access via the Jackfish road, as well as proximity to existing rail sidings at Ferland Station on the main CN rail line, just 9 kilometres south of the Project,.

The Jackfish road has been well maintained and is also used by Landore Resources to access their Junior Lake project, providing easily drivable access to the north margin of the Property from Armstrong. The Armstrong Ontario Ministry of Natural Resources (“MNR”) airfield, with two paved runways (ex-Canadian Forces Station), is located at kilometre 13, east of Armstrong. The closest international airport with daily service is located at Thunder Bay approximately a three hour drive to the south via Highway 527.





**Figure 2 - Regional Location and Access**

The town of Armstrong Station and the Whitesand First Nation have a combined population of less than 1,000 residents. Various services available at Armstrong include a general store, fuel, nursing station, post office, and temporary accommodations. The Thunder Bay Region and northwest Ontario in general, have a long mining history, with mining suppliers and contractors regionally available for materials that are not available in Armstrong.

## **CLIMATE AND PHYSIOGRAPHY**

The Property lies within the Lake Nipigon Eco-region of the Boreal Shield Eco-zone and is marked by warm summers and cold, snowy winters. The mean annual temperature is approximately 1.5°C. The mean summer temperature is 14°C and the mean winter temperature is -13°C.

General topography in the area is characterized by gently rolling hills, with intervening swampy areas. Total relief is <50 metres with a mean elevation in the western area of 360 metres above sea level. The exceptions to this are occasional mesa-like hills that stand out in the general area around the north end of Lake Nipigon, created by caps of Proterozoic diabase sills. Specifically, in the western area, the topography is dominated by a large rugged NNE-trending elongate hill which stands at a height of approximately 100 metres above the low swampy ground to the west. The Aubry showings are exposed at surface along the west face of the hill. The area was completely glaciated and is now covered by tills and sands generally less than five metres thick.

The Project area lies 12 kilometres south of a regional drainage divide between Hudson Bay and the Great Lakes. The area is characterized by dense stands of jack pine, spruce, and white birch, with the pine and spruce having seen heavy logging, and sections of the property has been cut over.

**GEOLOGICAL SETTING**

***Regional Geology***

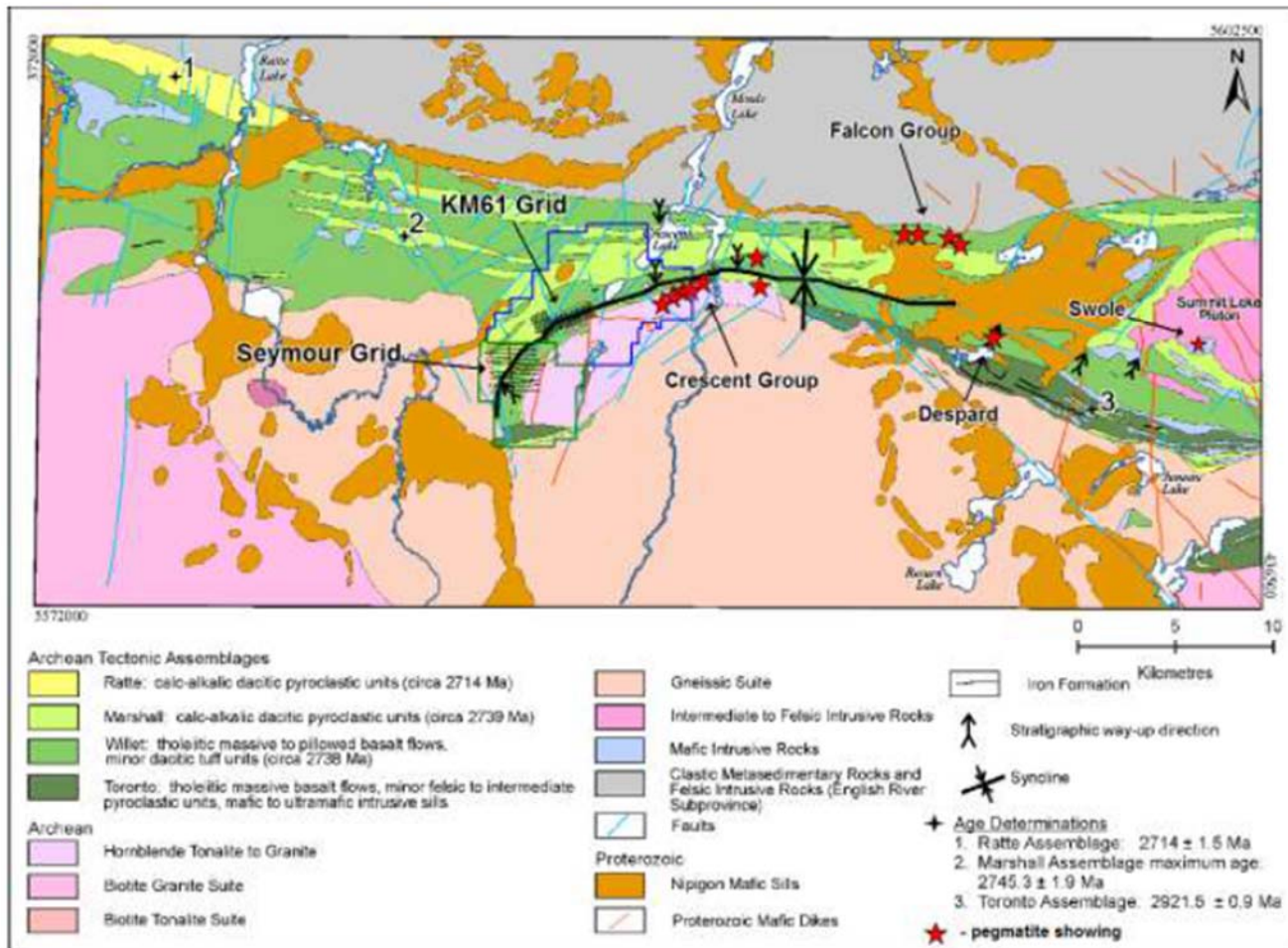
The Seymour Lake Property occurs within the Superior Province, proximal to the subprovincial boundary between the English River (north) and Wabigoon (south) subprovinces (Figure 4). Specifically, the Property is located within the Caribou Lake Greenstone Belt which trends east-northeast along the north shore of Lake Nipigon, extending eastward to the Onamon-Tashota Greenstone Belt.



Figure 3 - Regional geology of the western Superior Province with distribution of the subprovinces (modified from Galeschuk and Vanstone, 2007). Approximate location of the Seymour Lake property is indicated by the red star

**Property Geology**

Ontario government mapping shows the western part of the Property is underlain by mostly Willet Assemblage mafic volcanic-dominated rocks, with lesser units of Toronto Assemblage mafic volcanics, and minor Marshall Assemblage dacite tuffs and related sediments (Figure 5). The eastern part of the Property is underlain by a tonalite to granite to granodiorite pluton, thought to be the parental intrusion to the rare metal pegmatite dikes and sills exposed at the North and South Aubry showings. All Assemblages have been crosscut by felsic to mafic dikes of various ages and rock types, including the aforementioned pegmatite sills and dikes. The most volumetrically significant post-mineralization intrusive rocks are Proterozoic Nipigon mafic sills, which form the caps of the prominent “mesa-like” hills in the Lake Nipigon area.



**Figure 4 - Simplified Regional Geology, Seymour Lake Area (from Rees, 2011)**

Pegmatites on the Property consist of spodumene-subtype North Aubry and South Aubry pegmatites hosted by mafic metavolcanic rocks and the spodumene-subtype Pye pegmatite is hosted by biotite granite gneiss. Pegmatites on the Property (North and South Aubry) have been described as ranking among the most highly fractionated, tantalum-bearing, granitic pegmatites yet documented in Ontario (Dimmell and Morgan, 2005). The pegmatites occur as an undulating system of stacked pegmatite sheets that dip moderately to steeply eastward over several kilometres strike length.

The northwest area of the Seymour grid is mainly underlain by a sequence of greywackes with lessor bedded tuffs and minor massive mafic to felsic volcanic of the Marshall Assemblage (Figure 5). The remainder of the grid area is underlain by mafic volcanics (massive and pillowed with areas of high

grade amphibolite) of the Willett Assemblage. Dikes and sills of pegmatite, gabbro, tonalite and quartz or feldspar porphyry cross cut all supracrustal rocks. West of the main Aubry showings, a prominent gabbro dike intrudes in a northeast direction, and is cut by pegmatite, indicating that the gabbro pre-dates the main plutonic event. The mafic volcanic rocks are flanked to the east by a granite to granodiorite pluton, which in the grid area is medium grained and relatively massive with up to 15% black biotite. Inclusions of a fine to medium grained, orangey granite were found near the contact and in the vicinity of the showings but it is not clear whether this a separate pulse of magma or due to later alteration or oxidation. This pluton may be the fertile parent associated with pegmatite emplacement.

In outcrop and trench exposures, the pegmatites are of two general varieties: (1) dominantly white, composed of k-spar, lesser albite, quartz and muscovite and is medium- to very coarse-grained (megacrystic), and (2) orange-red variety, medium- to very coarse-grained with k-spar and lesser quartz and muscovite. Both pegmatite varieties can contain spodumene, beryl and tantalite with more secondary hematite alteration noted in the orange variety, which likely imparts its distinct colouration. The bulk of the pegmatites occur as horizontal sills which are often connected by a lesser volume of vertical dikes.

The mafic volcanic rocks are cross cut by at least two generations of shears and/or faults. The main shears dip sub-vertically, and trend north, northeast and east. A prominent set of sub-horizontal step-faults are exposed on a few steep-sided outcrops, and these appear to form the main locus of pegmatite emplacement, especially in proximity to the shears, which also host thin pegmatite dikes. The general broad antiformal-synform structure of the pegmatites may be due to dip undulations in the step-faults, or possibility to post-pegmatite folding.

The most prominent alteration found in the mafic volcanic rocks is epidote-calcite-quartz, usually associated with pillowed units which show some degree of strain. These zones may also be cut by feldspar stringers, which may indicate proximity to a pegmatite body. When in very close proximity to a pegmatite, the altered zones may also host holmquistite (lithium-bearing amphibole).

## **DEPOSIT TYPES**

### ***Rare-element Pegmatites (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 pre-existing 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, 1991).

Rare-element pegmatites derived from a fertile granite intrusion are typically distributed over a 10 to 20 km<sup>2</sup> area within 10 km of the fertile granite (Breaks et al., 2006). 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<sub>2</sub>O, Li, F, BO<sub>3</sub>, and PO<sub>4</sub>) from such a pluton can then migrate into the host rock and crystallize pegmatite dykes (Figure 6). 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 et al., 2003) and Manitoba (Černý et al., 1991, 1998) (Selway et al., 2005):

1. *Sub-provincial Boundaries*: The pegmatites tend to occur along sub-provincial 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 sub-provincial 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. *Lithium 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. *Cesium 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.

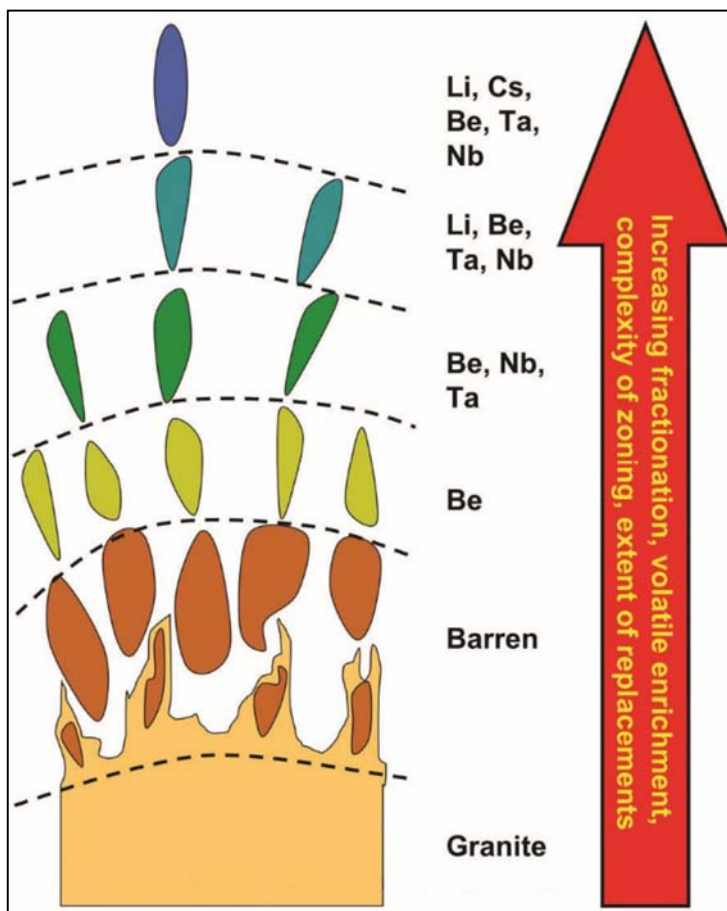


Figure 5 - Chemical evolution of lithium-rich pegmatites as a function of distance from the fertile granitic source (London, 2008)

**Seymour Lake Pegmatites**

The Seymour Lake area LCT Pegmatites (North and South Aubry zones) have been classified as belonging to the Complex-type, Spodumene-subtype (Breaks et. al., 2003). Pegmatite bodies of this type, if large enough, are known to contain variously recoverable quantities of lithium (Li), beryllium (Be), tantalum (Ta), rubidium (Rb), cesium (Cs), gallium (Ga) and tin (Sn). These “rare-metals” are generally concentrated in specific mineral species such as spodumene (Li), beryl (Be), tantalite (Ta), pollucite (Cs) or even potassium feldspar (Rb).

There are numerous examples of these types of pegmatites world-wide, with at least two currently being exploited: at Greenbushes in Australia (Li-Ta-Sn) and at Bernic Lake (TANCO), Manitoba (Li-Ta-Be-Rb-Cs). In Canada (Quebec), industry leader Nemaska Lithium, is developing one of the most important spodumene lithium hard rock deposit in the world, both in volume and grade.

Lithium grades are controlled not only by the abundance of spodumene in the pegmatite, but also by the mineral’s purity (i.e., lack of other cation “contaminants” such as iron).

## MINERALIZATION

Mineralization at the North Aubry zone is dominated by spodumene (Li), with lesser beryl (Be), tantalite (Ta), and Rb-bearing potassium feldspar, hosted in a vertically stacked series of gently east-dipping, shallowly north-plunging pegmatite sills. At this time, The Seymour Lake pegmatites have been classified as belonging to the Complex-type, Spodumene-subtype. Mineralization is dominated by spodumene (Li), with lesser beryl (Be), tantalite (Ta), and Rb-bearing potassium feldspar, hosted in a vertically stacked series of gently dipping pegmatite sills.

The Project has over 4,000 metres of historic drilling from 2002 and 2009. Recent exploration and drilling (2016) has found that the lithium mineralization is hosted in extensive outcropping spodumene-bearing pegmatite structures with widths up to 30 metres and grades of up to 6.01% Li<sub>2</sub>O. In addition, historic results show tantalum and beryllium grades of up to 1,180 ppm (Ta<sub>2</sub>O<sub>5</sub>) and 1,270ppm (BeO) respectively were intersected (Dimmell and Morgan, 2005).

Although up to seven different mineralogical sub-zones of the pegmatites have been described in detail (Dimmell and Morgan, 2005), drilling has shown that the sills can be considered as broadly zoned with a spodumene-quartz-albite bearing core and potassium feldspar rich edges. Spodumene crystals vary from 10 centimetres in length to as much as 3 to 4 metres. Beryl crystals occur throughout the width of the pegmatite, often in very large pale green crystals as much as 0.4 m in diameter. Tantalite occurs as fine to coarse crystals (up to 2 cm in diameter), generally irregularly distributed along strike (local pockets may contain as much as 50% tantalite, i.e. “nuggety”), but concentrated near the albite-potassium feldspar transition.

## EXPLORATION HISTORY ON THE PROPERTY

Since the discovery of the “Aubry Pegmatites” in the 1950s, exploration work has identified significant concentrations of Ta, Be, and Li within the LCT Pegmatite dikes (e.g., Dimmell and Morgan, 2005). The exploration history is summarized as follows:

- 1957: Discovery of the Aubry Pegmatites by prospector Nelson Aubry (Nakina, Ontario).
- 1957: Anaconda Company (Canada) Limited – optioned from Aubry; mapping, sampling, diamond drilling (11 holes, 398m on North Aubry/4 holes, 100m on South Aubry). Drill core assayed for Li and Be.
- 1959-62: E.G. Pye (Ontario Department of Mines) mapped the area and described lithium occurrences in the area in addition to the Aubry pegmatites (Pye, 1968).
- 1969-70: Tantalum Corporation of Canada (Tanco) – ACA Howe International Ltd. completed geological mapping, geophysics, stripping, and chip sampling (110 samples) on North Aubry.
- 1979: E&B Explorations Inc. and Cominco Ltd. – line cutting and ground magnetic surveys.
- 1999: Clark Exploration (Garry Clark) – grab sampling (Clark and Maitland, 2000).
- 2000-02: Linear Resources Inc. – gridding, prospecting, geological mapping, soil and Lithochemical sampling, trenching, channel sampling, and diamond drilling (1,866m in 32 holes).
- 2005: Dimmell and Morgan (2005) publish summary paper in Exploration and Mining Geology.

2008-09: Linear Resources Inc. – geological mapping, soil (640 enzyme leach samples; 200m lines/50m stations) and rock sampling, and diamond drilling (2,362m in 19 holes; North (12) and South (7)).

2016: Benton Resources: diamond drilling (281m in 6 holes; February-March).

2016: Ardiden Limited: surface exploration (mapping, channel sampling; July-November).

2016: Ardiden Limited: diamond drilling (1728m in 27 holes; October-December)

## CURRENT EXPLORATION PROGRAM

The Seymour Lake Property contains spodumene pegmatite mineralization at the North Aubry, South Aubry and Pye pegmatites. The focus of this program was on the northwestern-western area of the Property, specifically the North and South Aubry pegmatites where drilling targeted further definition of the orientation, strike and depth of the known spodumene bearing pegmatites. A summary of the personnel involved in the exploration program is provided in Table 1.

**Table 1- Personnel**

Julie Selway	Program Manager Geologist QP
Dan Courtney	Site Supervisor Geologist
Gary McLearn	Core Logger Geologist

### ***Diamond Drilling***

Between April 5<sup>th</sup>, 2017 and July 30<sup>th</sup>, 2017 a diamond drilling program was completed targeting the North and South Aubry pegmatites. During this time 27 drill holes totalling 1728 metres were drilled. Drilling was completed by Rugged Aviation Inc. out of Murillo, Ontario. The drill was mobilized to the property on April 5<sup>th</sup> and drilling commenced on April 6<sup>th</sup> and was completed on July 16<sup>th</sup>. A complete list of drillholes can be found in Table 2. Core logging and cutting was completed by geological staff from Caracle Creek International Consulting out of Sudbury.

**Table 2 - Diamond Drill Hole Locations**

Drillhole ID	Easting (NAD83)	Northing (NAD83)	Elevation	Depth (m)	Azimuth	Dip	Zone
SL-17-01	396922	5585202	387.463	111	91.97	-59.4	North Aubry
SL-17-02	396916	5585182	385.764	110	85.97	-59.3	North Aubry
SL-17-03	396914	5585165	383.602	111	87.37	-60.2	North Aubry
SL-17-04	396917	5585141	381.772	111	89.97	-59.1	North Aubry
SL-17-05	396913	5585107	382.206	131	93.77	-61.2	North Aubry
SL-17-06	396915	5585094	380.946	111	98.87	-59.4	North Aubry
SL-17-07	396886	5585103	376.239	19	86.07	-60	North Aubry
SL-17-08	396886	5585088	376.811	111	95.77	-59.8	North Aubry
SL-17-10	396885	5585142	376.409	108	83.37	-59.1	North Aubry
SL-17-11	396885	5585165	377.791	107	88.77	-60.2	North Aubry
SL-17-12	396884	5585185	377.352	110	93.47	-60.7	North Aubry
SL-17-13	396887	5585208	376.653	121	88.07	-61	North Aubry
SL-17-14	396954	5585206	393.541	118	202.87	-58.5	North Aubry
SL-17-16	396992	5585187	395.819	120	204.77	-59.3	North Aubry
SL-17-19	396976	5585224	395.054	132	209.37	-59.1	North Aubry



Drillhole ID	Easting (NAD83)	Northing (NAD83)	Elevation	Depth (m)	Azimuth	Dip	Zone
SL-17-21	397019	5585211	392.149	144	198.67	-59.3	North Aubry
SL-17-22	396938	5585225	386.785	123	152.97	-57.7	North Aubry
SL-17-23	396922	5585245	384.592	114	138.77	-59.6	North Aubry
SL-17-24	396897	5585275	375.604	140	141.87	-59.9	North Aubry
SL-17-33	397010	5585237	394.41	111	203.57	-59.9	North Aubry
SL-17-35	396974	5585260	390.877	111	204.37	-57.9	North Aubry
SL-17-36	397040	5585259	383.008	144	199.37	-61	North Aubry
SL-17-37	397008	5585267	388.828	140	210.87	-60.2	North Aubry
SL-17-39	396979	5585279	387.907	153	207.37	-60.5	North Aubry
SL-17-40	397032	5585190	393.936	126	197.07	-60.8	North Aubry
SL-17-41	397059	5585196	384.109	126	208.87	-62.2	North Aubry
SL-17-42	397076	5585179	381.724	123	219.17	-61.1	North Aubry
SL-17-43	397047	5585219	389.438	125	203.17	-60.4	North Aubry
SL-17-44	397080	5585209	381.709	126	201.87	-60.3	North Aubry
SL-17-45	397105	5585214	382.452	125	196.77	-59.4	North Aubry
SL-17-46	397122	5585216	385.092	117	201.67	-58.4	North Aubry
SL-17-47	397097	5585186	381.399	126	200.07	-60.6	North Aubry
SL-17-48	397119	5585184	386.46	114	194.37	-59.8	North Aubry
SL-17-49	397137	5585196	389.619	120	200.67	-58.4	North Aubry
SL-17-50	397128	5585167	386.18	114	198.27	-60.8	North Aubry
SL-17-51	397153	5585176	392.663	123	200.17	-58.1	North Aubry
SL-17-53	397091	5585230	384.889	114	207.37	-59.1	North Aubry
SL-17-56	397115	5585241	385.626	124	202.57	-60.8	North Aubry
SL-17-57	397133	5585230	387.815	120	191.47	-61.5	North Aubry
SL-17-58	397148	5585215	389.337	126	204.47	-59.6	North Aubry

## QUALITY ASSURANCE/ QUALITY CONTROL PROGRAM

A Quality Assurance/ Quality Control (QA/QC) program was designed, implemented, managed and reported on by Selway (2016). Further analysis was performed by Fladgate Exploration for this report.

As part of quality control, every 20 samples included one blank, one Li standard and one field duplicate. The blank was ½ inch mesh coarse silica purchased from Analytical Solutions Ltd., Toronto, Ontario. A total of 53 blanks were inserted into the sample stream. The blanks are silica-rich with typically about 97% SiO<sub>2</sub>. The field duplicates were cut from drill core by cutting ¼ of the drill core.

The Li standard was purchased from Brammer Standard Company Inc., Houston, Texas, United States. The Li standard was CGL 128 created by Mongolia Central Geological Laboratory. A total of 52 Li standards were inserted into the sample stream. The Li standard has a certified value of 0.578% Li<sub>2</sub>O and a 95% confidence level of 0.015% Li<sub>2</sub>O. The starting material for the Li standard was a bulk of lithium ore from the Wolfram lithium deposit located at Arbyan area in Mongolia.

Just over 20% of the standards fell outside the 3 standard deviation range of the certified reference material (12 out of 52). Four samples were above 3 standard deviations, while eight were much

lower than 3 standard deviations. This latter grouping of 8 standards were all within one laboratory job (A17-04429), and these samples and standards should be re-tested in the future. The fact that the standard failed low, however, means that there is a low bias of  $\text{Li}_2\text{O}$  reported in the affected drill holes (17-11, -12, -13, -23, and -24). The low bias corresponds to between 5 and 22% of the CRM value. All samples bracketed by these standard analyses therefore could return higher values by up to 20% if retested.

All blank samples returned less than detection  $\text{Li}_2\text{O}$ . Duplicate analyses returned satisfactory results, as most of the assay pairs correlated well with each other. A line of best fit forced through the origin revealed a slope of 0.99 and an  $R^2$  value of 95%.

### **Sample Processing**

Drill core was cut on site using a saw with a diamond blade. Drill core was sawn in half, one half was placed in a standard clear 6 mil poly bag. Samples were then placed in rice bags for transportation with approximately ten samples per rice bag. Samples were delivered by Caracle Creek's geology team to Actlabs preparation lab in Thunder Bay. The samples were prepared in Thunder Bay preparation lab and then analyzed in Actlabs' analytical lab, located in Ancaster, Ontario.

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. Both Actlabs' preparation lab in Thunder Bay and its analytical lab in Ancaster have 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).

Ore grade lithium samples were analyzed by FUS- $\text{Na}_2\text{O}_2$  (8-peroxide ICP-Li) analytical code which is sodium peroxide fusion with analysis by ICP-OES and a detection limit of 0.01%  $\text{Li}_2\text{O}$ . 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 were 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 10<sup>th</sup> sample by RX17-GP analytical code which is a measurement on the pulp by a gas pycnometer.

Actlabs inserted internal standards, blanks and pulp duplicates within each sample batch as part of their own internal monitoring of quality control. They used the following lithium standards: NCS DC86303 with a certified value of 0.46%  $\text{Li}_2\text{O}$ , NCS DC86304 with a certified value of 2.29%  $\text{Li}_2\text{O}$  and NCS DC86314 with a certified value of 3.89%  $\text{Li}_2\text{O}$ .

The Qualified Person believes that the nature, quality and appropriateness of the assaying and laboratory procedures were acceptable and appropriate for the analysis of spodumene pegmatites. Fusion digestion method was used for “total” digestion of the silicate samples.

### **Verification of Sampling and Assaying**

A Quality Assurance/ Quality Control (QA/QC) program was designed, implemented, managed and reported on by Selway (2016). Further analysis was performed by Fladgate Exploration for this report.

As part of quality control, every 20 samples included one blank, one Li standard and one field duplicate. The blank was ½ inch mesh coarse silica purchased from Analytical Solutions Ltd., Toronto, Ontario. A total of 53 blanks were inserted into the sample stream. The blanks are silica-rich with typically about 97% SiO<sub>2</sub>. The field duplicates were cut from drill core by cutting ¼ of the drill core.

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Just over 20% of the standards fell outside the 3 standard deviation range of the certified reference material (12 out of 52). Four samples were above 3 standard deviations, while eight were much lower than 3 standard deviations. This latter grouping of 8 standards were all within one laboratory job (A17-04429), and these samples and standards should be re-tested in the future. The fact that the standard failed low, however, means that there is a low bias of Li<sub>2</sub>O reported in the affected drill holes (17-11, -12, -13, -23, and -24). The low bias corresponds to between 5 and 22% of the CRM value. All samples bracketed by these standard analyses therefore could return higher values by up to 20% if retested.

All blank samples returned less than detection Li<sub>2</sub>O. Duplicate analyses returned satisfactory results, as most of the assay pairs correlated well with each other. A line of best fit forced through the origin revealed a slope of 0.99 and an R<sup>2</sup> value of 95%.

### **CONCLUSIONS AND RECOMMENDATIONS**

The 2017 spring and summer exploration drill program successfully continued to intersect spodumene bearing pegmatite and provide valuable information about the grade and orientation of the pegmatite in Aubry North zone. Significant intersections are included in table 3 below and drill logs can be found in Appendix III at the back of this report.

It is recommended to continue drilling to determine the full extent of these dykes at depth and along strike and to explore to see if there are further pegmatites in the area.

**Table 3 - Significant Intersections**

Hole ID	From (m)	To (m)	Width (m)	Li <sub>2</sub> O%
SL-17-01	30	44.67	14.67	1.48

Hole ID	From (m)	To (m)	Width (m)	Li2O%
SL-17-01	40	45.00	5.00	1.55
SL-17-02	105.55	109.10	3.55	1.24
SL-17-02	21.5	27.95	6.45	1.58
SL-17-02	12.43	20.18	7.75	1.66
SL-17-03	84	85.22	1.22	1.72
SL-17-03	22	41.80	19.80	1.75
SL-17-04	15	27.45	12.45	1.87
SL-17-04	76.25	83.25	7.00	2.79
SL-17-05	68.8	69.82	1.02	1.20
SL-17-05	7	15.00	8.00	1.80
SL-17-06	9	15.77	6.77	2.55
SL-17-11	74	78.00	4.00	1.32
SL-17-13	99	102.00	3.00	1.17
SL-17-13	104	107.00	3.00	3.04
SL-17-14	97.8	101.19	3.39	0.61
SL-17-14	84.24	85.24	1.00	1.76
SL-17-14	45	61.60	16.60	1.89
SL-17-16	93.12	99.12	6.00	1.83
SL-17-16	50.45	58.45	8.00	1.95
SL-17-19	110.4	117.71	7.31	1.37
SL-17-19	60	65.00	5.00	1.57
SL-17-19	53	56.00	3.00	1.59
SL-17-21	59.2	68.20	9.00	1.81
SL-17-22	107.72	111.77	4.05	0.54
SL-17-22	41.9	49.30	7.40	3.01
SL-17-23	56	63.86	7.86	0.78
SL-17-24	118.38	119.38	1.00	1.39
SL-17-24	109	110.25	1.25	1.79
SL-17-33	71	90.77	19.77	1.99
SL-17-35	70.05	75.55	5.50	1.37
SL-17-36	82.65	86.80	4.15	1.93
SL-17-37	70	75.50	5.50	1.11
SL-17-37	78.6	83.20	4.60	1.29
SL-17-39	127	129.00	2.00	1.28
SL-17-39	75	81.30	6.30	2.45
SL-17-40	61.5	68.50	7.00	1.29
SL-17-41	68	82.50	14.50	1.90
SL-17-42	67	79.30	12.30	2.22
SL-17-43	68.3	76.60	8.30	1.23
SL-17-43	76.9	78.30	1.40	1.40
SL-17-43	110.1	112.85	2.75	1.74
SL-17-44	74.15	86.15	12.00	2.19
SL-17-45	78.3	80.30	2.00	1.68
SL-17-45	91.3	100.50	9.20	1.82
SL-17-46	104	111.93	7.93	1.63
SL-17-47	81	94.48	13.48	0.91

Hole ID	From (m)	To (m)	Width (m)	Li2O%
SL-17-48	97	106.90	9.90	1.10
SL-17-49	108.5	115.75	7.25	1.39
SL-17-50	94	101.07	7.07	1.30
SL-17-51	111.4	112.12	0.72	2.22
SL-17-53	88.45	105.90	17.45	2.27
SL-17-56	102	116.15	14.15	1.36
SL-17-57	109	114.00	5.00	1.25
SL-17-58	114	118.28	4.28	1.01

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**STATEMENT OF QUALIFICATIONS****Caitlin L. Jeffs, B.Sc., P.Geo.**

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**CERTIFICATE OF THE AUTHOR**

I, **Caitlin Jeffs**, do hereby certify that:

1. I am a Partner of Fladgate Exploration Consulting Corporation, the geological consulting firm tasked with this report.
2. I am a member in good standing of the Association of Professional Geoscientists of Ontario (APGO #1488).
3. I am a graduate of the University of British Columbia (Hons. B.Sc., 2002).
4. I have practiced geology for 17 years in a variety of settings, mostly in Northwestern Ontario, Canada, and Chile. I have specific experience in lithium deposits including being directly involved in designing and implementing exploration programs, geological models, and quality assurance-quality control procedures and analysis for pegmatite hosted lithium projects in northwestern Ontario since 2010.
5. I have read the definition of "Qualified Person" as set out in the National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I am a "Qualified Person" for the purposes of NI 43-101.

Dated October 22<sup>nd</sup>, 2018

*"Caitlin Jeffs"*

Caitlin Jeffs BSc P. Geo  
Vice President  
Fladgate Exploration Consulting Corporation

## **Appendix I: Mining Claims**



Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
110794	CRESCENT LAKE AREA	2019-01-05	400	Ardiden Limited
137057	CRESCENT LAKE AREA	2019-01-05	400	Ardiden Limited
202394	CRESCENT LAKE AREA	2019-01-05	400	Ardiden Limited
209206	CRESCENT LAKE AREA	2019-01-05	400	Ardiden Limited
209207	CRESCENT LAKE AREA	2019-01-05	400	Ardiden Limited
257034	CRESCENT LAKE AREA	2019-01-05	400	Ardiden Limited
110796	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
114199	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
114200	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
130705	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
130706	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
158701	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
158702	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
164044	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
166147	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
182257	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
186849	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
186850	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
189693	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
195436	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
199575	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
199576	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
202392	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
213972	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
216046	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
234658	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
239142	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
239197	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
246792	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
247930	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
247931	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
259408	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
259409	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
269391	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
282661	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
282662	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
290713	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
293546	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
305606	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
312405	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
313967	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
332326	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
332327	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited
341621	CRESCENT LAKE AREA	2019-01-19	200	Ardiden Limited
343884	CRESCENT LAKE AREA	2019-01-19	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
109882	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
109883	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
109884	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
110795	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
111512	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
128849	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
134452	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
139233	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
144333	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
145302	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
147129	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
147130	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
150834	CRESCENT LAKE AREA	2019-08-02	200	Ardiden Limited
154018	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
157231	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
158455	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
158456	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
158595	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
158739	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
159350	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
161227	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
161228	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
164672	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
174901	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
176401	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
183014	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
191608	CRESCENT LAKE AREA	2019-08-02	200	Ardiden Limited
192878	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
192879	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
202393	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
204013	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
206643	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
211639	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
213762	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
228166	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
238343	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
239069	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
247152	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
250469	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
257033	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
257911	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
261948	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
265918	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
277335	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
302513	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
306359	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
307057	CRESCENT LAKE AREA	2019-08-02	200	Ardiden Limited
313660	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
313661	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
313805	CRESCENT LAKE AREA	2019-08-02	200	Ardiden Limited
313806	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
313807	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
322021	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
325851	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
326498	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
327346	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
327347	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
329159	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
329160	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
338554	CRESCENT LAKE AREA	2019-08-02	400	Ardiden Limited
103639	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
107692	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
108167	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
108604	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
108937	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
108938	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
108996	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
108997	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
109057	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
109058	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
109059	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
110337	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
110535	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
112523	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
112551	CRESCENT LAKE AREA,FALCON LAKE AREA	2019-09-26	200	Ardiden Limited
112595	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
112596	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
112597	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
118922	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
120203	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
120204	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
120259	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
120826	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
121653	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
122538	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
122831	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
123189	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
124124	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
125514	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
126089	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
126090	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
131036	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
131682	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
132743	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
133053	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
133964	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
136419	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
136560	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
137595	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
140447	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
140448	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
141643	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
141644	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
142382	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
142383	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
142384	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
142472	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
142473	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
143955	CRESCENT LAKE AREA,FALCON LAKE AREA	2019-09-26	200	Ardiden Limited
143956	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
143993	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
146398	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
147644	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
147645	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
148378	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
149178	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
149896	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
150235	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
152639	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
156594	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
156623	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
158014	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
158015	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
158271	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
161036	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
161037	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
161676	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
162796	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
162797	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
162822	CRESCENT LAKE AREA,FALCON LAKE AREA	2019-09-26	200	Ardiden Limited
164376	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
165944	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
167316	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
167714	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
171277	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
176855	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
176909	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
177474	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
177475	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
177476	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
177781	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
177782	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
180818	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
180819	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
182794	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
182795	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
182796	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
183611	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
183612	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
184210	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
184741	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
184742	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
186558	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
186683	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
190097	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
190098	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
190099	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
193064	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
193065	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
196429	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
196430	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
196483	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
196484	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
197307	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
197308	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
200288	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
200289	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
200308	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
200309	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
200448	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
200449	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
201118	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
201239	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
202617	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
202618	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
202648	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
202649	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
205191	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
205516	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
207771	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
209269	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
210680	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
210717	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
210718	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
212521	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
213639	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
213710	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
213711	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
216480	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
217640	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
219379	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
219380	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
219487	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
223147	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
226787	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
226788	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
232543	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
232544	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
233869	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
233870	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
233871	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
234515	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
234778	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
235385	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
235386	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
235387	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
236750	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
237700	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
237862	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
237863	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
238117	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
238118	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
240508	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
240509	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
240531	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
243517	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
243518	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
243519	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
243520	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
243586	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
243587	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
244708	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
244969	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
250994	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
251057	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
252479	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
252702	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
252703	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
252704	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
252705	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
255760	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
255899	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
255900	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
256271	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
256272	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
256854	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
257285	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
257286	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
257287	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
263029	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
264070	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
264527	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
265023	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
265024	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
265025	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
267053	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
267830	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
267831	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
268004	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
270371	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
270372	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
271256	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
271759	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
273176	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
275233	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
275234	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
276614	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
276615	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
276616	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
276648	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
276649	CRESCENT LAKE AREA,FALCON LAKE AREA	2019-09-26	200	Ardiden Limited
276682	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
279143	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
279144	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
279145	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
280073	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
280074	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
280139	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
280559	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
280560	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
280561	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
282193	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
282194	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
282491	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
283382	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
284136	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
285387	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
289913	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
289914	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
290555	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
291446	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
292244	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
292949	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
297769	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
297770	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
298149	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
298150	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
298151	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
298724	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
298725	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
299556	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
299557	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
299558	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
299613	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
303562	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
304087	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
304354	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
306092	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
306434	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
306465	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
306466	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
306503	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
306504	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
311763	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
311764	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
312238	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
312836	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
313251	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
313252	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
313281	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
316941	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
317425	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
317570	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
318609	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
320752	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited



Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
320753	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
326001	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
326002	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
326003	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
326004	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
326385	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
328430	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
331525	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
331526	CRESCENT LAKE AREA,FALCON LAKE AREA	2019-09-26	200	Ardiden Limited
331527	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
333247	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
333248	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
336637	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
337814	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
337815	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
338426	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
338427	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
338473	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
338474	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
338790	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
339017	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
339018	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
340393	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
341504	CRESCENT LAKE AREA	2019-09-26	400	Ardiden Limited
342142	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
342143	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
342329	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
343145	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
343146	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
343147	FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
343748	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
343749	CRESCENT LAKE AREA	2019-09-26	200	Ardiden Limited
344314	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
344315	CRESCENT LAKE AREA,FERLAND STATION AREA	2019-09-26	400	Ardiden Limited
102009	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
111208	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
111240	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
115999	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
116000	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
116001	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
149204	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
152695	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
164290	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
164291	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
167331	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
177615	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
186421	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
186458	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
186459	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
224207	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
224208	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
230975	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
230976	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
252530	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
264569	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
264570	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
271302	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
278196	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
278197	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
297013	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
312772	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
312773	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
318517	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
326802	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
331205	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
331233	FERLAND STATION AREA	2019-10-04	400	Ardiden Limited
518640	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518641	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518642	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518643	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518644	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518645	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518646	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518647	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518648	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518649	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518650	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518651	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518652	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518653	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518654	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518655	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518656	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518657	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518658	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518659	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518660	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518661	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518662	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518663	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
518664	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518665	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518666	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518667	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518668	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518669	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518670	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518671	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518672	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518673	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518674	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518675	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518676	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518677	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518678	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518679	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518680	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518681	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518682	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518683	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518684	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518685	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518686	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
518687	FERLAND STATION AREA	2020-04-25	400	Ardiden Limited
519760	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519761	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519762	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519763	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519764	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519765	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519766	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519767	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519768	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519769	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519770	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519771	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519772	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519773	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519774	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519775	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519776	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519777	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519778	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519779	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519780	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
519781	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519782	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519783	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519784	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519785	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519786	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519787	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519788	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519789	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519790	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519791	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519792	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519793	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519794	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519795	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519796	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519797	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519798	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519803	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519804	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519805	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519806	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519807	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519808	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519809	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519810	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519811	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519812	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519813	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519814	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519815	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519816	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519817	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519818	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519819	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519820	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519821	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519822	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519823	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519824	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519825	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519826	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519827	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519828	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited
519829	CRESCENT LAKE AREA	2020-04-27	400	Ardiden Limited







Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
519969	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519970	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519971	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519972	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519973	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519974	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519975	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519976	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519977	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519978	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519979	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519980	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519981	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519982	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519983	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519984	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519985	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519986	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519987	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519988	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519989	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519990	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519991	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519992	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519993	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519994	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519995	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519996	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519997	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519998	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
519999	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520000	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520001	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520002	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520003	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520004	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520005	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520006	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520007	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520008	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520009	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520010	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520011	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520012	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520013	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited



Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
520014	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520015	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520016	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520017	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520018	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520019	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520020	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520021	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520022	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520023	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520024	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520025	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520026	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520027	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520028	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520029	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520030	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520031	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520032	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520033	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520034	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520035	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520036	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520037	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520038	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520039	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520040	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520041	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520042	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520043	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520044	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520045	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520046	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520047	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520048	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520049	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520050	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520051	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520052	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520053	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520054	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520055	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520056	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520057	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520058	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
520059	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520060	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520061	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520062	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520063	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520064	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520065	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520066	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520067	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520068	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520069	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520070	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520071	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520072	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520073	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520074	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520075	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520076	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520077	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520078	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520079	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520080	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520081	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520082	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520083	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520084	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520085	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520086	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520087	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520088	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520089	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520090	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520091	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520092	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520093	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520094	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520095	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520096	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520097	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520098	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520099	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520100	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520101	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520102	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520103	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited

Tenure ID	Township / Area	Anniversary Date	Work Required	Owner
520104	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520105	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520106	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520107	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520108	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520109	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520110	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520111	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520112	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520113	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520114	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520115	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520116	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520117	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520118	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited
520119	FERLAND STATION AREA	2020-04-27	400	Ardiden Limited

## **Appendix II: Assays & Certificates**

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-01	354505	18	19	1.00	A17-03713	47	130	254	170	1.36	2.92
SL-17-01	354506	19	20	1.00	A17-03713	15	34	199	52.6	1.41	3.03
SL-17-01	354507	20	21	1.00	A17-03713	21	27	316	42.2	1.48	3.18
SL-17-01	354508	21	22	1.00	A17-03713	8	56	341	77.2	0.67	1.43
SL-17-01	354509	22	23	1.00	A17-03713	454	31	273	62.6	0.52	1.12
SL-17-01	354511	23	24	1.00	A17-03713	8	29	365	34.6	< 0.01	0.02
SL-17-01	354512	24	25	1.00	A17-03713	8	17	464	22.1	0.03	0.07
SL-17-01	354513	25	26	1.00	A17-03713	61	21	469	24.3	1.1	2.37
SL-17-01	354514	26	27	1.00	A17-03713	232	28	565	63.5	0.9	1.94
SL-17-01	354515	27	28	1.00	A17-03713	219	27	377	101	0.68	1.46
SL-17-01	354517	28	29	1.00	A17-03713	311	52	280	112	0.54	1.17
SL-17-01	354518	29	30	1.00	A17-03713	472	21	322	30.8	0.06	0.12
SL-17-01	354519	30	31.6	1.60	A17-03713	76	36	332	49.1	0.68	1.47
SL-17-01	354521	31.6	32.1	0.50	A17-03713	3	6	74.9	1.9	0.04	0.08
SL-17-01	354522	32.1	33	0.90	A17-03713	7	9	570	22.7	0.15	0.31
SL-17-01	354523	33	34	1.00	A17-03713	124	36	374	67.8	0.03	0.07
SL-17-01	354524	34	35	1.00	A17-03713	61	31	364	52.3	0.04	0.09
SL-17-01	354525	35	36	1.00	A17-03713	29	12	450	26.2	0.07	0.15
SL-17-01	354526	36	37	1.00	A17-03713	226	15	532	50.6	0.8	1.71
SL-17-01	354527	37	38	1.00	A17-03713	32	38	487	197	0.18	0.4
SL-17-01	354528	38	39	1.00	A17-03713	219	30	373	63	0.97	2.08
SL-17-01	354529	39	40	1.00	A17-03713	136	16	448	38	0.85	1.84
SL-17-01	354531	40	41	1.00	A17-03713	40	33	364	83	0.8	1.72
SL-17-01	354532	41	42	1.00	A17-03713	250	26	431	55.6	< 0.01	< 0.01
SL-17-01	354533	42	43	1.00	A17-03713	21	2	480	11.7	< 0.01	< 0.01
SL-17-01	354534	43	44	1.00	A17-03713	462	112	291	207	0.02	0.04
SL-17-01	354535	44	45	1.00	A17-03713	96	37	360	53.1	0.02	0.03
SL-17-01	354537	45	46	1.00	A17-03713	8	13	591	28.1	< 0.01	< 0.01
SL-17-01	354538	46	47	1.00	A17-03713	134	15	489	58.7	0.01	0.03
SL-17-01	354539	47	48.04	1.04	A17-03713	82	50	288	152	0.02	0.04
SL-17-01	354541	48.04	49	0.96	A17-03713	12	14	56.6	9.3	0.07	0.15
SL-17-01	354542	49	50	1.00	A17-03713	< 1	3	30.5	0.2	0.03	0.07
SL-17-01	354543	50	51	1.00	A17-03713	1	3	22	0.2	0.03	0.06
SL-17-01	354544	92	93	1.00	A17-03713	< 1	1	56	< 0.1	0.02	0.05
SL-17-01	354545	93	94	1.00	A17-03713	1	2	567	< 0.1	0.17	0.36
SL-17-01	354546	94	95.17	1.17	A17-03713	18	6	345	15.1	0.11	0.24
SL-17-01	354547	95.17	96	0.83	A17-03713	234	111	80.3	137	0.01	0.03
SL-17-01	354548	96	97	1.00	A17-03713	4	2	96.5	0.8	0.02	0.05
SL-17-01	354549	97	98	1.00	A17-03713	2	2	4.3	0.2	< 0.01	0.02
SL-17-01	354551	98	99		A17-03713	< 1	2	4.2	0.1	< 0.01	0.02
SL-17-02	354553	0	2.5	2.50	A17-03713	264	12	702	28.5	0.01	0.03
SL-17-02	354552	0.5	1.45	0.95	A17-03713	401	87	183	178	0.02	0.05
SL-17-02	354554	2.5	3.5	1.00	A17-03713	6	8	672	15	< 0.01	< 0.01
SL-17-02	354555	3.5	4.5	1.00	A17-03713	113	7	537	21	< 0.01	< 0.01
SL-17-02	354557	4.5	5.75	1.25	A17-03713	159	10	660	80.9	< 0.01	< 0.01
SL-17-02	354558	5.75	6.64	0.89	A17-03713	149	16	395	27.9	2.5	5.39
SL-17-02	354559	6.64	7.5	0.86	A17-03713	194	8	703	20.3	0.02	0.03
SL-17-02	354561	7.5	8.55	1.05	A17-03713	12	10	660	46	< 0.01	0.02
SL-17-02	354562	8.55	9.5	0.95	A17-03713	661	22	509	37.8	0.59	1.27
SL-17-02	354563	9.5	10.5	1.00	A17-03713	102	64	356	164	1.08	2.33

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-02	354564	10.5	11.5	1.00	A17-03713	111	43	445	79.5	0.75	1.61
SL-17-02	354565	11.5	12.43	0.93	A17-03713	83	17	533	42.3	1.04	2.24
SL-17-02	354566	12.43	13.5	1.07	A17-03713	56	16	457	31.2	0.34	0.72
SL-17-02	354567	13.5	14.5	1.00	A17-03713	37	13	590	33.3	0.03	0.07
SL-17-02	354568	14.5	15.5	1.00	A17-03713	227	21	639	87.7	0.26	0.56
SL-17-02	354569	15.5	16.5	1.00	A17-03713	19	4	621	21.9	< 0.01	0.01
SL-17-02	354571	16.5	17.5	1.00	A17-03713	368	22	490	28.9	0.17	0.37
SL-17-02	354572	17.5	18.5	1.00	A17-03713	27	14	493	46.1	0.68	1.47
SL-17-02	354573	18.5	19.5	1.00	A17-03713	159	20	503	98.7	0.02	0.05
SL-17-02	354574	19.5	20.5	1.00	A17-03713	137	19	311	45.1	1.1	2.36
SL-17-02	354575	20.5	21.5	1.00	A17-03713	84	49	227	129	1.97	4.25
SL-17-02	354577	21.5	22.95	1.45	A17-03713	211	28	257	70.8	0.53	1.15
SL-17-02	354578	22.95	24	1.05	A17-03713	101	152	331	383	0.07	0.14
SL-17-02	354579	24	24.92	0.92	A17-03713	9	45	132	106	< 0.01	< 0.01
SL-17-02	354581	24.92	26	1.08	A17-03713	7	3	1010	0.8	0.13	0.29
SL-17-02	354582	26	27	1.00	A17-03713	34	8	210	17.6	0.1	0.22
SL-17-02	354583	27	28	1.00	A17-03713	< 1	3	4.6	0.3	0.03	0.07
SL-17-02	354584	28	29	1.00	A17-03713	1	3	12.5	0.2	0.04	0.09
SL-17-02	354585	29	30	1.00	A17-03713	< 1	3	4.9	0.2	0.05	0.11
SL-17-02	354586	30	30.75	0.75	A17-03713	42	7	4900	21.7	0.16	0.35
SL-17-02	354587	30.75	31.27	0.52	A17-03713	3656	59	2130	119	0.07	0.15
SL-17-02	354588	31.27	32	0.73	A17-03713	7	3	3690	0.4	0.27	0.58
SL-17-02	354589	32	33	1.00	A17-03713	7	3	185	0.4	0.06	0.12
SL-17-02	354591	33	34	1.00	A17-03713	< 1	3	8.9	0.2	0.02	0.05
SL-17-02	354592	79	80	1.00	A17-03713	< 1	2	4.9	0.1	< 0.01	0.01
SL-17-02	354593	80	81	1.00	A17-03713	2	2	8	0.1	< 0.01	0.02
SL-17-02	354594	81	81.82	0.82	A17-03713	4	2	55.2	0.2	0.03	0.07
SL-17-02	354595	81.82	82.82	1.00	A17-03713	29	63	42.9	139	< 0.01	< 0.01
SL-17-02	354597	82.82	83.82	1.00	A17-03713	180	58	155	131	< 0.01	0.01
SL-17-02	354598	83.82	85	1.18	A17-03713	17	4	125	3.8	0.06	0.12
SL-17-02	354599	85	86	1.00	A17-03713	< 1	2	7.8	0.2	0.03	0.07
SL-17-02	354601	86	87	1.00	A17-03713	1	2	5.7	0.1	0.03	0.06
SL-17-02	354602	100	101	1.00	A17-03713	< 1	2	3.4	0.1	0.04	0.09
SL-17-02	354603	101	102	1.00	A17-03713	< 1	2	3.3	0.1	0.03	0.06
SL-17-02	354604	102	103	1.00	A17-03713	2	3	37.8	0.7	0.08	0.18
SL-17-02	354605	103	104.25	1.25	A17-03713	4	48	175	241	0.72	1.54
SL-17-02	354606	104.25	105.55	1.30	A17-03713	1558	70	1190	543	0.67	1.43
SL-17-02	354607	105.55	106.55	1.00	A17-03713	12	4	4920	3.9	0.29	0.63
SL-17-02	354608	106.55	107.55	1.00	A17-03713	2	2	45.6	0.4	0.04	0.09
SL-17-02	354609	107.55	108.55	1.00	A17-03713	< 1	2	16.4	0.2	0.03	0.07
SL-17-03	354611	2.6	3.2	0.60	A17-03713	18	5	256	1.8	0.05	0.12
SL-17-03	354612	3.2	4	0.80	A17-03713	46	46	417	79.3	0.45	0.96
SL-17-03	354613	4	5	1.00	A17-03713	72	56	171	102	0.79	1.71
SL-17-03	354614	5	6	1.00	A17-03713	215	55	363	135	2.03	4.37
SL-17-03	354615	6	7	1.00	A17-03713	139	36	480	47.1	1.42	3.05
SL-17-03	354617	7	8	1.00	A17-03713	13	23	565	25.5	0.82	1.77
SL-17-03	354618	8	9	1.00	A17-03713	13	16	484	128	0.08	0.16
SL-17-03	354619	9	10	1.00	A17-03713	4	45	649	144	0.07	0.16
SL-17-03	354621	10	11	1.00	A17-03713	196	17	373	50.8	0.85	1.83
SL-17-03	354622	11	12	1.00	A17-03713	238	15	625	48.6	1.08	2.32

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-03	354623	12	13	1.00	A17-03713	173	28	576	55.2	0.47	1.02
SL-17-03	354624	13	14	1.00	A17-03713	35	14	345	27.5	0.94	2.03
SL-17-03	354625	14	15	1.00	A17-03713	134	17	340	49.6	0.93	2
SL-17-03	354626	15	16	1.00	A17-03713	214	63	301	132	1.43	3.07
SL-17-03	354627	16	17	1.00	A17-03713	147	30	328	65.9	1.24	2.67
SL-17-03	354628	17	18	1.00	A17-03713	184	53	358	69.7	0.37	0.8
SL-17-03	354629	18	19	1.00	A17-03713	137	29	319	41.9	0.87	1.88
SL-17-03	354631	19	20	1.00	A17-03713	248	64	317	179	0.11	0.24
SL-17-03	354632	20	21	1.00	A17-03713	266	35	327	75.6	0.64	1.37
SL-17-03	354633	21	22	1.00	A17-03713	67	36	145	107	1	2.14
SL-17-03	354634	22	23	1.00	A17-03713	241	163	295	638	0.61	1.31
SL-17-03	354635	23	23.6	0.60	A17-03713	402	42	251	136	0.16	0.35
SL-17-03	354636	23.6	25	1.40	A17-03713	57	8	1080	1.9	0.21	0.45
SL-17-03	354637	25	26	1.00	A17-03713	11	4	577	0.3	0.1	0.21
SL-17-03	354638	26	27	1.00	A17-03713	2	3	114	0.3	0.05	0.11
SL-17-03	354639	27	28	1.00	A17-03713	3	2	10.7	0.4	< 0.01	0.02
SL-17-03	354641	28	29	1.00	A17-03713	2	2	2.1	< 0.1	< 0.01	0.01
SL-17-03	354642	29	30.07	1.07	A17-03713	4	2	401	0.1	0.06	0.12
SL-17-03	354643	30.07	30.43	0.36	A17-03713	307	89	265	159	0.02	0.04
SL-17-03	354644	30.43	31	0.57	A17-03713	4	2	633	0.4	0.07	0.14
SL-17-03	354645	31	32	1.00	A17-03713	2	2	7.3	0.3	0.01	0.02
SL-17-03	354646	32	33	1.00	A17-03713	< 1	2	27.3	0.2	0.01	0.02
SL-17-03	354647	77	78	1.00	A17-03713	1	2	38.5	0.3	0.04	0.08
SL-17-03	354648	78	79	1.00	A17-03713	3	2	5	0.1	0.03	0.07
SL-17-03	354649	79	80	1.00	A17-03713	1	2	2.7	0.1	0.09	0.19
SL-17-03	354651	80	80.75	0.75	A17-03713	4	2	365	0.3	0.16	0.35
SL-17-03	354652	80.75	81.75	1.00	A17-03713	87	47	435	364	0.07	0.15
SL-17-03	354653	81.75	82.8	1.05	A17-03713	251	99	366	495	0.08	0.17
SL-17-03	354654	82.8	83.3	0.50	A17-03713	157	57	243	133	0.11	0.25
SL-17-03	354655	83.3	84	0.70	A17-03713	715	75	247	143	0.97	2.09
SL-17-03	354657	84	84.52	0.52	A17-03713	334	69	510	126	0.57	1.22
SL-17-03	354658	84.52	85.4	0.88	A17-03713	82	83	216	168	0.08	0.18
SL-17-03	354659	85.4	86	0.60	A17-03713	5	3	328	1	0.17	0.36
SL-17-03	354661	86	87	1.00	A17-03713	< 1	2	25.2	0.4	0.15	0.33
SL-17-03	354662	87	88	1.00	A17-03713	< 1	2	13	0.2	0.07	0.15
SL-17-03	354663	88	89	1.00	A17-03713	< 1	2	7.8	0.2	0.08	0.18
SL-17-04	354664	3.55	5	1.45	A17-03713	49	30	366	74.3	0.85	1.82
SL-17-04	354665	5	6	1.00	A17-03713	11	45	442	106	2.26	4.85
SL-17-04	354666	6	7	1.00	A17-03713	7	36	463	79.8	1.38	2.98
SL-17-04	354667	7	8	1.00	A17-03713	17	6	397	26.9	0.76	1.63
SL-17-04	354668	8	9	1.00	A17-03713	53	61	550	140	1.22	2.63
SL-17-04	354669	9	10	1.00	A17-03713	51	163	529	489	0.67	1.45
SL-17-04	354671	10	11	1.00	A17-03713	207	117	536	260	0.53	1.15
SL-17-04	354672	11	12	1.00	A17-03713	448	34	330	120	0.52	1.12
SL-17-04	354673	12	13	1.00	A17-03713	135	42	421	45	1.19	2.56
SL-17-04	354674	13	14	1.00	A17-03713	175	43	332	46.1	0.11	0.24
SL-17-04	354675	14	15	1.00	A17-03713	605	41	437	66.6	0.62	1.34
SL-17-04	354677	15	16	1.00	A17-03713	360	76	527	168	0.32	0.69
SL-17-04	354678	16	17	1.00	A17-03713	46	15	626	30.1	0.14	0.3
SL-17-04	354679	17	18	1.00	A17-03713	5	13	562	54.8	0.17	0.37

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-04	354681	18	19.05	1.05	A17-03713	190	103	231	203	0.28	0.61
SL-17-04	354682	19.05	20	0.95	A17-03713	3	4	59.6	0.7	0.07	0.15
SL-17-04	354683	20	21	1.00	A17-03713	2	5	72.6	0.6	0.04	0.09
SL-17-04	354684	21	22	1.00	A17-03713	< 1	2	8.2	0.3	0.04	0.08
SL-17-04	354685	41.7	42.7	1.00	A17-03713	< 1	2	124	0.2	0.05	0.1
SL-17-04	354686	42.7	43.7	1.00	A17-03713	< 1	2	47.8	0.1	0.04	0.08
SL-17-04	354687	43.7	44.7	1.00	A17-03713	3	2	315	0.1	0.06	0.13
SL-17-04	354688	44.7	45.2	0.50	A17-03713	222	55	612	197	0.09	0.2
SL-17-04	354689	45.2	46.2	1.00	A17-03713	34	3	1870	0.5	0.13	0.29
SL-17-04	354691	46.2	47.2	1.00	A17-03713	2	2	202	0.2	0.05	0.11
SL-17-04	354692	47.2	48.2	1.00	A17-03713	2	2	11.7	0.3	0.07	0.15
SL-17-04	354693	67	68	1.00	A17-03713	< 1	1	32	0.1	0.04	0.09
SL-17-04	354694	68	69	1.00	A17-03713	1	2	64.4	0.2	0.06	0.13
SL-17-04	354695	69	70.25	1.25	A17-03713	2	2	240	0.7	0.08	0.18
SL-17-04	354697	70.25	71.25	1.00	A17-03713	68	19	139	98.9	0.51	1.1
SL-17-04	354698	71.25	72.25	1.00	A17-03713	393	21	550	98.3	1.47	3.17
SL-17-04	354699	72.25	73.25	1.00	A17-03713	9	53	498	151	1.94	4.17
SL-17-04	354701	73.25	74.25	1.00	A17-03713	63	69	159	159	1.62	3.48
SL-17-04	354702	74.25	75.25	1.00	A17-03713	266	120	333	228	0.95	2.04
SL-17-04	354703	75.25	76.25	1.00	A17-03713	228	23	417	76.6	1.18	2.54
SL-17-04	354704	76.25	77.25	1.00	A17-03713	256	21	432	90	1.41	3.03
SL-17-04	354705	77.25	78.22	0.97	A17-03713	138	60	126	256	0.04	0.09
SL-17-04	354706	78.22	79.22	1.00	A17-03713	11	3	246	6.5	0.08	0.18
SL-17-04	354707	79.22	80.22	1.00	A17-03713	1	2	53.9	0.5	0.05	0.12
SL-17-04	354708	80.22	81.22	1.00	A17-03713	< 1	2	125	0.1	0.05	0.11
SL-17-05	354709	0	1	1.00	A17-03713	43	35	419	68.6	0.61	1.31
SL-17-05	354711	1	2	1.00	A17-03899	152	27	347	41	0.15	0.31
SL-17-05	354712	2	3	1.00	A17-03899	172	21	630	18.8	0.59	1.26
SL-17-05	354713	3	4	1.00	A17-03899	203	11	380	26.8	1.01	2.18
SL-17-05	354714	4	5	1.00	A17-03899	21	14	273	38.1	1.79	3.85
SL-17-05	354715	5	6	1.00	A17-03899	44	12	220	18.8	1.66	3.57
SL-17-05	354717	6	7	1.00	A17-03899	342	49	204	49.6	0.67	1.45
SL-17-05	354718	7	8	1.00	A17-03899	199	60	186	196	0.22	0.48
SL-17-05	354719	8	8.63	0.63	A17-03899	42	103	337	246	0.11	0.24
SL-17-05	354721	8.63	9.63	1.00	A17-03899	7	2	677	0.9	0.3	0.65
SL-17-05	354722	9.63	10.63	1.00	A17-03899	< 1	2	3.4	0.4	0.05	0.11
SL-17-05	354723	10.63	11.85	1.22	A17-03899	< 1	2	123	0.2	0.12	0.25
SL-17-05	354724	66.8	67.8	1.00	A17-03899	< 1	2	29.8	0.4	0.04	0.08
SL-17-05	354725	67.8	68.8	1.00	A17-03899	< 1	2	14	0.2	0.06	0.13
SL-17-05	354726	68.8	70	1.20	A17-03899	7	18	391	210	0.47	1.02
SL-17-05	354727	70	71.18	1.18	A17-03899	397	84	441	373	0.1	0.21
SL-17-05	354728	71.18	72.18	1.00	A17-03899	2	2	146	1.1	0.12	0.26
SL-17-05	354729	72.18	73.18	1.00	A17-03899	< 1	2	14.8	0.3	0.04	0.09
SL-17-06	354731	3	4	1.00	A17-03899	34	25	401	81.6	0.57	1.22
SL-17-06	354732	4	5	1.00	A17-03899	50	24	218	53.2	1.17	2.52
SL-17-06	354733	5	6	1.00	A17-03899	96	26	257	133	0.84	1.81
SL-17-06	354734	6	7	1.00	A17-03899	100	22	257	85.1	1.22	2.63
SL-17-06	354735	7	8	1.00	A17-03899	358	104	547	316	1.32	2.84
SL-17-06	354737	8	9	1.00	A17-03899	27	34	305	105	2.1	4.52
SL-17-06	354738	9	9.77	0.77	A17-03899	197	45	255	85.5	1.04	2.25



HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-06	354739	9.77	11	1.23	A17-03899	2	2	71.6	0.3	0.14	0.29
SL-17-06	354741	11	12	1.00	A17-04429	< 1	2	18.5	0.1	< 0.01	< 0.01
SL-17-08	354742	71	72	1.00	A17-04429	< 1	2	24.7	0.1	< 0.01	< 0.01
SL-17-08	354743	72	72.98	0.98	A17-04429	3	2	364	2	0.16	0.34
SL-17-08	354744	72.98	74	1.02	A17-04429	18	36	626	262	0.19	0.41
SL-17-08	354745	74	75.27	1.27	A17-04429	5	74	74.1	489	< 0.01	< 0.01
SL-17-08	354746	75.27	76	0.73	A17-04429	5	2	1390	1.1	0.23	0.49
SL-17-08	354747	76	77	1.00	A17-04429	2	2	33.8	0.6	0.11	0.25
SL-17-10	354864	5.1	6.1	1.00	A17-04429	6	3	3410	0.7	0.08	0.17
SL-17-10	354865	6.1	6.45	0.35	A17-04429	7	38	372	110	< 0.01	< 0.01
SL-17-10	354866	6.45	7.45	1.00	A17-04429	9	3	10200	0.6	0.11	0.24
SL-17-10	354867	62.2	63.2	1.00	A17-04429	4	5	199	0.8	< 0.01	< 0.01
SL-17-10	354868	63.2	64.2	1.00	A17-04429	30	9	445	2.2	0.03	0.08
SL-17-10	354869	64.2	65.2	1.00	A17-04429	430	53	217	212	< 0.01	< 0.01
SL-17-10	354871	65.2	66.2	1.00	A17-04429	232	73	123	163	< 0.01	< 0.01
SL-17-10	354872	66.2	67.2	1.00	A17-04429	78	32	435	86.7	0.42	0.9
SL-17-10	354873	67.2	68.5	1.30	A17-04429	98	20	512	83.8	0.02	0.05
SL-17-10	354874	68.5	69.45	0.95	A17-04429	20	3	3780	1.2	0.22	0.48
SL-17-10	354875	69.45	70.4	0.95	A17-04429	154	51	129	120	< 0.01	< 0.01
SL-17-10	354877	70.4	71.4	1.00	A17-04429	5	6	182	4.5	< 0.01	< 0.01
SL-17-10	354878	71.4	72.4	1.00	A17-04429	1	4	85.2	0.8	< 0.01	< 0.01
SL-17-11	354813	9.8	10.8	1.00	A17-04429	18	8	460	12.1	< 0.01	< 0.01
SL-17-11	354814	10.8	11.8	1.00	A17-04429	22	7	3700	9.7	0.11	0.24
SL-17-11	354815	11.8	12.23	0.43	A17-04429	9	34	337	86.9	< 0.01	< 0.01
SL-17-11	354817	12.23	13.23	1.00	A17-04429	21	5	7710	14.7	0.24	0.51
SL-17-11	354818	13.23	14.23	1.00	A17-04429	2	3	18	0.4	< 0.01	< 0.01
SL-17-11	354819	14.23	15.23	1.00	A17-04429	2	2	26	1.1	< 0.01	< 0.01
SL-17-11	354821	15.23	16.23	1.00	A17-04429	< 1	2	99.3	0.2	< 0.01	< 0.01
SL-17-11	354822	16.23	17.27	1.04	A17-04429	2	2	1960	0.8	0.04	0.08
SL-17-11	354823	17.27	18.05	0.78	A17-04429	45	77	448	424	< 0.01	< 0.01
SL-17-11	354824	18.05	19.05	1.00	A17-04429	4	3	3770	1.4	0.14	0.3
SL-17-11	354825	19.05	20.05	1.00	A17-04429	< 1	3	11	0.6	< 0.01	< 0.01
SL-17-11	354826	68	69	1.00	A17-04429	2	8	82.2	0.8	< 0.01	< 0.01
SL-17-11	354827	69	70.12	1.12	A17-04429	4	5	40.2	1.2	< 0.01	< 0.01
SL-17-11	354828	70.12	71	0.88	A17-04429	205	19	111	56.4	0.05	0.1
SL-17-11	354829	71	72	1.00	A17-04429	57	19	124	74.9	0.3	0.64
SL-17-11	354831	72	73	1.00	A17-04429	229	69	367	145	0.73	1.58
SL-17-11	354832	73	74	1.00	A17-04429	58	78	662	171	0.43	0.93
SL-17-11	354833	74	75	1.00	A17-04429	19	73	654	205	1	2.14
SL-17-11	354834	75	76	1.00	A17-04429	41	54	387	222	< 0.01	< 0.01
SL-17-11	354835	76	77	1.00	A17-04429	123	89	57.4	339	< 0.01	< 0.01
SL-17-11	354837	77	78	1.00	A17-04429	3	3	55.7	0.6	< 0.01	< 0.01
SL-17-11	354838	78	79	1.00	A17-04429	2	3	14.2	0.5	< 0.01	< 0.01
SL-17-12	354782	14	15	1.00	A17-04429	2	6	95	0.7	< 0.01	< 0.01
SL-17-12	354783	15	16.1	1.10	A17-04429	6	4	257	0.8	< 0.01	< 0.01
SL-17-12	354784	16.1	17.3	1.20	A17-04429	15	15	662	50.2	< 0.01	< 0.01
SL-17-12	354785	17.3	18.53	1.23	A17-04429	31	19	685	61.3	< 0.01	< 0.01
SL-17-12	354786	18.53	19.5	0.97	A17-04429	6	4	660	5	0.09	0.2
SL-17-12	354787	19.5	20.5	1.00	A17-04429	9	4	35.3	2.1	< 0.01	< 0.01
SL-17-12	354788	61.3	62.3	1.00	A17-04429	12	2	2.7	0.2	< 0.01	< 0.01

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-12	354789	62.3	63.3	1.00	A17-04429	18	3	32	0.7	< 0.01	< 0.01
SL-17-12	354791	63.3	64.75	1.45	A17-04429	18	67	22.4	131	< 0.01	< 0.01
SL-17-12	354792	64.75	65.75	1.00	A17-04429	21	5	1190	1.7	0.03	0.06
SL-17-12	354793	65.75	66.75	1.00	A17-04429	11	3	135	0.6	< 0.01	< 0.01
SL-17-12	354794	78	79	1.00	A17-04429	3	3	36.5	0.3	< 0.01	< 0.01
SL-17-12	354795	79	80.2	1.20	A17-04429	21	4	194	1.5	< 0.01	0.01
SL-17-12	354797	80.2	81.2	1.00	A17-04429	122	73	115	109	< 0.01	< 0.01
SL-17-12	354798	81.2	82.2	1.00	A17-04429	134	49	413	121	0.04	0.08
SL-17-12	354799	82.2	83.2	1.00	A17-04429	280	101	323	282	0.18	0.39
SL-17-12	354801	83.2	84.23	1.03	A17-04429	41	107	287	158	0.4	0.86
SL-17-12	354802	84.23	84.85	0.62	A17-04429	3	6	89.5	1.3	< 0.01	< 0.01
SL-17-12	354803	84.85	86.4	1.55	A17-04429	68	65	56.3	127	< 0.01	< 0.01
SL-17-12	354804	86.4	87.45	1.05	A17-04429	62	8	24.7	3.9	< 0.01	< 0.01
SL-17-12	354805	87.45	88.45	1.00	A17-04429	2	2	11.8	0.3	< 0.01	< 0.01
SL-17-12	354806	94	95	1.00	A17-04429	< 1	3	8.7	0.3	< 0.01	< 0.01
SL-17-12	354807	95	96.23	1.23	A17-04429	3	3	37.5	0.4	< 0.01	< 0.01
SL-17-12	354808	96.23	97.2	0.97	A17-04429	26	31	269	95.7	< 0.01	< 0.01
SL-17-12	354809	97.2	98.1	0.90	A17-04429	71	72	35.8	152	< 0.01	< 0.01
SL-17-12	354811	98.1	99.1	1.00	A17-04429	4	5	178	2.4	< 0.01	< 0.01
SL-17-12	354812	99.1	100.1	1.00	A17-04429	1	5	112	1	< 0.01	< 0.01
SL-17-13	354748	31.5	32.5	1.00	A17-04429	8	5	170	2.5	< 0.01	< 0.01
SL-17-13	354749	32.5	33.49	0.99	A17-04429	9	3	506	0.9	< 0.01	0.02
SL-17-13	354751	33.49	34.5	1.01	A17-04429	14	19	443	59	< 0.01	< 0.01
SL-17-13	354752	34.5	35.5	1.00	A17-04429	733	34	566	125	0.18	0.39
SL-17-13	354753	35.5	36.5	1.00	A17-04429	667	39	514	125	0.07	0.14
SL-17-13	354754	36.5	37.5	1.00	A17-04429	110	18	2260	39.5	0.07	0.16
SL-17-13	354755	37.5	38.2	0.70	A17-04429	163	38	273	92.3	< 0.01	< 0.01
SL-17-13	354757	38.2	39.2	1.00	A17-04429	4	3	115	1.5	< 0.01	< 0.01
SL-17-13	354758	39.2	40.2	1.00	A17-04429	1	2	5	0.3	< 0.01	< 0.01
SL-17-13	354759	93	94	1.00	A17-04429	< 1	2	342	0.2	0.34	0.74
SL-17-13	354761	94	95	1.00	A17-04429	2	3	228	0.3	0.14	0.3
SL-17-13	354762	95	96	1.00	A17-04429	148	35	266	112	< 0.01	< 0.01
SL-17-13	354763	96	97	1.00	A17-04429	164	51	397	110	0.03	0.07
SL-17-13	354764	97	98	1.00	A17-04429	127	37	204	136	0.72	1.54
SL-17-13	354765	98	99	1.00	A17-04429	113	80	269	282	0.66	1.43
SL-17-13	354766	99	100	1.00	A17-04429	53	27	402	134	0.25	0.54
SL-17-13	354767	100	101	1.00	A17-04429	145	59	361	220	< 0.01	< 0.01
SL-17-13	354768	101	102	1.00	A17-04429	199	84	382	218	0.1	0.21
SL-17-13	354769	102	103	1.00	A17-04429	416	79	229	197	2	4.31
SL-17-13	354771	103	104	1.00	A17-04429	16	40	207	111	1.83	3.93
SL-17-13	354772	104	105	1.00	A17-04429	52	51	257	177	0.41	0.87
SL-17-13	354773	105	106	1.00	A17-04429	125	31	236	101	< 0.01	< 0.01
SL-17-13	354774	106	107	1.00	A17-04429	121	107	228	409	< 0.01	< 0.01
SL-17-13	354775	107	108	1.00	A17-04429	160	92	287	159	0.04	0.08
SL-17-13	354777	108	109	1.00	A17-04429	11	71	171	131	< 0.01	< 0.01
SL-17-13	354778	109	110	1.00	A17-04429	66	60	199	161	0.02	0.04
SL-17-13	354779	110	111.13	1.13	A17-04429	63	26	296	70.4	0.23	0.49
SL-17-13	354781	111.13	112	0.87	A17-04429	7	3	292	0.8	0.11	0.23
SL-17-14	354948	24.84	25.84	1.00	A17-04429	< 1	2	113	< 0.1	0.06	0.12
SL-17-14	354949	25.84	26.84	1.00	A17-04429	3	2	202	< 0.1	0.07	0.16

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-14	354951	26.84	28	1.16	A17-04429	92	53	129	171	0.01	0.03
SL-17-14	354952	28	29	1.00	A17-04429	183	74	149	153	0.03	0.06
SL-17-14	354953	29	30	1.00	A17-04429	119	77	332	208	0.04	0.09
SL-17-14	354954	30	31	1.00	A17-04429	18	22	449	72.3	0.6	1.3
SL-17-14	354955	31	32	1.00	A17-04429	38	23	478	61.8	0.74	1.6
SL-17-14	354957	32	33	1.00	A17-04429	97	29	423	44.2	0.88	1.9
SL-17-14	354958	33	34	1.00	A17-04429	675	20	547	30.3	0.11	0.24
SL-17-14	354959	34	35	1.00	A17-04429	59	22	649	136	0.17	0.37
SL-17-14	354961	35	36	1.00	A17-04429	6	9	606	37.4	0.52	1.13
SL-17-14	354962	36	37	1.00	A17-04429	3	10	360	40.7	1.81	3.89
SL-17-14	354963	37	38	1.00	A17-04429	62	29	246	74.4	1.08	2.32
SL-17-14	354964	38	39	1.00	A17-04429	67	15	333	51.3	0.94	2.03
SL-17-14	354965	39	40	1.00	A17-04429	213	47	319	63.9	0.84	1.8
SL-17-14	354966	40	41	1.00	A17-04429	137	24	355	47.3	0.66	1.43
SL-17-14	354967	41	42	1.00	A17-04429	154	103	239	156	1.52	3.27
SL-17-14	354968	42	43	1.00	A17-04429	16	68	230	132	1.33	2.87
SL-17-14	354969	43	44	1.00	A17-04429	249	42	466	187	0.78	1.68
SL-17-14	354971	44	45	1.00	A17-04429	904	74	378	197	1.77	3.81
SL-17-14	354972	45	46.6	1.60	A17-04429	83	39	239	106	0.5	1.07
SL-17-14	354973	46.6	47.6	1.00	A17-05843	4	2	238	0.2	0.07	0.16
SL-17-14	354974	47.6	48.6	1.00	A17-05843	1	2	20	< 0.1	0.03	0.06
SL-17-14	354975	81.24	82.24	1.00	A17-05843	< 1	2	3.2	0.1	0.02	0.04
SL-17-14	354977	82.24	83.24	1.00	A17-05843	191	109	264	163	0.11	0.23
SL-17-14	354978	83.24	84.24	1.00	A17-05843	317	121	278	173	0.05	0.11
SL-17-14	354979	84.24	85.24	1.00	A17-05843	104	162	363	313	0.82	1.76
SL-17-14	354981	85.24	86.2	1.00	A17-05843	105	37	589	78.9	0.12	0.25
SL-17-14	354982	86.2	87.2	1.00	A17-05843	16	2	202	0.5	0.11	0.23
SL-17-14	354983	87.2	88.2	1.00	A17-05843	8	2	27.4	0.2	0.04	0.09
SL-17-14	354984	93.6	94.6	1.00	A17-05843	6	3	109	0.3	0.05	0.11
SL-17-14	354985	94.6	95.61	1.01	A17-05843	47	7	1370	28.4	0.14	0.3
SL-17-14	354986	95.61	96.8	1.19	A17-05843	135	27	501	182	1.08	2.33
SL-17-14	354987	96.8	97.8	1.00	A17-05843	174	95	336	236	0.9	1.93
SL-17-14	354988	97.8	99	1.20	A17-05843	180	49	258	202	0.57	1.22
SL-17-14	354989	99	100	1.00	A17-05843	7	7	294	1.8	0.08	0.17
SL-17-14	354991	100	101	1.00	A17-05843	3	6	143	0.8	0.07	0.14
SL-17-16	354992	36.7	37.7	1.00	A17-05843	39	5	446	8	0.16	0.35
SL-17-16	354993	37.7	38.7	1.00	A17-05843	22	2	394	0.1	0.07	0.15
SL-17-16	354994	38.7	39.47	0.77	A17-05843	189	78	101	265	0.02	0.03
SL-17-16	354995	39.47	40.45	0.98	A17-05843	34	2	92.4	1.1	0.1	0.22
SL-17-16	354997	40.45	41.45	1.00	A17-05843	37	3	490	2.1	0.1	0.22
SL-17-16	354998	41.45	42.45	1.00	A17-05843	162	16	666	84	0.09	0.2
SL-17-16	354999	42.45	43.45	1.00	A17-05843	109	56	360	125	0.1	0.21
SL-17-16	355001	43.45	44.45	1.00	A17-05843	222	61	166	108	0.96	2.06
SL-17-16	355002	44.45	45.45	1.00	A17-05843	93	39	191	77.1	1.34	2.89
SL-17-16	355003	45.45	46.45	1.00	A17-05843	151	61	172	117	0.78	1.69
SL-17-16	355004	46.45	47.45	1.00	A17-05843	131	27	177	54.8	0.34	0.74
SL-17-16	355005	47.45	48.45	1.00	A17-05843	113	19	217	53.9	0.96	2.06
SL-17-16	355006	48.45	49.45	1.00	A17-05843	67	32	276	79.8	1.08	2.31
SL-17-16	355007	49.45	50.45	1.00	A17-05843	75	54	217	148	1.03	2.22
SL-17-16	355008	50.45	51.45	1.00	A17-05843	192	53	122	119	0.77	1.66

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-16	355009	51.45	52.65	1.20	A17-05843	202	42	172	95.5	0.12	0.25
SL-17-16	355011	52.65	53.65	1.00	A17-05843	6	2	1380	0.5	0.21	0.45
SL-17-16	355012	53.65	54.65	1.00	A17-05843	3	2	72	0.1	0.02	0.05
SL-17-16	355013	86.12	87.12	1.00	A17-05843	1	1	3.8	0.1	0.02	0.05
SL-17-16	355014	87.12	88.12	1.00	A17-05843	9	1	35.7	0.3	0.02	0.05
SL-17-16	355015	88.12	89.12	1.00	A17-05843	253	35	280	179	0.31	0.67
SL-17-16	355017	89.12	90.12	1.00	A17-05843	249	49	467	312	0.25	0.53
SL-17-16	355018	90.12	91.12	1.00	A17-05843	92	59	500	338	1.41	3.04
SL-17-16	355019	91.12	92.12	1.00	A17-05843	78	25	296	96.7	1.59	3.42
SL-17-16	355021	92.12	93.12	1.00	A17-05843	95	32	263	119	0.84	1.81
SL-17-16	355022	93.12	94.12	1.00	A17-05843	153	36	220	123	0.7	1.5
SL-17-16	355023	94.12	95.12	1.00	A17-05843	10	3	13	0.9	0.04	0.09
SL-17-16	355024	95.12	96.12	1.00	A17-05843	1	2	3.7	0.3	0.02	0.04
SL-17-19	355055	43	44	1.00	A17-05843	< 1	2	19	0.2	0.07	0.15
SL-17-19	355057	44	45	1.00	A17-05843	4	2	143	0.2	0.1	0.22
SL-17-19	355058	45	46	1.00	A17-05843	380	75	108	152	0.04	0.09
SL-17-19	355059	46	47	1.00	A17-05843	118	105	19.3	239	< 0.01	< 0.01
SL-17-19	355061	47	48	1.00	A17-05843	203	108	159	164	0.06	0.12
SL-17-19	355062	48	49	1.00	A17-05843	108	38	71.1	83.7	0.09	0.19
SL-17-19	355063	49	50	1.00	A17-05843	132	45	85.8	103	0.1	0.21
SL-17-19	355064	50	51	1.00	A17-05843	138	43	160	121	0.24	0.51
SL-17-19	355065	51	52	1.00	A17-05843	255	36	562	53.3	0.31	0.66
SL-17-19	355066	52	53	1.00	A17-05843	377	111	371	145	1.34	2.89
SL-17-19	355067	53	54	1.00	A17-05843	774	139	249	203	0.56	1.21
SL-17-19	355068	54	55	1.00	A17-05843	77	38	633	90.5	0.02	0.05
SL-17-19	355069	55	56	1.00	A17-05843	37	8	545	31.2	0.01	0.03
SL-17-19	355071	56	57	1.00	A17-05843	45	26	156	77	1.77	3.82
SL-17-19	355072	57	58	1.00	A17-05843	252	42	537	163	0.95	2.04
SL-17-19	355073	58	59	1.00	A17-05843	348	73	339	98.5	0.4	0.87
SL-17-19	355074	59	60	1.00	A17-05843	87	67	200	273	0.03	0.06
SL-17-19	355075	60	61	1.00	A17-05843	333	32	238	94.9	0.48	1.04
SL-17-19	355077	61	62	1.00	A17-05843	87	25	200	68.1	0.04	0.1
SL-17-19	355078	62	62.94	0.94	A17-05843	1	< 1	91.2	0.3	0.06	0.14
SL-17-19	355079	62.94	64	1.06	A17-05843	< 1	< 1	1.9	0.3	0.02	0.04
SL-17-19	355081	103.19	104.19	1.00	A17-05843	6	2	84.2	1.8	0.05	0.11
SL-17-19	355082	104.19	105.19	1.00	A17-05843	95	9	2670	23.6	0.26	0.57
SL-17-19	355083	105.19	106.2	1.01	A17-05843	185	73	486	232	0.82	1.77
SL-17-19	355084	106.2	107.2	1.00	A17-05843	410	49	322	148	0.04	0.1
SL-17-19	355085	107.2	108.2	1.00	A17-05843	197	74	358	212	0.72	1.54
SL-17-19	355086	108.2	109.3	1.10	A17-05843	134	81	493	313	1.25	2.69
SL-17-19	355087	109.3	110.4	1.10	A17-05843	20	64	277	579	0.97	2.09
SL-17-19	355088	110.4	111.5	1.10	A17-05843	207	34	501	117	0.31	0.67
SL-17-19	355089	111.5	112.67	1.17	A17-05843	110	22	135	85.5	0.07	0.14
SL-17-19	355091	112.67	113.67	1.00	A17-05843	8	3	2130	0.7	0.11	0.23
SL-17-19	355092	113.67	114.67	1.00	A17-05843	2	3	149	0.5	0.08	0.17
SL-17-21	355025	46.2	47.2	1.00	A17-05843	< 1	1	5.9	0.2	0.04	0.08
SL-17-21	355026	47.2	48.2	1.00	A17-05843	1	2	8.9	0.2	0.05	0.11
SL-17-21	355027	48.2	49.2	1.00	A17-05843	8	2	120	0.2	0.08	0.17
SL-17-21	355028	49.2	50.2	1.00	A17-05843	31	29	474	69.9	0.12	0.26
SL-17-21	355029	50.2	51.2	1.00	A17-05843	3	3	1060	19.6	0.01	0.02

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-21	355031	51.2	52.2	1.00	A17-05843	3	4	817	33.5	0.56	1.21
SL-17-21	355032	52.2	53.2	1.00	A17-05843	2	< 1	120	7.5	2.02	4.36
SL-17-21	355033	53.2	54.2	1.00	A17-05843	< 1	< 1	44.1	2.4	0.95	2.04
SL-17-21	355034	54.2	55.2	1.00	A17-05843	2	< 1	58	0.6	1.01	2.17
SL-17-21	355035	55.2	56.2	1.00	A17-05843	1	< 1	48.7	2.6	0.67	1.44
SL-17-21	355037	56.2	57.2	1.00	A17-05843	229	4	431	63.9	0.75	1.62
SL-17-21	355038	57.2	58.2	1.00	A17-05843	29	6	401	56.6	0.99	2.13
SL-17-21	355039	58.2	59.2	1.00	A17-05843	547	117	409	259	0.1	0.21
SL-17-21	355041	59.2	60.2	1.00	A17-05843	83	85	166	149	0.52	1.11
SL-17-21	355042	60.2	61.2	1.00	A17-05843	463	106	224	267	0.03	0.06
SL-17-21	355043	61.2	62.2	1.00	A17-05843	150	72	89.8	273	0.01	0.03
SL-17-21	355044	62.2	63.2	1.00	A17-05843	65	50	40.6	180	< 0.01	0.02
SL-17-21	355045	63.2	64.2	1.00	A17-05843	33	52	182	169	0.03	0.07
SL-17-21	355046	64.2	65.4	1.20	A17-05843	7	54	149	206	0.03	0.06
SL-17-21	355047	65.4	66.4	1.00	A17-05843	8	2	4530	0.5	0.51	1.11
SL-17-21	355048	66.4	67.4	1.00	A17-05843	4	4	97.1	4.8	0.06	0.13
SL-17-21	355049	85.3	86.3	1.00	A17-05843	1	2	4.3	0.2	0.02	0.05
SL-17-21	355051	86.3	87.3	1.00	A17-05843	13	3	46.8	2.7	0.06	0.14
SL-17-21	355052	87.3	88.72	1.42	A17-05843	49	49	263	143	< 0.01	0.02
SL-17-21	355053	88.72	90	1.28	A17-05843	3	2	7	0.3	0.06	0.13
SL-17-21	355054	90	91	1.00	A17-05843	< 1	1	124	0.2	0.05	0.11
SL-17-22	354908	33.9	34.9	1.00	A17-05843	22	4	303	3.7	0.04	0.08
SL-17-22	354909	34.9	35.9	1.00	A17-05843	7	1	13.9	< 0.1	0.07	0.15
SL-17-22	354911	35.9	36.9	1.00	A17-05843	231	38	183	71.7	0.69	1.48
SL-17-22	354912	36.9	37.9	1.00	A17-05843	57	52	145	70.8	1.41	3.03
SL-17-22	354913	37.9	38.9	1.00	A17-05843	91	27	290	56.8	1.33	2.86
SL-17-22	354914	38.9	39.9	1.00	A17-05843	66	11	463	29.3	0.59	1.26
SL-17-22	354915	39.9	40.9	1.00	A17-05843	66	37	225	75.3	0.81	1.74
SL-17-22	354917	40.9	41.9	1.00	A17-05843	83	16	312	60	1.84	3.95
SL-17-22	354918	41.9	43.3	1.40	A17-05843	32	13	251	69.4	2.65	5.7
SL-17-22	354919	43.3	44.9	1.60	A17-05843	11	10	736	26.2	0.02	0.04
SL-17-22	354921	44.9	45.9	1.00	A17-05843	7	6	566	29.5	0.02	0.05
SL-17-22	354922	45.9	46.9	1.00	A17-05843	118	25	429	48.7	0.03	0.06
SL-17-22	354923	46.9	47.9	1.00	A17-05843	37	67	14.7	266	< 0.01	0.01
SL-17-22	354924	47.9	48.9	1.00	A17-05843	94	97	30.6	436	0.04	0.09
SL-17-22	354925	48.9	49.9	1.00	A17-05843	397	53	93.6	160	0.03	0.06
SL-17-22	354926	49.9	50.9	1.00	A17-05843	100	80	38.8	208	0.01	0.03
SL-17-22	354927	50.9	51.9	1.00	A17-05843	84	72	267	441	0.05	0.1
SL-17-22	354928	51.9	52.9	1.00	A17-05843	54	27	588	94.3	0.2	0.43
SL-17-22	354929	52.9	53.96	1.06	A17-05843	96	47	285	86.2	< 0.01	0.02
SL-17-22	354931	53.96	55	1.04	A17-05843	4	3	109	0.2	0.08	0.16
SL-17-22	354932	55	56	1.00	A17-05843	4	3	86.8	0.5	0.04	0.09
SL-17-22	354933	90.2	91.2	1.00	A17-05843	< 1	2	2.6	0.1	0.05	0.11
SL-17-22	354934	91.2	92.21	1.01	A17-05843	2	2	167	0.5	0.09	0.2
SL-17-22	354935	92.21	93	0.79	A17-05843	751	93	104	169	0.02	0.04
SL-17-22	354937	93	94	1.00	A17-05843	5	2	187	0.3	0.07	0.16
SL-17-22	354938	94	95	1.00	A17-05843	1	2	19	< 0.1	0.09	0.19
SL-17-22	354939	104.75	105.75	1.00	A17-05843	< 1	1	23.1	< 0.1	0.05	0.11
SL-17-22	354941	105.75	106.75	1.00	A17-05843	5	1	238	< 0.1	0.1	0.21
SL-17-22	354942	106.75	107.28	0.53	A17-05843	73	18	372	94.4	0.01	0.03

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-22	354943	107.28	107.72	0.44	A17-05843	15	2	855	1.6	0.26	0.55
SL-17-22	354944	107.72	108.26	0.54	A17-05843	164	45	146	106	1.88	4.05
SL-17-22	354945	108.26	109.8	1.54	A17-05843	178	104	248	147	0.07	0.15
SL-17-22	354946	109.8	110.8	1.00	A17-05843	37	2	436	1.4	0.1	0.21
SL-17-22	354947	110.8	111.8	1.00	A17-05843	< 1	1	4.3	< 0.1	0.05	0.1
SL-17-23	354879	14.4	15.4	1.00	A17-05843	5	3	82	0.6	0.04	0.08
SL-17-23	354881	15.4	16.4	1.00	A17-05843	2	3	39.7	0.7	0.04	0.08
SL-17-23	354882	16.4	17.24	0.84	A17-05843	145	58	64.2	179	0.01	0.03
SL-17-23	354883	17.24	18.24	1.00	A17-05843	5	3	193	0.4	0.04	0.08
SL-17-23	354884	18.24	19.24	1.00	A17-05843	< 1	2	7.7	0.2	0.02	0.05
SL-17-23	354885	45	46	1.00	A17-05843	5	2	14.1	0.1	0.05	0.1
SL-17-23	354886	46	47.1	1.10	A17-05843	7	2	27.4	0.2	0.06	0.13
SL-17-23	354887	47.1	48.1	1.00	A17-05843	39	44	130	85.1	0.04	0.09
SL-17-23	354888	48.1	49.1	1.00	A17-05843	204	25	483	91.9	< 0.01	0.02
SL-17-23	354889	49.1	50.1	1.00	A17-05843	141	44	342	110	0.34	0.72
SL-17-23	354891	50.1	51.44	1.34	A17-05843	81	43	224	90	0.29	0.63
SL-17-23	354892	51.44	52.3	0.86	A17-05843	34	23	1740	51.8	0.31	0.66
SL-17-23	354893	52.3	53.3	1.00	A17-05843	10	3	451	1.2	0.19	0.41
SL-17-23	354894	53.3	54.46	1.16	A17-05843	337	56	313	301	0.31	0.67
SL-17-23	354895	54.46	55.17	0.71	A17-05843	201	50	1760	202	0.34	0.74
SL-17-23	354896	55.17	56	0.83	A17-05843	161	72	236	194	0.79	1.7
SL-17-23	354898	56	56.96	0.96	A17-05843	216	71	327	150	0.42	0.9
SL-17-23	354899	56.96	58	1.04	A17-05843	5	3	744	1.1	0.15	0.33
SL-17-23	354901	58	59	1.00	A17-05843	5	3	694	1.4	0.18	0.39
SL-17-23	354902	59	60	1.00	A17-05843	< 1	2	88.4	0.4	0.07	0.15
SL-17-23	354903	60	61.4	1.40	A17-05843	12	3	818	0.4	0.14	0.3
SL-17-23	354904	61.4	62.4	1.00	A17-05843	304	72	410	133	0.46	0.98
SL-17-23	354905	62.4	63.35	0.95	A17-05843	215	51	70	237	0.02	0.03
SL-17-23	354906	63.35	64.35	1.00	A17-05843	3	3	67.7	0.4	0.04	0.09
SL-17-23	354907	64.35	65.35	1.00	A17-05843	< 1	2	5.7	0.2	0.02	0.05
SL-17-24	354839	103	104	1.00	A17-05843	2	2	24.7	0.2	< 0.01	< 0.01
SL-17-24	354841	104	105	1.00	A17-05843	15	6	36.3	22.5	< 0.01	< 0.01
SL-17-24	354842	105	106.3	1.30	A17-05843	45	11	382	68.3	< 0.01	< 0.01
SL-17-24	354843	106.3	106.95	0.65	A17-05843	167	68	104	220	< 0.01	< 0.01
SL-17-24	354844	106.95	108	1.05	A17-05843	8	6	703	1.2	0.01	0.02
SL-17-24	354845	108	109	1.00	A17-05843	1041	47	458	142	0.11	0.24
SL-17-24	354846	109	110.25	1.25	A17-05843	145	66	908	310	0.83	1.79
SL-17-24	354847	110.25	111.25	1.00	A17-05843	47	7	945	46.4	0.03	0.07
SL-17-24	354848	111.25	112.25	1.00	A17-05843	2	2	17.6	0.6	0.09	0.18
SL-17-24	354849	112.25	113.25	1.00	A17-05843	3	< 1	13.9	0.9	0.02	0.05
SL-17-24	354851	113.25	114.25	1.00	A17-05843	< 1	2	32.7	0.3	< 0.01	< 0.01
SL-17-24	354852	114.25	115.25	1.00	A17-05843	< 1	2	1.3	0.3	0.02	0.03
SL-17-24	354853	115.25	116.25	1.00	A17-05843	1	3	4.2	0.3	< 0.01	< 0.01
SL-17-24	354854	116.25	117.38	1.13	A17-05843	2	2	10	0.2	0.01	0.03
SL-17-24	354855	117.38	118.38	1.00	A17-05843	561	31	392	83.2	< 0.01	< 0.01
SL-17-24	354857	118.38	119.38	1.00	A17-05843	20	24	233	78.2	0.65	1.39
SL-17-24	354858	119.38	120.33	0.95	A17-05843	86	82	81	221	0.11	0.24
SL-17-24	354859	120.33	121.04	0.71	A17-05843	24	8	3330	11.3	0.27	0.59
SL-17-24	354861	121.04	121.6	0.56	A17-05843	141	95	683	254	< 0.01	< 0.01
SL-17-24	354862	121.6	122.6	1.00	A17-05843	6	4	1600	1.8	0.05	0.11

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-24	354863	122.6	123.6	1.00	A17-05843	1	2	21.7	1	< 0.01	< 0.01
SL-17-33	355111	50	51	1.00	A17-05843	< 1	< 1	4.6	0.2	0.05	0.1
SL-17-33	355112	51	51.84	0.84	A17-05843	4	< 1	913	0.2	0.19	0.41
SL-17-33	355113	51.84	53	1.16	A17-05843	74	83	387	116	1.1	2.37
SL-17-33	355114	53	54	1.00	A17-05843	9	16	272	55.9	1.7	3.65
SL-17-33	355115	54	55	1.00	A17-05843	16	17	285	33.7	2.62	5.64
SL-17-33	355117	55	56	1.00	A17-05843	115	91	628	156	0.37	0.79
SL-17-33	355118	56	57	1.00	A17-05843	6	2	684	12.1	0.73	1.58
SL-17-33	355119	57	58	1.00	A17-05843	3	7	628	26.8	0.42	0.89
SL-17-33	355121	58	59	1.00	A17-05843	6	19	591	117	0.29	0.63
SL-17-33	355122	59	60	1.00	A17-05843	3	6	1080	35.5	0.02	0.05
SL-17-33	355123	60	61	1.00	A17-05843	3	11	415	86.7	0.84	1.82
SL-17-33	355124	61	62	1.00	A17-05843	2	4	497	21.4	0.95	2.04
SL-17-33	355125	62	63	1.00	A17-05843	4	18	471	75.6	0.85	1.82
SL-17-33	355126	63	64	1.00	A17-05843	261	89	158	201	0.6	1.29
SL-17-33	355127	64	65	1.00	A17-05843	109	147	149	245	0.83	1.8
SL-17-33	355128	65	66	1.00	A17-05843	70	111	205	209	2.12	4.57
SL-17-33	355129	66	67	1.00	A17-05843	185	121	399	304	0.98	2.11
SL-17-33	355131	67	68	1.00	A17-05843	327	325	285	488	0.67	1.45
SL-17-33	355132	68	69	1.00	A17-05843	135	110	149	235	1.02	2.19
SL-17-33	355133	69	70	1.00	A17-05843	41	146	151	217	0.95	2.03
SL-17-33	355134	70	71	1.00	A17-05843	44	21	162	79.9	0.85	1.82
SL-17-33	355135	71	71.61	0.61	A17-05843	217	33	121	87.1	0.36	0.78
SL-17-33	355137	71.61	72.6	0.99	A17-05843	4	2	58.9	1	0.08	0.17
SL-17-33	355138	72.6	73.6	1.00	A17-05843	1	2	23.9	0.5	0.05	0.1
SL-17-35	355093	63.5	64.5	1.00	A17-05843	< 1	< 1	10.3	0.2	0.02	0.03
SL-17-35	355094	64.5	65.5	1.00	A17-05843	4	2	14.1	0.2	0.06	0.13
SL-17-35	355095	65.5	66.5	1.00	A17-05843	56	72	310	86.4	0.94	2.03
SL-17-35	355097	66.5	67.5	1.00	A17-05843	208	37	335	116	1.03	2.21
SL-17-35	355098	67.5	68.5	1.00	A17-05843	53	98	209	226	0.73	1.58
SL-17-35	355099	68.5	69.15	0.65	A17-05843	120	52	131	122	0.04	0.1
SL-17-35	355101	69.15	70.05	0.90	A17-05843	11	6	17.1	1.7	0.03	0.06
SL-17-35	355102	70.05	71	0.95	A17-05843	212	94	282	135	0.78	1.69
SL-17-35	355103	71	72	1.00	A17-05843	48	9	54.3	27.4	0.07	0.15
SL-17-35	355104	72	74	2.00	A17-05843	9	3	62.9	3.9	0.06	0.12
SL-17-35	355105	74	75.5	1.50	A17-05843	2	2	120	1.6	0.1	0.21
SL-17-35	355106	75.5	76.74	1.24	A17-05843	5	2	58.4	0.8	0.05	0.11
SL-17-35	355107	76.74	77.7	0.96	A17-05843	93	150	116	331	0.2	0.43
SL-17-35	355108	77.7	78.7	1.00	A17-05843	3	2	15.5	0.6	0.25	0.53
SL-17-35	355109	78.7	79.7	1.00	A17-05843	2	2	14.6	1	0.16	0.35
SL-17-36	355167	77.65	78.65	1.00	A17-05843	< 1	1	6.8	< 0.1	0.04	0.1
SL-17-36	355168	78.65	79.65	1.00	A17-05843	10	3	987	1.5	0.12	0.25
SL-17-36	355169	79.65	80.65	1.00	A17-05843	156	64	496	99.4	1.21	2.61
SL-17-36	355171	80.65	81.65	1.00	A17-05843	115	64	249	108	1.34	2.87
SL-17-36	355172	81.65	82.65	1.00	A17-05843	81	37	2450	70.3	0.86	1.86
SL-17-36	355173	82.65	83.8	1.15	A17-05843	166	33	1520	58.6	0.26	0.57
SL-17-36	355174	83.8	84.8	1.00	A17-05843	26	5	674	10.9	0.11	0.25
SL-17-36	355175	84.8	85.8	1.00	A17-05843	5	2	553	1.7	0.11	0.23
SL-17-37	355177	63.5	64.5	1.00	A17-05843	2	4	116	0.2	0.13	0.28
SL-17-37	355178	64.5	65.5	1.00	A17-05843	3	2	141	0.1	0.09	0.2

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-37	355179	65.5	66.5	1.00	A17-05843	73	22	402	71	0.74	1.59
SL-17-37	355181	66.5	67.5	1.00	A17-05843	8	5	132	38.3	0.94	2.03
SL-17-37	355182	67.5	68.5	1.00	A17-05843	2	< 1	22.1	47	0.02	0.05
SL-17-37	355183	68.5	70	1.50	A17-05843	15	41	1910	743	0.1	0.21
SL-17-37	355184	70	71	1.00	A17-05843	589	3	615	157	0.98	2.11
SL-17-37	355185	71	72	1.00	A17-05843	12	27	1840	778	0.18	0.39
SL-17-37	355186	72	73	1.00	A17-05843	13	136	1500	3120	0.1	0.23
SL-17-37	355187	73	74	1.00	A17-05843	11	162	1110	4870	0.05	0.12
SL-17-37	355188	74	75	1.00	A17-05843	14	285	699	7980	0.03	0.06
SL-17-37	355189	75	76	1.00	A17-05843	8	194	699	7260	0.5	1.09
SL-17-37	355191	76	77.6	1.60	A17-05843	11	148	909	4720	0.11	0.24
SL-17-37	355192	77.6	78.6	1.00	A17-05843	3	7	80.3	224	0.33	0.71
SL-17-37	355193	78.6	79.6	1.00	A17-05843	6	5	104	180	1.75	3.76
SL-17-37	355194	79.6	80.6	1.00	A17-05843	11	62	219	564	0.08	0.17
SL-17-37	355195	80.6	81.6	1.00	A17-05843	173	60	76.3	440	< 0.01	< 0.01
SL-17-37	355197	81.6	82.6	1.00	A17-05843	86	82	33.1	452	< 0.01	< 0.01
SL-17-37	355198	82.6	83.6	1.00	A17-05843	84	62	63.9	307	< 0.01	< 0.01
SL-17-37	355199	83.6	84.95	1.35	A17-05843	21	87	72.6	321	< 0.01	0.02
SL-17-37	355201	84.95	86	1.05	A17-05843	4	2	2570	0.6	0.32	0.68
SL-17-37	355202	86	87	1.00	A17-05843	2	2	27.5	0.2	0.03	0.06
SL-17-39	355139	67.7	68.7	1.00	A17-05843	5	2	86.1	0.2	0.03	0.06
SL-17-39	355141	68.7	69.7	1.00	A17-05843	14	3	156	12.6	0.06	0.13
SL-17-39	355142	69.7	71	1.30	A17-05843	137	26	570	64.5	0.52	1.12
SL-17-39	355143	71	72	1.00	A17-05843	46	30	333	108	0.03	0.05
SL-17-39	355144	72	73	1.00	A17-05843	193	84	182	112	1.04	2.23
SL-17-39	355145	73	74	1.00	A17-05843	222	68	402	88	1.86	4.01
SL-17-39	355146	74	75	1.00	A17-05843	1530	10	1200	38.6	2.3	4.95
SL-17-39	355147	75	76	1.00	A17-05843	174	167	323	396	1.28	2.75
SL-17-39	355148	76	77.15	1.15	A17-05843	200	182	224	386	0.26	0.55
SL-17-39	355149	77.15	78.64	1.49	A17-05843	23	5	834	6.5	0.2	0.43
SL-17-39	355151	78.64	80.3	1.66	A17-05843	255	45	61.9	186	0.02	0.05
SL-17-39	355152	80.3	81.3	1.00	A17-05843	97	8	31.9	9.8	0.07	0.15
SL-17-39	355153	81.3	82.3	1.00	A17-05843	4	3	21.3	0.2	0.06	0.13
SL-17-39	355154	121.77	122.77	1.00	A17-05843	7	8	62.4	1.6	0.04	0.09
SL-17-39	355155	122.77	123.77	1.00	A17-05843	6	9	128	5.4	0.05	0.11
SL-17-39	355156	123.77	125	1.23	A17-05843	75	83	160	217	0.02	0.04
SL-17-39	355158	125	126	1.00	A17-05843	472	31	419	81.7	0.01	0.03
SL-17-39	355159	126	127	1.00	A17-05843	362	55	492	152	0.37	0.8
SL-17-39	355161	127	128	1.00	A17-05843	84	38	229	72.3	0.82	1.76
SL-17-39	355162	128	129	1.00	A17-05843	107	68	182	103	0.09	0.2
SL-17-39	355163	129	130	1.00	A17-05843	194	36	165	79.6	0.02	0.05
SL-17-39	355164	130	131.3	1.30	A17-05843	302	46	233	121	< 0.01	0.02
SL-17-39	355165	131.3	132.3	1.00	A17-07047	4	7	33.6	0.8	0.08	0.17
SL-17-39	355166	132.3	133.3	1.00	A17-07047	12	4	40.2	2	0.05	0.1
SL-17-40	355203	51.5	52.5	1.00	A17-07047	< 1	2	46.8	0.2	0.04	0.09
SL-17-40	355204	52.5	53.5	1.00	A17-07047	3	2	326	0.2	0.07	0.14
SL-17-40	355205	53.5	54.5	1.00	A17-07047	6	26	115	47.2	0.02	0.04
SL-17-40	355206	54.5	55.5	1.00	A17-07047	3	2	18.7	17	0.01	0.03
SL-17-40	355207	55.5	56.5	1.00	A17-07047	2	< 1	20.6	7.1	0.22	0.46
SL-17-40	355208	56.5	57.5	1.00	A17-07047	108	1	167	34.3	0.98	2.11



HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-40	355209	57.5	58.5	1.00	A17-07047	139	351	285	802	0.25	0.55
SL-17-40	355211	58.5	59.5	1.00	A17-07047	58	4	163	87.4	0.8	1.72
SL-17-40	355212	59.5	60.5	1.00	A17-07047	3	68	197	225	0.4	0.87
SL-17-40	355213	60.5	61.5	1.00	A17-07047	137	54	181	163	0.85	1.83
SL-17-40	355214	61.5	62.5	1.00	A17-07047	168	57	176	118	0.7	1.5
SL-17-40	355215	62.5	63.5	1.00	A17-07047	104	34	599	88.6	0.31	0.67
SL-17-40	355217	63.5	64.5	1.00	A17-07047	145	31	402	148	0.1	0.22
SL-17-40	355218	64.5	65.5	1.00	A17-07047	257	71	190	217	0.05	0.11
SL-17-40	355219	65.5	66.5	1.00	A17-07047	7	3	145	2.8	0.06	0.12
SL-17-40	355221	76.6	77.6	1.00	A17-07047	1	2	1.5	0.2	0.02	0.05
SL-17-40	355222	77.6	78.59	0.99	A17-07047	3	2	10.8	0.2	0.05	0.11
SL-17-40	355223	78.59	79.6	1.01	A17-07047	252	53	356	118	0.07	0.16
SL-17-40	355224	79.6	80.81	1.21	A17-07047	169	52	466	196	0.11	0.23
SL-17-40	355225	80.81	81.8	0.99	A17-07047	3	2	4.5	0.5	0.05	0.1
SL-17-40	355226	81.8	82.8	1.00	A17-07047	< 1	2	0.8	0.1	0.03	0.06
SL-17-41	355264	51.5	52.5	1.00	A17-07047	< 1	2	3.1	0.1	0.02	0.04
SL-17-41	355265	52.5	53.53	1.03	A17-07047	2	2	52.4	0.2	0.08	0.17
SL-17-41	355266	53.53	54.5	0.97	A17-07047	81	63	161	173	0.06	0.13
SL-17-41	355267	54.5	55.5	1.00	A17-07047	568	81	257	126	0.64	1.37
SL-17-41	355268	55.5	56.5	1.00	A17-07047	803	54	418	112	0.93	2
SL-17-41	355269	56.5	57.5	1.00	A17-07047	97	62	379	142	1.61	3.46
SL-17-41	355271	57.5	58.5	1.00	A17-07047	215	74	292	105	2.15	4.62
SL-17-41	355272	58.5	59.5	1.00	A17-07047	48	77	223	103	1.93	4.15
SL-17-41	355273	59.5	60.5	1.00	A17-07047	97	32	286	51	1.4	3.01
SL-17-41	355274	60.5	61.85	1.35	A17-07047	203	32	470	70.8	1.16	2.5
SL-17-41	355276	61.85	63	1.15	A17-07047	54	14	245	28.9	0.18	0.38
SL-17-41	355277	63	64.3	1.30	A17-07047	43	5	180	4.3	0.11	0.25
SL-17-41	355278	64.3	65.2	0.90	A17-07047	36	90	478	469	0.66	1.43
SL-17-41	355279	65.2	66	0.80	A17-07047	206	19	659	49.9	0.13	0.27
SL-17-41	355281	66	67	1.00	A17-07047	90	74	337	211	0.57	1.23
SL-17-41	355282	67	68	1.00	A17-07047	47	35	460	86.5	0.26	0.56
SL-17-41	355283	68	69	1.00	A17-07047	80	53	380	111	0.67	1.44
SL-17-41	355284	69	70	1.00	A17-07047	363	65	616	162	0.33	0.71
SL-17-41	355285	70	71	1.00	A17-07047	107	55	533	132	0.41	0.88
SL-17-41	355286	71	72	1.00	A17-07047	231	107	349	278	0.18	0.39
SL-17-41	355287	72	73	1.00	A17-07047	10	2	1250	0.6	0.15	0.32
SL-17-41	355288	73	74	1.00	A17-07047	7	2	7.6	0.3	0.02	0.04
SL-17-41	355289	103.84	104.84	1.00	A17-07047	< 1	2	9.4	0.2	0.04	0.09
SL-17-41	355291	104.84	105.84	1.00	A17-07047	6	2	141	0.9	0.06	0.14
SL-17-41	355292	105.84	107.65	1.81	A17-07047	141	55	706	210	0.46	0.98
SL-17-41	355293	107.65	108.65	1.00	A17-07047	4	2	117	0.5	0.05	0.11
SL-17-41	355294	108.65	109.65	1.00	A17-07047	< 1	2	99.3	0.2	0.03	0.06
SL-17-42	355319	53.1	54.1	1.00	A17-07047	< 1	1	8	0.1	0.02	0.05
SL-17-42	355321	54.1	55.12	1.02	A17-07047	3	1	7.7	0.2	0.03	0.06
SL-17-42	355322	55.12	56	0.88	A17-07047	475	84	148	251	0.03	0.06
SL-17-42	355323	56	57	1.00	A17-07047	64	70	378	435	0.56	1.21
SL-17-42	355324	57	58	1.00	A17-07047	17	49	459	93.6	1.24	2.68
SL-17-42	355325	58	59	1.00	A17-07047	189	76	571	176	1.32	2.84
SL-17-42	355326	59	60	1.00	A17-07047	7	51	416	214	1.08	2.34
SL-17-42	355327	60	61	1.00	A17-07047	114	28	705	125	1.68	3.61

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-42	355328	61	62	1.00	A17-07047	93	23	455	47.5	0.85	1.82
SL-17-42	355329	62	63	1.00	A17-07047	139	22	263	28	0.47	1.01
SL-17-42	355331	63	64	1.00	A17-07047	258	34	444	66.2	0.85	1.83
SL-17-42	355332	64	65	1.00	A17-07047	124	90	247	170	1.23	2.64
SL-17-42	355333	65	66	1.00	A17-07047	553	202	379	249	1.89	4.06
SL-17-42	355334	66	67	1.00	A17-07047	424	62	412	137	0.87	1.87
SL-17-42	355335	67	68.3	1.30	A17-07047	691	55	423	122	0.49	1.06
SL-17-42	355337	68.3	69.3	1.00	A17-07047	7	2	204	0.4	0.16	0.34
SL-17-42	355338	69.3	70.3	1.00	A17-07047	10	2	74.9	0.3	0.06	0.13
SL-17-43	355227	52.75	53.75	1.00	A17-07047	5	2	26.6	0.2	0.02	0.05
SL-17-43	355228	53.75	54.75	1.00	A17-07047	5	3	511	0.5	0.11	0.25
SL-17-43	355229	54.75	56	1.25	A17-07047	33	82	39.1	125	< 0.01	0.02
SL-17-43	355231	56	57	1.00	A17-07047	70	186	241	263	0.2	0.44
SL-17-43	355232	57	58	1.00	A17-07047	49	243	171	330	0.24	0.51
SL-17-43	355233	58	59	1.00	A17-07047	84	107	111	151	0.04	0.09
SL-17-43	355234	59	60	1.00	A17-07047	216	106	263	152	0.05	0.11
SL-17-43	355235	60	61	1.00	A17-07047	80	140	93.4	183	0.04	0.1
SL-17-43	355237	61	62	1.00	A17-07047	220	281	199	341	0.24	0.52
SL-17-43	355238	62	63	1.00	A17-07047	189	106	193	113	0.97	2.1
SL-17-43	355239	63	64	1.00	A17-07047	22	95	270	102	0.72	1.55
SL-17-43	355241	64	65	1.00	A17-07047	190	70	154	78.9	0.29	0.63
SL-17-43	355242	65	66	1.00	A17-07047	82	80	208	93.8	0.29	0.63
SL-17-43	355243	66	67	1.00	A17-07047	93	33	339	87.5	0.72	1.55
SL-17-43	355244	67	68.3	1.30	A17-07047	38	45	467	97.2	1.02	2.19
SL-17-43	355245	68.3	69.3	1.00	A17-07047	18	3	765	2.5	0.17	0.37
SL-17-43	355246	69.3	70.3	1.00	A17-07047	5	2	7.5	0.2	0.09	0.19
SL-17-43	355247	74.9	75.9	1.00	A17-07047	4	2	4	0.6	0.02	0.03
SL-17-43	355248	75.9	76.9	1.00	A17-07047	4	2	13.4	0.2	0.06	0.12
SL-17-43	355249	76.9	78.3	1.40	A17-07047	308	54	220	105	0.65	1.4
SL-17-43	355251	78.3	79.3	1.00	A17-07047	6	2	28.9	0.7	0.08	0.18
SL-17-43	355252	79.3	80.3	1.00	A17-07047	3	2	87.4	0.2	0.03	0.07
SL-17-43	355253	104.35	105.35	1.00	A17-07047	4	2	122	0.1	0.06	0.12
SL-17-43	355254	105.35	106.35	1.00	A17-07047	14	3	2470	1.1	0.14	0.3
SL-17-43	355255	106.35	107.35	1.00	A17-07047	8	16	384	32.3	0.03	0.07
SL-17-43	355257	107.35	108.35	1.00	A17-07047	5	24	115	47.3	0.11	0.25
SL-17-43	355258	108.35	109.35	1.00	A17-07047	61	22	363	30.2	0.99	2.14
SL-17-43	355259	109.35	110.1	0.75	A17-07047	257	14	440	24.1	1.22	2.62
SL-17-43	355261	110.1	111.1	1.00	A17-07047	15	107	543	161	0.32	0.68
SL-17-43	355262	111.1	112.1	1.00	A17-07047	5	17	82.4	11.6	0.06	0.13
SL-17-43	355263	112.1	113.1	1.00	A17-07047	1	2	2.8	0.2	0.02	0.05
SL-17-44	355295	60.15	61.15	1.00	A17-07047	< 1	2	5.7	0.1	0.03	0.06
SL-17-44	355297	61.15	62.15	1.00	A17-07047	2	2	7.5	0.1	0.04	0.08
SL-17-44	355298	62.15	63.15	1.00	A17-07047	1065	212	795	881	0.07	0.15
SL-17-44	355299	63.15	64.15	1.00	A17-07047	4	3	534	6.9	0.6	1.29
SL-17-44	355301	64.15	65.15	1.00	A17-07230	152	8	441	37.5	0.95	2.04
SL-17-44	355302	65.15	66.15	1.00	A17-07230	232	22	399	37.9	1.42	3.05
SL-17-44	355303	66.15	67.15	1.00	A17-07230	67	29	297	49.2	1.65	3.55
SL-17-44	355304	67.15	68.15	1.00	A17-07230	197	19	334	85.7	1.32	2.84
SL-17-44	355305	68.15	69.15	1.00	A17-07230	57	20	436	107	0.95	2.04
SL-17-44	355306	69.15	70.15	1.00	A17-07230	42	20	434	38	0.97	2.09

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-44	355307	70.15	71.15	1.00	A17-07230	130	45	382	32.8	0.67	1.45
SL-17-44	355308	71.15	72.15	1.00	A17-07230	313	37	294	29	0.21	0.46
SL-17-44	355309	72.15	73.15	1.00	A17-07230	92	61	227	92.9	1.09	2.35
SL-17-44	355311	73.15	74.15	1.00	A17-07230	115	37	309	78.3	2.09	4.5
SL-17-44	355312	74.15	75.15	1.00	A17-07230	237	74	829	122	0.27	0.58
SL-17-44	355313	75.15	76.15	1.00	A17-07230	16	15	760	25.1	0.01	0.03
SL-17-44	355314	76.15	77.15	1.00	A17-07230	145	54	577	115	0.2	0.44
SL-17-44	355315	77.15	78.4	1.25	A17-07230	160	93	827	148	0.44	0.94
SL-17-44	355317	78.4	79.4	1.00	A17-07230	4	3	3700	1	0.19	0.41
SL-17-44	355318	79.4	80.4	1.00	A17-07230	1	3	9.9	0.2	0.03	0.07
SL-17-45	355361	74.3	75.3	1.00	A17-07230	< 1	2	3.8	0.2	0.02	0.05
SL-17-45	355362	75.3	76.3	1.00	A17-07230	10	4	12.1	3.8	0.06	0.13
SL-17-45	355363	76.3	77.3	1.00	A17-07230	109	129	405	82.5	0.13	0.29
SL-17-45	355364	77.3	78.3	1.00	A17-07230	7	6	447	30.3	0.94	2.02
SL-17-45	355365	78.3	79.3	1.00	A17-07230	152	55	271	87.3	0.62	1.34
SL-17-45	355366	79.3	80.3	1.00	A17-07230	5	5	661	19.9	0.02	0.03
SL-17-45	355367	80.3	81.3	1.00	A17-07230	62	4	753	27.5	0.01	0.03
SL-17-45	355368	81.3	82.3	1.00	A17-07230	141	39	938	434	0.09	0.2
SL-17-45	355369	82.3	83.3	1.00	A17-07230	257	31	768	55.8	0.09	0.19
SL-17-45	355371	83.3	84.3	1.00	A17-07230	133	48	505	91	1.33	2.87
SL-17-45	355372	84.3	85.3	1.00	A17-07230	33	169	421	94.4	0.28	0.61
SL-17-45	355373	85.3	86.3	1.00	A17-07230	42	126	385	74.6	0.29	0.62
SL-17-45	355374	86.3	87.3	1.00	A17-07230	257	50	303	69.8	1.3	2.8
SL-17-45	355375	87.3	88.3	1.00	A17-07230	72	32	319	45.2	1.42	3.05
SL-17-45	355377	88.3	89.3	1.00	A17-07230	612	30	525	79.2	1.53	3.28
SL-17-45	355378	89.3	90.3	1.00	A17-07230	312	34	379	61.6	0.73	1.58
SL-17-45	355379	90.3	91.3	1.00	A17-07230	84	40	443	80.7	0.4	0.86
SL-17-45	355381	91.3	92.5	1.20	A17-07230	214	47	192	187	0.41	0.88
SL-17-45	355382	92.5	93.5	1.00	A17-07230	3	2	24	0.2	0.06	0.13
SL-17-45	355383	93.5	94.5	1.00	A17-07230	< 1	2	3.1	0.2	0.03	0.07
SL-17-46	355384	89.5	90.5	1.00	A17-07230	< 1	2	17.6	0.2	0.15	0.32
SL-17-46	355385	90.5	91.5	1.00	A17-07230	5	2	60.3	0.3	0.18	0.4
SL-17-46	355386	91.5	93	1.50	A17-07230	454	213	437	125	0.3	0.65
SL-17-46	355387	93	94	1.00	A17-07230	889	49	658	26.7	0.09	0.19
SL-17-46	355388	94	95	1.00	A17-07230	25	27	557	88	0.03	0.06
SL-17-46	355389	95	96	1.00	A17-07230	11	6	678	66.3	0.04	0.08
SL-17-46	355391	96	97	1.00	A17-07230	30	35	502	46.6	0.08	0.18
SL-17-46	355392	97	98	1.00	A17-07230	114	62	451	64.9	0.67	1.44
SL-17-46	355393	98	99	1.00	A17-07230	172	60	364	72.2	0.44	0.95
SL-17-46	355394	99	100	1.00	A17-07230	584	67	364	46.6	0.9	1.94
SL-17-46	355395	100	101	1.00	A17-07230	211	84	347	93.3	0.84	1.8
SL-17-46	355397	101	102	1.00	A17-07230	257	34	482	43.4	0.42	0.91
SL-17-46	355398	102	103	1.00	A17-07230	259	18	434	48.6	1.02	2.19
SL-17-46	355399	103	104	1.00	A17-07230	214	64	337	85	0.86	1.84
SL-17-46	355401	104	104.93	0.93	A17-07230	251	45	139	59	0.92	1.97
SL-17-46	355402	104.93	106	1.07	A17-07230	2	4	9.7	0.7	0.1	0.21
SL-17-46	355402	106	107	1.00	A17-07230	< 1	3	14.4	0.2	0.06	0.13
SL-17-47	355339	66.25	67.25	1.00	A17-07230	< 1	2	5.6	0.2	0.02	0.04
SL-17-47	355341	67.25	68.25	1.00	A17-07230	1	3	21.7	0.1	0.03	0.06
SL-17-47	355342	68.25	69.25	1.00	A17-07230	174	83	291	153	0.31	0.66

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-47	355343	69.25	70.25	1.00	A17-07230	48	105	593	66.3	0.58	1.25
SL-17-47	355344	70.25	71	0.75	A17-07230	127	120	863	117	0.46	0.98
SL-17-47	355345	71	72	1.00	A17-07230	33	82	524	56.5	0.23	0.49
SL-17-47	355346	72	73	1.00	A17-07230	134	60	433	91	0.45	0.98
SL-17-47	355347	73	74	1.00	A17-07230	382	56	359	272	0.39	0.83
SL-17-47	355348	74	75	1.00	A17-07230	98	28	485	42.8	0.35	0.76
SL-17-47	355349	75	76	1.00	A17-07230	111	48	189	40.3	0.23	0.49
SL-17-47	355351	76	77	1.00	A17-07230	60	99	355	66.4	0.21	0.45
SL-17-47	355352	77	78	1.00	A17-07230	334	46	260	30.8	0.16	0.34
SL-17-47	355353	78	79	1.00	A17-07230	85	32	360	60.6	0.39	0.85
SL-17-47	355354	79	80	1.00	A17-07230	507	17	570	43.2	1.12	2.41
SL-17-47	355355	80	81	1.00	A17-07230	174	129	221	156	0.65	1.39
SL-17-47	355357	81	81.73	0.73	A17-07230	389	47	173	185	0.38	0.81
SL-17-47	355358	81.73	82.73	1.00	A17-07230	4	2	12.3	0.4	0.04	0.1
SL-17-47	355359	82.73	83.73	1.00	A17-07230	7	2	187	0.3	0.06	0.13
SL-17-48	355428	82.4	83.4	1.00	A17-07230	< 1	2	3.4	0.2	0.04	0.08
SL-17-48	355429	83.4	84.4	1.00	A17-07230	25	3	74.6	1	0.09	0.19
SL-17-48	355431	84.4	86	1.60	A17-07230	83	89	326	75.5	0.17	0.36
SL-17-48	355432	86	87	1.00	A17-07230	20	51	362	66	0.1	0.22
SL-17-48	355433	87	88	1.00	A17-07230	14	43	507	60.9	0.08	0.16
SL-17-48	355434	88	89	1.00	A17-07230	55	45	382	71.5	0.46	0.99
SL-17-48	355435	89	90	1.00	A17-07230	146	77	283	93.8	0.43	0.93
SL-17-48	355437	90	91	1.00	A17-07230	182	83	228	91.5	0.9	1.94
SL-17-48	355438	91	92	1.00	A17-07230	42	67	362	108	0.42	0.9
SL-17-48	355439	92	93	1.00	A17-07230	45	86	345	93.5	0.23	0.49
SL-17-48	355441	93	94	1.00	A17-07230	41	54	347	53.8	0.49	1.06
SL-17-48	355442	94	95	1.00	A17-07230	23	114	303	65.2	0.38	0.81
SL-17-48	355443	95	96	1.00	A17-07230	195	69	404	52.1	0.54	1.16
SL-17-48	355444	96	97	1.00	A17-07230	273	75	279	96.8	1.04	2.23
SL-17-48	355445	97	97.9	0.90	A17-07319	157	85	167	178	0.19	0.42
SL-17-48	355446	97.9	99	1.10	A17-07319	9	3	8.2	0.4	0.06	0.14
SL-17-48	355447	99	100	1.00	A17-07319	< 1	2	1.7	0.2	0.01	0.03
SL-17-49	355478	96.47	97.47	1.00	A17-07319	< 1	1	1.8	0.1	0.02	0.04
SL-17-49	355479	97.47	98.47	1.00	A17-07319	3	3	9.4	2.9	0.04	0.1
SL-17-49	355481	98.47	99.5	1.03	A17-07319	369	54	185	71.2	0.09	0.19
SL-17-49	355482	99.5	100.5	1.00	A17-07319	68	76	269	67.2	0.16	0.34
SL-17-49	355483	100.5	101.5	1.00	A17-07319	106	36	445	64.1	0.07	0.16
SL-17-49	355484	101.5	102.5	1.00	A17-07319	117	16	612	82.1	0.15	0.32
SL-17-49	355485	102.5	103.5	1.00	A17-07319	270	92	351	96.7	0.36	0.77
SL-17-49	355486	103.5	104.5	1.00	A17-07319	39	121	498	98.5	0.33	0.71
SL-17-49	355487	104.5	105.5	1.00	A17-07319	26	98	414	115	0.27	0.57
SL-17-49	355488	105.5	106.5	1.00	A17-07319	35	116	413	97.5	0.36	0.79
SL-17-49	355489	106.5	107.5	1.00	A17-07319	100	25	226	37.7	1.43	3.08
SL-17-49	355491	107.5	108.5	1.00	A17-07319	1060	59	264	58.7	1.07	2.31
SL-17-49	355492	108.5	109.75	1.25	A17-07319	420	66	487	148	0.68	1.46
SL-17-49	355493	109.75	110.75	1.00	A17-07319	9	5	8.7	15.5	0.04	0.09
SL-17-49	355494	110.75	111.75	1.00	A17-07319	2	2	10.6	3	0.02	0.05
SL-17-50	355448	86	87	1.00	A17-07319	3	2	41.8	0.2	0.09	0.18
SL-17-50	355449	87	87.93	0.93	A17-07319	4	2	12.5	0.3	0.08	0.18
SL-17-50	355451	87.93	89	1.07	A17-07319	240	42	398	70.8	0.3	0.64

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-50	355452	89	90	1.00	A17-07319	174	86	439	129	0.69	1.48
SL-17-50	355453	90	91	1.00	A17-07319	201	66	2860	120	0.36	0.77
SL-17-50	355454	91	92	1.00	A17-07319	102	108	552	84.5	0.3	0.64
SL-17-50	355455	92	93	1.00	A17-07319	153	69	304	47.5	0.83	1.78
SL-17-50	355457	93	94	1.00	A17-07319	76	41	269	46	0.96	2.08
SL-17-50	355458	94	95	1.00	A17-07319	160	26	229	26.6	0.82	1.78
SL-17-50	355459	95	96	1.00	A17-07319	27	3	685	17.1	0.03	0.06
SL-17-50	355461	96	97	1.00	A17-07319	10	2	790	15.1	0.01	0.02
SL-17-50	355462	97	98	1.00	A17-07319	180	20	602	76	0.11	0.23
SL-17-50	355463	98	99.12	1.12	A17-07319	213	78	303	159	0.02	0.03
SL-17-50	355464	99.12	100.12	1.00	A17-07319	1	5	12	1.4	0.01	0.03
SL-17-50	355465	100.12	101.12	1.00	A17-07319	1	2	10.2	0.2	< 0.01	0.02
SL-17-51	355466	100.37	101.37	1.00	A17-07319	< 1	2	14.4	0.2	0.03	0.06
SL-17-51	355467	101.37	102.37	1.00	A17-07319	8	3	60.5	4	0.09	0.18
SL-17-51	355468	102.37	103.17	0.80	A17-07652	24	39	28.9	98.1	0.01	0.02
SL-17-51	355469	103.17	104.17	1.00	A17-07652	5	2	5.5	1.2	0.02	0.04
SL-17-51	355471	104.17	105.17	1.00	A17-07652	1	2	15.7	0.1	0.02	0.05
SL-17-51	355472	109.4	110.4	1.00	A17-07652	28	8	3.6	20.1	0.01	0.03
SL-17-51	355473	110.4	111.4	1.00	A17-07652	5	2	6.5	0.2	0.04	0.08
SL-17-51	355474	111.4	112.12	0.72	A17-07652	135	40	116	76.1	1.03	2.22
SL-17-51	355475	112.12	113.12	1.00	A17-07652	2	2	16.5	0.4	0.1	0.21
SL-17-51	355477	113.12	114.12	1.00	A17-07652	< 1	2	18.8	< 0.1	0.06	0.13
SL-17-53	355404	68.8	69.8	1.00	A17-07652	< 1	2	1.2	0.1	0.02	0.03
SL-17-53	355405	69.8	70.8	1.00	A17-07652	3	2	90.2	0.2	0.08	0.17
SL-17-53	355406	70.8	72	1.20	A17-07652	76	86	177	150	< 0.01	0.02
SL-17-53	355407	72	73	1.00	A17-07652	19	56	314	115	0.82	1.77
SL-17-53	355408	73	74	1.00	A17-07652	21	60	187	78.2	0.77	1.67
SL-17-53	355409	74	75	1.00	A17-07652	108	25	314	42.8	2.16	4.64
SL-17-53	355411	75	76	1.00	A17-07652	22	42	353	105	1.97	4.25
SL-17-53	355412	76	77	1.00	A17-07652	587	31	183	35.1	1.01	2.17
SL-17-53	355413	77	78	1.00	A17-07652	394	47	242	51.6	1.3	2.8
SL-17-53	355414	78	79	1.00	A17-07652	326	49	413	71.4	0.53	1.14
SL-17-53	355415	79	80	1.00	A17-07652	166	38	344	43.2	0.2	0.43
SL-17-53	355417	80	81	1.00	A17-07652	71	26	468	33	0.11	0.23
SL-17-53	355418	81	82	1.00	A17-07652	35	64	222	109	1.13	2.42
SL-17-53	355419	82	83	1.00	A17-07652	913	110	448	175	1.44	3.11
SL-17-53	355421	83	84	1.00	A17-07652	167	47	363	115	2.53	5.44
SL-17-53	355422	84	85	1.00	A17-07652	87	39	306	101	2.12	4.57
SL-17-53	355423	85	86	1.00	A17-07652	107	72	366	124	1.16	2.49
SL-17-53	355424	86	87	1.00	A17-07652	145	45	490	95.8	0.55	1.18
SL-17-53	355425	87	88.45	1.45	A17-07652	77	49	250	138	0.29	0.62
SL-17-53	355426	88.45	89.45	1.00	A17-07652	2	2	206	0.3	0.22	0.48
SL-17-53	355427	89.45	90.45	1.00	A17-07652	< 1	3	10.5	0.7	0.14	0.3
SL-17-56	355511	86.72	87.72	1.00	A17-07652	< 1	2	62	0.1	0.07	0.14
SL-17-56	355512	87.72	88.72	1.00	A17-07652	1	2	19.6	0.1	0.11	0.23
SL-17-56	355513	88.72	90	1.28	A17-07652	76	59	267	67.2	1.35	2.91
SL-17-56	355514	90	91	1.00	A17-07652	66	222	614	103	0.78	1.68
SL-17-56	355515	91	92	1.00	A17-07652	99	215	602	96	0.64	1.37
SL-17-56	355517	92	93	1.00	A17-07652	198	49	560	42.3	0.17	0.36
SL-17-56	355518	93	94	1.00	A17-07652	278	92	391	59.4	0.26	0.56

HoleID	Sample ID	From (m)	To (m)	Length (m)	Certificate	Be PPM	Nb PPM	Cs PPM	Ta PPM	Li%	Li2O%
SL-17-56	355519	94	95	1.00	A17-07652	175	105	405	61	0.31	0.67
SL-17-56	355521	95	96	1.00	A17-07652	81	81	448	70.3	0.32	0.68
SL-17-56	355522	96	97	1.00	A17-07652	19	145	451	81.5	0.6	1.29
SL-17-56	355523	97	98	1.00	A17-07652	415	57	310	58.6	1.23	2.66
SL-17-56	355524	98	99	1.00	A17-07652	401	77	286	118	0.89	1.92
SL-17-56	355525	99	100	1.00	A17-07652	395	56	317	90.4	0.78	1.67
SL-17-56	355526	100	101	1.00	A17-07652	172	40	420	103	0.2	0.44
SL-17-56	355527	101	102	1.00	A17-07652	218	56	288	168	0.46	0.99
SL-17-56	355528	102	102.87	0.87	A17-07652	323	30	630	74.1	0.67	1.44
SL-17-56	355529	102.87	103.87	1.00	A17-07652	4	2	176	0.2	0.24	0.51
SL-17-56	355531	103.87	104.87	1.00	A17-07652	< 1	2	8.1	0.1	0.17	0.37
SL-17-56	355532	109.2	110.2	1.00	A17-07652	1	2	8.4	0.1	0.15	0.32
SL-17-56	355533	110.2	111.2	1.00	A17-07652	4	3	16.7	1.2	0.15	0.32
SL-17-56	355534	111.2	112.2	1.00	A17-07652	90	95	484	65.8	0.22	0.46
SL-17-56	355535	112.2	113.2	1.00	A17-07652	82	136	1040	66	0.33	0.71
SL-17-56	355537	113.2	114.2	1.00	A17-07652	68	123	515	64.5	0.27	0.59
SL-17-56	355538	114.2	115.2	1.00	A17-07652	337	145	493	65.3	0.32	0.7
SL-17-56	355539	115.2	116.2	1.00	A17-07652	136	133	403	61.9	0.27	0.59
SL-17-56	355541	116.2	117.6	1.40	A17-07652	80	129	331	74.8	0.22	0.47
SL-17-56	355542	117.6	118.6	1.00	A17-07652	9	5	68.3	2.8	0.1	0.21
SL-17-56	355543	118.6	119.6	1.00	A17-07652	13	3	101	1.1	0.14	0.29
SL-17-58	355495	103.55	104.55	1.00	A17-07652	< 1	1	2.6	0.2	0.02	0.05
SL-17-58	355497	104.55	105.55	1.00	A17-07652	3	2	6.2	1.3	0.04	0.08
SL-17-58	355498	105.55	107	1.45	A17-07652	412	75	595	72.1	0.21	0.45
SL-17-58	355499	107	108	1.00	A17-07652	78	15	591	38	0.09	0.19
SL-17-58	355501	108	109	1.00	A17-07652	6	12	724	41.4	0.05	0.1
SL-17-58	355502	109	110	1.00	A17-07652	3	11	776	58.5	0.03	0.06
SL-17-58	355503	110	111	1.00	A17-07652	45	25	494	141	0.04	0.09
SL-17-58	355504	111	112	1.00	A17-07652	15	208	560	85.7	0.36	0.78
SL-17-58	355505	112	113	1.00	A17-07652	89	110	366	87.7	0.85	1.83
SL-17-58	355506	113	114	1.00	A17-07652	860	104	441	136	0.56	1.21
SL-17-58	355507	114	115.28	1.28	A17-07652	456	82	194	122	0.19	0.4
SL-17-58	355508	115.28	116.28	1.00	A17-07652	6	2	7.6	0.4	0.05	0.12
SL-17-58	355509	116.28	117.28	1.00	A17-07652	1	2	2.5	0.2	0.02	0.04

Hole ID	Sample Number	Assay Certificate	From (m)	To (m)	Length (m)	LiO2 %
SL-17-59	355624	A17-09798	105.13	106.13	1	0.14
SL-17-59	355625	A17-09798	106.13	107.13	1	0.4
SL-17-59	355626	A17-09798	107.13	108	0.87	0.43
SL-17-59	355627	A17-09798	108	109	1	0.63
SL-17-59	355628	A17-09798	109	110	1	1.13
SL-17-59	355629	A17-09798	110	111	1	0.43
SL-17-59	355631	A17-09798	111	112	1	1.68
SL-17-59	355632	A17-09798	112	113	1	0.46
SL-17-59	355633	A17-09798	113	114	1	0.3
SL-17-59	355634	A17-09798	114	115	1	0.48
SL-17-59	355635	A17-09798	115	116	1	1.26
SL-17-59	355637	A17-09798	116	117	1	0.48
SL-17-59	355638	A17-09798	117	118	1	1.69
SL-17-59	355639	A17-09798	118	119	1	1.59
SL-17-59	355641	A17-09798	119	120	1	2.57
SL-17-59	355642	A17-09798	120	121	1	2.37
SL-17-59	355643	A17-09798	121	122	1	1.36
SL-17-59	355644	A17-09798	122	122.9	0.9	1.88
SL-17-59	355645	A17-09798	122.9	123.9	1	0.21
SL-17-59	355646	A17-09798	123.9	124.9	1	0.07
SL-17-60	355647	A17-09798	101.1	102.1	1	0.04
SL-17-60	355648	A17-09798	102.1	103.1	1	0.21
SL-17-60	355649	A17-09798	103.1	104	0.9	0.36
SL-17-60	355651	A17-09798	104	105	1	0.04
SL-17-60	355652	A17-09798	105	106	1	0.03
SL-17-60	355653	A17-09798	106	107	1	0.07
SL-17-60	355654	A17-09798	107	108	1	0.16
SL-17-60	355655	A17-09798	108	109	1	0.11
SL-17-60	355657	A17-09798	109	110	1	0.64
SL-17-60	355658	A17-09798	110	111	1	0.13
SL-17-60	355659	A17-09798	111	112	1	0.84
SL-17-60	355661	A17-09798	112	113	1	2.17
SL-17-60	355662	A17-09798	113	114	1	2.35
SL-17-60	355663	A17-09798	114	115	1	0.27
SL-17-60	355664	A17-09798	115	116	1	1.53
SL-17-60	355665	A17-09798	116	117	1	3.14
SL-17-60	355666	A17-09798	117	118	1	0.95
SL-17-60	355667	A17-09798	118	118.8	0.8	1.99
SL-17-60	355668	A17-09798	118.8	119.8	1	0.15
SL-17-60	355669	A17-09798	119.8	120.8	1	0.12
SL-17-61	355695	A17-09798	110.6	111.6	1	0.14

SL-17-61	355697	A17-09798	111.6	112.6	1	0.3
SL-17-61	355698	A17-09798	112.6	113.6	1	0.7
SL-17-61	355699	A17-09798	113.6	114.6	1	0.75
SL-17-61	355701	A17-09798	114.6	115.6	1	1.38
SL-17-61	355702	A17-09798	115.6	116.6	1	2.72
SL-17-61	355703	A17-09798	116.6	117.6	1	1.57
SL-17-61	355704	A17-09798	117.6	118.6	1	0.81
SL-17-61	355705	A17-09798	118.6	119.6	1	1.35
SL-17-61	355706	A17-09798	119.6	120.6	1	0.68
SL-17-61	355707	A17-09798	120.6	121.6	1	0.88
SL-17-61	355708	A17-09798	121.6	122.6	1	0.21
SL-17-61	355709	A17-09798	122.6	123.6	1	0.49
SL-17-61	355711	A17-09798	123.6	124.6	1	0.77
SL-17-61	355712	A17-09798	124.6	125.6	1	0.03
SL-17-61	355713	A17-09798	125.6	126.6	1	0.76
SL-17-61	355714	A17-09798	126.6	127.6	1	0.24
SL-17-61	355715	A17-09798	127.6	128.6	1	3.06
SL-17-61	355717	A17-09798	128.6	129.6	1	4.18
SL-17-61	355718	A17-09798	129.6	130.6	1	3.62
SL-17-61	355719	A17-09798	130.6	131.6	1	1.2
SL-17-61	355721	A17-09798	131.6	132.6	1	2.67
SL-17-61	355722	A17-09798	132.6	133.86	1.26	1.28
SL-17-61	355723	A17-09798	133.86	134.86	1	0.17
SL-17-61	355724	A17-09798	134.86	135.86	1	0.06
SL-17-62	355671	A17-09798	103.1	104.1	1	0.09
SL-17-62	355672	A17-09798	104.1	105.1	1	0.48
SL-17-62	355673	A17-09798	105.1	106	0.9	0.47
SL-17-62	355674	A17-09798	106	107	1	0.86
SL-17-62	355675	A17-09798	107	108	1	0.09
SL-17-62	355677	A17-09798	108	109	1	0.01
SL-17-62	355678	A17-09798	109	110	1	0.02
SL-17-62	355679	A17-09798	110	111	1	0.04
SL-17-62	355681	A17-09798	111	112	1	0.81
SL-17-62	355682	A17-09798	112	113	1	0.29
SL-17-62	355683	A17-09798	113	114	1	0.3
SL-17-62	355684	A17-09798	114	115	1	0.44
SL-17-62	355685	A17-09798	115	116	1	1.19
SL-17-62	355686	A17-09798	116	117	1	1.1
SL-17-62	355687	A17-09798	117	118	1	1.85
SL-17-62	355688	A17-09798	118	119	1	1.93
SL-17-62	355689	A17-09798	119	120	1	3.51
SL-17-62	355691	A17-09798	120	121	1	3.28
SL-17-62	355692	A17-09798	121	122.26	1.26	1.08



SL-17-62	355693	A17-09798	122.26	123.26	1	0.1
SL-17-62	355694	A17-09798	123.26	124.26	1	0.16
SL-17-63	355725	A17-09798	93.84	94.84	1	0.09
SL-17-63	355726	A17-09798	94.84	95.84	1	0.18
SL-17-63	355727	A17-09798	95.84	97	1.16	0.09
SL-17-63	355728	A17-09798	97	98	1	0.27
SL-17-63	355729	A17-09798	98	99	1	0.76
SL-17-63	355731	A17-09798	99	100	1	2.49
SL-17-63	355732	A17-09798	100	101	1	3.01
SL-17-63	355733	A17-09798	101	102	1	3.45
SL-17-63	355734	A17-09798	102	103	1	1.81
SL-17-63	355735	A17-09798	103	104	1	1.71
SL-17-63	355737	A17-09798	104	105	1	2.61
SL-17-63	355738	A17-09798	105	106	1	2.56
SL-17-63	355739	A17-09798	106	107	1	1.5
SL-17-63	355741	A17-09798	107	108	1	2.85
SL-17-63	355742	A17-09798	108	109	1	0.77
SL-17-63	355743	A17-09798	109	110.13	1.13	0.5
SL-17-63	355744	A17-09798	110.13	111.13	1	0.11
SL-17-63	355745	A17-09798	111.13	112.13	1	0.09
SL-17-64	355746	A17-09798	81.43	82.43	1	0.31
SL-17-64	355747	A17-09798	82.43	83.43	1	0.34
SL-17-64	355748	A17-09798	83.43	84.43	1	1.38
SL-17-64	355749	A17-09798	84.43	85.43	1	0.09
SL-17-64	355751	A17-09798	85.43	86.43	1	0.45
SL-17-64	355752	A17-09798	86.43	87.43	1	1.98
SL-17-64	355753	A17-09798	87.43	88.43	1	2.11
SL-17-64	355754	A17-09798	88.43	89.56	1.13	1.05
SL-17-64	355755	A17-09798	89.56	90.56	1	0.85
SL-17-64	355757	A17-09798	90.56	91.56	1	0.33
SL-17-64	355758	A17-09798	101.47	102.47	1	0.14
SL-17-64	355759	A17-09798	102.47	102.98	0.51	0.15
SL-17-64	355761	A17-09798	102.98	103.98	1	0.07
SL-17-64	355762	A17-09798	118	119	1	0.07
SL-17-64	355763	A17-09798	119	119.98	0.98	0.17
SL-17-64	355764	A17-09798	119.98	121	1.02	0.16
SL-17-64	355765	A17-09798	121	122	1	0.96
SL-17-64	355766	A17-09798	122	123.4	1.4	0.77
SL-17-64	355767	A17-09798	123.4	124.4	1	0.13
SL-17-64	355768	A17-09798	124.4	125.4	1	0.21
SL-17-65	355819	A17-09798	125.35	126.35	1	0.05
SL-17-65	355821	A17-09798	126.35	127.35	1	0.13
SL-17-65	355822	A17-09798	127.35	128.35	1	0.32

SL-17-65	355823	A17-09798	128.35	129.35	1	0.36
SL-17-65	355824	A17-09798	129.35	130.35	1	1.8
SL-17-65	355825	A17-09798	130.35	131.35	1	3.07
SL-17-65	355826	A17-09798	131.35	132.35	1	3.71
SL-17-65	355827	A17-09798	132.35	133.35	1	2.14
SL-17-65	355828	A17-09798	133.35	134.35	1	0.4
SL-17-65	355829	A17-09798	134.35	135.35	1	1.78
SL-17-65	355831	A17-09798	135.35	136.35	1	0.08
SL-17-65	355832	A17-09798	136.35	137.35	1	0.26
SL-17-65	355833	A17-09798	137.35	138.35	1	0.07
SL-17-65	355834	A17-09798	138.35	139.6	1.25	0.95
SL-17-65	355835	A17-09798	139.6	140.6	1	0.26
SL-17-65	355836	A17-09798	140.6	141.6	1	0.17
SL-17-66	355769	A17-09798	119.2	120.2	1	0.09
SL-17-66	355771	A17-09798	120.2	121.2	1	0.24
SL-17-66	355772	A17-09798	121.2	122	0.8	0.23
SL-17-66	355773	A17-09798	122	123	1	0.04
SL-17-66	355774	A17-09798	123	124	1	1.6
SL-17-66	355775	A17-09798	124	125	1	3.41
SL-17-66	355777	A17-09798	125	126	1	0.86
SL-17-66	355778	A17-09798	126	127	1	0.44
SL-17-66	355779	A17-09798	127	128	1	0.52
SL-17-66	355781	A17-09798	128	129	1	1.31
SL-17-66	355782	A17-09798	129	130	1	0.22
SL-17-66	355783	A17-09798	130	131	1	0.95
SL-17-66	355784	A17-09798	131	132	1	0.61
SL-17-66	355785	A17-09798	132	133	1	1.92
SL-17-66	355786	A17-09798	133	134.4	1.4	0.84
SL-17-66	355787	A17-09798	134.4	135.4	1	0.34
SL-17-66	355788	A17-09798	135.4	136.4	1	0.3
SL-17-67	355789	A17-09798	121.87	122.87	1	0.04
SL-17-67	355791	A17-09798	122.87	123.87	1	0.24
SL-17-67	355792	A17-09798	123.87	125	1.13	0.69
SL-17-67	355793	A17-09798	125	126	1	0.94
SL-17-67	355794	A17-09798	126	127	1	0.53
SL-17-67	355795	A17-09798	127	128	1	0.87
SL-17-67	355797	A17-09798	128	129	1	2.94
SL-17-67	355798	A17-09798	129	130	1	3.26
SL-17-67	355799	A17-09798	130	131	1	1.11
SL-17-67	355801	A17-09798	131	132	1	0.51
SL-17-67	355802	A17-09798	132	133	1	1.8
SL-17-67	355803	A17-09798	133	134	1	1.38
SL-17-67	355804	A17-09798	134	135	1	0.81

SL-17-67	355805	A17-09798	135	136	1	0.46
SL-17-67	355806	A17-09798	136	137	1	0.55
SL-17-67	355807	A17-09798	137	138	1	0.87
SL-17-67	355808	A17-09798	138	139	1	2.02
SL-17-67	355809	A17-09798	139	140	1	1.67
SL-17-67	355811	A17-09798	140	141	1	0.63
SL-17-67	355812	A17-09798	141	142	1	1.51
SL-17-67	355813	A17-09798	142	143	1	2.16
SL-17-67	355814	A17-09798	143	144	1	1.58
SL-17-67	355815	A17-09798	144	144.92	0.92	1.61
SL-17-67	355817	A17-09798	144.92	145.92	1	0.07
SL-17-67	355818	A17-09798	145.92	146.92	1	0.07
SL-17-68	355837	A17-09798	117.76	118.76	1	0.06
SL-17-68	355838	A17-09798	118.76	119.76	1	0.09
SL-17-68	355839	A17-09798	119.76	121	1.24	1.01
SL-17-68	355841	A17-09798	121	122	1	1.19
SL-17-68	355842	A17-09798	122	123	1	0.77
SL-17-68	355843	A17-09798	123	124	1	1.06
SL-17-68	355844	A17-09798	124	125	1	2.35
SL-17-68	355845	A17-09798	125	126	1	0.58
SL-17-68	355846	A17-09798	126	127	1	1.04
SL-17-68	355847	A17-09798	127	128	1	2.22
SL-17-68	355848	A17-09798	128	129	1	1.78
SL-17-68	355849	A17-09798	129	130	1	0.1
SL-17-68	355851	A17-09798	130	131	1	0.73
SL-17-68	355852	A17-09798	131	132	1	1.67
SL-17-68	355853	A17-09798	132	133.4	1.4	0.15
SL-17-68	355854	A17-09798	133.4	134.4	1	0.18
SL-17-68	355855	A17-09798	134.4	135.4	1	0.23
SL-17-69	355856	A17-09798	131.92	132.92	1	0.06
SL-17-69	355857	A17-09798	132.92	133.92	1	0.18
SL-17-69	355858	A17-09798	133.92	135	1.08	1
SL-17-69	355859	A17-09798	135	136	1	0.92
SL-17-69	355860	A17-09798	136	137	1	0.59
SL-17-69	355862	A17-09798	137	138	1	1.12
SL-17-69	355863	A17-09798	138	139	1	1.44
SL-17-69	355864	A17-09798	139	140	1	0.59
SL-17-69	355865	A17-09798	140	141	1	1.67
SL-17-69	355866	A17-09798	141	142	1	1.6
SL-17-69	355867	A17-09798	142	143	1	1.06
SL-17-69	355868	A17-09798	143	144	1	2.86
SL-17-69	355869	A17-09798	144	145	1	1.34
SL-17-69	355870	A17-09798	145	146	1	0.01

SL-17-69	355872	A17-09798	146	147.27	1.27	0.4
SL-17-69	355873	A17-09798	147.27	148.27	1	0.17
SL-17-69	355874	A17-09798	148.27	149.27	1	0.1
SL-17-70	355875	A17-10608	136.75	137.75	1	0.06
SL-17-70	355877	A17-10608	137.75	138.75	1	0.18
SL-17-70	355878	A17-10608	138.75	140	1.25	0.35
SL-17-70	355879	A17-10608	140	141	1	0.47
SL-17-70	355881	A17-10608	141	142	1	1.72
SL-17-70	355882	A17-10608	142	143	1	1.34
SL-17-70	355883	A17-10608	143	144	1	4.03
SL-17-70	355884	A17-10608	144	145	1	2.46
SL-17-70	355885	A17-10608	145	146	1	0.67
SL-17-70	355886	A17-10608	146	147	1	1.17
SL-17-70	355887	A17-10608	147	148	1	0.43
SL-17-70	355888	A17-10608	148	149.55	1.55	0.18
SL-17-70	355889	A17-10608	149.55	150.55	1	0.04
SL-17-70	355891	A17-10608	150.55	151.55	1	0.05
SL-17-71	355892	A17-10608	134.22	135.22	1	0.04
SL-17-71	355893	A17-10608	135.22	136.22	1	0.23
SL-17-71	355894	A17-10608	136.22	137	0.78	0.29
SL-17-71	355895	A17-10608	137	138	1	0.47
SL-17-71	355897	A17-10608	138	139	1	1.27
SL-17-71	355898	A17-10608	139	140	1	1.33
SL-17-71	355899	A17-10608	140	141	1	1.55
SL-17-71	355901	A17-10608	141	142	1	1.94
SL-17-71	355902	A17-10608	142	143	1	2.53
SL-17-71	355903	A17-10608	143	144	1	0.48
SL-17-71	355904	A17-10608	144	145	1	1.82
SL-17-71	355905	A17-10608	145	146	1	0.66
SL-17-71	355906	A17-10608	146	147	1	1.69
SL-17-71	355907	A17-10608	147	148	1	2.22
SL-17-71	355908	A17-10608	148	149	1	1.19
SL-17-71	355909	A17-10608	149	150	1	1.64
SL-17-71	355911	A17-10608	150	151	1	0.92
SL-17-71	355912	A17-10608	151	152	1	2.39
SL-17-71	355913	A17-10608	152	153	1	1.89
SL-17-71	355914	A17-10608	153	154	1	0.74
SL-17-71	355915	A17-10608	154	155.6	1.6	0.37
SL-17-71	355917	A17-10608	155.6	156.6	1	0.21
SL-17-71	355918	A17-10608	156.6	157.6	1	0.1
SL-17-71	355919	A17-10608	157.6	158.6	1	0.12
SL-17-71	355921	A17-10608	158.6	159.6	1	0.12
SL-17-71	355922	A17-10608	159.6	161.07	1.47	0.31

SL-17-71	355923	A17-10608	161.07	161.89	0.82	0.1
SL-17-71	355924	A17-10608	161.89	162.89	1	0.19
SL-17-71	355925	A17-10608	162.89	163.89	1	0.09
SL-17-72	355926	A17-10608	66.54	67.54	1	0.17
SL-17-72	355927	A17-10608	67.54	68.54	1	0.26
SL-17-72	355928	A17-10608	68.54	70	1.46	1.79
SL-17-72	355929	A17-10608	70	71	1	1.05
SL-17-72	355931	A17-11016	71	72	1	0.31
SL-17-72	355932	A17-11016	72	73	1	0.77
SL-17-72	355933	A17-11016	73	74	1	0.11
SL-17-72	355934	A17-11016	74	75.2	1.2	1.04
SL-17-72	355935	A17-11016	75.2	76.2	1	0.17
SL-17-72	355937	A17-11016	76.2	77.2	1	0.05
SL-17-74	355938	A17-11016	57.4	58.4	1	0.17
SL-17-74	355939	A17-11016	58.4	59.4	1	0.25
SL-17-74	355941	A17-11016	59.4	61	1.6	1.04
SL-17-74	355942	A17-11016	61	62	1	0.03
SL-17-74	355943	A17-11016	62	63	1	0.14
SL-17-74	355944	A17-11016	63	64	1	0.55
SL-17-74	355945	A17-11016	64	65	1	1.87
SL-17-74	355946	A17-11016	65	66	1	0.02
SL-17-74	355947	A17-11016	66	67	1	0.19
SL-17-74	355948	A17-11016	67	68.3	1.3	0.38
SL-17-74	355949	A17-11016	68.3	69.3	1	0.14
SL-17-74	355951	A17-11016	69.3	70.3	1	0.05
SL-17-75	355952	A17-11016	69.3	70.3	1	0.14
SL-17-75	355953	A17-11016	70.3	71.3	1	0.49
SL-17-75	355954	A17-11016	71.3	72.3	1	1.2
SL-17-75	355955	A17-11016	72.3	73.3	1	2.27
SL-17-75	355957	A17-11016	73.3	74.3	1	0.95
SL-17-75	355958	A17-11016	74.3	75.3	1	0.05
SL-17-75	355959	A17-11016	75.3	76.3	1	0.77
SL-17-75	355961	A17-11016	76.3	77.3	1	1.73
SL-17-75	355962	A17-11016	77.3	78.3	1	1.64
SL-17-75	355963	A17-11016	78.3	79.3	1	1.42
SL-17-75	355964	A17-11016	79.3	80.3	1	0.59
SL-17-75	355965	A17-11016	80.3	81.3	1	0.77
SL-17-75	355966	A17-11016	81.3	82.3	1	0.67
SL-17-75	355967	A17-11016	82.3	83.3	1	0.7
SL-17-75	355968	A17-11016	83.3	84.3	1	0.19
SL-17-75	355969	A17-11016	84.3	85.3	1	1.43
SL-17-75	355971	A17-11016	85.3	86.75	1.45	0.38
SL-17-75	355972	A17-11016	86.75	87.75	1	0.07

<b>SL-17-75</b>	355973	A17-11016	87.75	88.75	1	0.06
<b>SL-17-76</b>	355974	A17-11016	53.7	54.7	1	0.03
<b>SL-17-76</b>	355975	A17-11016	54.7	55.7	1	0.07
<b>SL-17-76</b>	355976	A17-11016	55.7	57	1.3	0.96
<b>SL-17-76</b>	355978	A17-11016	57	58	1	1.8
<b>SL-17-76</b>	355979	A17-11016	58	59	1	1.11
<b>SL-17-76</b>	355981	A17-11016	59	60	1	0.99
<b>SL-17-76</b>	355982	A17-11016	60	61	1	0.9
<b>SL-17-76</b>	355983	A17-11016	61	62	1	2.04
<b>SL-17-76</b>	355984	A17-11016	62	63	1	0.93
<b>SL-17-76</b>	355985	A17-11016	63	64	1	0.41
<b>SL-17-76</b>	355986	A17-11016	64	65	1	3.01
<b>SL-17-76</b>	355987	A17-11016	65	66.3	1.3	3.47
<b>SL-17-76</b>	355988	A17-11016	66.3	67.55	1.25	0.18
<b>SL-17-76</b>	355989	A17-11016	67.55	68.55	1	0.06
<b>SL-17-76</b>	355991	A17-11016	68.55	69.55	1	0.05
<b>SL-17-77</b>	355992	A17-11016	46.8	47.8	1	0.03
<b>SL-17-77</b>	355993	A17-11016	47.8	48.8	1	0.11
<b>SL-17-77</b>	355994	A17-11016	48.8	49.8	1	0.55
<b>SL-17-77</b>	355995	A17-11016	49.8	50.8	1	1.98
<b>SL-17-77</b>	355997	A17-11016	50.8	51.8	1	3.83
<b>SL-17-77</b>	355998	A17-11016	51.8	52.8	1	3.29
<b>SL-17-77</b>	355999	A17-11016	52.8	53.8	1	3.44



**Date Submitted:** 17-Apr-17  
**Invoice No.:** A17-03713  
**Invoice Date:** 17-May-17  
**Your Reference:** Seymour Lake

**Ardiden Ltd.**  
**Suite 6, 295 Rokeby Rd**  
**Subiaco WA 6008**  
**Australia**

**ATTN: Brad Boyle (inv/res)**

## CERTIFICATE OF ANALYSIS

210 Core 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-03713**

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

Notes:

Total includes all elements in % oxide to the left of total.

Footnote: Sample ID 354660 had insufficient sample for LOI analysis.

CERTIFIED BY:

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

Emmanuel Esemé, Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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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
354501	48.18	14.40	13.01	0.208	7.16	12.15	1.97	0.34	0.890	0.05	1.95	100.3	44	2	282	300	44	100	190	80	18	3	< 5
354502	49.20	13.76	12.66	0.201	7.39	11.39	1.91	0.53	0.891	0.06	1.69	99.68	45	3	297	300	43	100	110	80	16	2	< 5
354503	47.20	15.70	13.36	0.246	7.03	10.13	0.80	0.60	0.865	0.67	4.16	100.8	44	32	282	290	39	90	50	90	32	4	< 5
354504	74.36	15.57	0.89	0.090	0.12	0.28	2.98	4.04	0.023	0.13	1.20	99.69	< 1	240	6	< 20	1	< 20	< 10	150	61	6	< 5
354505	74.52	18.08	0.76	0.105	0.08	0.21	2.90	1.50	0.009	0.09	0.51	98.76	< 1	47	< 5	30	< 1	< 20	< 10	30	56	6	< 5
354506	75.05	17.77	0.89	0.132	0.11	0.28	2.54	1.01	0.011	0.10	0.70	98.59	< 1	15	< 5	20	< 1	< 20	< 10	70	64	6	< 5
354507	75.76	17.16	1.10	0.132	0.11	0.49	1.15	2.04	0.012	0.20	0.77	98.91	< 1	21	< 5	20	< 1	< 20	< 10	80	65	6	< 5
354508	73.14	17.08	0.94	0.111	0.16	0.22	2.57	3.89	0.018	0.09	1.13	99.34	< 1	8	< 5	< 20	< 1	< 20	< 10	110	60	5	< 5
354509	76.28	14.56	0.72	0.076	0.15	0.25	3.51	2.63	0.012	0.12	0.87	99.17	< 1	454	< 5	< 20	< 1	< 20	< 10	90	53	6	< 5
354510	97.48	0.75	1.32	0.013	0.02	0.03	0.03	0.11	0.055	< 0.01	0.30	100.1	< 1	< 1	6	< 20	< 1	< 20	< 10	< 30	2	1	< 5
354511	74.54	14.23	0.44	0.022	0.07	0.15	3.87	6.40	0.007	0.14	0.39	100.3	< 1	8	< 5	< 20	1	< 20	< 10	< 30	31	5	< 5
354512	74.49	13.83	0.55	0.036	0.08	0.20	2.12	7.54	0.010	0.10	0.58	99.54	< 1	8	< 5	< 20	1	< 20	< 10	60	35	5	< 5
354513	74.65	14.97	0.97	0.085	0.12	0.21	1.97	5.00	0.014	0.07	0.85	98.91	< 1	61	< 5	< 20	< 1	< 20	< 10	80	53	5	< 5
354514	73.20	17.03	1.05	0.102	0.22	0.15	1.26	5.18	0.012	0.08	0.96	99.23	< 1	232	6	20	1	30	< 10	70	57	6	< 5
354515	73.68	16.18	0.74	0.055	0.10	0.31	3.57	3.83	0.004	0.17	0.44	99.09	< 1	219	< 5	20	1	< 20	< 10	< 30	44	6	< 5
354516	75.01	15.66	0.71	0.060	0.11	0.28	3.35	3.62	0.004	0.16	0.45	99.41	< 1	23	< 5	20	1	< 20	< 10	< 30	45	6	< 5
354517	76.36	14.35	0.72	0.084	0.10	0.42	4.04	1.84	0.008	0.20	0.63	98.76	< 1	311	< 5	20	< 1	< 20	< 10	50	44	6	< 5
354518	73.41	14.01	0.80	0.051	0.69	2.16	2.03	5.82	0.011	0.09	1.48	100.6	< 1	472	< 5	30	1	20	< 10	50	45	5	< 5
354519	72.95	15.86	1.13	0.087	0.29	0.56	2.18	4.74	0.010	0.13	0.92	98.85	< 1	76	< 5	20	2	< 20	< 10	60	54	5	< 5
354520	74.18	13.41	0.67	0.599	0.03	0.73	0.56	6.22	0.052	< 0.01	2.24	98.68	12	5	< 5	110	< 1	< 20	160	540	30	6	43
354521	51.25	14.15	12.94	0.173	6.13	9.30	2.39	0.51	1.328	0.14	2.01	100.3	33	3	321	100	47	80	200	100	25	2	< 5
354522	70.49	16.28	0.57	0.026	0.11	0.33	2.72	9.37	0.004	0.14	0.52	100.6	< 1	7	< 5	< 20	1	< 20	< 10	< 30	32	6	< 5
354523	76.11	13.54	0.75	0.075	0.17	0.24	2.85	5.58	0.013	0.14	0.76	100.2	< 1	124	< 5	< 20	2	< 20	< 10	70	39	5	< 5
354524	77.37	12.47	0.91	0.074	0.33	0.27	2.38	5.01	0.013	0.16	0.94	99.92	< 1	61	< 5	20	3	< 20	< 10	70	37	5	< 5
354525	73.71	14.00	0.82	0.034	0.65	0.75	2.16	7.22	0.031	0.12	1.21	100.7	< 1	29	8	< 20	3	< 20	40	< 30	29	5	< 5
354526	72.36	16.64	0.70	0.063	0.17	0.31	1.98	5.77	0.004	0.14	0.62	98.74	< 1	226	< 5	20	< 1	< 20	< 10	< 30	42	6	< 5
354527	73.06	15.20	0.44	0.038	0.11	0.19	2.29	7.72	0.004	0.14	0.51	99.70	< 1	32	< 5	< 20	3	< 20	< 10	30	32	6	< 5
354528	80.42	12.79	1.01	0.104	0.20	0.23	0.92	1.95	0.011	0.07	0.93	98.63	< 1	219	< 5	20	4	< 20	10	90	54	6	< 5
354529	76.97	14.22	0.65	0.082	0.11	0.61	1.79	3.53	0.005	0.39	0.60	98.96	< 1	136	< 5	30	3	< 20	< 10	30	41	7	< 5
354530	98.03	0.69	1.20	0.012	0.03	0.04	0.03	0.08	0.051	< 0.01	0.21	100.4	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	2	1	< 5
354531	74.70	15.68	0.77	0.093	0.23	0.55	2.57	2.88	0.007	0.23	1.03	98.72	< 1	40	< 5	30	5	< 20	10	50	53	7	< 5
354532	73.47	14.63	0.38	0.023	0.14	0.29	3.79	6.22	0.004	0.12	0.50	99.57	< 1	250	< 5	30	5	< 20	< 10	< 30	30	6	< 5
354533	67.86	17.31	0.24	0.007	0.02	0.17	2.86	10.66	0.001	0.14	0.26	99.52	< 1	21	< 5	< 20	1	< 20	< 10	< 30	25	5	< 5
354534	74.59	14.29	0.57	0.053	0.10	0.31	4.35	3.84	0.013	0.13	0.67	98.93	< 1	462	< 5	< 20	2	< 20	< 10	90	39	5	< 5
354535	76.13	14.44	0.75	0.058	0.15	0.26	3.61	4.39	0.008	0.11	0.86	100.8	< 1	96	< 5	20	3	< 20	< 10	100	43	6	< 5
354536	74.59	14.72	0.63	0.059	0.15	0.21	3.73	4.63	0.008	0.12	0.84	99.68	< 1	45	< 5	20	3	< 20	< 10	60	45	6	< 5
354537	68.69	17.68	0.29	0.018	0.02	0.16	2.68	9.98	0.003	0.17	0.29	99.99	< 1	8	< 5	20	1	< 20	< 10	< 30	28	6	< 5
354538	71.92	15.31	0.27	0.026	0.03	0.10	3.97	6.66	0.003	0.13	0.33	98.76	< 1	134	< 5	20	< 1	< 20	< 10	40	31	7	< 5
354539	73.88	15.45	0.51	0.074	0.05	0.30	6.34	3.14	0.011	0.22	0.63	100.6	< 1	82	< 5	< 20	< 1	< 20	< 10	70	42	6	< 5
354540	75.49	13.31	0.68	0.597	0.04	0.70	0.59	6.21	0.054	< 0.01	2.11	99.78	12	5	6	110	< 1	< 20	170	470	28	5	42
354541	51.50	14.98	12.21	0.187	6.56	8.55	1.78	0.59	1.127	0.13	2.52	100.1	43	12	336	200	48	110	110	100	20	2	< 5



Results

Activation Laboratories Ltd.

Report: A17-03713

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
354542	49.17	15.62	13.85	0.200	4.25	9.88	2.30	0.70	1.223	0.09	1.67	98.95	46	< 1	352	220	48	110	160	100	20	2	< 5
354543	59.23	16.07	8.68	0.165	2.71	5.76	4.11	0.44	1.281	0.08	1.87	100.4	43	1	328	220	37	70	80	50	16	1	< 5
354544	48.62	14.96	12.27	0.178	7.75	11.03	2.52	0.19	0.815	0.05	0.77	99.14	42	< 1	282	310	47	120	160	100	17	2	< 5
354545	51.67	14.32	12.00	0.125	8.66	8.69	2.30	0.51	0.821	0.06	1.21	100.3	42	1	271	300	44	120	160	90	16	2	< 5
354546	49.25	15.02	11.46	0.205	7.79	10.71	1.96	1.04	0.725	0.40	1.36	99.91	37	18	248	270	42	110	130	180	20	3	< 5
354547	74.46	14.95	0.56	0.055	0.17	0.54	6.91	0.89	0.016	0.10	0.85	99.51	< 1	234	< 5	< 20	1	< 20	< 10	70	50	5	< 5
354548	47.27	15.04	11.78	0.187	7.28	12.84	1.55	0.56	0.799	0.07	2.49	99.86	40	4	254	290	41	110	130	100	17	2	< 5
354549	49.58	15.18	11.73	0.188	6.42	13.48	1.82	0.26	0.795	0.07	1.00	100.5	42	2	267	300	46	140	140	80	16	2	< 5
354550	98.36	0.57	1.01	0.011	0.03	0.04	0.03	0.05	0.027	< 0.01	0.13	100.3	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	1	< 5
354551	48.61	14.78	11.44	0.192	6.32	15.33	1.51	0.28	0.797	0.06	1.39	100.7	41	< 1	268	300	46	130	120	80	16	2	< 5
354552	78.43	12.76	1.16	0.101	0.35	0.60	3.56	1.90	0.046	0.19	1.08	100.2	1	401	11	< 20	2	< 20	10	90	47	4	< 5
354553	68.70	17.26	0.57	0.045	0.19	0.18	1.92	9.26	0.009	0.16	0.83	99.14	< 1	264	< 5	< 20	2	< 20	< 10	40	38	6	< 5
354554	66.45	17.84	0.21	0.008	0.02	0.07	2.74	11.26	0.002	0.14	0.27	99.01	< 1	6	< 5	< 20	< 1	< 20	< 10	< 30	26	6	< 5
354555	71.29	14.99	0.39	0.034	0.02	0.45	2.19	9.06	0.002	0.41	0.26	99.10	< 1	113	< 5	20	1	< 20	< 10	< 30	24	5	< 5
354556	68.89	16.43	0.32	0.025	0.03	0.31	2.27	9.80	0.002	0.32	0.29	98.68	< 1	100	< 5	20	1	< 20	< 10	< 30	25	6	< 5
354557	71.15	16.50	0.27	0.015	0.02	0.11	2.73	9.23	0.003	0.17	0.29	100.5	< 1	159	< 5	< 20	< 1	< 20	< 10	< 30	27	6	< 5
354558	74.64	21.03	1.29	0.142	0.16	0.20	0.41	0.84	0.008	0.08	0.74	99.54	< 1	149	< 5	< 20	4	< 20	< 10	40	76	5	< 5
354559	67.96	17.66	0.22	0.019	0.03	0.22	2.44	11.15	0.001	0.26	0.23	100.2	< 1	194	< 5	< 20	< 1	< 20	< 10	< 30	27	6	< 5
354560	74.17	13.85	0.68	0.598	0.03	0.75	0.58	6.27	0.055	< 0.01	2.08	99.06	12	5	< 5	110	< 1	< 20	170	570	30	7	47
354561	68.65	17.28	0.22	0.009	0.03	0.07	2.90	10.36	0.001	0.16	0.21	99.90	< 1	12	< 5	< 20	1	< 20	< 10	< 30	29	6	< 5
354562	83.55	10.40	0.78	0.071	0.10	0.14	0.77	2.63	0.011	0.10	0.54	99.09	< 1	661	< 5	40	3	< 20	< 10	60	37	5	< 5
354563	83.12	12.04	0.95	0.091	0.15	0.16	0.77	1.51	0.007	0.09	0.60	99.47	< 1	102	< 5	30	1	< 20	< 10	50	40	5	< 5
354564	77.73	14.45	1.10	0.148	0.17	0.21	1.23	2.78	0.022	0.14	1.11	99.11	< 1	111	< 5	20	3	< 20	< 10	150	61	6	< 5
354565	74.39	16.81	0.90	0.086	0.17	0.11	1.34	4.33	0.007	0.08	0.73	98.95	< 1	83	< 5	20	1	< 20	< 10	60	53	6	< 5
354566	74.85	14.23	0.60	0.061	0.14	0.10	1.74	5.96	0.009	0.10	0.78	98.58	< 1	56	< 5	< 20	2	< 20	< 10	60	39	6	< 5
354567	70.76	15.33	0.38	0.033	0.05	0.09	2.06	9.50	0.006	0.15	0.39	98.74	< 1	37	< 5	< 20	< 1	< 20	< 10	40	31	6	< 5
354568	73.58	14.81	0.54	0.077	0.12	0.19	3.18	5.53	0.007	0.17	0.67	98.88	< 1	227	< 5	20	< 1	< 20	< 10	70	42	7	< 5
354569	69.93	16.31	0.30	0.017	0.04	0.06	2.67	9.76	0.002	0.14	0.24	99.47	< 1	19	< 5	< 20	< 1	< 20	< 10	< 30	29	6	< 5
354570	98.25	0.62	1.01	0.010	0.04	0.05	0.06	0.08	0.031	< 0.01	0.25	100.4	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	1	< 5
354571	76.05	13.62	0.57	0.077	0.13	0.13	1.70	6.10	0.017	0.12	0.90	99.43	< 1	368	< 5	30	1	< 20	< 10	90	39	5	< 5
354572	73.20	16.09	0.52	0.054	0.13	0.13	1.85	6.35	0.005	0.13	0.52	98.98	< 1	27	< 5	20	< 1	< 20	< 10	< 30	41	6	< 5
354573	74.95	13.93	0.26	0.032	0.04	0.13	3.55	6.30	0.004	0.13	0.38	99.71	< 1	159	< 5	20	< 1	< 20	< 10	< 30	30	7	< 5
354574	76.80	15.45	0.66	0.077	0.08	0.25	2.06	3.35	0.005	0.15	0.52	99.39	< 1	137	< 5	30	< 1	< 20	< 10	30	49	6	< 5
354575	78.04	17.70	0.91	0.112	0.10	0.24	1.19	0.63	0.008	0.10	0.65	99.69	< 1	84	< 5	50	3	< 20	< 10	30	62	5	< 5
354576	75.95	18.53	1.03	0.124	0.08	0.31	1.33	0.55	0.008	0.17	0.64	98.73	< 1	115	< 5	40	2	< 20	20	50	64	5	< 5
354577	80.92	12.58	0.62	0.077	0.10	0.25	2.80	1.48	0.011	0.12	0.89	99.83	< 1	211	< 5	40	< 1	< 20	< 10	70	46	6	< 5
354578	68.94	18.55	0.70	0.120	0.15	0.48	6.10	2.58	0.018	0.20	1.41	99.24	< 1	101	< 5	< 20	1	< 20	< 10	110	65	7	< 5
354579	66.44	19.27	0.18	0.025	0.03	0.76	8.87	2.20	0.003	0.17	0.87	98.82	< 1	9	< 5	< 20	< 1	< 20	10	< 30	39	7	< 5
354580	73.90	13.64	0.68	0.591	0.03	0.73	0.56	6.19	0.055	0.01	2.19	98.59	12	5	< 5	110	< 1	< 20	170	580	30	7	44
354581	47.79	14.81	13.83	0.289	6.73	11.45	1.05	0.59	1.180	0.22	2.51	100.4	41	7	321	180	40	100	60	100	19	2	< 5
354582	50.24	15.77	12.28	0.241	5.55	10.61	1.15	0.52	1.046	0.22	2.84	100.5	38	34	279	180	38	90	160	130	23	3	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-03713

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
354583	48.73	14.53	12.82	0.218	6.83	11.89	1.76	0.29	1.113	0.10	0.80	99.07	43	< 1	331	200	45	110	100	80	19	2	< 5
354584	49.26	15.06	12.24	0.233	6.84	11.89	1.67	0.48	1.217	0.09	1.32	100.3	42	1	319	190	42	100	60	100	19	2	< 5
354585	50.55	14.85	12.49	0.220	6.54	11.35	2.08	0.25	1.230	0.09	0.79	100.4	42	< 1	321	200	45	100	90	100	19	2	< 5
354586	47.41	14.68	11.63	0.237	6.84	10.93	1.72	1.39	0.982	0.57	2.15	98.55	37	42	289	170	38	90	80	100	23	3	< 5
354587	62.73	20.80	0.86	0.094	0.26	1.89	7.54	2.05	0.039	0.89	1.72	98.87	1	3656	7	< 20	3	< 20	20	150	73	7	< 5
354588	46.86	16.14	12.12	0.232	5.73	12.29	0.99	1.13	1.244	0.09	2.57	99.41	45	7	340	210	44	110	100	100	21	2	< 5
354589	49.59	15.78	12.13	0.212	6.37	11.70	1.26	0.72	1.126	0.09	1.77	100.8	40	7	330	190	40	90	90	80	19	2	< 5
354590	99.05	0.55	0.65	0.007	0.05	0.05	0.05	0.05	0.026	< 0.01	0.22	100.7	< 1	3	< 5	< 20	< 1	< 20	< 10	< 30	1	1	< 5
354591	49.30	14.65	13.38	0.269	6.42	12.15	1.98	0.28	1.077	0.08	0.85	100.4	41	< 1	314	190	41	100	120	90	19	2	< 5
354592	49.33	14.94	11.95	0.179	7.05	13.04	1.49	0.18	0.803	0.05	0.82	99.83	42	< 1	275	310	43	110	170	80	16	2	< 5
354593	49.88	14.92	12.21	0.191	7.03	12.71	1.46	0.28	0.814	0.05	1.09	100.6	41	2	269	290	43	110	150	90	16	2	< 5
354594	49.76	14.47	12.12	0.193	7.82	11.31	1.92	0.48	0.793	0.05	1.16	100.1	42	4	266	300	44	110	180	90	16	2	< 5
354595	73.88	14.59	0.60	0.029	0.34	0.55	7.13	0.64	0.013	0.14	0.61	98.52	< 1	29	< 5	< 20	6	< 20	30	30	41	5	< 5
354596	72.61	15.45	0.58	0.033	0.38	0.76	7.71	0.58	0.015	0.21	0.88	99.20	< 1	37	5	< 20	4	< 20	20	< 30	42	5	< 5
354597	74.54	14.16	0.73	0.051	0.59	0.40	5.84	1.66	0.009	0.18	0.91	99.06	< 1	180	< 5	< 20	2	< 20	20	50	37	6	< 5
354598	49.91	14.64	11.53	0.172	8.01	10.25	2.08	0.71	0.757	0.18	2.17	100.4	42	17	272	270	40	100	110	80	17	2	< 5
354599	48.92	15.14	12.41	0.170	7.28	11.89	1.95	0.29	0.807	0.05	1.10	100.0	42	< 1	274	280	42	110	130	90	16	2	< 5
354600	74.00	13.48	0.69	0.594	0.03	0.69	0.55	6.16	0.054	< 0.01	2.60	98.85	12	5	< 5	100	< 1	< 20	140	530	29	6	38
354601	49.03	15.03	12.65	0.181	7.29	12.27	1.82	0.32	0.818	0.05	1.04	100.5	43	1	281	280	42	110	130	90	16	2	< 5
354602	50.32	13.93	13.35	0.197	7.13	11.03	2.32	0.26	0.946	0.06	1.01	100.6	47	< 1	300	270	41	90	120	100	16	2	< 5
354603	51.10	13.59	12.53	0.203	7.19	12.24	1.76	0.24	0.879	0.08	1.06	100.9	46	< 1	300	270	40	90	120	90	16	2	< 5
354604	49.78	14.30	12.20	0.197	7.46	11.56	1.70	0.35	0.842	0.08	1.33	99.82	45	2	294	290	43	100	120	90	17	2	< 5
354605	81.03	12.11	1.14	0.085	0.17	0.27	1.83	1.13	0.014	0.05	0.97	98.80	< 1	4	< 5	30	3	< 20	< 10	80	43	9	< 5
354606	69.00	19.16	1.08	0.151	0.20	1.03	5.06	1.68	0.016	0.56	1.30	99.22	< 1	1558	< 5	20	1	< 20	< 10	70	58	10	< 5
354607	49.36	14.16	11.46	0.197	6.59	11.91	0.63	1.16	0.768	0.10	2.48	98.82	42	12	258	280	38	90	110	100	17	2	< 5
354608	45.97	15.12	13.49	0.215	7.39	14.24	1.07	0.43	0.919	0.08	1.53	100.5	45	2	311	300	43	100	120	90	18	2	< 5
354609	49.60	14.10	13.08	0.192	7.25	12.77	1.60	0.24	0.900	0.06	1.01	100.8	47	< 1	314	280	41	80	170	90	16	2	< 5
354610	95.19	0.73	2.43	0.024	0.04	0.06	0.16	0.10	0.022	< 0.01	-0.05	98.68	< 1	< 1	5	20	< 1	< 20	< 10	< 30	1	< 1	< 5
354611	47.32	15.17	11.79	0.248	5.72	15.05	0.92	0.74	0.752	0.13	2.57	100.4	40	18	265	260	38	100	180	110	22	4	< 5
354612	77.19	14.39	1.31	0.098	0.25	0.80	3.06	1.60	0.035	0.22	1.10	100.1	2	46	10	30	2	< 20	20	120	51	5	< 5
354613	80.43	13.68	1.03	0.095	0.08	0.16	3.06	0.79	0.011	0.11	0.63	100.1	< 1	72	< 5	30	1	< 20	< 10	60	45	6	< 5
354614	75.13	18.59	1.41	0.124	0.13	0.20	1.30	0.83	0.009	0.09	0.75	98.56	< 1	215	< 5	40	1	< 20	< 10	60	61	6	< 5
354615	72.76	18.37	1.55	0.119	0.14	0.25	1.55	2.94	0.017	0.07	0.86	98.63	< 1	139	< 5	20	2	< 20	< 10	90	63	6	< 5
354616	75.33	16.52	1.89	0.125	0.16	0.26	1.09	2.44	0.018	0.07	0.70	98.60	< 1	132	< 5	30	2	< 20	< 10	90	58	6	< 5
354617	73.91	15.94	1.30	0.108	0.12	0.16	1.22	5.06	0.013	0.12	0.94	98.92	< 1	13	< 5	20	2	< 20	< 10	100	53	6	< 5
354618	77.93	11.81	0.85	0.034	0.05	0.08	2.04	5.81	0.004	0.09	0.38	99.07	< 1	13	< 5	30	< 1	< 20	< 10	< 30	23	6	< 5
354619	73.69	15.54	0.50	0.028	0.04	0.09	2.64	7.66	0.005	0.11	0.49	100.8	< 1	4	< 5	20	< 1	< 20	< 10	< 30	27	6	< 5
354620	74.42	13.73	0.69	0.600	0.03	0.74	0.57	6.31	0.053	< 0.01	2.19	99.33	12	5	< 5	110	< 1	< 20	150	540	29	6	46
354621	84.29	10.32	1.56	0.082	0.08	0.12	0.88	1.62	0.007	0.13	0.37	99.45	< 1	196	< 5	40	1	< 20	< 10	60	37	5	< 5
354622	75.15	15.78	1.27	0.094	0.10	0.12	1.15	4.39	0.009	0.13	0.72	98.92	< 1	238	< 5	20	2	< 20	< 10	70	48	5	< 5
354623	75.42	14.51	1.10	0.071	0.09	0.12	1.79	5.99	0.011	0.11	0.55	99.75	< 1	173	< 5	20	1	< 20	< 10	70	41	6	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-03713

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
354624	79.38	13.37	1.34	0.089	0.12	0.14	1.02	3.02	0.009	0.08	0.65	99.21	< 1	35	< 5	30	1	< 20	< 10	60	45	5	< 5
354625	78.90	13.37	1.31	0.073	0.08	0.16	1.29	3.37	0.006	0.11	0.40	99.07	< 1	134	< 5	40	2	< 20	< 10	40	42	6	< 5
354626	78.64	15.52	1.41	0.115	0.10	0.20	1.30	1.24	0.008	0.10	0.57	99.20	< 1	214	< 5	40	2	< 20	< 10	60	58	6	< 5
354627	76.85	15.81	1.45	0.102	0.12	0.22	1.75	2.15	0.007	0.08	0.55	99.10	< 1	147	< 5	30	1	< 20	< 10	50	53	6	< 5
354628	75.28	15.37	1.20	0.104	0.16	0.25	2.85	2.77	0.021	0.14	1.47	99.63	< 1	184	< 5	< 20	1	< 20	< 10	130	60	5	< 5
354629	79.99	13.87	1.49	0.110	0.13	0.22	2.24	1.33	0.012	0.10	0.78	100.3	< 1	137	< 5	20	1	< 20	< 10	80	49	5	< 5
354630	95.48	0.62	3.97	0.039	0.04	0.06	0.08	0.08	0.032	< 0.01	-0.23	100.2	< 1	1	< 5	30	1	< 20	< 10	< 30	2	1	< 5
354631	74.28	15.16	0.89	0.115	0.08	0.37	5.53	1.75	0.017	0.25	1.06	99.50	< 1	248	< 5	< 20	1	< 20	< 10	110	55	6	< 5
354632	76.01	14.60	1.08	0.079	0.13	0.26	3.86	1.97	0.013	0.14	0.63	98.77	< 1	266	< 5	20	2	< 20	< 10	70	48	7	< 5
354633	77.81	15.07	1.15	0.092	0.11	0.19	3.53	0.68	0.008	0.10	0.47	99.21	< 1	67	< 5	30	2	< 20	< 10	40	48	7	< 5
354634	77.15	15.39	1.01	0.136	0.14	0.21	3.39	1.99	0.014	0.11	1.02	100.6	< 1	241	< 5	20	1	< 20	< 10	90	52	6	< 5
354635	74.59	14.50	1.19	0.085	0.19	0.41	5.61	1.10	0.012	0.18	0.82	98.70	< 1	402	< 5	20	2	< 20	20	60	41	6	< 5
354636	62.42	13.70	7.13	0.173	2.08	5.70	1.30	2.65	0.716	0.12	2.51	98.51	23	57	171	110	24	60	60	130	20	6	< 5
354637	55.88	11.20	15.50	0.449	5.20	7.28	0.56	1.27	0.308	0.09	2.66	100.4	6	11	66	20	9	< 20	30	60	14	4	< 5
354638	51.51	12.94	13.63	0.303	5.11	11.52	0.73	0.69	0.574	0.06	1.86	98.93	29	2	181	180	30	80	200	240	15	2	< 5
354639	50.38	14.54	11.79	0.223	6.32	13.45	1.33	0.50	0.796	0.06	1.42	100.8	42	3	262	260	41	110	40	90	15	2	< 5
354640	74.28	14.08	0.71	0.601	0.03	0.76	0.56	6.24	0.059	0.01	2.30	99.63	12	5	< 5	100	< 1	< 20	150	530	29	6	39
354641	50.77	15.72	11.69	0.204	5.28	13.38	1.59	0.29	0.920	0.05	0.81	100.7	46	2	293	300	45	120	130	100	17	2	< 5
354642	50.29	15.38	11.76	0.225	5.72	12.35	1.16	0.75	0.887	0.05	1.40	99.97	44	4	281	290	43	120	120	90	17	2	< 5
354643	63.69	20.76	0.86	0.089	0.27	1.97	8.25	1.74	0.033	0.99	1.34	99.99	< 1	307	6	< 20	1	< 20	20	70	65	6	< 5
354644	50.43	13.93	11.85	0.215	6.16	12.64	0.86	1.04	0.766	0.05	1.89	99.82	38	4	247	250	38	100	120	90	17	2	< 5
354645	50.11	14.76	12.75	0.212	6.43	12.40	1.96	0.27	0.851	0.05	0.65	100.4	41	2	276	280	41	120	70	90	15	2	< 5
354646	48.86	15.66	12.31	0.204	6.37	12.56	2.17	0.29	0.891	0.06	0.79	100.2	45	< 1	292	320	47	130	70	100	16	2	< 5
354647	49.54	14.30	12.08	0.172	7.24	11.37	2.34	0.29	0.896	0.09	0.62	98.93	46	1	296	310	46	100	210	90	16	2	< 5
354648	48.55	13.19	11.66	0.198	6.72	13.99	1.34	0.26	0.874	0.08	1.80	98.65	44	3	297	290	42	90	130	100	17	2	< 5
354649	50.12	13.55	12.66	0.175	7.05	11.52	1.90	0.23	0.887	0.05	0.96	99.11	46	1	300	300	44	100	150	100	16	2	< 5
354650	96.03	0.59	3.72	0.033	0.05	0.07	0.08	0.06	0.023	< 0.01	-0.14	100.5	< 1	< 1	5	40	2	< 20	10	< 30	2	1	< 5
354651	49.36	13.70	12.92	0.206	7.95	11.18	1.24	0.52	0.941	0.06	2.10	100.2	47	4	305	290	43	90	180	110	16	2	< 5
354652	75.30	13.54	1.42	0.110	0.66	0.79	3.70	2.83	0.054	0.14	1.52	100.1	2	87	14	40	3	< 20	< 10	110	44	7	< 5
354653	75.92	14.18	0.72	0.104	0.06	0.21	5.70	1.47	0.017	0.14	0.89	99.41	< 1	251	< 5	20	< 1	< 20	< 10	100	49	8	< 5
354654	75.30	15.04	0.66	0.108	0.08	0.27	6.40	1.07	0.013	0.09	0.80	99.83	< 1	157	< 5	30	< 1	< 20	< 10	80	45	6	< 5
354655	73.22	17.80	1.16	0.153	0.08	0.26	4.60	0.76	0.009	0.14	0.54	98.73	< 1	715	< 5	30	1	< 20	< 10	60	55	6	< 5
354656	75.71	16.76	1.11	0.137	0.09	0.26	5.03	0.74	0.008	0.14	0.50	100.5	< 1	134	< 5	30	3	< 20	< 10	40	47	5	< 5
354657	72.98	16.25	1.25	0.199	0.32	0.33	3.60	1.96	0.018	0.26	1.46	98.62	< 1	334	< 5	40	2	< 20	< 10	150	64	6	< 5
354658	72.97	15.19	0.94	0.097	0.32	0.55	6.41	1.16	0.036	0.25	0.81	98.73	2	82	9	30	2	< 20	20	90	48	6	< 5
354659	51.12	13.86	12.08	0.203	7.32	9.38	2.03	1.02	0.911	0.08	1.43	99.44	47	5	300	300	44	90	150	160	18	2	< 5
354660	75.61	13.42	0.68	0.608	0.05	0.72	0.59	6.17	0.052	< 0.01		97.90	12	5	< 5	90	< 1	< 20	160	490	27	5	42
354661	50.84	13.81	12.61	0.193	7.12	10.36	2.42	0.27	0.882	0.06	0.97	99.52	47	< 1	304	300	44	90	180	100	17	2	< 5
354662	50.83	14.01	12.48	0.194	7.21	10.87	2.70	0.29	0.897	0.06	0.77	100.3	49	< 1	315	310	45	90	160	100	17	2	< 5
354663	50.83	13.42	12.48	0.187	7.25	10.23	2.85	0.25	0.909	0.05	0.96	99.41	48	< 1	308	290	43	90	160	100	16	2	< 5
354664	79.47	13.49	1.25	0.069	0.18	0.23	1.38	3.42	0.016	0.07	0.53	100.1	< 1	49	6	30	3	< 20	< 10	< 30	35	5	< 5

Results

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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
354665	68.14	24.77	1.51	0.133	0.10	0.14	0.77	2.99	0.013	0.07	0.56	99.19	< 1	11	< 5	30	1	< 20	< 10	50	81	8	< 5
354666	70.62	19.72	1.34	0.106	0.17	0.08	1.32	4.42	0.011	0.07	0.74	98.58	< 1	7	< 5	30	2	< 20	< 10	60	64	7	< 5
354667	79.85	12.57	1.03	0.066	0.07	0.09	1.09	4.18	0.007	0.07	0.32	99.34	< 1	17	< 5	50	1	< 20	< 10	30	38	6	< 5
354668	73.80	17.75	1.52	0.134	0.13	0.12	0.97	3.48	0.020	0.08	0.91	98.92	< 1	53	< 5	40	2	< 20	< 10	130	68	6	< 5
354669	68.35	18.84	0.69	0.068	0.05	0.17	2.43	7.85	0.005	0.14	0.58	99.15	< 1	51	< 5	30	< 1	< 20	< 10	< 30	42	6	< 5
354670	95.83	0.96	2.88	0.031	0.03	0.05	0.03	0.14	0.029	< 0.01	0.06	100.0	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	2	1	< 5
354671	68.76	18.82	1.32	0.128	0.13	0.25	2.00	6.58	0.023	0.16	1.15	99.32	< 1	207	< 5	30	2	< 20	< 10	150	63	6	< 5
354672	81.57	11.38	1.01	0.094	0.10	0.34	1.65	2.85	0.010	0.26	0.67	99.93	< 1	448	< 5	40	2	< 20	< 10	70	35	6	< 5
354673	74.53	16.86	1.67	0.139	0.15	0.17	0.95	3.46	0.021	0.11	0.92	98.98	< 1	135	< 5	30	4	< 20	< 10	120	69	6	< 5
354674	81.46	11.13	0.79	0.085	0.12	0.25	1.87	3.79	0.021	0.16	0.91	100.6	< 1	175	< 5	50	2	< 20	< 10	120	42	5	< 5
354675	75.99	13.95	1.17	0.090	0.14	0.26	1.42	4.66	0.011	0.19	0.68	98.57	< 1	605	< 5	40	5	< 20	10	70	43	5	< 5
354676	75.39	13.99	1.00	0.082	0.13	0.20	1.53	5.84	0.016	0.13	0.98	99.29	< 1	220	< 5	30	5	< 20	10	100	43	5	< 5
354677	74.46	14.80	1.16	0.114	0.14	0.29	2.88	3.89	0.017	0.20	0.91	98.87	< 1	360	< 5	30	6	< 20	20	110	52	6	< 5
354678	69.31	16.82	0.48	0.031	0.05	0.16	3.35	8.07	0.004	0.16	0.50	98.95	< 1	46	< 5	30	4	< 20	< 10	< 30	32	6	< 5
354679	69.02	17.23	0.48	0.027	0.03	0.14	3.51	8.00	0.002	0.15	0.29	98.89	< 1	5	< 5	30	2	< 20	< 10	< 30	29	7	< 5
354680	74.11	13.69	0.69	0.602	0.03	0.75	0.56	6.26	0.053	< 0.01	2.03	98.77	12	5	< 5	110	< 1	< 20	160	560	30	6	43
354681	76.66	13.89	0.82	0.142	0.07	0.32	5.07	1.45	0.009	0.15	0.42	99.02	< 1	190	< 5	30	3	< 20	< 10	50	40	6	< 5
354682	48.40	14.28	11.94	0.241	6.40	14.23	1.34	0.54	0.821	0.16	2.01	100.4	39	3	257	280	43	120	100	100	16	2	< 5
354683	49.53	14.18	11.50	0.190	7.11	12.44	2.33	0.52	0.885	0.32	0.99	99.98	36	2	248	220	43	120	130	110	17	2	< 5
354684	46.39	14.08	11.41	0.203	6.13	15.76	2.01	0.34	0.751	0.06	3.27	100.4	40	< 1	263	280	42	110	140	90	16	2	< 5
354685	49.01	14.88	12.13	0.168	8.03	11.53	2.43	0.57	0.774	0.05	0.89	100.5	42	< 1	270	290	44	130	130	90	16	2	< 5
354686	48.90	15.02	11.88	0.163	7.83	11.79	2.38	0.34	0.760	0.05	0.88	99.97	41	< 1	261	290	43	130	110	90	15	2	< 5
354687	49.18	15.09	12.10	0.166	8.11	11.19	2.40	0.95	0.755	0.05	0.79	100.8	40	3	263	290	44	130	110	90	16	2	< 5
354688	58.58	19.39	3.87	0.212	2.49	4.28	6.59	1.62	0.220	0.47	1.88	99.61	12	222	73	90	13	40	90	80	36	4	< 5
354689	46.88	14.32	12.04	0.160	10.14	9.10	1.74	2.30	0.712	0.05	1.27	98.73	40	34	254	300	43	140	30	100	16	3	< 5
354690	95.42	1.12	3.55	0.037	0.05	0.09	0.30	0.18	0.039	< 0.01	-0.15	100.6	< 1	< 1	6	20	2	< 20	10	< 30	2	1	< 5
354691	50.57	14.41	11.50	0.169	8.14	11.39	2.24	0.38	0.737	0.05	0.98	100.6	40	2	264	290	44	130	110	80	15	2	< 5
354692	50.38	14.52	11.59	0.184	7.43	11.66	2.04	0.16	0.746	0.05	0.69	99.44	41	2	262	310	46	130	140	90	16	2	< 5
354693	49.08	14.02	11.69	0.178	8.20	12.17	1.80	0.31	0.684	0.06	1.68	99.88	37	< 1	240	270	45	170	110	80	15	2	< 5
354694	48.98	14.11	11.73	0.177	8.66	11.07	2.13	0.41	0.712	0.05	1.40	99.43	40	1	256	280	47	180	100	150	15	2	< 5
354695	49.08	14.09	11.23	0.162	9.16	10.40	1.89	0.74	0.685	0.03	1.98	99.45	38	2	243	280	48	200	110	90	15	2	< 5
354696	48.49	14.01	11.81	0.171	9.68	10.72	1.75	0.76	0.701	0.05	1.63	99.78	38	2	246	270	48	190	130	90	15	2	< 5
354697	81.41	11.16	1.41	0.072	0.56	0.58	2.79	0.74	0.012	0.06	1.07	99.87	< 1	68	< 5	40	2	< 20	10	40	37	6	< 5
354698	77.70	15.88	1.34	0.128	0.21	0.24	1.00	1.17	0.016	0.05	0.84	98.57	< 1	393	< 5	160	5	280	< 10	80	62	7	< 5
354699	76.11	18.15	1.58	0.173	0.15	0.33	0.76	1.22	0.014	0.17	0.88	99.53	< 1	9	8	50	2	< 20	< 10	90	71	6	< 5
354700	74.31	13.69	0.68	0.596	0.03	0.75	0.55	6.23	0.054	< 0.01	2.11	99.01	12	5	< 5	110	< 1	< 20	160	570	30	6	44
354701	73.81	19.63	0.98	0.117	0.13	0.27	3.79	0.34	0.005	0.16	0.52	99.76	< 1	63	< 5	40	1	< 20	< 10	30	64	7	< 5
354702	75.43	16.20	0.96	0.137	0.07	0.36	4.43	0.78	0.009	0.26	0.67	99.32	< 1	266	< 5	30	1	< 20	< 10	60	53	7	< 5
354703	78.42	15.21	1.14	0.096	0.10	0.25	3.17	0.85	0.005	0.13	0.49	99.86	< 1	228	< 5	40	2	< 20	< 10	40	50	6	< 5
354704	78.16	16.36	1.04	0.101	0.08	0.24	2.84	0.80	0.005	0.11	0.50	100.2	< 1	256	< 5	50	1	< 20	< 10	40	52	7	< 5
354705	73.44	16.17	0.51	0.155	0.05	0.38	7.69	0.66	0.008	0.22	0.57	99.87	< 1	138	< 5	20	< 1	< 20	< 10	110	44	7	< 5

Results

Activation Laboratories Ltd.

Report: A17-03713

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
354706	50.11	14.75	11.71	0.183	8.05	11.05	1.84	0.71	0.788	0.07	1.28	100.5	41	11	272	290	44	130	160	90	17	2	< 5
354707	49.84	14.32	11.95	0.165	7.69	11.72	2.12	0.31	0.768	0.05	0.92	99.86	42	1	268	300	44	120	150	80	16	2	< 5
354708	48.71	14.96	12.62	0.184	8.21	10.67	2.33	0.69	0.818	0.06	1.09	100.3	43	< 1	276	300	47	140	50	100	16	2	< 5
354709	78.98	12.74	1.63	0.136	0.22	0.35	1.17	3.13	0.035	0.08	1.01	99.47	< 1	43	< 5	40	2	< 20	< 10	170	52	6	< 5
354710	95.74	0.72	3.21	0.033	0.03	0.05	0.13	0.09	0.031	< 0.01	-0.15	99.88	< 1	1	< 5	20	1	< 20	< 10	< 30	2	1	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-03713

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
354501	58	146	16	49	2	< 2	< 0.5	< 0.2	3	1.1	8.7	42	< 0.4	1.3	< 0.1	< 1	0.1	< 5	0.4	< 0.1	0.01	0.03	
354502	119	123	15	50	2	< 2	< 0.5	< 0.2	1	0.7	17.4	68	0.7	1.2	< 0.1	< 1	0.4	< 5	0.3	0.1	0.02	0.04	
354503	314	108	14	49	9	< 2	< 0.5	< 0.2	23	0.8	64.2	56	2.9	1.2	5.2	7	1.3	< 5	0.4	1.0	0.08	0.16	
354504	3590	51	< 2	9	37	< 2	< 0.5	< 0.2	31	< 0.5	347	26	1.1	0.7	50.1	1	25.6	7	2.9	1.0	0.22	0.47	
354505	1270	23	< 2	16	130	< 2	< 0.5	< 0.2	18	< 0.5	254	14	< 0.4	1.5	170	1	11.6	15	4.8	3.4	1.36	2.92	
354506	1050	21	< 2	11	34	< 2	< 0.5	< 0.2	28	< 0.5	199	13	1.1	1.0	52.6	1	7.5	5	4.0	3.8	1.41	3.03	
354507	1840	37	< 2	7	27	< 2	< 0.5	< 0.2	34	< 0.5	316	38	1.3	0.5	42.2	1	13.4	5	2.9	2.4	1.48	3.18	
354508	3550	48	< 2	12	56	< 2	< 0.5	0.2	46	1.7	341	31	0.4	0.9	77.2	3	28.2	9	3.0	2.0	0.67	1.43	
354509	2330	34	< 2	9	31	< 2	< 0.5	< 0.2	32	< 0.5	273	21	1.6	1.0	62.6	2	20.1	< 5	1.5	1.0	0.52	1.12	
354510	6	12	< 2	63	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.6	223	< 0.4	1.3	< 0.1	< 1	2.2	5	0.6	0.3	< 0.01	< 0.01	
354511	4660	67	< 2	6	29	< 2	< 0.5	< 0.2	10	< 0.5	365	43	0.7	0.2	34.6	< 1	43.0	11	0.4	0.4	< 0.01	0.02	2.61
354512	5760	76	< 2	4	17	< 2	< 0.5	< 0.2	21	< 0.5	464	53	< 0.4	< 0.2	22.1	< 1	57.7	12	0.5	0.4	0.03	0.07	
354513	3980	61	< 2	4	21	< 2	< 0.5	< 0.2	38	< 0.5	469	46	0.8	0.2	24.3	1	37.2	7	0.5	0.3	1.10	2.37	
354514	3990	57	< 2	7	28	4	< 0.5	< 0.2	35	< 0.5	565	67	13.8	0.7	63.5	17	38.1	8	2.2	1.1	0.90	1.94	
354515	2770	44	< 2	6	27	< 2	< 0.5	< 0.2	12	< 0.5	377	42	2.0	0.7	101	< 1	29.3	8	2.3	1.7	0.68	1.46	
354516	2590	42	< 2	5	31	< 2	< 0.5	< 0.2	11	< 0.5	326	39	1.2	0.6	112	< 1	26.6	8	1.8	1.9	0.77	1.66	
354517	1630	33	< 2	7	52	< 2	< 0.5	< 0.2	20	< 0.5	280	31	1.7	0.6	112	3	15.5	6	5.4	3.7	0.54	1.17	
354518	3570	73	< 2	6	21	< 2	< 0.5	< 0.2	39	< 0.5	322	202	2.1	0.5	30.8	1	32.9	9	1.7	1.4	0.06	0.12	
354519	3420	73	< 2	5	36	< 2	< 0.5	< 0.2	30	< 0.5	332	241	1.2	0.4	49.1	1	33.5	8	2.1	2.0	0.68	1.47	
354520	2130	23	13	91	62	5	1.1	0.2	12	14.8	63.1	89	46.5	6.9	10.1	110	16.6	473	23.6	43.5	0.27	0.58	
354521	68	175	21	103	6	< 2	< 0.5	< 0.2	2	0.5	74.9	161	0.5	2.6	1.9	< 1	2.8	< 5	1.9	1.2	0.04	0.08	2.94
354522	6710	100	< 2	< 4	9	< 2	< 0.5	< 0.2	6	< 0.5	570	112	0.4	< 0.2	22.7	< 1	66.1	15	0.4	0.5	0.15	0.31	
354523	4440	62	< 2	8	36	< 2	< 0.5	< 0.2	28	< 0.5	374	64	< 0.4	0.8	67.8	2	45.2	8	2.9	0.9	0.03	0.07	
354524	4060	56	< 2	5	31	< 2	< 0.5	< 0.2	30	< 0.5	364	95	< 0.4	0.5	52.3	1	40.3	7	1.3	1.1	0.04	0.09	
354525	4980	69	< 2	6	12	< 2	< 0.5	< 0.2	9	< 0.5	450	172	1.0	0.4	26.2	< 1	55.0	10	1.4	3.4	0.07	0.15	
354526	4360	65	< 2	5	15	< 2	< 0.5	< 0.2	13	< 0.5	532	71	< 0.4	0.4	50.6	< 1	47.5	11	2.3	1.3	0.80	1.71	
354527	6080	79	< 2	7	38	< 2	< 0.5	< 0.2	10	< 0.5	487	64	< 0.4	0.8	197	1	68.4	13	4.8	0.6	0.18	0.40	
354528	1990	28	< 2	9	30	< 2	< 0.5	< 0.2	32	< 0.5	373	25	< 0.4	1.0	63.0	1	19.0	< 5	2.4	0.8	0.97	2.08	
354529	3000	45	< 2	14	16	< 2	< 0.5	< 0.2	13	< 0.5	448	40	< 0.4	1.6	38.0	< 1	30.8	8	4.7	1.6	0.85	1.84	
354530	7	11	< 2	55	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.8	176	< 0.4	1.1	< 0.1	< 1	3.0	< 5	0.6	0.2	< 0.01	< 0.01	
354531	2560	48	< 2	22	33	< 2	< 0.5	< 0.2	23	< 0.5	364	88	0.5	3.0	83.0	< 1	21.4	7	6.2	2.1	0.80	1.72	2.76
354532	4630	72	< 2	10	26	< 2	< 0.5	< 0.2	9	< 0.5	431	99	0.6	0.9	55.6	< 1	48.4	11	3.5	1.2	< 0.01	< 0.01	
354533	7030	95	< 2	< 4	2	< 2	< 0.5	< 0.2	< 1	< 0.5	480	172	0.4	< 0.2	11.7	< 1	75.2	15	0.1	0.4	< 0.01	< 0.01	
354534	2970	53	< 2	43	112	< 2	< 0.5	< 0.2	21	< 0.5	291	93	0.5	5.4	207	2	29.5	7	9.6	4.7	0.02	0.04	
354535	3650	52	< 2	< 4	37	< 2	< 0.5	< 0.2	20	< 0.5	360	59	0.9	0.3	53.1	< 1	33.6	6	1.7	2.2	0.02	0.03	
354536	3770	52	< 2	< 4	34	< 2	< 0.5	< 0.2	22	< 0.5	366	59	< 0.4	0.4	59.2	5	36.3	7	1.5	1.7	0.02	0.04	
354537	7890	98	< 2	< 4	13	< 2	< 0.5	< 0.2	5	< 0.5	591	69	< 0.4	< 0.2	28.1	< 1	85.6	16	0.5	0.5	< 0.01	< 0.01	
354538	5610	73	< 2	< 4	15	< 2	< 0.5	< 0.2	7	< 0.5	489	40	< 0.4	0.3	58.7	< 1	63.8	12	1.5	0.6	0.01	0.03	
354539	3030	39	< 2	11	50	< 2	< 0.5	< 0.2	24	1.8	288	25	1.8	0.9	152	4	26.5	11	3.5	2.0	0.02	0.04	
354540	2110	22	12	79	58	6	2.2	0.4	13	15.9	60.2	90	49.3	5.5	10.4	107	15.0	474	25.2	44.3	0.26	0.56	
354541	129	89	17	67	14	2	< 0.5	< 0.2	3	2.4	56.6	104	1.9	1.7	9.3	2	1.7	9	1.1	0.6	0.07	0.15	3.00

## Results

## Activation Laboratories Ltd.

## Report: A17-03713

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
354542	119	100	20	70	3	< 2	< 0.5	< 0.2	< 1	0.8	30.5	214	< 0.4	1.8	0.2	< 1	1.8	< 5	0.4	0.1	0.03	0.07	
354543	94	105	16	77	3	< 2	< 0.5	< 0.2	< 1	< 0.5	22.0	76	< 0.4	1.9	0.2	< 1	1.1	7	0.4	0.2	0.03	0.06	
354544	36	114	16	47	1	< 2	< 0.5	< 0.2	< 1	< 0.5	56.0	35	< 0.4	1.2	< 0.1	< 1	0.7	< 5	0.2	< 0.1	0.02	0.05	
354545	303	89	13	45	2	< 2	< 0.5	< 0.2	< 1	< 0.5	567	40	< 0.4	1.2	< 0.1	< 1	2.5	< 5	0.2	< 0.1	0.17	0.36	
354546	1330	95	15	41	6	< 2	< 0.5	< 0.2	10	< 0.5	345	63	1.1	1.3	15.1	5	10.0	< 5	0.7	0.5	0.11	0.24	
354547	1000	18	< 2	16	111	< 2	< 0.5	< 0.2	21	< 0.5	80.3	6	< 0.4	1.9	137	6	7.0	< 5	11.4	2.4	0.01	0.03	
354548	190	115	13	42	2	< 2	< 0.5	< 0.2	1	0.7	96.5	62	< 0.4	1.1	0.8	< 1	2.0	5	0.2	0.3	0.02	0.05	
354549	26	122	14	43	2	< 2	< 0.5	< 0.2	< 1	0.5	4.3	41	< 0.4	1.2	0.2	< 1	0.3	< 5	0.3	< 0.1	< 0.01	0.02	
354550	2	10	2	21	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	165	< 0.4	0.4	< 0.1	< 1	< 0.1	< 5	0.4	0.2	< 0.01	< 0.01	
354551	32	110	14	44	2	< 2	< 0.5	< 0.2	< 1	0.8	4.2	40	< 0.4	1.2	0.1	< 1	< 0.1	< 5	0.2	< 0.1	< 0.01	0.02	3.10
354552	2180	34	2	18	87	< 2	< 0.5	< 0.2	28	1.7	183	17	1.3	1.5	178	6	12.8	7	7.8	2.4	0.02	0.05	
354553	7780	99	< 2	< 4	12	< 2	< 0.5	< 0.2	13	< 0.5	702	57	2.0	0.3	28.5	< 1	74.8	15	0.8	0.7	0.01	0.03	
354554	8530	116	< 2	< 4	8	< 2	< 0.5	< 0.2	2	< 0.5	672	63	0.7	< 0.2	15.0	< 1	91.0	20	0.9	0.4	< 0.01	< 0.01	
354555	6590	88	< 2	< 4	7	< 2	< 0.5	< 0.2	3	< 0.5	537	50	2.5	< 0.2	21.0	< 1	69.9	15	3.0	0.9	< 0.01	< 0.01	
354556	7020	96	< 2	< 4	2	< 2	< 0.5	< 0.2	2	< 0.5	543	53	1.8	< 0.2	7.7	< 1	74.4	16	0.9	0.6	0.02	0.05	
354557	7380	98	< 2	< 4	10	< 2	< 0.5	< 0.2	3	< 0.5	660	42	0.9	0.3	80.9	3	78.4	15	0.6	0.5	< 0.01	< 0.01	
354558	878	20	< 2	5	16	< 2	< 0.5	0.2	37	1.8	395	32	0.6	0.3	27.9	2	6.5	6	1.1	0.5	2.50	5.39	
354559	8090	107	< 2	< 4	8	< 2	< 0.5	< 0.2	2	< 0.5	703	62	0.5	< 0.2	20.3	< 1	83.9	16	0.7	0.5	0.02	0.03	
354560	2200	24	12	74	59	6	1.8	0.3	12	16.1	63.8	89	38.1	5.7	10.2	110	19.1	487	23.7	45.0	0.26	0.56	
354561	7980	105	< 2	< 4	10	< 2	< 0.5	< 0.2	2	< 0.5	660	73	0.6	0.3	46.0	2	83.9	16	1.4	0.3	< 0.01	0.02	2.59
354562	2410	31	< 2	< 4	22	< 2	< 0.5	< 0.2	23	< 0.5	509	23	0.5	0.2	37.8	1	24.5	< 5	1.5	0.4	0.59	1.27	
354563	1530	25	< 2	8	64	< 2	< 0.5	< 0.2	20	1.7	356	34	0.8	0.8	164	2	12.8	10	2.3	1.3	1.08	2.33	
354564	3170	40	< 2	8	43	< 2	< 0.5	< 0.2	46	< 0.5	445	26	0.6	0.8	79.5	3	23.4	< 5	3.8	1.9	0.75	1.61	
354565	3660	53	< 2	5	17	< 2	< 0.5	< 0.2	21	< 0.5	533	61	0.6	0.3	42.3	< 1	34.9	6	1.2	0.7	1.04	2.24	
354566	4750	64	< 2	< 4	16	< 2	< 0.5	< 0.2	22	< 0.5	457	56	< 0.4	0.2	31.2	1	47.3	8	0.6	0.7	0.34	0.72	
354567	7370	97	< 2	< 4	13	< 2	< 0.5	< 0.2	13	< 0.5	590	79	< 0.4	0.2	33.3	< 1	80.8	15	1.0	1.4	0.03	0.07	
354568	4940	64	< 2	5	21	< 2	< 0.5	< 0.2	20	< 0.5	639	55	0.8	0.7	87.7	1	51.1	9	2.2	1.3	0.26	0.56	
354569	7510	99	< 2	< 4	4	< 2	< 0.5	< 0.2	5	< 0.5	621	84	< 0.4	0.4	21.9	< 1	83.3	16	0.3	0.8	< 0.01	0.01	
354570	8	10	< 2	28	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.8	120	< 0.4	0.7	< 0.1	< 1	5.2	< 5	0.4	0.2	< 0.01	< 0.01	
354571	5000	70	< 2	< 4	22	< 2	< 0.5	< 0.2	31	< 0.5	490	55	< 0.4	0.4	28.9	2	48.1	9	0.7	0.6	0.17	0.37	2.66
354572	5050	69	< 2	< 4	14	< 2	< 0.5	< 0.2	12	< 0.5	493	49	< 0.4	0.3	46.1	< 1	54.2	10	1.1	0.6	0.68	1.47	
354573	5060	67	< 2	5	20	< 2	< 0.5	< 0.2	8	< 0.5	503	44	0.9	0.8	98.7	< 1	55.7	11	2.5	1.4	0.02	0.05	
354574	2670	39	< 2	< 4	19	< 2	< 0.5	< 0.2	20	< 0.5	311	23	0.5	0.3	45.1	< 1	28.9	7	1.7	1.2	1.10	2.36	
354575	749	13	< 2	8	49	5	< 0.5	0.2	37	1.6	227	16	0.5	1.1	129	2	5.6	9	3.8	2.6	1.97	4.25	
354576	647	13	< 2	6	34	4	< 0.5	< 0.2	38	1.9	209	15	0.5	0.5	84.8	2	4.8	12	2.8	2.0	2.02	4.34	
354577	1570	25	< 2	8	28	2	< 0.5	< 0.2	27	< 0.5	257	13	0.4	0.7	70.8	2	10.8	< 5	2.5	1.7	0.53	1.15	
354578	2670	42	< 2	15	152	< 2	< 0.5	< 0.2	40	< 0.5	331	22	0.6	2.0	383	3	18.2	8	8.6	3.8	0.07	0.14	
354579	1480	40	< 2	6	45	< 2	< 0.5	< 0.2	8	< 0.5	132	32	0.4	0.7	106	< 1	15.0	7	5.1	3.1	< 0.01	< 0.01	
354580	2180	23	13	83	62	5	1.8	0.3	13	14.7	62.6	89	45.5	6.3	10.1	105	15.0	477	24.0	43.5	0.26	0.56	
354581	505	98	19	70	3	< 2	< 0.5	< 0.2	2	1.2	1010	33	0.4	1.8	0.8	22	4.9	< 5	0.6	0.3	0.13	0.29	3.10
354582	239	114	19	65	8	< 2	< 0.5	< 0.2	5	1.4	210	67	3.7	2.0	17.6	2	2.3	9	1.1	0.7	0.10	0.22	

## Results

## Activation Laboratories Ltd.

## Report: A17-03713

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
354583	28	99	21	68	3	< 2	< 0.5	< 0.2	< 1	0.6	4.6	40	< 0.4	1.9	0.3	< 1	0.6	< 5	0.4	0.1	0.03	0.07	
354584	91	117	18	70	3	< 2	< 0.5	< 0.2	< 1	0.5	12.5	68	0.4	1.8	0.2	33	0.6	< 5	0.5	0.1	0.04	0.09	
354585	33	116	21	77	3	< 2	< 0.5	< 0.2	< 1	< 0.5	4.9	37	< 0.4	2.0	0.2	< 1	0.2	< 5	0.5	0.1	0.05	0.11	
354586	2880	113	17	55	7	< 2	< 0.5	< 0.2	7	1.1	4900	29	1.0	1.6	21.7	2	23.7	< 5	1.6	3.0	0.16	0.35	
354587	2650	56	2	9	59	< 2	< 0.5	< 0.2	53	< 0.5	2130	17	6.4	1.3	119	2	17.9	9	5.4	5.5	0.07	0.15	
354588	2480	168	21	76	3	3	< 0.5	< 0.2	2	2.5	3690	27	0.8	2.1	0.4	< 1	24.7	< 5	0.5	0.6	0.27	0.58	
354589	307	122	20	77	3	7	< 0.5	< 0.2	< 1	1.4	185	110	0.4	2.0	0.4	< 1	4.8	< 5	0.7	0.5	0.06	0.12	
354590	4	7	< 2	22	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	2.9	82	< 0.4	0.5	0.2	1	0.9	< 5	0.5	0.1	< 0.01	< 0.01	
354591	22	113	20	67	3	6	< 0.5	< 0.2	< 1	0.7	8.9	40	0.4	1.7	0.2	1	0.6	< 5	0.4	0.1	0.02	0.05	3.08
354592	16	100	14	47	2	< 2	< 0.5	< 0.2	< 1	< 0.5	4.9	32	< 0.4	1.3	0.1	< 1	0.2	< 5	0.2	< 0.1	< 0.01	0.01	
354593	29	88	14	47	2	< 2	< 0.5	< 0.2	< 1	< 0.5	8.0	47	< 0.4	1.4	0.1	< 1	< 0.1	< 5	0.2	< 0.1	< 0.01	0.02	
354594	216	106	14	46	2	< 2	< 0.5	< 0.2	1	< 0.5	55.2	62	1.1	1.2	0.2	< 1	1.3	< 5	0.2	0.2	0.03	0.07	
354595	612	19	< 2	15	63	< 2	< 0.5	< 0.2	12	< 0.5	42.9	6	3.1	1.7	139	1	3.1	< 5	6.8	3.0	< 0.01	< 0.01	
354596	548	20	2	15	89	< 2	< 0.5	< 0.2	11	< 0.5	44.8	7	3.2	1.7	162	< 1	3.1	< 5	6.4	3.4	< 0.01	< 0.01	
354597	1590	27	< 2	9	58	< 2	< 0.5	< 0.2	15	< 0.5	155	9	42.2	1.0	131	1	11.3	6	4.6	2.1	< 0.01	0.01	
354598	354	89	15	47	4	2	< 0.5	< 0.2	3	1.1	125	87	1.3	1.2	3.8	< 1	3.6	< 5	0.4	0.7	0.06	0.12	
354599	45	94	14	45	2	< 2	< 0.5	< 0.2	< 1	< 0.5	7.8	46	< 0.4	1.1	0.2	< 1	0.8	< 5	0.3	< 0.1	0.03	0.07	
354600	2100	23	13	85	65	5	1.6	0.3	12	15.1	61.1	88	26.3	6.4	9.5	106	11.4	426	21.9	38.9	0.28	0.61	
354601	40	91	15	48	2	< 2	< 0.5	< 0.2	< 1	0.6	5.7	50	< 0.4	1.2	0.1	< 1	1.5	< 5	0.3	< 0.1	0.03	0.06	3.09
354602	15	107	17	53	2	3	< 0.5	< 0.2	< 1	< 0.5	3.4	45	< 0.4	1.4	0.1	< 1	0.4	< 5	0.3	< 0.1	0.04	0.09	
354603	21	89	15	51	2	< 2	< 0.5	< 0.2	< 1	< 0.5	3.3	55	< 0.4	1.3	0.1	< 1	0.1	< 5	0.3	< 0.1	0.03	0.06	
354604	147	83	14	47	3	< 2	< 0.5	< 0.2	1	0.6	37.8	40	< 0.4	1.2	0.7	< 1	1.1	6	0.3	0.2	0.08	0.18	
354605	1610	23	< 2	8	48	< 2	< 0.5	< 0.2	22	< 0.5	175	17	0.9	0.9	241	2	9.1	< 5	2.1	2.8	0.72	1.54	
354606	2790	44	< 2	12	70	< 2	< 0.5	< 0.2	44	< 0.5	1190	16	4.2	1.5	543	2	19.6	13	24.9	17.1	0.67	1.43	
354607	2650	103	15	49	4	4	< 0.5	< 0.2	2	2.0	4920	24	0.4	1.3	3.9	< 1	24.5	26	0.4	2.7	0.29	0.63	
354608	102	104	17	51	2	8	< 0.5	< 0.2	< 1	0.8	45.6	94	0.8	1.4	0.4	< 1	3.2	< 5	0.3	0.2	0.04	0.09	
354609	24	89	18	49	2	< 2	< 0.5	< 0.2	< 1	< 0.5	16.4	29	< 0.4	1.2	0.2	< 1	0.9	< 5	0.3	0.1	0.03	0.07	
354610	2	6	< 2	21	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.8	66	< 0.4	0.4	< 0.1	< 1	0.2	< 5	0.3	0.1	< 0.01	< 0.01	
354611	356	108	15	48	5	4	< 0.5	< 0.2	8	1.5	256	67	1.8	1.3	1.8	17	2.7	10	0.9	0.4	0.05	0.12	3.17
354612	1930	34	< 2	7	46	< 2	< 0.5	< 0.2	28	< 0.5	417	21	3.0	0.5	79.3	2	11.4	16	2.9	0.9	0.45	0.96	
354613	950	15	< 2	5	56	< 2	< 0.5	< 0.2	19	< 0.5	171	6	3.1	0.5	102	< 1	6.5	< 5	2.5	2.3	0.79	1.71	
354614	1060	20	< 2	10	55	< 2	< 0.5	< 0.2	25	1.6	363	19	0.4	0.7	135	2	7.2	5	2.2	2.1	2.03	4.37	
354615	2910	43	< 2	4	36	< 2	< 0.5	< 0.2	36	< 0.5	480	32	< 0.4	0.7	47.1	2	23.0	5	0.6	0.5	1.42	3.05	
354616	2440	36	< 2	5	19	< 2	< 0.5	< 0.2	37	< 0.5	441	23	< 0.4	0.5	21.2	2	20.0	< 5	0.7	0.5	1.32	2.83	
354617	4490	59	< 2	< 4	23	< 2	< 0.5	< 0.2	36	< 0.5	565	32	1.2	< 0.2	25.5	2	41.1	8	0.6	0.5	0.82	1.77	
354618	4690	63	< 2	< 4	16	< 2	< 0.5	< 0.2	8	< 0.5	484	35	0.7	0.2	128	< 1	47.9	10	0.3	1.1	0.08	0.16	
354619	6410	88	< 2	< 4	45	< 2	< 0.5	< 0.2	7	< 0.5	649	26	< 0.4	0.3	144	< 1	69.9	18	0.8	1.0	0.07	0.16	
354620	2160	23	13	79	69	5	1.5	0.3	13	16.3	62.4	90	63.7	5.9	10.5	105	17.8	460	22.8	43.1	0.26	0.56	
354621	1750	24	< 2	< 4	17	< 2	< 0.5	< 0.2	22	< 0.5	373	11	0.5	< 0.2	50.8	2	15.8	< 5	0.9	0.5	0.85	1.83	2.79
354622	4200	52	< 2	4	15	< 2	< 0.5	< 0.2	28	1.5	625	33	0.5	0.3	48.6	3	39.4	12	1.4	1.0	1.08	2.32	
354623	5100	67	< 2	5	28	< 2	< 0.5	< 0.2	28	< 0.5	576	48	< 0.4	0.5	55.2	2	49.8	9	1.3	0.7	0.47	1.02	



## Results

## Activation Laboratories Ltd.

## Report: A17-03713

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
354624	2760	37	< 2	4	14	< 2	< 0.5	< 0.2	23	< 0.5	345	22	< 0.4	0.3	27.5	1	26.2	< 5	1.0	0.6	0.94	2.03	
354625	2920	40	< 2	< 4	17	< 2	< 0.5	< 0.2	24	< 0.5	340	22	0.6	0.3	49.6	< 1	29.1	6	0.9	0.9	0.93	2.00	
354626	1380	20	< 2	< 4	63	< 2	< 0.5	< 0.2	32	< 0.5	301	8	0.4	0.3	132	1	12.0	< 5	1.5	1.6	1.43	3.07	
354627	2010	29	< 2	< 4	30	< 2	< 0.5	< 0.2	26	< 0.5	328	19	0.6	0.5	65.9	< 1	17.8	5	1.2	1.0	1.24	2.67	
354628	3030	41	< 2	7	53	< 2	< 0.5	0.2	55	1.6	358	17	0.5	0.6	69.7	4	21.6	7	1.4	3.3	0.37	0.80	
354629	1560	24	< 2	5	29	< 2	< 0.5	0.2	37	1.4	319	13	0.4	0.6	41.9	3	11.3	8	2.3	1.4	0.87	1.88	
354630	24	8	< 2	37	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	2.7	86	< 0.4	0.8	0.5	< 1	1.7	< 5	0.4	0.2	< 0.01	< 0.01	
354631	2060	33	< 2	9	64	< 2	< 0.5	< 0.2	36	< 0.5	317	7	0.6	1.2	179	2	12.2	< 5	3.4	2.0	0.11	0.24	2.72
354632	1910	28	< 2	8	35	< 2	< 0.5	< 0.2	28	< 0.5	327	11	2.8	1.0	75.6	1	15.1	6	6.6	1.3	0.64	1.37	
354633	752	14	< 2	11	36	< 2	< 0.5	< 0.2	16	< 0.5	145	13	1.5	1.4	107	< 1	6.0	< 5	4.8	2.2	1.00	2.14	
354634	2080	28	< 2	14	163	< 2	< 0.5	< 0.2	31	< 0.5	295	14	0.7	2.1	638	3	14.7	8	7.9	4.6	0.61	1.31	
354635	1140	24	< 2	9	42	< 2	< 0.5	< 0.2	14	< 0.5	251	29	< 0.4	0.8	136	< 1	8.1	< 5	3.0	1.2	0.16	0.35	
354636	2890	89	11	109	8	< 2	< 0.5	< 0.2	11	0.7	1080	205	1.3	2.4	1.9	14	24.3	21	1.9	1.0	0.21	0.45	
354637	579	32	4	140	4	< 2	< 0.5	< 0.2	2	1.0	577	92	1.0	2.7	0.3	< 1	7.1	5	2.5	1.1	0.10	0.21	
354638	85	75	9	68	3	< 2	< 0.5	< 0.2	< 1	2.6	114	118	0.6	1.6	0.3	< 1	2.1	9	0.8	0.3	0.05	0.11	
354639	64	98	14	44	2	6	< 0.5	< 0.2	1	2.1	10.7	64	< 0.4	1.1	0.4	8	0.8	< 5	0.2	< 0.1	< 0.01	0.02	
354640	2110	25	14	86	69	5	1.5	0.3	13	14.9	62.0	89	37.5	6.1	10.3	106	12.1	456	22.6	42.0	0.26	0.55	
354641	17	110	16	50	2	< 2	< 0.5	< 0.2	< 1	1.9	2.1	32	< 0.4	1.3	< 0.1	< 1	1.6	< 5	0.3	< 0.1	< 0.01	0.01	3.10
354642	519	132	15	47	2	< 2	< 0.5	< 0.2	2	1.7	401	47	0.8	1.3	0.1	2	4.9	< 5	0.3	0.8	0.06	0.12	
354643	1810	57	< 2	23	89	< 2	< 0.5	< 0.2	28	< 0.5	265	13	1.4	3.0	159	2	11.2	8	9.4	5.4	0.02	0.04	
354644	795	121	15	40	2	15	< 0.5	< 0.2	2	1.0	633	50	1.1	1.2	0.4	1530	8.0	< 5	0.3	0.5	0.07	0.14	
354645	22	128	14	44	2	3	< 0.5	< 0.2	1	0.9	7.3	29	0.5	1.3	0.3	49	0.4	< 5	0.3	0.1	0.01	0.02	
354646	35	107	15	49	2	< 2	< 0.5	< 0.2	< 1	0.6	27.3	32	< 0.4	1.3	0.2	6	0.6	< 5	0.3	< 0.1	0.01	0.02	
354647	49	96	14	49	2	< 2	< 0.5	< 0.2	< 1	< 0.5	38.5	35	< 0.4	1.3	0.3	< 1	0.6	< 5	0.3	< 0.1	0.04	0.08	
354648	23	100	17	49	2	< 2	< 0.5	< 0.2	2	0.7	5.0	28	0.6	1.2	0.1	15	0.3	< 5	0.3	< 0.1	0.03	0.07	
354649	15	108	15	51	2	< 2	< 0.5	< 0.2	< 1	0.9	2.7	27	< 0.4	1.3	0.1	< 1	0.3	< 5	0.3	< 0.1	0.09	0.19	
354650	< 2	7	< 2	24	< 1	< 2	< 0.5	< 0.2	1	< 0.5	< 0.5	81	< 0.4	0.5	0.2	< 1	< 0.1	< 5	0.3	0.1	< 0.01	< 0.01	
354651	287	94	16	53	2	< 2	< 0.5	< 0.2	1	1.6	365	29	< 0.4	1.3	0.3	< 1	2.6	14	0.3	3.2	0.16	0.35	3.12
354652	3220	51	< 2	9	47	< 2	< 0.5	< 0.2	29	< 0.5	435	97	1.4	1.4	364	3	26.9	7	1.5	4.8	0.07	0.15	
354653	2120	28	< 2	17	99	< 2	< 0.5	< 0.2	32	< 0.5	366	5	0.5	3.1	495	3	16.4	< 5	7.5	5.2	0.08	0.17	
354654	1400	22	< 2	9	57	< 2	< 0.5	< 0.2	19	< 0.5	243	5	1.0	1.0	133	18	11.8	< 5	3.0	4.4	0.11	0.25	
354655	1010	17	< 2	12	75	< 2	< 0.5	< 0.2	20	< 0.5	247	8	1.2	1.4	143	2	8.2	< 5	4.9	4.6	0.97	2.09	
354656	905	17	< 2	17	81	< 2	< 0.5	< 0.2	21	1.5	206	8	0.9	1.8	155	3	7.1	6	5.0	4.1	0.95	2.04	
354657	2800	36	< 2	13	69	< 2	< 0.5	< 0.2	44	< 0.5	510	35	4.4	1.4	126	5	18.8	7	5.5	3.6	0.57	1.22	
354658	1580	31	< 2	14	83	< 2	< 0.5	< 0.2	23	< 0.5	216	10	1.0	1.6	168	6	13.2	5	9.4	2.4	0.08	0.18	
354659	1210	117	15	52	3	< 2	< 0.5	< 0.2	5	< 0.5	328	51	0.6	1.4	1.0	< 1	11.6	36	0.4	1.0	0.17	0.36	
354660	2130	23	12	77	67	6	1.9	0.4	13	15.6	61.5	91	58.9	5.2	10.1	104	14.7	477	24.8	47.0	0.27	0.58	
354661	59	123	15	48	2	< 2	< 0.5	< 0.2	< 1	0.7	25.2	45	0.5	1.3	0.4	4	2.7	< 5	0.3	0.1	0.15	0.33	3.09
354662	26	112	16	51	2	< 2	< 0.5	< 0.2	< 1	0.5	13.0	37	2.8	1.4	0.2	< 1	1.2	20	0.3	0.1	0.07	0.15	
354663	17	98	16	51	2	< 2	< 0.5	< 0.2	< 1	< 0.5	7.8	36	< 0.4	1.3	0.2	1	0.7	< 5	0.3	0.1	0.08	0.18	
354664	3000	41	< 2	6	30	< 2	< 0.5	< 0.2	38	1.9	366	22	0.4	0.4	74.3	2	31.3	13	1.4	0.9	0.85	1.82	

## Results

## Activation Laboratories Ltd.

## Report: A17-03713

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
354665	2860	40	< 2	< 4	45	< 2	< 0.5	< 0.2	51	< 0.5	442	18	< 0.4	0.4	106	2	29.5	14	0.9	1.1	2.26	4.85	
354666	3940	52	< 2	< 4	36	< 2	< 0.5	< 0.2	37	< 0.5	463	29	< 0.4	0.2	79.8	2	40.4	9	1.6	0.8	1.38	2.98	
354667	3590	45	< 2	< 4	6	< 2	< 0.5	< 0.2	28	< 0.5	397	17	< 0.4	< 0.2	26.9	< 1	40.2	9	0.7	0.4	0.76	1.63	
354668	3740	44	< 2	4	61	< 2	< 0.5	< 0.2	55	< 0.5	550	13	0.7	0.5	140	3	34.2	6	2.9	1.1	1.22	2.63	
354669	6080	82	< 2	8	163	< 2	< 0.5	< 0.2	16	< 0.5	529	36	0.5	1.4	489	3	68.1	18	5.3	3.5	0.67	1.45	
354670	11	7	< 2	22	1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.2	65	< 0.4	0.5	0.4	< 1	4.7	< 5	0.5	0.2	< 0.01	< 0.01	
354671	6050	74	< 2	10	117	< 2	< 0.5	< 0.2	56	< 0.5	536	16	0.4	1.5	260	4	54.4	13	3.7	1.9	0.53	1.15	2.75
354672	2550	34	< 2	6	34	< 2	< 0.5	< 0.2	25	< 0.5	330	15	0.4	0.6	120	2	26.9	10	5.0	1.6	0.52	1.12	
354673	3250	39	< 2	5	42	< 2	< 0.5	< 0.2	56	< 0.5	421	22	0.5	0.5	45.0	3	30.7	6	1.2	0.8	1.19	2.56	
354674	3470	44	< 2	8	43	< 2	< 0.5	< 0.2	41	< 0.5	332	33	1.2	0.7	46.1	3	31.2	6	4.3	1.2	0.11	0.24	
354675	3820	50	< 2	8	41	< 2	< 0.5	< 0.2	28	< 0.5	437	36	0.5	0.7	66.6	2	38.4	9	4.8	1.1	0.62	1.34	
354676	4670	62	< 2	7	37	< 2	< 0.5	< 0.2	35	< 0.5	433	43	0.6	0.6	40.1	4	48.3	10	1.8	0.8	0.34	0.73	
354677	3820	51	< 2	11	76	< 2	< 0.5	< 0.2	43	< 0.5	527	28	< 0.4	1.6	168	3	37.2	7	4.4	1.3	0.32	0.69	
354678	6660	92	< 2	4	15	< 2	< 0.5	< 0.2	9	< 0.5	626	52	0.4	0.4	30.1	< 1	76.2	15	0.7	0.9	0.14	0.30	
354679	6680	92	< 2	4	13	< 2	< 0.5	< 0.2	6	< 0.5	562	45	< 0.4	0.5	54.8	< 1	79.6	15	0.7	0.6	0.17	0.37	
354680	2100	23	12	79	71	5	1.5	0.3	12	15.6	62.9	89	40.1	5.9	10.2	107	19.8	468	24.9	45.2	0.27	0.59	
354681	1410	23	< 2	31	103	< 2	< 0.5	< 0.2	18	0.5	231	12	< 0.4	3.8	203	3	15.0	7	11.4	2.2	0.28	0.61	2.71
354682	100	279	15	63	4	2	< 0.5	< 0.2	< 1	1.2	59.6	147	0.8	1.6	0.7	< 1	3.6	7	2.0	0.5	0.07	0.15	
354683	103	471	17	91	5	< 2	< 0.5	< 0.2	< 1	0.9	72.6	309	0.4	2.1	0.6	< 1	2.3	7	4.7	1.0	0.04	0.09	
354684	27	97	14	44	2	< 2	< 0.5	< 0.2	< 1	1.1	8.2	50	1.0	1.2	0.3	< 1	1.1	< 5	0.3	< 0.1	0.04	0.08	
354685	119	91	14	45	2	< 2	< 0.5	< 0.2	< 1	0.7	124	55	< 0.4	1.1	0.2	< 1	1.4	< 5	0.3	< 0.1	0.05	0.10	
354686	65	81	14	43	2	< 2	< 0.5	< 0.2	< 1	0.7	47.8	19	< 0.4	1.1	0.1	< 1	1.3	< 5	0.2	< 0.1	0.04	0.08	
354687	604	84	13	43	2	< 2	< 0.5	< 0.2	1	0.7	315	39	< 0.4	1.2	0.1	< 1	5.3	< 5	0.2	< 0.1	0.06	0.13	
354688	1600	100	4	23	55	< 2	< 0.5	< 0.2	11	1.1	612	80	< 0.4	2.0	197	69	12.4	21	3.7	5.2	0.09	0.20	
354689	2170	74	13	43	3	< 2	< 0.5	< 0.2	7	0.9	1870	39	0.6	1.1	0.5	< 1	21.1	< 5	0.2	0.1	0.13	0.29	
354690	9	10	< 2	33	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	2.2	114	< 0.4	0.7	0.2	< 1	2.3	< 5	0.4	0.2	< 0.01	< 0.01	
354691	211	104	14	44	2	< 2	< 0.5	< 0.2	< 1	< 0.5	202	16	0.5	1.2	0.2	< 1	3.1	< 5	0.3	< 0.1	0.05	0.11	3.07
354692	20	119	13	44	2	< 2	< 0.5	< 0.2	< 1	< 0.5	11.7	12	< 0.4	1.2	0.3	< 1	1.1	< 5	0.2	< 0.1	0.07	0.15	
354693	55	81	12	40	1	< 2	< 0.5	< 0.2	< 1	0.6	32.0	44	< 0.4	1.0	0.1	< 1	0.5	< 5	0.2	0.1	0.04	0.09	
354694	81	89	13	41	2	< 2	< 0.5	< 0.2	< 1	0.7	64.4	53	< 0.4	1.1	0.2	< 1	0.6	18	0.2	< 0.1	0.06	0.13	
354695	394	80	12	40	2	< 2	< 0.5	< 0.2	< 1	0.7	240	55	< 0.4	1.1	0.7	< 1	3.2	5	0.2	0.1	0.08	0.18	
354696	414	73	12	40	1	< 2	< 0.5	< 0.2	< 1	0.8	265	54	< 0.4	1.1	0.2	< 1	3.8	6	0.2	0.1	0.08	0.18	
354697	786	20	< 2	6	19	< 2	< 0.5	< 0.2	15	< 0.5	139	58	< 0.4	0.9	98.9	< 1	4.8	< 5	7.2	1.5	0.51	1.10	
354698	1580	22	< 2	5	21	< 2	< 0.5	< 0.2	32	< 0.5	550	29	< 0.4	0.5	98.3	< 1	10.4	< 5	1.1	1.7	1.47	3.17	
354699	1970	25	< 2	6	53	< 2	< 0.5	0.2	42	1.7	498	12	5.9	0.6	151	3	14.7	13	2.1	2.4	1.94	4.17	
354700	2160	24	13	90	71	5	1.7	0.3	12	14.8	61.2	89	41.8	6.7	10.9	100	14.3	477	25.4	47.4	0.28	0.60	
354701	418	11	< 2	14	69	< 2	< 0.5	< 0.2	15	0.5	159	5	1.1	1.7	159	1	4.1	7	9.2	9.5	1.62	3.48	2.89
354702	1180	20	< 2	27	120	< 2	< 0.5	< 0.2	23	< 0.5	333	5	1.2	3.0	228	1	8.2	10	13.6	18.5	0.95	2.04	
354703	1110	20	< 2	9	23	< 2	< 0.5	< 0.2	16	< 0.5	417	8	0.6	1.0	76.6	< 1	9.6	< 5	2.6	2.5	1.18	2.54	
354704	1110	18	< 2	7	21	< 2	< 0.5	< 0.2	18	< 0.5	432	7	< 0.4	0.6	90.0	< 1	10.0	< 5	1.6	1.2	1.41	3.03	
354705	868	20	< 2	19	60	< 2	< 0.5	< 0.2	15	< 0.5	126	6	1.6	2.5	256	2	6.8	6	6.7	4.4	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
354706	444	110	14	45	3	2	< 0.5	< 0.2	2	< 0.5	246	74	0.7	1.2	6.5	< 1	5.1	7	0.3	0.3	0.08	0.18	
354707	85	98	13	43	2	3	< 0.5	< 0.2	< 1	< 0.5	53.9	25	< 0.4	1.2	0.5	< 1	1.5	< 5	0.3	< 0.1	0.05	0.12	
354708	235	100	14	45	2	< 2	< 0.5	< 0.2	< 1	0.5	125	123	< 0.4	1.1	0.1	< 1	2.2	< 5	0.2	< 0.1	0.05	0.11	
354709	3480	53	< 2	9	35	< 2	< 0.5	< 0.2	46	< 0.5	419	35	0.9	0.5	68.6	2	27.2	8	2.0	1.5	0.61	1.31	
354710	5	7	< 2	29	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.2	82	< 0.4	0.6	0.4	< 1	2.7	< 5	0.3	0.2	< 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	11.46	1.91	0.75	0.013	0.33	42.70	0.88	0.55	0.121	30.26					1612								
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	47.38	17.61	9.66	0.147	9.95	11.50	1.91	0.22	0.464	0.06			31		152	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	70.45	13.25	3.25	0.142	0.14	0.60	2.50	5.41	0.276	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																	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	52.84	15.43	10.96	0.168	6.06	11.07	2.22	0.62	1.099	0.13			35	< 1	270	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	
DTS-2b Meas																16000	125	3750					
DTS-2b Cert																15500	120	3780					
SY-4 Meas	50.51	20.61	6.30	0.107	0.50	8.14	6.92	1.67	0.293	0.11			< 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	48.33	15.30	11.12	0.170	9.54	13.52	1.82	0.02	0.968	0.02			44	< 1	329	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																				1060	101		
ZW-C Cert																				1050.00	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																	47		420				

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																							
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																							
NCS DC86303 Cert																							
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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																							
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NCS DC86314 Cert																							
NCS DC86314 Meas																							
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																							
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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																							
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																							



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																							
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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																							
354507 Orig																							
354507 Dup																							
354515 Orig	73.56	16.16	0.75	0.055	0.10	0.31	3.57	3.84	0.004	0.17	0.44	98.96	< 1	218	< 5	20	1	< 20	< 10	< 30	44	6	< 5
354515 Dup	73.81	16.19	0.74	0.055	0.10	0.31	3.58	3.82	0.004	0.17	0.44	99.22	< 1	220	< 5	20	1	< 20	< 10	< 30	44	6	< 5
354529 Orig																							
354529 Dup																							
354532 Orig	73.91	14.69	0.38	0.023	0.14	0.29	3.82	6.27	0.004	0.13	0.50	100.2	< 1	249	< 5	20	9	< 20	< 10	< 30	30	5	< 5
354532 Dup	73.02	14.58	0.39	0.023	0.14	0.29	3.77	6.17	0.004	0.12	0.50	98.99	< 1	251	< 5	40	1	< 20	< 10	< 30	30	6	< 5
354537 Orig																							
354537 Dup																							
354551 Orig	48.61	14.78	11.44	0.192	6.32	15.33	1.51	0.28	0.797	0.06	1.39	100.7	41	< 1	268	300	46	130	120	80	16	2	< 5
354551 Split	48.51	14.32	10.66	0.182	6.37	15.08	1.53	0.25	0.744	0.06	1.36	99.07	42	< 1	269	290	45	130	130	100	16	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
PREP DUP																							
354552 Orig																							
354552 Dup																							
354559 Orig																							
354559 Dup																							
354563 Orig	82.80	12.23	0.94	0.091	0.14	0.16	0.77	1.50	0.007	0.09	0.60	99.32	1	104	< 5	30	1	< 20	< 10	50	40	5	< 5
354563 Dup	83.43	11.85	0.95	0.092	0.15	0.16	0.78	1.52	0.007	0.09	0.60	99.62	< 1	101	< 5	30	1	< 20	< 10	50	40	5	< 5
354573 Orig																							
354573 Dup																							
354581 Orig																							
354581 Dup																							
354595 Orig																							
354595 Dup																							
354601 Orig	49.03	15.03	12.65	0.181	7.29	12.27	1.82	0.32	0.818	0.05	1.04	100.5	43	1	281	280	42	110	130	90	16	2	< 5
354601 Split	49.27	14.90	12.82	0.185	7.36	12.08	1.79	0.31	0.819	0.05	0.95	100.5	43	1	281	300	46	110	140	90	17	2	< 5
PREP DUP																							
354603 Orig																							
354603 Dup																							
354611 Orig	47.49	15.08	11.67	0.251	5.73	15.09	0.95	0.74	0.756	0.13	2.57	100.4	40	18	266	270	39	110	190	110	22	4	< 5
354611 Dup	47.15	15.26	11.91	0.246	5.70	15.01	0.89	0.74	0.747	0.13	2.57	100.4	40	18	265	260	36	100	180	100	21	4	< 5
354617 Orig																							
354617 Dup																							
354625 Orig																							
354625 Dup																							
354628 Orig	75.00	15.31	1.20	0.103	0.17	0.24	2.86	2.79	0.020	0.15	1.47	99.31	< 1	184	< 5	< 20	1	< 20	< 10	130	60	5	< 5
354628 Dup	75.56	15.43	1.21	0.105	0.15	0.25	2.84	2.76	0.021	0.14	1.47	99.94	< 1	183	< 5	< 20	1	< 20	< 10	130	60	5	< 5
354628 Dup	75.77	15.70	1.19	0.103	0.15	0.24	2.90	2.76	0.020	0.12	1.47	100.4	< 1	204	< 5								
354639 Orig																							
354639 Dup																							
354647 Orig																							
354647 Dup																							
354651 Orig	49.36	13.70	12.92	0.206	7.95	11.18	1.24	0.52	0.941	0.06	2.10	100.2	47	4	305	290	43	90	180	110	16	2	< 5
354651 Split	49.54	14.08	12.66	0.213	7.97	10.90	1.19	0.58	0.905	0.05	2.39	100.5	47	4	306	280	42	90	160	100	16	2	< 5
PREP DUP																							
354659 Orig	50.89	13.74	12.00	0.201	7.28	9.38	2.02	1.02	0.905	0.08	1.43	98.95	47	5	299	290	43	90	150	160	18	2	< 5
354659 Dup	51.35	13.97	12.16	0.204	7.35	9.38	2.05	1.03	0.917	0.09	1.43	99.94	47	5	301	300	45	90	150	170	18	2	< 5
354661 Orig																							
354661 Dup																							
354669 Orig																							
354669 Dup																							
354676 Orig	75.42	13.82	1.00	0.082	0.13	0.20	1.52	5.79	0.016	0.13	0.98	99.08	< 1	218	< 5	30	4	< 20	10	100	43	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
354676 Dup	75.36	14.17	1.01	0.083	0.13	0.20	1.55	5.88	0.016	0.13	0.98	99.51	< 1	222	< 5	40	5	< 20	10	100	42	5	< 5
354683 Orig																							
354683 Dup																							
354691 Orig																							
354691 Dup																							
354701 Orig																							
354701 Dup																							
354705 Orig																							
354705 Dup																							
354709 Orig	78.83	12.68	1.65	0.135	0.22	0.35	1.16	3.14	0.035	0.09	1.01	99.30	1	42	6	40	2	< 20	< 10	170	52	6	< 5
354709 Dup	79.12	12.81	1.61	0.137	0.22	0.34	1.17	3.11	0.035	0.07	1.01	99.64	< 1	43	< 5	40	2	< 20	< 10	170	51	6	< 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	0.001	< 0.01	0.01	< 0.01	< 0.01	0.001	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	< 0.01	0.01	0.002	< 0.01	0.02	< 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		140	14	36						0.9		105											
DNC-1 Cert		144.0	18.0	38						0.96		118											
GBW 07113 Meas		41	45	402								498											
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	194	21	95		< 2				0.7		173		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			
DTS-2b Meas																							
DTS-2b Cert																							
SY-4 Meas		1233	116	544								346											
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	13	15						0.5		7											
BIR-1a Cert		110	16	18						0.58		6											
NCS DC86312 Meas																				24.7			
NCS DC86312 Cert																				23.6			
ZW-C Meas	8650				206				1320		259			79.0	336	34.0							
ZW-C Cert	8500				198				1300.00		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						21													37.1	396			

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) Cert																							
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 DC86303 Meas																					0.21	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																					0.19	0.41	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.20	0.43	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.20	0.43	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.19	0.42	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.07	2.29	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.05	2.27	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.05	2.26	

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																							1.07	2.30	
NCS DC86304 Cert																							1.06	2.29	
NCS DC86304 Meas																							1.05	2.27	
NCS DC86304 Cert																							1.06	2.29	
NCS DC86304 Meas																							1.08	2.33	
NCS DC86304 Cert																							1.06	2.29	
NCS DC86314 Meas																							1.80	3.88	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.76	3.78	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.75	3.78	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.80	3.87	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.78	3.83	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.77	3.82	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.81	3.89	
NCS DC86314 Cert																							1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							8.45		

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	
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																						8.09		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.63		
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																						8.14		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.52		
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																						8.42	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.29	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.88	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.61	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.26	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.42	
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																						8.28	
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																						8.56	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.60	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
354507 Orig																						1.45	3.12
354507 Dup																						1.50	3.23
354515 Orig	2770	44	< 2	6	26	< 2	< 0.5	< 0.2	11	< 0.5	375	43	1.9	0.6	100	2	29.0	8	2.2	1.6	0.68	1.46	
354515 Dup	2780	44	< 2	6	27	< 2	< 0.5	< 0.2	12	< 0.5	380	42	2.2	0.8	102	< 1	29.5	8	2.3	1.7	0.68	1.46	
354529 Orig																						0.85	1.82
354529 Dup																						0.86	1.85
354532 Orig	4630	72	< 2	10	25	< 2	< 0.5	< 0.2	9	< 0.5	429	99	0.5	1.0	54.6	< 1	46.6	10	3.5	1.2			
354532 Dup	4630	73	< 2	10	27	< 2	< 0.5	< 0.2	8	< 0.5	434	99	0.7	0.9	56.6	< 1	50.2	11	3.5	1.2			
354537 Orig																						< 0.01	< 0.01
354537 Dup																						< 0.01	< 0.01
354551 Orig	32	110	14	44	2	< 2	< 0.5	< 0.2	< 1	0.8	4.2	40	< 0.4	1.2	0.1	< 1	< 0.1	< 5	0.2	< 0.1		3.10	
354551 Split	28	103	14	44	2	< 2	< 0.5	< 0.2	< 1	0.5	4.2	37	< 0.4	1.2	< 0.1	< 1	1.0	< 5	0.3	< 0.1	0.02	0.04	3.13

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	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
PREP DUP																							
354552 Orig																						0.02	0.05
354552 Dup																						0.02	0.05
354559 Orig																						0.02	0.04
354559 Dup																						0.01	0.03
354563 Orig	1490	25	< 2	8	60	< 2	< 0.5	< 0.2	20	1.7	352	34	0.8	0.7	157	2	12.7	10	2.3	1.2			
354563 Dup	1560	25	< 2	8	68	< 2	< 0.5	< 0.2	20	1.7	360	34	0.8	0.8	172	2	13.0	10	2.4	1.4			
354573 Orig																						0.02	0.05
354573 Dup																						0.02	0.05
354581 Orig																						0.14	0.29
354581 Dup																						0.13	0.29
354595 Orig																						< 0.01	0.01
354595 Dup																						< 0.01	< 0.01
354601 Orig	40	91	15	48	2	< 2	< 0.5	< 0.2	< 1	0.6	5.7	50	< 0.4	1.2	0.1	< 1	1.5	< 5	0.3	< 0.1			3.09
354601 Split	40	92	15	46	2	< 2	< 0.5	< 0.2	< 1	< 0.5	5.7	49	< 0.4	1.2	< 0.1	< 1	0.6	< 5	0.3	< 0.1	0.03	0.07	3.09
PREP DUP																							
354603 Orig																						0.03	0.05
354603 Dup																						0.03	0.06
354611 Orig	371	109	15	48	5	4	< 0.5	< 0.2	8	1.6	265	68	2.1	1.3	1.9	19	2.7	10	0.9	0.4			
354611 Dup	341	106	14	47	5	4	< 0.5	< 0.2	8	1.4	248	67	1.6	1.3	1.6	15	2.7	9	0.8	0.4			
354617 Orig																						0.82	1.76
354617 Dup																						0.83	1.78
354625 Orig																						0.93	1.99
354625 Dup																						0.93	2.01
354628 Orig	3020	40	< 2	7	53	< 2	< 0.5	0.2	55	1.5	356	17	0.5	0.7	70.7	4	21.7	6	1.4	3.3			
354628 Dup	3040	41	< 2	8	53	< 2	< 0.5	0.2	55	1.7	361	17	0.5	0.4	68.7	3	21.6	7	1.4	3.3			
354628 Dup		41	< 2	< 4								14											
354639 Orig																						0.01	0.03
354639 Dup																						< 0.01	0.02
354647 Orig																						0.04	0.08
354647 Dup																						0.03	0.08
354651 Orig	287	94	16	53	2	< 2	< 0.5	< 0.2	1	1.6	365	29	< 0.4	1.3	0.3	< 1	2.6	14	0.3	3.2			3.12
354651 Split	315	90	16	52	2	< 2	< 0.5	< 0.2	1	1.6	398	30	< 0.4	1.2	0.2	< 1	3.2	11	0.3	3.6	0.20	0.42	3.11
PREP DUP																							
354659 Orig	1190	114	15	52	3	< 2	< 0.5	< 0.2	5	< 0.5	324	51	0.6	1.4	1.0	< 1	11.7	35	0.4	1.0			
354659 Dup	1220	119	15	51	3	< 2	< 0.5	< 0.2	5	0.5	333	52	0.6	1.4	1.1	< 1	11.5	36	0.4	1.0			
354661 Orig																						0.16	0.34
354661 Dup																						0.15	0.33
354669 Orig																						0.67	1.44
354669 Dup																						0.68	1.46
354676 Orig	4670	62	< 2	7	36	< 2	< 0.5	< 0.2	34	< 0.5	436	42	0.5	0.5	40.7	6	47.0	10	1.8	0.7			

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
354676 Dup	4670	62	< 2	7	37	< 2	< 0.5	< 0.2	36	< 0.5	430	43	0.7	0.6	39.4	2	49.6	10	1.8	0.8			
354683 Orig																					0.04	0.09	
354683 Dup																					0.04	0.09	
354691 Orig																					0.05	0.11	
354691 Dup																					0.05	0.11	
354701 Orig																							2.89
354701 Dup																							2.89
354705 Orig																					0.04	0.09	
354705 Dup																					0.04	0.09	
354709 Orig	3500	53	< 2	9	33	< 2	< 0.5	< 0.2	45	< 0.5	421	35	0.9	0.5	68.2	2	26.2	7	2.0	1.4			
354709 Dup	3460	52	< 2	9	37	< 2	< 0.5	< 0.2	47	< 0.5	416	35	0.9	0.5	69.0	2	28.1	8	2.0	1.5			
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		< 2	< 2	< 4								< 3											
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
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**Date Submitted:** 24-Apr-17  
**Invoice No.:** A17-03899  
**Invoice Date:** 21-May-17  
**Your Reference:** Seymour Lake

**Ardiden Ltd.**  
**Suite 6, 295 Rokeby Rd**  
**Subiaco WA 6008**  
**Australia**

**ATTN: Brad Boyle (inv/res)**

## CERTIFICATE OF ANALYSIS

30 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-03899**

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

Notes:

Total includes all elements in % oxide to the left of total.

Footnote: Sample 354720 had insufficient sample for LOI analysis.

CERTIFIED BY:

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

Emmanuel Esemé, Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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## Results

## Activation Laboratories Ltd.

Report: A17-03899

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
354711	81.12	10.78	0.71	0.079	0.11	0.18	2.04	3.22	0.020	0.13	0.84	99.23	< 1	152	< 5	20	2	< 20	< 10	110	39	4	< 5
354712	74.31	15.75	0.69	0.092	0.13	0.36	2.06	5.66	0.012	0.24	0.80	100.1	< 1	172	< 5	< 20	2	< 20	< 10	80	45	4	< 5
354713	74.84	16.69	0.68	0.074	0.07	0.26	2.92	3.56	0.005	0.18	0.47	99.75	< 1	203	< 5	20	1	< 20	< 10	< 30	48	6	< 5
354714	80.91	15.75	1.01	0.128	0.06	0.19	0.75	0.81	0.008	0.12	0.47	100.2	< 1	21	< 5	30	1	< 20	< 10	40	61	7	< 5
354715	76.60	17.66	0.98	0.103	0.11	0.19	1.74	2.23	0.005	0.12	0.50	100.2	< 1	44	< 5	30	2	< 20	< 10	< 30	60	6	< 5
354716	75.84	16.55	0.82	0.094	0.10	0.21	1.89	2.41	0.005	0.12	0.47	98.51	< 1	227	< 5	20	1	< 20	< 10	< 30	53	4	< 5
354717	80.50	13.14	0.77	0.081	0.10	0.20	2.66	1.42	0.013	0.13	0.77	99.79	< 1	342	< 5	30	2	< 20	< 10	80	45	4	< 5
354718	73.92	15.75	0.59	0.122	0.08	0.25	5.78	1.36	0.017	0.18	0.79	98.84	< 1	199	< 5	< 20	2	< 20	< 10	90	51	6	< 5
354719	64.18	21.58	0.99	0.142	0.30	0.79	7.97	2.20	0.026	0.57	1.49	100.2	< 1	42	5	< 20	3	< 20	10	110	69	6	< 5
354720	73.87	13.59	0.69	0.602	0.03	0.73	0.58	6.11	0.052	< 0.01		96.27	12	5	< 5	110	< 1	< 20	150	530	28	5	39
354721	52.12	14.96	11.39	0.223	4.64	11.93	0.42	0.81	0.828	0.15	1.51	98.98	44	7	280	280	48	140	130	110	16	2	< 5
354722	50.36	14.77	12.05	0.224	5.01	13.39	1.17	0.28	0.845	0.06	1.12	99.28	45	< 1	279	280	47	140	90	90	15	2	< 5
354723	52.44	17.20	11.17	0.212	4.70	8.83	2.80	1.08	0.934	0.06	1.30	100.7	42	< 1	290	300	59	190	120	70	16	1	< 5
354724	47.16	13.69	12.61	0.214	7.14	14.85	1.16	0.30	0.771	0.05	1.37	99.33	41	< 1	265	250	43	120	70	80	15	2	6
354725	48.93	15.85	12.26	0.181	7.04	12.10	1.89	0.38	0.840	0.06	0.97	100.5	44	< 1	272	270	46	140	140	80	14	1	< 5
354726	64.75	14.84	4.51	0.130	3.24	5.08	2.72	1.10	0.271	0.13	2.13	98.92	15	7	89	100	15	50	10	60	30	5	< 5
354727	71.40	16.80	0.26	0.085	0.08	0.68	8.59	0.72	0.009	0.30	0.63	99.55	< 1	397	< 5	< 20	< 1	< 20	10	50	39	7	< 5
354728	50.40	15.33	13.93	0.263	4.85	10.81	1.68	0.99	0.846	0.06	1.27	100.4	46	2	298	280	49	130	260	100	15	2	5
354729	50.28	15.67	13.45	0.292	4.30	11.09	2.82	0.55	0.874	0.06	0.87	100.3	48	< 1	301	290	50	140	200	90	15	2	< 5
354730	97.07	0.65	0.82	0.009	0.02	0.05	0.08	0.12	0.027	< 0.01	0.12	98.96	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
354731	70.73	17.50	0.63	0.067	0.16	0.39	3.82	4.68	0.026	0.13	0.54	98.67	< 1	34	6	< 20	1	< 20	< 10	50	43	5	< 5
354732	77.37	15.68	0.87	0.139	0.08	0.22	1.85	1.54	0.017	0.13	0.89	98.78	< 1	50	< 5	30	< 1	< 20	< 10	110	61	5	< 5
354733	73.92	17.25	0.51	0.099	0.07	0.21	4.27	1.55	0.010	0.14	0.66	98.68	< 1	96	< 5	< 20	< 1	< 20	< 10	80	50	5	< 5
354734	79.05	15.01	0.79	0.128	0.08	0.21	1.74	1.19	0.014	0.13	0.86	99.20	< 1	100	< 5	30	< 1	< 20	< 10	110	56	5	< 5
354735	72.50	18.88	0.88	0.208	0.18	0.95	2.77	1.45	0.015	0.72	1.15	99.70	< 1	358	< 5	< 20	1	< 20	< 10	80	65	6	< 5
354736	72.95	19.61	0.91	0.154	0.18	0.43	2.24	1.33	0.014	0.32	1.15	99.28	< 1	70	< 5	20	3	< 20	< 10	80	69	6	< 5
354737	73.24	20.56	1.05	0.152	0.08	0.39	1.71	0.71	0.009	0.24	0.67	98.82	< 1	27	< 5	20	< 1	< 20	< 10	50	71	6	< 5
354738	77.82	15.19	0.71	0.123	0.09	0.46	3.66	0.62	0.009	0.23	0.55	99.46	< 1	197	< 5	20	< 1	< 20	< 10	50	48	5	< 5
354739	48.26	15.66	12.77	0.193	7.49	11.65	2.13	0.49	0.849	0.06	1.19	100.7	43	2	277	260	43	120	140	80	15	1	< 5
354740	74.00	13.89	0.68	0.605	0.04	0.74	0.60	6.20	0.054	0.01	2.20	99.01	12	5	< 5	100	< 1	< 20	150	490	26	5	37

## Results

## Activation Laboratories Ltd.

## Report: A17-03899

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
354711	3170	43	< 2	7	27	< 2	< 0.5	< 0.2	37	0.8	347	16	0.5	0.7	41.0	1	25.3	11	1.0	0.9	0.15	0.31	
354712	4690	67	< 2	8	21	< 2	< 0.5	< 0.2	29	1.0	630	36	< 0.4	0.4	18.8	3	44.1	15	2.0	0.8	0.59	1.26	
354713	3090	45	< 2	< 4	11	< 2	< 0.5	< 0.2	16	< 0.5	380	26	0.5	0.3	26.8	< 1	29.8	22	1.0	0.7	1.01	2.18	
354714	1050	15	< 2	9	14	< 2	< 0.5	< 0.2	34	< 0.5	273	7	< 0.4	1.7	38.1	1	8.5	8	3.3	1.3	1.79	3.85	
354715	1740	28	< 2	4	12	< 2	< 0.5	< 0.2	24	< 0.5	220	33	< 0.4	0.2	18.8	< 1	17.0	7	0.7	0.5	1.66	3.57	
354716	1860	29	< 2	4	9	< 2	< 0.5	< 0.2	22	1.0	246	23	< 0.4	0.4	17.4	< 1	18.1	7	0.7	0.5	1.42	3.05	
354717	1430	23	< 2	5	49	< 2	< 0.5	< 0.2	34	0.8	204	9	< 0.4	0.4	49.6	1	10.6	8	1.6	0.7	0.67	1.45	
354718	1570	24	< 2	14	60	< 2	< 0.5	< 0.2	33	0.7	186	6	0.6	1.8	196	2	10.5	6	3.9	2.4	0.22	0.48	
354719	2510	50	< 2	20	103	< 2	< 0.5	< 0.2	49	0.9	337	39	0.6	2.7	246	4	16.6	11	5.1	5.3	0.11	0.24	
354720	2050	23	12	73	47	6	2.3	0.3	11	12.0	60.8	88	27.5	5.3	10.0	93	13.6	418	23.0	42.0	0.28	0.59	
354721	559	87	16	45	2	4	< 0.5	< 0.2	2	1.3	677	39	0.5	1.2	0.9	< 1	6.9	12	0.5	0.4	0.30	0.65	3.17
354722	19	93	16	44	2	3	< 0.5	< 0.2	< 1	1.0	3.4	36	0.5	1.2	0.4	1	0.5	7	0.3	< 0.1	0.05	0.11	
354723	155	84	15	45	2	13	< 0.5	< 0.2	< 1	1.0	123	206	< 0.4	1.2	0.2	< 1	1.5	7	0.3	0.1	0.12	0.25	
354724	51	78	16	39	2	< 2	< 0.5	< 0.2	< 1	1.1	29.8	31	0.8	1.1	0.4	< 1	0.7	6	0.2	< 0.1	0.04	0.08	
354725	34	92	15	42	2	5	< 0.5	< 0.2	< 1	1.1	14.0	35	< 0.4	1.1	0.2	< 1	0.5	5	0.2	< 0.1	0.06	0.13	
354726	1500	51	5	20	18	< 2	< 0.5	< 0.2	10	1.2	391	35	0.6	1.2	210	2	12.0	9	3.0	1.2	0.47	1.02	
354727	1410	27	< 2	18	84	< 2	< 0.5	< 0.2	10	0.9	441	4	2.0	2.7	373	3	10.9	7	8.2	3.1	0.10	0.21	
354728	276	78	15	45	2	2	< 0.5	< 0.2	< 1	1.0	146	182	< 0.4	1.2	1.1	< 1	3.7	18	0.3	0.5	0.12	0.26	
354729	36	61	17	46	2	< 2	< 0.5	< 0.2	< 1	1.0	14.8	68	0.5	1.4	0.3	< 1	0.7	12	0.3	< 0.1	0.04	0.09	
354730	3	10	< 2	26	< 1	< 2	< 0.5	< 0.2	< 1	0.9	< 0.5	135	< 0.4	0.6	0.2	< 1	0.1	5	0.4	0.2	< 0.01	< 0.01	
354731	3790	61	< 2	10	25	< 2	< 0.5	< 0.2	22	1.0	401	45	12.4	1.0	81.6	< 1	38.4	11	1.7	1.0	0.57	1.22	2.74
354732	1830	24	< 2	< 4	24	< 2	< 0.5	< 0.2	43	1.0	218	6	5.5	0.5	53.2	1	12.7	< 5	1.0	1.3	1.17	2.52	
354733	1630	25	< 2	5	26	< 2	< 0.5	< 0.2	34	1.1	257	6	14.5	0.8	133	< 1	13.1	6	2.2	1.8	0.84	1.81	
354734	1500	20	< 2	10	22	< 2	< 0.5	< 0.2	39	1.2	257	6	2.5	1.2	85.1	1	10.0	< 5	2.8	1.5	1.22	2.63	
354735	1820	29	< 2	16	104	< 2	< 0.5	< 0.2	45	0.9	547	11	1.5	2.2	316	2	12.3	6	8.8	2.4	1.32	2.84	
354736	1640	24	< 2	16	55	< 2	< 0.5	< 0.2	50	1.0	327	10	1.6	2.3	256	2	10.9	< 5	4.9	1.7	1.56	3.36	
354737	1040	16	< 2	44	34	< 2	< 0.5	< 0.2	38	1.0	305	6	5.3	6.6	105	1	7.5	6	8.5	1.9	2.10	4.52	
354738	864	21	< 2	17	45	< 2	< 0.5	< 0.2	24	0.9	255	9	0.6	1.8	85.5	1	6.3	5	2.8	1.6	1.04	2.25	
354739	153	80	15	42	2	16	< 0.5	< 0.2	< 1	1.4	71.6	23	< 0.4	1.1	0.3	< 1	2.0	6	0.3	0.2	0.14	0.29	
354740	1970	25	13	75	56	5	2.1	0.3	12	12.7	60.2	90	26.8	5.5	10.5	95	13.4	419	23.6	42.9	0.28	0.59	

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	1.85	0.75	0.013	0.34	42.87	0.88	0.55	0.119	30.18					1609								
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	47.29	18.33	9.84	0.146	9.99	11.48	1.89	0.22	0.478	0.07			31		149	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	71.60	13.07	3.25	0.148	0.15	0.61	2.50	5.43	0.278	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																	28			150			26
LKSD-3 Cert																	30.0			152			27.0
TDB-1 Meas																260		100	350				
TDB-1 Cert																251		92	323				
BX-N Meas	7.51	54.02	23.74	0.046	0.08	0.16	0.02	0.05	2.331	0.13			61	6	370								
BX-N Cert	7.40	54.21	23.17	0.050	0.11	0.17	0.04	0.05	2.37	0.13			60	5.5	350.000								
W-2a Meas	53.23	14.83	10.54	0.166	6.18	11.12	2.21	0.61	1.051	0.15			35	< 1	268	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	50.35	20.22	6.04	0.105	0.49	8.11	6.94	1.65	0.279	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	47.93	15.64	11.19	0.169	9.46	13.42	1.80	0.02	0.970	0.02			43	< 1	321	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																							
ZW-C 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		410				
OREAS 101b																	47		420				

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																							
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																							
NCS DC86303 Cert																							
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																							
354717 Orig																							
354717 Dup																							
354725 Orig																							
354725 Dup																							
354726 Orig	65.00	14.75	4.54	0.131	3.25	5.09	2.76	1.11	0.267	0.13	2.13	99.16	15	7	90	100	15	50	10	60	30	5	< 5
354726 Dup	64.51	14.93	4.47	0.128	3.23	5.08	2.69	1.09	0.276	0.13	2.13	98.67	15	7	88	100	15	60	10	60	30	5	< 5
354739 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
354739 Dup																							
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

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		143	15	38						0.9		105											
DNC-1 Cert		144.0	18.0	38						0.96		118											
GBW 07113 Meas		41	44	396								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			
BX-N Meas		116	112	560								29											
BX-N Cert		110	114	550.000								30											
W-2a Meas	20	196	18	90		< 2				0.7		174		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		1199	114	539								346											
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		108	13	14						0.5		7											
BIR-1a Cert		110	16	18						0.58		6											
NCS DC86312 Meas																				24.7			
NCS DC86312 Cert																				23.6			
ZW-C Meas											277				89.8	336	34.2						
ZW-C Cert											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						21													37.1	396			

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	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) Cert																							
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 DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.13	2.42	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.76	3.79	
NCS DC86314 Cert																					1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.38	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.49	
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 Cert																						8	
354717 Orig																						0.68	1.46
354717 Dup																						0.67	1.44
354725 Orig																						0.06	0.13
354725 Dup																						0.06	0.13
354726 Orig	1510	52	5	20	17	< 2	< 0.5	< 0.2	10	1.2	393	35	0.6	1.3	206	2	12.1	10	3.1	1.3			
354726 Dup	1500	50	6	19	19	< 2	< 0.5	< 0.2	10	1.2	388	35	0.6	1.1	214	2	11.9	8	3.0	1.1			
354739 Orig																						0.14	0.29

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
354739 Dup																					0.14	0.30	
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							< 0.01
Method Blank																							< 0.01
Method Blank																							< 0.01
Method Blank																							< 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			



**Date Submitted:** 05-May-17  
**Invoice No.:** A17-04429  
**Invoice Date:** 20-Jun-17  
**Your Reference:** Seymour Lake

**Ardiden Ltd.**  
**Suite 6, 295 Rokeby Rd**  
**Subiaco WA 6008**  
**Australia**

**ATTN: Brad Boyle (inv/res)**

## CERTIFICATE OF ANALYSIS

138 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-04429**

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

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

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

Emmanuel Esemé , 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

Results

Activation Laboratories Ltd.

Report: A17-04429

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
354741	48.32	14.86	12.46	0.185	7.60	11.64	2.57	0.55	0.798	0.06	1.56	100.6	42	< 1	278	290	47	130	110	90	15	2	< 5
354742	49.18	14.38	12.93	0.192	7.14	11.40	1.83	0.42	0.862	0.06	1.27	99.67	46	< 1	295	320	47	110	140	100	16	2	< 5
354743	49.63	13.82	12.29	0.183	7.43	10.74	1.21	0.79	0.862	0.09	1.55	98.60	46	3	296	290	46	100	190	150	16	2	< 5
354744	69.88	16.31	1.24	0.143	0.85	0.54	6.21	1.91	0.020	0.24	1.57	98.91	< 1	18	8	< 20	3	< 20	20	120	44	8	< 5
354745	68.04	18.16	0.45	0.048	0.17	0.80	10.26	0.29	0.033	0.44	0.31	99.01	2	5	11	< 20	2	< 20	30	50	42	9	< 5
354746	53.09	16.11	10.01	0.219	4.46	8.33	0.89	3.32	0.886	0.05	1.84	99.21	42	5	304	340	57	160	100	270	18	2	< 5
354747	50.52	15.18	11.81	0.212	4.59	12.67	1.18	0.41	0.844	0.06	1.53	99.00	44	2	302	320	49	130	120	90	18	2	< 5
354748	48.03	16.59	13.56	0.271	5.86	10.10	2.35	1.10	1.173	0.14	1.39	100.6	40	8	280	160	40	110	100	100	21	2	< 5
354749	61.55	12.06	10.23	0.205	4.40	6.54	1.36	1.36	0.906	0.08	1.18	99.85	32	9	230	160	31	90	50	110	16	2	< 5
354750	96.88	0.71	1.26	0.011	0.03	0.05	0.14	0.09	0.027	< 0.01	0.46	99.67	< 1	< 1	6	< 20	1	< 20	< 10	< 30	1	< 1	< 5
354751	71.00	15.66	1.07	0.047	0.34	0.76	4.50	5.45	0.062	0.37	0.57	99.83	2	14	17	20	3	< 20	20	30	29	5	< 5
354752	71.85	15.71	0.56	0.089	0.05	0.27	3.09	6.32	0.007	0.24	0.59	98.78	< 1	733	< 5	< 20	1	< 20	< 10	40	35	7	< 5
354753	72.21	15.53	1.23	0.096	0.24	0.50	4.93	2.86	0.036	0.21	0.79	98.64	1	667	9	20	2	< 20	20	90	44	6	< 5
354754	63.31	15.63	5.49	0.157	2.35	2.80	2.46	4.28	0.392	0.16	1.78	98.82	13	110	101	80	16	40	140	450	37	6	< 5
354755	72.73	15.12	0.85	0.082	0.16	0.48	4.03	3.99	0.019	0.22	1.03	98.71	< 1	163	< 5	30	2	< 20	20	80	41	6	< 5
354756	77.09	13.11	0.50	0.036	0.05	0.35	4.34	3.39	0.007	0.22	0.53	99.62	< 1	72	< 5	20	< 1	< 20	< 10	40	29	5	< 5
354757	48.12	14.67	13.64	0.282	7.17	11.35	1.53	0.71	1.124	0.11	1.36	100.1	42	4	324	190	47	120	50	110	18	2	< 5
354758	49.29	14.53	11.94	0.253	5.88	13.37	1.45	0.28	1.066	0.09	1.37	99.51	41	1	314	210	46	120	30	90	17	2	< 5
354759	50.42	13.59	13.28	0.232	8.89	7.44	1.86	0.43	1.033	0.09	1.34	98.61	39	< 1	303	180	43	120	100	100	17	2	< 5
354760	74.50	13.53	0.70	0.597	0.04	0.76	0.57	6.12	0.055	< 0.01		96.87	12	5	< 5	120	< 1	< 20	180	570	30	6	49
354761	49.49	15.11	11.79	0.216	7.15	9.73	2.42	0.36	1.168	0.09	1.00	98.52	41	2	326	190	50	120	110	100	18	2	< 5
354762	80.25	10.49	0.61	0.046	0.11	0.36	3.75	2.67	0.014	0.12	0.62	99.05	< 1	148	< 5	20	< 1	< 20	< 10	40	28	6	< 5
354763	73.82	14.41	0.43	0.070	0.05	0.39	4.68	4.37	0.008	0.22	0.54	98.99	< 1	164	< 5	< 20	< 1	< 20	< 10	40	35	6	< 5
354764	76.41	14.77	0.69	0.087	0.11	0.35	3.81	1.88	0.005	0.18	0.58	98.88	< 1	127	< 5	20	< 1	< 20	< 10	< 30	38	6	< 5
354765	76.90	13.52	0.79	0.082	0.11	0.23	3.07	3.10	0.007	0.12	0.60	98.52	< 1	113	< 5	< 20	< 1	< 20	< 10	< 30	36	6	< 5
354766	71.38	15.84	0.61	0.052	0.10	0.31	4.26	5.17	0.004	0.16	0.67	98.58	< 1	53	< 5	< 20	< 1	< 20	< 10	< 30	34	7	< 5
354767	72.80	16.04	0.66	0.086	0.08	0.33	6.34	2.06	0.008	0.11	1.00	99.52	< 1	145	< 5	< 20	< 1	< 20	< 10	60	43	7	< 5
354768	69.32	17.77	0.63	0.096	0.05	0.34	6.50	2.71	0.009	0.17	1.04	98.64	< 1	199	< 5	< 20	< 1	< 20	< 10	60	48	6	< 5
354769	73.07	20.03	0.95	0.166	0.06	0.42	2.66	1.16	0.009	0.22	0.55	99.31	< 1	416	< 5	30	< 1	< 20	< 10	< 30	61	8	< 5
354770	96.21	0.74	1.33	0.011	0.02	0.04	0.15	0.09	0.030	< 0.01	0.34	98.95	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	1	< 1	< 5
354771	74.43	18.85	1.00	0.129	0.28	0.22	2.02	1.38	0.009	0.07	0.96	99.33	< 1	16	< 5	30	< 1	< 20	< 10	< 30	60	8	< 5
354772	71.43	16.99	0.63	0.078	0.20	0.25	4.78	3.53	0.006	0.11	0.80	98.80	< 1	52	< 5	< 20	< 1	< 20	< 10	< 30	40	7	< 5
354773	74.71	14.37	0.61	0.053	0.15	0.19	5.91	2.38	0.003	0.10	0.62	99.09	< 1	125	< 5	< 20	< 1	< 20	< 10	< 30	29	6	< 5
354774	74.80	14.65	0.73	0.110	0.14	0.23	5.49	1.75	0.014	0.12	1.12	99.16	< 1	121	< 5	20	2	< 20	< 10	70	49	6	< 5
354775	73.61	14.75	1.57	0.134	0.59	0.28	2.30	3.04	0.023	0.15	2.17	98.60	< 1	160	< 5	40	3	< 20	< 10	150	69	5	< 5
354776	74.25	14.27	1.22	0.124	0.48	0.35	3.45	2.59	0.022	0.17	1.75	98.68	< 1	155	< 5	50	4	< 20	< 10	120	61	5	< 5
354777	79.47	12.51	0.97	0.108	0.20	0.25	3.21	2.13	0.018	0.14	1.14	100.2	< 1	11	< 5	60	3	< 20	< 10	120	55	5	< 5
354778	76.52	13.73	0.81	0.114	0.13	0.29	3.77	2.16	0.016	0.15	1.45	99.14	< 1	66	< 5	30	< 1	< 20	< 10	120	56	5	< 5
354779	82.02	10.33	1.30	0.067	0.60	0.38	1.96	1.58	0.044	0.05	1.27	99.60	2	63	14	60	3	< 20	20	60	33	6	< 5
354780	73.79	13.33	0.68	0.603	0.04	0.72	0.59	6.32	0.052	< 0.01		96.10	12	4	< 5	100	3	< 20	170	530	28	6	47
354781	51.27	15.01	10.78	0.186	6.82	10.18	1.70	0.68	1.159	0.08	1.35	99.21	44	7	330	190	49	130	110	110	19	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
354782	51.78	11.98	20.61	0.574	3.77	8.27	1.09	0.62	0.409	0.08	0.58	99.77	8	2	69	40	9	20	70	130	15	2	< 5
354783	57.81	11.12	16.33	0.449	3.14	8.05	1.08	0.71	0.494	0.09	1.38	100.7	14	6	118	70	21	50	270	140	14	2	< 5
354784	69.55	16.59	0.48	0.028	0.06	0.26	3.58	7.82	0.009	0.15	0.53	99.05	< 1	15	< 5	< 20	< 1	< 20	< 10	< 30	34	7	< 5
354785	70.68	16.23	0.38	0.033	0.03	0.19	4.22	7.05	0.006	0.15	0.45	99.42	< 1	31	< 5	< 20	< 1	< 20	< 10	< 30	30	7	< 5
354786	58.80	11.07	16.77	0.414	3.19	7.03	0.99	0.84	0.347	0.10	0.65	100.2	7	6	99	30	15	20	130	110	15	2	< 5
354787	47.84	10.80	23.20	0.723	4.19	9.58	0.98	0.49	0.386	0.08	0.83	99.09	10	9	92	40	31	60	440	120	15	3	< 5
354788	47.94	15.36	13.18	0.320	7.02	13.07	1.33	0.25	1.108	0.10	0.70	100.4	41	12	309	190	42	120	50	90	17	3	< 5
354789	47.14	15.39	13.01	0.326	6.60	12.01	1.44	0.76	1.097	0.11	1.41	99.28	43	18	319	200	45	130	70	110	18	4	< 5
354790	97.16	0.68	1.24	0.011	0.04	0.35	0.09	0.08	0.030	< 0.01	0.54	100.2	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	< 1	< 1	< 5
354791	91.25	4.08	0.66	0.015	0.09	0.26	1.86	0.17	0.006	0.05	0.18	98.64	< 1	18	< 5	30	< 1	< 20	< 10	< 30	9	4	< 5
354792	47.94	14.31	12.86	0.228	8.56	8.15	1.65	1.73	1.051	0.11	1.98	98.58	39	21	310	180	43	120	40	130	19	3	< 5
354793	50.57	14.09	12.71	0.250	7.37	10.79	1.99	0.47	1.176	0.09	0.90	100.4	39	11	309	170	44	120	110	110	17	3	< 5
354794	48.86	15.04	12.60	0.239	7.05	10.80	1.69	0.75	1.072	0.09	1.61	99.80	39	3	310	180	42	120	80	90	17	2	< 5
354795	48.31	15.11	12.23	0.221	7.72	8.94	1.05	1.35	1.135	0.14	2.88	99.08	42	21	343	190	44	120	40	80	22	3	< 5
354796	48.51	15.39	12.47	0.223	7.75	9.06	1.10	1.53	1.158	0.17	2.93	100.3	43	18	350	190	45	120	40	80	22	3	< 5
354797	70.15	16.46	1.08	0.085	0.47	0.89	6.75	1.47	0.034	0.48	0.99	98.85	1	122	11	< 20	2	< 20	30	70	47	5	< 5
354798	71.11	17.00	0.49	0.050	0.16	0.19	4.29	6.47	0.011	0.14	0.71	100.6	< 1	134	< 5	< 20	< 1	< 20	< 10	40	34	6	< 5
354799	70.78	15.00	3.14	0.127	1.76	0.40	2.49	3.80	0.017	0.20	2.06	99.77	< 1	280	5	30	6	< 20	40	80	43	5	< 5
354800	74.27	13.60	0.69	0.602	0.04	0.72	0.59	6.32	0.054	< 0.01		96.88	12	5	< 5	120	< 1	< 20	180	580	30	6	51
354801	73.80	16.73	0.99	0.100	0.32	0.25	4.01	2.61	0.012	0.05	1.13	100.0	< 1	41	< 5	< 20	1	< 20	< 10	70	49	5	< 5
354802	49.39	14.13	14.08	0.186	6.14	9.93	2.28	0.38	1.391	0.13	1.51	99.56	35	3	334	110	52	120	210	100	21	2	< 5
354803	74.29	14.44	1.20	0.032	0.58	1.03	6.61	1.03	0.042	0.15	0.76	100.2	1	68	13	< 20	3	< 20	< 10	< 30	36	4	< 5
354804	48.84	14.22	12.08	0.278	6.49	10.63	0.92	1.07	1.037	0.10	2.93	98.59	37	62	279	170	39	120	60	80	24	3	< 5
354805	51.40	14.05	11.76	0.258	6.55	10.29	1.78	0.79	1.011	0.08	1.71	99.68	39	2	294	160	37	110	110	100	14	2	< 5
354806	47.07	14.85	13.41	0.321	7.12	11.24	1.82	0.58	1.096	0.09	1.35	98.95	41	< 1	315	180	43	130	110	120	17	2	< 5
354807	47.94	15.56	12.13	0.245	6.97	9.71	1.97	0.79	1.166	0.08	1.95	98.51	43	3	326	190	45	130	70	80	17	2	< 5
354808	71.61	13.87	2.70	0.139	1.12	1.80	3.81	1.68	0.128	0.30	1.41	98.57	3	26	26	30	6	< 20	110	100	36	4	7
354809	71.49	16.26	0.63	0.125	0.12	0.66	7.85	0.64	0.014	0.20	0.62	98.61	< 1	71	< 5	< 20	< 1	< 20	20	40	40	5	< 5
354810	91.61	0.57	9.82	0.088	0.02	0.03	0.05	0.06	0.028	< 0.01	-1.73	100.5	< 1	< 1	11	70	6	40	40	< 30	2	1	< 5
354811	62.08	12.29	10.40	0.234	3.67	6.74	1.67	1.13	0.446	0.10	1.46	100.2	10	4	76	60	15	30	70	150	16	1	< 5
354812	53.98	12.58	16.96	0.353	4.15	7.90	1.47	0.89	0.561	0.10	1.40	100.3	14	1	112	80	21	50	120	210	16	2	< 5
354813	58.78	14.52	9.78	0.273	3.02	7.43	0.94	1.35	0.832	0.10	2.50	99.53	29	18	216	150	33	70	160	90	20	2	5
354814	45.24	17.59	12.92	0.339	3.63	10.94	1.57	1.62	1.203	0.24	3.24	98.53	46	22	357	230	44	140	100	160	23	3	< 5
354815	61.60	20.94	1.04	0.080	0.21	2.54	8.44	2.07	0.044	1.11	1.52	99.59	1	9	8	< 20	2	< 20	20	60	63	6	< 5
354816	61.40	20.00	1.05	0.080	0.22	3.63	8.73	1.49	0.053	1.51	1.64	99.81	2	8	14	< 20	4	< 20	30	70	46	5	< 5
354817	48.78	15.51	10.70	0.252	4.74	11.22	1.18	1.93	0.978	0.12	3.35	98.75	38	21	283	180	39	120	40	80	18	3	< 5
354818	48.68	14.24	12.87	0.276	7.35	11.90	1.86	0.37	1.083	0.10	1.02	99.77	39	2	308	180	41	120	40	100	17	2	< 5
354819	48.69	14.27	13.13	0.315	6.74	12.23	1.72	0.45	1.013	0.09	1.08	99.74	39	2	299	180	40	120	60	90	15	2	< 5
354820	74.08	13.80	0.68	0.604	0.03	0.73	0.59	6.33	0.055	< 0.01		96.91	12	5	< 5	110	< 1	< 20	160	510	27	6	44
354821	48.09	14.75	13.32	0.313	7.54	11.16	1.81	0.52	1.039	0.08	1.31	99.93	42	< 1	309	190	42	120	80	90	16	1	< 5
354822	47.57	14.57	14.85	0.366	7.35	10.21	1.24	0.89	0.995	0.10	1.87	100.0	40	2	292	190	42	130	90	100	17	2	< 5

## Results

## Activation Laboratories Ltd.

Report: A17-04429

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
354823	58.86	23.60	1.00	0.117	0.28	1.63	7.45	3.05	0.045	0.78	2.12	98.94	1	45	< 5	< 20	2	< 20	< 10	160	75	8	< 5
354824	46.54	14.84	13.84	0.329	6.80	11.42	1.27	1.37	1.086	0.07	2.13	99.70	41	4	316	180	42	130	70	100	17	2	< 5
354825	47.60	14.75	14.18	0.355	6.82	11.71	2.03	0.26	1.127	0.09	0.96	99.87	41	< 1	313	190	43	130	20	100	16	1	< 5
354826	63.23	13.92	8.29	0.155	3.12	3.63	2.22	1.11	0.563	0.10	2.95	99.29	9	2	77	50	21	30	110	170	18	1	< 5
354827	61.66	12.61	8.87	0.191	3.79	6.77	1.55	0.51	0.638	0.09	3.34	100.0	19	4	144	110	22	60	100	230	15	2	< 5
354828	71.68	15.18	1.72	0.080	0.42	0.63	6.29	1.38	0.041	0.10	1.00	98.53	1	205	9	40	2	< 20	20	30	39	5	< 5
354829	72.64	16.29	0.86	0.072	0.08	0.38	6.59	1.35	0.004	0.09	0.47	98.81	< 1	57	< 5	30	< 1	< 20	< 10	< 30	35	5	< 5
354830	90.30	0.59	9.60	0.086	0.02	0.03	0.09	0.06	0.023	< 0.01	-0.25	100.5	< 1	< 1	6	70	6	40	40	< 30	2	1	< 5
354831	79.68	12.55	1.68	0.137	0.18	0.26	1.33	1.86	0.022	0.11	0.98	98.79	< 1	229	< 5	60	1	< 20	< 10	130	50	6	< 5
354832	68.88	17.74	1.22	0.092	0.12	0.24	3.77	5.52	0.011	0.20	0.97	98.75	< 1	58	< 5	30	< 1	< 20	< 10	60	47	6	< 5
354833	64.52	21.75	1.17	0.122	0.19	0.26	2.62	6.93	0.017	0.14	0.95	98.66	< 1	19	6	30	2	< 20	20	70	54	7	< 5
354834	68.74	18.06	0.53	0.041	0.02	0.32	7.56	4.20	0.003	0.27	0.45	100.2	< 1	41	< 5	< 20	< 1	< 20	< 10	< 30	32	7	< 5
354835	71.96	16.20	0.68	0.043	0.12	0.69	8.32	0.67	0.011	0.26	0.69	99.66	< 1	123	< 5	< 20	< 1	< 20	20	< 30	38	6	< 5
354836	71.91	16.26	0.84	0.086	0.13	0.65	8.49	0.63	0.015	0.27	0.54	99.82	< 1	111	5	< 20	< 1	< 20	20	< 30	39	6	< 5
354837	49.74	14.94	10.78	0.182	7.42	9.03	1.97	1.21	1.140	0.07	2.26	98.74	43	3	325	190	44	120	80	90	18	2	< 5
354838	51.86	14.54	10.37	0.156	7.17	8.60	2.33	0.71	1.081	0.07	1.95	98.84	41	2	316	200	44	130	80	70	17	2	< 5
354839	44.32	13.64	14.92	0.315	6.98	14.19	1.12	0.60	0.965	0.06	2.17	99.27	37	2	287	180	40	120	120	70	15	2	< 5
354840	74.68	13.42	0.70	0.595	0.04	0.75	0.59	6.32	0.051	0.02		97.16	12	5	< 5	110	< 1	< 20	160	540	28	6	49
354841	47.38	13.99	14.07	0.305	7.08	13.15	1.11	0.84	1.010	0.09	1.13	100.2	37	15	293	170	39	120	130	80	16	3	< 5
354842	47.92	13.61	12.56	0.297	6.52	13.65	1.51	0.81	0.848	0.12	2.64	100.5	32	45	247	150	39	90	220	150	20	3	< 5
354843	72.05	16.32	1.02	0.082	0.27	0.96	6.12	1.42	0.029	0.40	0.96	99.63	< 1	167	7	30	1	< 20	30	50	47	5	< 5
354844	74.00	10.96	3.96	0.061	3.12	1.38	2.61	1.25	0.426	0.09	1.88	99.73	7	8	55	50	9	30	10	< 30	13	2	< 5
354845	72.01	15.88	1.64	0.086	0.45	1.10	5.31	1.18	0.060	0.24	0.88	98.85	2	1041	14	40	2	< 20	20	40	40	5	< 5
354846	69.00	16.47	3.33	0.216	1.64	2.26	3.09	1.63	0.271	0.19	1.26	99.35	10	145	77	70	11	30	20	60	43	6	< 5
354847	51.81	14.97	11.02	0.206	6.71	9.65	1.61	1.35	1.022	0.23	1.66	100.2	38	47	288	170	41	120	110	110	18	2	< 5
354848	51.52	14.27	11.79	0.194	7.04	10.88	1.86	0.31	1.109	0.09	0.92	99.97	42	2	324	190	45	130	130	90	17	2	< 5
354849	86.97	3.22	3.40	0.047	1.54	2.30	0.44	0.07	0.238	0.03	0.33	98.58	8	3	69	90	10	30	40	< 30	4	< 1	< 5
354850	98.37	0.51	1.73	0.014	0.02	0.03	0.05	0.07	0.024	< 0.01	-0.07	100.7	< 1	< 1	< 5	20	1	< 20	< 10	< 30	1	< 1	< 5
354851	50.98	14.91	11.72	0.190	7.08	11.65	1.71	0.26	1.156	0.09	0.69	100.4	43	< 1	330	190	45	130	80	80	17	2	< 5
354852	50.02	14.18	12.48	0.208	6.94	11.33	1.70	0.19	1.157	0.09	0.70	98.99	41	< 1	316	180	45	120	130	80	17	2	< 5
354853	49.92	13.97	13.77	0.271	6.88	11.86	1.26	0.32	1.247	0.12	1.00	100.6	41	1	325	170	44	120	100	110	17	2	< 5
354854	49.72	14.67	12.46	0.236	7.20	12.40	1.09	0.40	1.091	0.09	1.26	100.6	42	2	316	190	43	130	130	80	17	2	< 5
354855	71.38	17.08	1.14	0.066	0.37	0.97	6.14	1.64	0.059	0.22	1.12	100.2	2	561	16	30	2	< 20	10	70	46	6	< 5
354856	72.84	15.12	1.03	0.055	0.32	0.84	6.29	1.05	0.054	0.16	0.83	98.60	2	139	14	30	2	< 20	< 10	40	39	6	< 5
354857	79.08	13.87	0.89	0.069	0.08	0.19	2.69	2.04	0.009	0.05	0.69	99.67	< 1	20	< 5	60	< 1	< 20	< 10	430	42	7	< 5
354858	73.59	15.60	0.66	0.062	0.09	0.54	7.14	0.65	0.011	0.24	0.75	99.33	< 1	86	< 5	30	< 1	< 20	30	70	41	6	< 5
354859	69.25	13.26	4.86	0.204	1.50	1.61	1.13	3.57	0.392	0.30	2.51	98.57	6	24	53	40	18	40	150	350	23	3	< 5
354860	73.88	13.74	0.68	0.602	0.03	0.74	0.58	6.24	0.052	< 0.01		96.56	12	5	5	110	< 1	< 20	170	510	27	6	49
354861	59.84	23.72	0.77	0.164	0.11	1.02	7.13	3.29	0.028	0.56	2.14	98.77	< 1	141	< 5	< 20	< 1	< 20	20	130	87	7	< 5
354862	46.19	16.52	15.17	0.290	5.30	11.22	1.65	1.00	1.274	0.18	1.28	100.1	46	6	351	210	45	130	100	90	19	2	< 5
354863	47.38	13.88	13.49	0.349	4.77	14.40	1.24	0.41	1.004	0.08	3.48	100.5	39	1	296	190	39	120	70	110	16	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
354864	68.42	11.79	7.47	0.181	2.62	3.26	0.86	1.99	0.380	0.08	2.11	99.17	7	6	54	40	15	30	200	40	15	2	< 5
354865	61.09	20.49	0.80	0.097	0.14	3.13	8.43	2.00	0.028	2.22	1.32	99.73	< 1	7	5	< 20	< 1	< 20	70	40	59	7	< 5
354866	58.55	14.01	10.97	0.229	2.78	4.72	0.86	3.08	0.791	0.10	2.55	98.62	27	9	206	130	29	70	90	200	17	2	< 5
354867	62.83	13.25	7.09	0.139	1.99	9.42	0.88	1.22	0.719	0.10	2.53	100.2	18	4	137	100	20	60	120	70	15	2	< 5
354868	69.76	14.15	3.74	0.122	1.75	3.42	2.07	2.30	0.493	0.24	2.04	100.1	7	30	58	50	12	30	160	190	17	3	< 5
354869	69.51	17.17	0.80	0.130	0.20	0.77	6.92	1.53	0.029	0.25	1.31	98.63	< 1	430	6	< 20	< 1	< 20	20	80	52	6	< 5
354870	96.36	0.70	1.96	0.021	0.04	0.09	0.08	0.07	0.029	< 0.01	0.26	99.60	< 1	4	5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
354871	75.04	14.19	0.67	0.122	0.15	0.53	6.20	1.05	0.016	0.22	0.75	98.94	< 1	232	< 5	30	< 1	< 20	20	60	43	6	< 5
354872	72.36	16.26	0.79	0.075	0.08	0.37	4.42	3.90	0.006	0.19	0.51	98.95	< 1	78	< 5	30	< 1	< 20	< 10	< 30	40	6	< 5
354873	73.42	14.68	0.92	0.075	0.26	0.80	4.97	3.04	0.036	0.28	0.81	99.31	1	98	9	40	2	< 20	10	< 30	32	5	< 5
354874	47.05	15.02	12.32	0.224	6.20	9.80	0.21	3.43	1.052	0.13	3.24	98.68	42	20	320	180	41	120	60	180	18	4	< 5
354875	75.83	14.22	0.77	0.118	0.15	0.74	5.97	0.99	0.023	0.14	0.78	99.71	< 1	154	5	30	1	< 20	10	< 30	40	6	< 5
354876	76.46	13.85	0.86	0.109	0.21	0.86	5.95	0.87	0.031	0.12	0.63	99.95	< 1	59	9	30	1	< 20	< 10	30	39	5	< 5
354877	65.39	11.97	8.66	0.237	2.28	7.53	0.63	1.25	0.506	0.10	1.75	100.3	10	5	81	70	11	30	40	200	14	2	< 5
354878	74.64	10.46	4.46	0.106	1.04	4.33	1.10	1.98	0.376	0.10	1.43	100.0	6	1	41	40	6	20	10	40	12	< 1	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-04429

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
354741	47	92	17	45	2	7	< 0.5	< 0.2	< 1	< 0.5	18.5	45	< 0.4	1.1	0.1	< 1	0.4	6	0.2	0.1	< 0.01	< 0.01	
354742	74	149	17	46	2	4	< 0.5	< 0.2	< 1	< 0.5	24.7	67	< 0.4	1.2	0.1	< 1	0.6	< 5	0.1	< 0.1	< 0.01	< 0.01	
354743	596	116	18	47	2	2	< 0.5	< 0.2	1	< 0.5	364	50	< 0.4	1.2	2.0	3	5.5	34	0.2	0.2	0.16	0.34	
354744	3820	54	< 2	7	36	< 2	< 0.5	< 0.2	24	< 0.5	626	55	0.5	0.8	262	5	26.8	< 5	9.2	2.5	0.19	0.41	
354745	275	18	< 2	9	74	< 2	< 0.5	< 0.2	6	< 0.5	74.1	12	3.1	1.4	489	< 1	5.4	18	3.6	4.5	< 0.01	< 0.01	
354746	3260	87	16	50	2	4	0.5	< 0.2	3	1.7	1390	258	1.6	1.3	1.1	< 1	36.9	106	0.2	1.1	0.23	0.49	
354747	75	91	17	46	2	< 2	< 0.5	< 0.2	< 1	< 0.5	33.8	47	1.1	1.2	0.6	< 1	5.2	8	0.2	0.2	0.11	0.25	
354748	218	121	18	107	5	< 2	< 0.5	< 0.2	2	0.9	170	212	< 0.4	2.6	2.5	< 1	3.4	< 5	1.4	0.4	< 0.01	< 0.01	
354749	755	75	14	57	3	< 2	< 0.5	< 0.2	4	< 0.5	506	155	0.6	1.3	0.9	< 1	8.0	< 5	0.3	0.1	< 0.01	0.02	
354750	3	8	< 2	24	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.1	121	< 0.4	0.4	0.1	5	1.5	< 5	0.6	0.1	< 0.01	< 0.01	
354751	3910	73	< 2	7	19	< 2	< 0.5	< 0.2	7	< 0.5	443	63	10.4	< 0.2	59.0	< 1	37.3	10	0.9	0.8	< 0.01	< 0.01	2.71
354752	5600	71	< 2	< 4	34	< 2	< 0.5	< 0.2	11	< 0.5	566	25	29.6	0.3	125	< 1	60.3	11	3.8	1.7	0.18	0.39	
354753	2840	45	< 2	9	39	< 2	< 0.5	< 0.2	23	< 0.5	514	25	14.2	0.7	125	< 1	29.4	6	4.0	1.8	0.07	0.14	
354754	4810	88	6	45	18	< 2	< 0.5	< 0.2	23	0.7	2260	119	7.5	1.3	39.5	7	49.9	10	2.7	3.0	0.07	0.16	
354755	3380	56	< 2	7	38	< 2	< 0.5	< 0.2	24	< 0.5	273	31	44.2	0.6	92.3	< 1	33.7	10	4.6	1.8	< 0.01	< 0.01	
354756	2740	45	< 2	5	26	< 2	< 0.5	< 0.2	11	< 0.5	212	23	29.0	0.3	51.9	< 1	29.4	9	5.6	1.5	< 0.01	< 0.01	
354757	229	115	22	66	3	3	< 0.5	< 0.2	< 1	< 0.5	115	140	1.3	1.6	1.5	100	6.1	< 5	0.4	0.1	< 0.01	< 0.01	
354758	25	142	19	58	2	< 2	< 0.5	< 0.2	< 1	< 0.5	5.0	57	< 0.4	1.4	0.3	1	2.3	< 5	0.3	0.2	< 0.01	< 0.01	
354759	184	95	18	60	2	< 2	< 0.5	< 0.2	1	0.7	342	112	< 0.4	1.4	0.2	< 1	3.2	< 5	0.4	< 0.1	0.34	0.74	
354760	2270	24	14	70	63	6	1.9	0.3	12	18.1	65.2	83	46.8	5.6	11.8	115	14.5	490	24.6	46.4	0.23	0.49	
354761	175	134	22	67	3	< 2	0.5	< 0.2	< 1	< 0.5	228	76	0.5	1.7	0.3	< 1	4.3	< 5	0.4	0.3	0.14	0.30	3.04
354762	2330	35	< 2	7	35	< 2	< 0.5	< 0.2	9	< 0.5	266	19	22.9	0.5	112	5	21.6	21	4.5	9.3	< 0.01	< 0.01	
354763	3920	54	< 2	11	51	< 2	< 0.5	< 0.2	9	< 0.5	397	25	9.9	1.0	110	1	41.5	14	10.1	9.0	0.03	0.07	
354764	1580	28	< 2	5	37	< 2	< 0.5	< 0.2	9	< 0.5	204	15	6.2	0.5	136	< 1	19.0	8	2.7	4.5	0.72	1.54	
354765	2590	38	< 2	6	80	< 2	< 0.5	< 0.2	9	< 0.5	269	19	4.9	0.6	282	< 1	28.3	12	5.8	9.3	0.66	1.43	
354766	4240	60	< 2	5	27	< 2	< 0.5	< 0.2	6	< 0.5	402	47	3.0	0.4	134	9	46.2	12	2.6	4.4	0.25	0.54	
354767	1990	33	< 2	18	59	< 2	< 0.5	< 0.2	14	< 0.5	361	22	0.9	2.1	220	3	20.6	8	4.3	6.9	< 0.01	< 0.01	
354768	2440	42	< 2	16	84	< 2	< 0.5	< 0.2	15	< 0.5	382	22	1.8	1.8	218	2	25.0	13	10.6	15.1	0.10	0.21	
354769	1060	21	< 2	15	79	< 2	< 0.5	< 0.2	24	< 0.5	229	14	3.5	2.2	197	< 1	12.5	9	6.6	6.6	2.00	4.31	
354770	6	9	2	35	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.1	97	< 0.4	0.6	0.4	4	2.6	< 5	0.3	0.2	< 0.01	< 0.01	
354771	979	28	< 2	9	40	< 2	< 0.5	< 0.2	23	< 0.5	207	185	2.7	1.4	111	< 1	8.3	5	3.5	6.5	1.83	3.93	2.92
354772	2480	57	< 2	10	51	< 2	< 0.5	< 0.2	9	< 0.5	257	358	10.3	0.9	177	3	25.9	11	3.5	4.1	0.41	0.87	
354773	1820	37	< 2	9	31	< 2	< 0.5	< 0.2	4	< 0.5	236	90	0.7	0.9	101	< 1	21.1	7	3.6	2.1	< 0.01	< 0.01	
354774	1870	31	2	15	107	< 2	< 0.5	< 0.2	22	< 0.5	228	32	2.5	1.7	409	2	15.4	9	19.4	6.3	< 0.01	< 0.01	
354775	3040	41	< 2	9	92	4	< 0.5	< 0.2	42	< 0.5	287	104	0.5	0.9	159	5	21.6	< 5	6.6	2.4	0.04	0.08	
354776	2460	38	< 2	10	96	3	< 0.5	< 0.2	37	< 0.5	233	118	1.0	0.8	167	5	19.2	< 5	8.9	2.8	0.02	0.05	
354777	2240	29	< 2	10	71	4	< 0.5	< 0.2	35	< 0.5	171	20	< 0.4	0.9	131	2	16.9	< 5	3.7	1.2	< 0.01	< 0.01	
354778	2340	32	< 2	8	60	2	< 0.5	< 0.2	34	< 0.5	199	24	2.8	0.9	161	3	18.0	< 5	3.0	6.5	0.02	0.04	
354779	1300	31	< 2	16	26	4	< 0.5	< 0.2	17	< 0.5	296	144	19.2	1.5	70.4	< 1	11.3	7	3.7	4.2	0.23	0.49	
354780	2200	24	13	82	60	5	2.0	0.3	12	18.1	63.7	88	40.4	6.4	11.3	114	16.3	484	24.0	45.0	0.22	0.47	
354781	373	109	20	70	3	< 2	0.5	< 0.2	2	1.3	292	67	0.5	1.7	0.8	38	6.3	9	0.4	0.5	0.11	0.23	3.09

## Results

## Activation Laboratories Ltd.

Report: A17-04429

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
354782	91	56	8	108	6	< 2	< 0.5	< 0.2	< 1	1.0	95.0	100	< 0.4	2.3	0.7	< 1	2.5	< 5	3.2	1.0	< 0.01	< 0.01	
354783	299	87	12	100	4	< 2	< 0.5	< 0.2	2	0.8	257	112	0.8	2.1	0.8	2	3.8	< 5	2.4	1.3	< 0.01	< 0.01	
354784	7320	94	< 2	< 4	15	< 2	< 0.5	< 0.2	12	< 0.5	662	42	4.0	< 0.2	50.2	1	77.0	15	2.3	2.1	< 0.01	< 0.01	
354785	6460	83	< 2	< 4	19	< 2	< 0.5	< 0.2	6	< 0.5	685	45	3.6	< 0.2	61.3	< 1	74.0	13	1.4	1.0	< 0.01	< 0.01	
354786	628	35	10	107	4	15	< 0.5	< 0.2	2	0.9	660	93	0.9	2.3	5.0	3	13.7	5	2.9	1.5	0.09	0.20	
354787	50	21	13	100	4	< 2	< 0.5	< 0.2	3	0.9	35.3	43	0.7	2.3	2.1	< 1	3.8	< 5	2.6	1.0	< 0.01	< 0.01	
354788	20	121	22	64	2	< 2	< 0.5	< 0.2	3	< 0.5	2.7	29	< 0.4	1.5	0.2	1	1.9	< 5	0.3	< 0.1	< 0.01	< 0.01	
354789	156	136	22	67	3	< 2	0.5	< 0.2	6	< 0.5	32.0	90	0.9	1.8	0.7	6	1.2	< 5	0.7	0.2	< 0.01	< 0.01	
354790	6	27	< 2	32	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.9	144	< 0.4	0.7	0.3	6	0.3	27	0.4	0.3	< 0.01	< 0.01	
354791	155	12	< 2	< 4	67	< 2	< 0.5	< 0.2	3	< 0.5	22.4	7	0.9	0.3	131	5	0.9	9	8.0	8.5	< 0.01	< 0.01	2.71
354792	1290	92	18	63	5	< 2	< 0.5	< 0.2	8	< 0.5	1190	108	0.7	1.7	1.7	8	12.6	8	0.5	1.1	0.03	0.06	
354793	128	102	25	73	3	< 2	< 0.5	< 0.2	3	< 0.5	135	52	0.7	1.8	0.6	6	2.8	< 5	0.6	0.2	< 0.01	< 0.01	
354794	102	111	20	74	3	< 2	< 0.5	< 0.2	1	0.8	36.5	109	< 0.4	2.0	0.3	36	1.5	< 5	0.9	0.2	< 0.01	< 0.01	
354795	420	93	21	69	4	< 2	< 0.5	< 0.2	7	0.9	194	156	1.0	1.8	1.5	12	3.5	< 5	0.6	1.4	< 0.01	0.01	
354796	565	96	21	71	5	< 2	< 0.5	< 0.2	8	0.9	285	149	1.5	1.9	1.8	5	5.1	< 5	0.6	1.8	< 0.01	0.01	
354797	1330	32	5	27	73	< 2	< 0.5	< 0.2	19	< 0.5	115	15	0.6	2.9	109	23	9.2	< 5	10.4	4.1	< 0.01	< 0.01	
354798	4820	71	< 2	5	49	< 2	< 0.5	< 0.2	10	< 0.5	413	57	< 0.4	0.5	121	7	49.9	14	3.7	2.0	0.04	0.08	
354799	2540	43	4	22	101	< 2	< 0.5	< 0.2	20	< 0.5	323	204	2.7	2.4	282	9	24.0	9	7.4	4.9	0.18	0.39	
354800	2270	25	13	76	68	6	2.1	0.3	13	17.9	66.3	88	37.9	5.6	11.5	120	18.1	493	23.4	46.2	0.25	0.53	
354801	1960	46	< 2	39	107	< 2	0.5	< 0.2	23	< 0.5	287	165	1.1	4.2	158	9	17.4	10	10.2	8.2	0.40	0.86	2.73
354802	44	166	25	104	6	< 2	0.6	< 0.2	1	< 0.5	89.5	134	1.7	2.7	1.3	4	3.2	< 5	2.0	0.8	< 0.01	< 0.01	
354803	763	45	< 2	15	65	< 2	< 0.5	< 0.2	14	< 0.5	56.3	24	< 0.4	1.5	127	9	7.2	5	4.3	3.0	< 0.01	< 0.01	
354804	310	154	22	67	8	< 2	< 0.5	< 0.2	9	1.4	24.7	127	1.4	1.8	3.9	48	2.9	< 5	0.5	1.3	< 0.01	< 0.01	
354805	143	142	20	61	2	< 2	< 0.5	< 0.2	< 1	0.7	11.8	116	< 0.4	1.3	0.3	7	1.6	< 5	0.4	0.8	< 0.01	< 0.01	
354806	60	123	21	64	3	< 2	< 0.5	< 0.2	< 1	0.8	8.7	60	< 0.4	1.6	0.3	7	0.8	< 5	0.5	0.2	< 0.01	< 0.01	
354807	186	126	21	68	3	< 2	< 0.5	< 0.2	< 1	1.2	37.5	100	< 0.4	1.7	0.4	5	1.5	< 5	0.5	0.5	< 0.01	< 0.01	
354808	1390	74	2	35	31	5	< 0.5	< 0.2	22	1.1	269	92	0.6	1.3	95.7	12	9.9	17	2.6	8.6	< 0.01	< 0.01	
354809	560	25	< 2	15	72	< 2	< 0.5	< 0.2	11	< 0.5	35.8	12	< 0.4	1.7	152	7	4.6	7	2.6	3.6	< 0.01	< 0.01	
354810	3	7	< 2	22	< 1	8	< 0.5	< 0.2	2	< 0.5	< 0.5	113	< 0.4	0.5	0.3	44	0.8	< 5	0.5	0.2	< 0.01	< 0.01	
354811	425	71	10	125	5	< 2	< 0.5	< 0.2	2	< 0.5	178	169	< 0.4	2.7	2.4	8	4.4	8	3.7	1.5	< 0.01	< 0.01	2.99
354812	153	60	10	113	5	< 2	0.6	< 0.2	2	0.8	112	98	0.6	4.9	1.0	24	2.2	< 5	2.5	0.8	< 0.01	< 0.01	
354813	665	89	17	91	8	3	< 0.5	< 0.2	5	1.2	460	174	0.9	2.1	12.1	7	5.6	10	1.6	0.7	< 0.01	< 0.01	
354814	1950	123	21	73	7	< 2	< 0.5	< 0.2	7	1.4	3700	200	1.4	2.0	9.7	29	18.5	< 5	0.8	1.4	0.11	0.24	
354815	2200	66	3	9	34	< 2	< 0.5	< 0.2	47	< 0.5	337	20	0.8	1.0	86.9	25	16.1	7	4.5	4.1	< 0.01	< 0.01	
354816	1420	65	4	10	25	< 2	< 0.5	< 0.2	31	< 0.5	278	21	0.8	0.9	96.8	7	10.8	17	4.2	5.8	< 0.01	< 0.01	
354817	3950	150	19	64	5	< 2	< 0.5	< 0.2	5	1.1	7710	60	1.4	1.7	14.7	35	37.4	< 5	0.8	1.5	0.24	0.51	
354818	52	109	22	67	3	< 2	< 0.5	< 0.2	< 1	< 0.5	18.0	50	< 0.4	1.7	0.4	14	4.1	< 5	0.5	0.1	< 0.01	< 0.01	
354819	113	126	20	60	2	< 2	< 0.5	< 0.2	< 1	0.6	26.0	91	< 0.4	1.5	1.1	2	2.1	< 5	0.5	0.2	< 0.01	< 0.01	
354820	2090	25	14	77	71	5	2.3	0.3	12	16.1	62.9	88	34.5	5.7	11.6	109	14.5	463	23.0	44.2	0.24	0.53	
354821	130	142	20	60	2	< 2	< 0.5	< 0.2	< 1	0.7	99.3	128	< 0.4	1.5	0.2	7	2.4	< 5	0.4	0.1	< 0.01	< 0.01	3.08
354822	1520	128	19	59	2	< 2	< 0.5	< 0.2	3	0.6	1960	69	0.9	1.6	0.8	6	15.2	< 5	0.4	0.5	0.04	0.08	

## Results

## Activation Laboratories Ltd.

## Report: A17-04429

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
354823	3490	76	< 2	19	77	< 2	< 0.5	< 0.2	55	< 0.5	448	24	6.4	3.8	424	8	25.8	7	6.4	6.7	< 0.01	< 0.01	
354824	2180	130	21	65	3	< 2	< 0.5	< 0.2	3	1.1	3770	70	< 0.4	1.7	1.4	8	24.4	< 5	0.5	1.0	0.14	0.30	
354825	32	142	23	65	3	< 2	< 0.5	< 0.2	< 1	0.5	11.0	97	< 0.4	1.7	0.6	21	3.2	< 5	0.5	1.7	< 0.01	< 0.01	
354826	263	82	11	179	8	2	0.5	< 0.2	2	0.9	82.2	370	< 0.4	4.1	0.8	24	3.3	9	4.4	1.8	< 0.01	< 0.01	
354827	126	85	12	97	5	2	< 0.5	< 0.2	2	0.5	40.2	79	1.1	2.3	1.2	10	1.7	6	1.8	0.9	< 0.01	< 0.01	
354828	1190	36	< 2	10	19	< 2	< 0.5	< 0.2	9	< 0.5	111	48	0.6	1.2	56.4	1	9.6	6	1.9	2.3	0.05	0.10	
354829	1140	27	< 2	5	19	< 2	< 0.5	< 0.2	7	< 0.5	124	22	0.7	0.6	74.9	1	12.3	5	1.4	2.5	0.30	0.64	
354830	3	5	< 2	24	< 1	8	< 0.5	< 0.2	2	< 0.5	0.9	80	< 0.4	0.5	0.2	< 1	1.7	< 5	0.2	0.1	< 0.01	< 0.01	
354831	2320	33	< 2	24	69	3	< 0.5	< 0.2	41	< 0.5	367	18	2.3	2.6	145	4	15.9	9	13.0	12.4	0.73	1.58	2.87
354832	5070	70	< 2	11	78	< 2	< 0.5	< 0.2	24	< 0.5	662	30	1.0	1.2	171	2	54.2	12	9.2	4.3	0.43	0.93	
354833	5780	84	< 2	11	73	< 2	< 0.5	< 0.2	22	< 0.5	654	51	1.7	1.2	205	3	65.0	14	7.0	6.2	1.00	2.14	
354834	3610	57	< 2	27	54	< 2	< 0.5	< 0.2	5	< 0.5	387	15	< 0.4	3.8	222	1	46.0	10	5.8	3.7	< 0.01	< 0.01	
354835	570	24	< 2	16	89	< 2	< 0.5	< 0.2	11	< 0.5	57.4	10	< 0.4	2.2	339	2	9.3	6	4.0	3.9	< 0.01	< 0.01	
354836	544	24	< 2	14	87	< 2	< 0.5	< 0.2	12	< 0.5	58.4	11	< 0.4	2.0	275	3	6.1	< 5	4.9	3.2	< 0.01	< 0.01	
354837	364	103	19	68	3	< 2	< 0.5	< 0.2	1	< 0.5	55.7	136	< 0.4	1.7	0.6	< 1	2.4	< 5	0.5	0.1	< 0.01	< 0.01	
354838	94	99	16	59	3	< 2	< 0.5	< 0.2	< 1	< 0.5	14.2	79	< 0.4	1.6	0.5	< 1	1.1	< 5	0.4	0.3	< 0.01	< 0.01	
354839	89	84	17	53	2	< 2	< 0.5	< 0.2	< 1	< 0.5	24.7	71	< 0.4	1.4	0.2	7	0.9	< 5	0.4	< 0.1	< 0.01	< 0.01	
354840	2270	25	14	72	62	5	1.5	0.3	11	17.6	64.7	88	38.2	5.3	10.8	115	13.6	499	23.6	44.6	0.21	0.45	
354841	129	85	20	62	6	< 2	< 0.5	< 0.2	< 1	< 0.5	36.3	97	0.4	1.8	22.5	2	2.8	< 5	0.5	0.2	< 0.01	< 0.01	3.17
354842	426	81	17	61	11	< 2	< 0.5	< 0.2	3	0.6	382	58	1.0	5.0	68.3	< 1	3.1	13	0.8	1.3	< 0.01	< 0.01	
354843	1360	35	< 2	16	68	< 2	< 0.5	< 0.2	17	< 0.5	104	32	4.7	2.0	220	2	8.7	7	6.5	3.0	< 0.01	< 0.01	
354844	1120	55	7	142	6	< 2	< 0.5	< 0.2	2	< 0.5	703	295	2.2	3.1	1.2	1	11.5	< 5	3.5	1.6	0.01	0.02	
354845	1320	39	< 2	18	47	< 2	< 0.5	< 0.2	12	< 0.5	458	41	17.3	1.4	142	2	10.3	7	4.4	3.1	0.11	0.24	
354846	2220	56	4	25	66	< 2	< 0.5	< 0.2	14	0.6	908	34	11.5	1.7	310	2	18.7	12	3.2	14.1	0.83	1.79	
354847	1110	141	19	64	7	< 2	< 0.5	< 0.2	1	0.8	945	83	6.9	2.0	46.4	< 1	12.6	18	0.5	0.9	0.03	0.07	
354848	60	173	19	66	2	< 2	< 0.5	< 0.2	< 1	< 0.5	17.6	53	< 0.4	1.7	0.6	< 1	2.8	< 5	0.4	< 0.1	0.09	0.18	
354849	16	32	3	13	< 1	3	< 0.5	< 0.2	< 1	< 0.5	13.9	12	< 0.4	0.2	0.9	6	1.1	< 5	0.1	< 0.1	0.02	0.05	
354850	3	7	< 2	27	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.5	82	< 0.4	0.6	0.1	< 1	0.2	< 5	0.3	0.2	< 0.01	< 0.01	
354851	49	162	20	68	2	< 2	< 0.5	< 0.2	< 1	< 0.5	32.7	38	< 0.4	1.7	0.3	3	0.6	< 5	0.4	< 0.1	< 0.01	< 0.01	3.09
354852	12	158	23	72	2	< 2	< 0.5	< 0.2	< 1	< 0.5	1.3	30	< 0.4	1.8	0.3	1	0.3	< 5	0.5	< 0.1	0.02	0.03	
354853	36	146	26	82	3	< 2	< 0.5	< 0.2	< 1	< 0.5	4.2	40	< 0.4	2.0	0.3	7	0.3	35	0.5	< 0.1	< 0.01	< 0.01	
354854	59	152	19	62	2	< 2	< 0.5	< 0.2	< 1	< 0.5	10.0	40	2.4	1.6	0.2	1	0.4	< 5	0.4	0.2	0.01	0.03	
354855	1870	47	< 2	8	31	< 2	< 0.5	< 0.2	21	< 0.5	392	24	5.8	0.5	83.2	1	12.3	6	1.7	2.5	< 0.01	< 0.01	
354856	1220	39	< 2	6	46	< 2	< 0.5	< 0.2	12	< 0.5	165	16	4.5	0.4	109	1	9.4	< 5	1.1	2.2	< 0.01	< 0.01	
354857	2090	30	< 2	11	24	3	< 0.5	< 0.2	18	< 0.5	233	17	4.8	1.4	78.2	3	15.9	< 5	4.2	3.4	0.65	1.39	
354858	677	21	2	17	82	< 2	< 0.5	< 0.2	11	< 0.5	81.0	14	7.1	2.0	221	2	7.0	10	11.3	8.0	0.11	0.24	
354859	6890	109	5	125	8	3	< 0.5	< 0.2	19	0.8	3330	132	1.7	2.9	11.3	7	56.4	13	3.7	6.3	0.27	0.59	
354860	2250	25	14	73	62	5	1.9	0.3	12	18.1	66.8	88	45.1	5.5	10.8	108	20.2	504	24.4	47.8	0.22	0.47	
354861	4220	67	< 2	22	95	< 2	< 0.5	< 0.2	49	< 0.5	683	24	1.3	2.4	254	5	32.3	10	7.5	3.1	< 0.01	< 0.01	2.74
354862	902	143	26	73	4	< 2	< 0.5	< 0.2	1	1.3	1600	120	< 0.4	1.9	1.8	< 1	12.3	< 5	0.7	0.4	0.05	0.11	
354863	43	122	21	54	2	< 2	< 0.5	< 0.2	< 1	1.4	21.7	67	< 0.4	1.3	1.0	2	2.7	< 5	0.4	< 0.1	< 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
354864	2660	66	7	104	3	< 2	< 0.5	< 0.2	2	0.6	3410	188	< 0.4	2.2	0.7	1	24.8	6	3.2	2.4	0.08	0.17	
354865	2140	68	3	16	38	< 2	< 0.5	< 0.2	34	< 0.5	372	27	3.8	1.8	110	2	16.4	5	4.7	4.0	< 0.01	< 0.01	
354866	5540	120	14	88	3	2	< 0.5	< 0.2	3	0.7	10200	141	0.7	2.0	0.6	12	57.7	17	1.8	1.3	0.11	0.24	
354867	512	136	13	139	5	< 2	< 0.5	< 0.2	< 1	< 0.5	199	273	0.9	3.1	0.8	< 1	9.9	7	3.1	0.9	< 0.01	< 0.01	
354868	1570	115	10	187	9	3	0.5	< 0.2	10	0.6	445	593	2.7	3.8	2.2	2	17.3	53	4.5	2.5	0.03	0.08	
354869	1880	34	< 2	14	53	< 2	< 0.5	< 0.2	29	< 0.5	217	26	3.1	1.6	212	3	15.6	8	3.6	3.1	< 0.01	< 0.01	
354870	14	9	< 2	19	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	3.7	128	< 0.4	0.5	1.6	< 1	2.4	< 5	0.5	0.1	< 0.01	< 0.01	
354871	1240	22	< 2	10	73	< 2	< 0.5	< 0.2	21	< 0.5	123	16	0.6	1.1	163	2	8.7	< 5	7.3	2.4	< 0.01	< 0.01	2.75
354872	3680	51	< 2	5	32	< 2	< 0.5	< 0.2	13	< 0.5	435	38	0.6	0.5	86.7	< 1	39.7	9	2.0	2.0	0.42	0.90	
354873	2920	54	< 2	11	20	< 2	< 0.5	< 0.2	10	< 0.5	512	31	1.1	1.2	83.8	< 1	32.1	9	2.0	1.9	0.02	0.05	
354874	4060	151	21	59	3	7	< 0.5	< 0.2	6	1.3	3780	119	0.9	1.4	1.2	79	48.1	7	0.3	0.8	0.22	0.48	
354875	1000	43	< 2	15	51	< 2	< 0.5	< 0.2	16	< 0.5	129	15	1.4	1.7	120	2	11.6	< 5	2.8	2.3	< 0.01	< 0.01	
354876	849	47	< 2	13	38	< 2	< 0.5	< 0.2	12	< 0.5	144	19	1.1	1.5	117	2	7.1	< 5	3.1	2.9	< 0.01	< 0.01	
354877	261	89	8	128	6	2	< 0.5	< 0.2	2	< 0.5	182	232	0.9	2.7	4.5	3	4.4	6	2.7	1.0	< 0.01	< 0.01	
354878	154	103	6	125	4	< 2	< 0.5	< 0.2	< 1	< 0.5	85.2	324	< 0.4	2.5	0.8	< 1	2.5	7	2.9	0.8	< 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	11.49	1.80	0.80	0.010	0.34	42.76	0.88	0.54	0.120	30.20					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	47.12	17.99	10.00	0.150	9.96	11.47	1.93	0.22	0.480	0.07			31		155	280	53	240	100	70	13		
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	71.92	13.06	3.19	0.140	0.15	0.60	2.52	5.45	0.290	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	32		40	150			25
LKSD-3 Cert																87.0	30.0		35.0	152			27.0
TDB-1 Meas																250		90	320	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.83	15.62	10.99	0.170	6.24	11.12	2.23	0.62	1.090	0.13			35	< 1	270	100	43	90	110	70	18	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	49.74	20.38	6.03	0.110	0.50	8.13	6.84	1.64	0.280	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																			60	30			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.09	15.68	11.43	0.170	9.51	13.53	1.83	0.02	0.960	0.03			43	< 1	328	380	50	180	120	70	15		< 5
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		0.44
NCS DC86312 Meas																							
NCS DC86312 Cert																							
ZW-C Meas																							
ZW-C Cert																							
NCS DC70009 (GBW07241) Meas																30	3		920	90	16	11	71
NCS DC70009 (GBW07241) Cert																30	3.7		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																	43	< 20	410				
OREAS 101b (Fusion) Cert																	47	9	420				
JR-1 Meas																< 20	< 1		< 10	30	17	2	15
JR-1 Cert																2.83	0.83		2.68	30.6	16.1	1.88	16.3

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
NCS DC86303 Meas																							
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 Cert																							
NCS DC86314 Meas																							
NCS DC86314 Cert																							
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NCS DC86314 Cert																							
Lithium Tetraborate FX-LT 100 lot#220610B 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
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																							
354755 Orig	72.45	15.22	0.86	0.081	0.16	0.47	4.06	4.01	0.020	0.22	1.03	98.58	< 1	162	< 5	30	2	< 20	20	80	40	6	< 5
354755 Dup	73.02	15.01	0.84	0.082	0.16	0.48	4.01	3.96	0.019	0.22	1.03	98.83	< 1	163	< 5	30	2	< 20	20	80	41	6	< 5
354770 Orig																							
354770 Dup																							
354772 Orig	71.66	17.04	0.62	0.077	0.21	0.25	4.78	3.53	0.006	0.10	0.80	99.08	< 1	52	< 5	< 20	< 1	< 20	< 10	< 30	39	7	< 5
354772 Dup	71.19	16.94	0.64	0.078	0.20	0.25	4.78	3.53	0.006	0.11	0.80	98.52	< 1	51	< 5	< 20	< 1	< 20	< 10	60	40	7	< 5
354785 Orig																							
354785 Dup																							
354789 Orig	47.14	15.39	13.01	0.326	6.60	12.01	1.44	0.76	1.097	0.11	1.41	99.28	43	18	319	200	45	130	70	110	18	4	< 5
354789 Split PREP DUP	47.82	15.10	13.15	0.326	6.58	12.01	1.44	0.77	1.125	0.11	1.46	99.90	42	17	319	190	42	130	70	90	16	3	< 5
354800 Orig																							
354800 Dup																							
354803 Orig	74.30	14.75	1.22	0.032	0.58	1.03	6.56	1.03	0.043	0.16	0.76	100.5	1	68	13	< 20	2	< 20	< 10	30	36	4	< 5
354803 Dup	74.28	14.13	1.18	0.032	0.58	1.03	6.66	1.04	0.041	0.15	0.76	99.89	1	69	13	< 20	3	< 20	10	< 30	36	4	< 5
354815 Orig																							
354815 Dup																							
354821 Orig	48.01	14.94	13.34	0.313	7.55	11.17	1.81	0.52	1.052	0.07	1.31	100.1	42	< 1	309	190	42	120	80	90	16	1	< 5
354821 Dup	48.17	14.56	13.30	0.313	7.53	11.15	1.80	0.52	1.026	0.08	1.31	99.77	42	< 1	310	180	42	120	80	90	15	1	< 5
354830 Orig																							
354830 Dup																							
354831 Orig																							
354831 Dup																							
354839 Orig	44.32	13.64	14.92	0.315	6.98	14.19	1.12	0.60	0.965	0.06	2.17	99.27	37	2	287	180	40	120	120	70	15	2	< 5
354839 Split PREP DUP	43.97	13.82	14.97	0.319	7.17	14.19	1.14	0.63	0.970	0.06	2.86	100.1	38	1	285	180	39	120	120	70	15	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
354845 Orig																							
354845 Dup																							
354851 Orig	51.04	14.98	11.72	0.190	7.07	11.67	1.71	0.27	1.159	0.10	0.69	100.6	43	1	330	190	44	130	80	80	17	2	< 5
354851 Dup	50.93	14.83	11.71	0.189	7.08	11.63	1.71	0.26	1.153	0.09	0.69	100.3	43	< 1	331	190	45	130	80	80	17	2	< 5
354861 Orig																							
354861 Dup																							
354868 Orig	69.36	14.15	3.74	0.121	1.73	3.41	2.07	2.30	0.495	0.22	2.04	99.64	7	30	59	50	11	30	160	190	17	3	< 5
354868 Dup	70.16	14.15	3.73	0.122	1.76	3.42	2.07	2.30	0.492	0.26	2.04	100.5	7	30	57	50	12	30	160	190	17	3	< 5
354875 Orig																							
354875 Dup																							
354878 Orig																							
354878 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	0.02			< 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																							
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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		144	16	36	2					1.0		108											
DNC-1 Cert		144.0	18.0	38	3					0.96		118											
GBW 07113 Meas		42	45	403								503											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	72				7		2.8		2	1.5	2.2			4.7	0.7			25	11.3	4.5			
LKSD-3 Cert	78.0				8.00		2.70		3.00	1.30	2.30			4.80	0.700			29.0	11.4	4.60			
TDB-1 Meas	20																				3.0		
TDB-1 Cert	23																				2.7		
W-2a Meas	21	198	20	90	6	< 2	< 0.5			< 0.5	1.0	173	< 0.4		< 0.1		< 0.1	< 5	2.0	1.0			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600	0.0460			0.790	0.990	182	0.0300		0.500		0.200	9.30	2.40	0.530			
SY-4 Meas		1192	119	521								339											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas														1.1	2.8					22.8	4.3		
CTA-AC-1 Cert														1.13	2.65					21.8	4.4		
BIR-1a Meas		111	14	16	1					< 0.5		7		< 0.2									
BIR-1a Cert		110	16	18	0.6					0.58		6		0.60									
NCS DC86312 Meas																					23.5		
NCS DC86312 Cert																					23.6		
ZW-C Meas	8600				196						261				86.8	331	33.2						
ZW-C Cert	8500				198						260				82	320	34						
NCS DC70009 (GBW07241) Meas	498						2.1	1.3	1700	3.2	41.0					2110	1.8			28.8			
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8			28.3			
OREAS 100a (Fusion) Meas						24														51.6	140		
OREAS 100a (Fusion) Cert						24.1														51.6	135		
OREAS 101a (Fusion) Meas						21														35.9	432		
OREAS 101a (Fusion) Cert						21.9														36.6	422		
OREAS 101b (Fusion) Meas						19														36.0	402		
OREAS 101b (Fusion) Cert						21														37.1	396		
JR-1 Meas	255				16	3	1.7	< 0.2	3	1.2	20.1		0.6	4.0	1.9	1	1.5	19	27.6	9.1			
JR-1 Cert	257				15.2	3.25	0.031	0.028	2.86	1.19	20.8		0.56	4.51	1.86	1.59	1.56	19.3	26.7	8.88			

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																						0.20	0.44	
NCS DC86303 Cert																						0.21	0.460	
NCS DC86303 Meas																						0.22	0.48	
NCS DC86303 Cert																						0.21	0.460	
NCS DC86304 Meas																						1.10	2.36	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.17	2.51	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.16	2.49	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.10	2.37	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.08	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																						1.77	3.80	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.81	3.90	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.95	4.19	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.92	4.14	

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		
NCS DC86314 Cert																						1.81	3.89		
NCS DC86314 Meas																							1.85	3.98	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.89	4.06	
NCS DC86314 Cert																							1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							8.87		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							8.59		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							8.49		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							8.69		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							8.97		
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																						8.72	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.76	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
354755 Orig	3350	57	< 2	7	34	< 2	< 0.5	< 0.2	23	< 0.5	275	32	50.0	0.5	89.6	< 1	34.2	10	4.4	1.8	< 0.01	< 0.01	
354755 Dup	3400	56	< 2	7	42	2	< 0.5	< 0.2	24	< 0.5	271	31	38.4	0.6	95.1	1	33.1	9	4.8	1.9	< 0.01	< 0.01	
354770 Orig																						< 0.01	< 0.01
354770 Dup																						< 0.01	< 0.01
354772 Orig	2480	56	< 2	10	51	< 2	< 0.5	< 0.2	8	< 0.5	258	358	11.4	1.0	178	3	24.6	10	3.7	4.0			
354772 Dup	2480	57	< 2	10	51	< 2	< 0.5	< 0.2	9	< 0.5	255	357	9.1	0.9	176	2	27.1	11	3.2	4.1			
354785 Orig																						< 0.01	< 0.01
354785 Dup																						< 0.01	< 0.01
354789 Orig	156	136	22	67	3	< 2	0.5	< 0.2	6	< 0.5	32.0	90	0.9	1.8	0.7	6	1.2	< 5	0.7	0.2	< 0.01	< 0.01	
354789 Split PREP DUP	151	139	22	67	2	< 2	< 0.5	< 0.2	4	< 0.5	31.6	93	0.9	1.8	0.8	2	1.8	< 5	0.4	< 0.1	< 0.01	< 0.01	
354800 Orig																						0.23	0.49
354800 Dup																						0.27	0.58
354803 Orig	762	45	< 2	15	64	< 2	< 0.5	< 0.2	14	< 0.5	55.9	24	0.8	1.3	132	8	7.0	5	4.3	3.1			
354803 Dup	763	45	3	15	65	< 2	< 0.5	< 0.2	14	< 0.5	56.6	24	< 0.4	1.6	123	9	7.4	5	4.3	3.0			
354815 Orig																						< 0.01	< 0.01
354815 Dup																						< 0.01	< 0.01
354821 Orig	132	143	20	60	2	< 2	< 0.5	< 0.2	< 1	0.7	101	128	< 0.4	1.5	0.2	6	2.9	< 5	0.4	0.1			
354821 Dup	128	141	20	60	2	< 2	< 0.5	< 0.2	< 1	0.7	97.5	128	< 0.4	1.5	0.2	7	1.9	< 5	0.4	0.1			
354830 Orig																						< 0.01	< 0.01
354830 Dup																						< 0.01	< 0.01
354831 Orig																							2.86
354831 Dup																							2.87
354839 Orig	89	84	17	53	2	< 2	< 0.5	< 0.2	< 1	< 0.5	24.7	71	< 0.4	1.4	0.2	7	0.9	< 5	0.4	< 0.1	< 0.01	< 0.01	
354839 Split PREP DUP	83	85	18	54	2	< 2	< 0.5	< 0.2	< 1	< 0.5	23.4	72	< 0.4	1.4	0.2	< 1	1.2	< 5	0.3	< 0.1	< 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
354845 Orig																					0.11	0.24	
354845 Dup																					0.11	0.24	
354851 Orig	50	161	20	68	2	< 2	< 0.5	< 0.2	< 1	< 0.5	34.0	38	< 0.4	1.7	0.2	4	0.7	< 5	0.4	< 0.1			
354851 Dup	48	162	20	67	2	< 2	< 0.5	< 0.2	< 1	< 0.5	31.4	38	< 0.4	1.6	0.3	1	0.6	< 5	0.4	< 0.1			
354861 Orig																					< 0.01	< 0.01	
354861 Dup																					< 0.01	< 0.01	
354868 Orig	1560	115	10	185	8	3	0.5	< 0.2	9	0.5	439	592	2.7	3.8	2.1	2	16.9	53	4.5	2.4			
354868 Dup	1590	114	10	190	9	3	0.5	< 0.2	10	0.6	450	594	2.7	3.9	2.2	2	17.8	53	4.5	2.5			
354875 Orig																					< 0.01	< 0.01	
354875 Dup																					< 0.01	< 0.01	
354878 Orig																					< 0.01	< 0.01	
354878 Dup																					< 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																					< 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	1.00



**Date Submitted:** 12-Jun-17  
**Invoice No.:** A17-05843  
**Invoice Date:** 10-Jul-17  
**Your Reference:** Seymour Lake

**Ardiden Ltd.**  
**Suite 6, 295 Rokeby Rd**  
**Subiaco WA 6008**  
**Australia**

**ATTN: Brad Boyle (inv/res)**

## CERTIFICATE OF ANALYSIS

322 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-05843**

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Notes:

Total includes all elements in % oxide to the left of total.

Footnote: 6 samples are insuff. for LOI= 355080,355120,355140,355160,355180,355200.

CERTIFIED BY:

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

Emmanuel Esemé, Ph.D.  
Quality Control

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



## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
354879	47.78	14.40	13.85	0.214	7.47	11.59	1.95	0.49	1.120	0.11	1.61	100.6	44	5	347	200	49	140	150	110	18	2	< 5
354880	74.90	13.78	0.72	0.600	0.04	0.75	0.61	6.44	0.053	0.01	2.50	100.4	12	5	< 5	110	< 1	< 20	170	540	30	7	43
354881	49.85	14.90	12.81	0.189	7.10	10.89	2.08	0.51	1.084	0.12	1.02	100.5	43	2	326	200	47	130	120	100	18	2	< 5
354882	76.53	13.79	1.22	0.042	0.33	0.64	6.46	0.60	0.048	0.23	0.44	100.3	2	145	15	30	2	< 20	< 10	< 30	33	5	< 5
354883	50.98	16.00	12.79	0.212	5.95	10.06	2.46	0.41	1.152	0.08	0.81	100.9	44	5	335	200	46	130	100	100	17	2	< 5
354884	49.73	16.00	12.85	0.222	6.00	11.16	2.20	0.31	1.144	0.07	1.17	100.9	43	< 1	334	200	48	130	100	100	17	1	< 5
354885	51.24	15.86	11.38	0.250	4.99	9.98	2.62	0.52	0.820	0.04	3.15	100.8	44	5	285	310	47	180	130	60	16	2	6
354886	49.93	15.54	12.66	0.273	6.02	9.19	1.82	0.50	0.796	0.06	3.79	100.6	45	7	287	300	44	150	140	60	18	3	< 5
354887	71.96	14.43	2.48	0.076	1.18	1.16	4.38	1.87	0.114	0.37	1.38	99.39	5	39	34	60	7	20	20	70	43	5	< 5
354888	67.65	16.64	0.49	0.023	0.06	0.22	2.83	10.05	0.004	0.22	0.36	98.55	< 1	204	< 5	< 20	< 1	< 20	< 10	40	29	6	< 5
354889	75.49	13.90	1.17	0.082	0.18	0.48	2.81	3.89	0.016	0.21	0.87	99.10	< 1	141	< 5	30	< 1	< 20	< 10	50	39	5	< 5
354890	98.28	0.49	1.46	0.022	0.01	0.02	0.03	0.05	0.046	< 0.01	0.25	100.7	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
354891	74.69	14.71	1.16	0.089	0.13	0.27	4.28	2.48	0.012	0.14	0.79	98.75	< 1	81	< 5	30	< 1	< 20	< 10	80	47	5	< 5
354892	50.71	18.01	11.15	0.270	3.03	8.61	1.24	2.91	1.020	0.48	2.16	99.59	36	34	251	180	39	110	180	230	31	5	< 5
354893	49.35	15.76	13.28	0.222	5.29	11.03	1.16	1.12	1.151	0.07	1.28	99.71	43	10	339	210	48	130	160	150	19	2	< 5
354894	70.53	16.94	2.08	0.094	0.58	1.22	6.24	0.86	0.152	0.37	1.18	100.2	5	337	37	40	6	< 20	50	100	45	7	< 5
354895	63.37	16.92	4.34	0.188	1.46	3.54	3.41	3.13	0.767	0.87	1.85	99.83	20	201	183	130	34	100	20	180	34	4	< 5
354896	75.80	15.47	1.33	0.106	0.12	0.52	3.34	1.07	0.022	0.28	0.69	98.74	< 1	161	< 5	30	< 1	< 20	< 10	70	48	6	< 5
354897	76.00	16.82	1.53	0.117	0.15	0.38	3.22	1.54	0.019	0.19	0.92	100.9	< 1	54	< 5	30	< 1	< 20	< 10	100	58	7	< 5
354898	74.96	15.57	1.71	0.135	0.35	0.71	2.93	2.26	0.063	0.37	1.30	100.3	2	216	11	40	2	< 20	< 10	150	62	6	< 5
354899	49.72	15.93	12.50	0.191	6.28	10.32	1.58	1.09	1.130	0.09	1.34	100.2	43	5	357	200	45	120	70	90	18	2	< 5
354900	75.41	14.04	0.72	0.606	0.04	0.76	0.60	6.33	0.056	< 0.01	2.42	101.0	12	5	5	110	< 1	< 20	170	520	29	6	44
354901	51.29	15.95	12.25	0.189	6.28	9.04	1.83	1.27	1.130	0.09	1.55	100.8	43	5	325	200	44	110	100	100	18	1	< 5
354902	51.87	16.46	11.81	0.192	4.75	10.23	2.17	0.54	1.171	0.09	1.03	100.3	42	< 1	320	180	42	100	110	100	18	1	< 5
354903	58.07	14.57	10.23	0.188	4.20	6.66	0.93	2.38	1.116	0.11	2.18	100.6	39	12	306	170	38	90	110	100	20	2	< 5
354904	76.58	14.45	1.46	0.110	0.18	0.34	2.85	2.62	0.023	0.18	0.83	99.61	< 1	304	< 5	30	1	< 20	< 10	90	47	7	< 5
354905	74.94	15.07	0.78	0.055	0.12	0.53	7.46	0.51	0.020	0.22	0.44	100.1	< 1	215	< 5	< 20	< 1	< 20	10	< 30	38	7	< 5
354906	50.08	15.20	12.53	0.190	6.45	11.92	1.42	0.54	1.155	0.09	1.20	100.8	42	3	328	200	47	120	120	100	18	2	< 5
354907	47.15	14.85	12.17	0.208	6.33	14.79	1.36	0.29	1.130	0.08	2.45	100.8	43	< 1	335	200	45	120	90	90	17	2	< 5
354908	47.98	15.80	10.91	0.190	6.32	13.29	2.18	0.52	0.706	0.28	2.23	100.4	38	22	244	270	41	130	130	100	19	2	< 5
354909	48.85	15.74	12.30	0.211	6.60	13.36	0.97	0.34	0.820	0.07	1.68	100.9	43	7	280	310	45	140	80	90	15	2	< 5
354910	98.75	0.55	1.27	0.013	0.03	0.04	0.03	0.05	0.035	< 0.01	0.13	100.9	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
354911	74.96	15.78	1.80	0.125	0.40	0.63	2.67	1.59	0.050	0.08	1.11	99.18	2	231	14	50	2	< 20	10	110	58	5	< 5
354912	77.40	16.37	1.37	0.097	0.08	0.19	2.44	0.57	0.005	0.08	0.35	98.96	< 1	57	< 5	50	< 1	< 20	< 10	< 30	51	5	< 5
354913	75.64	16.81	1.53	0.104	0.12	0.22	1.81	1.83	0.011	0.06	0.82	98.96	< 1	91	< 5	50	< 1	< 20	20	60	55	6	< 5
354914	75.00	16.21	1.06	0.064	0.08	0.18	1.96	5.72	0.005	0.13	0.38	100.8	< 1	66	< 5	30	< 1	< 20	< 10	30	37	6	< 5
354915	82.82	12.54	1.40	0.124	0.10	0.22	1.24	1.54	0.017	0.10	0.71	100.8	< 1	66	< 5	50	< 1	< 20	< 10	90	52	5	< 5
354916	79.90	12.86	1.64	0.143	0.13	0.37	1.20	1.72	0.017	0.22	0.77	98.96	< 1	187	< 5	60	< 1	< 20	10	100	51	5	< 5
354917	73.71	19.83	1.34	0.138	0.14	0.19	1.05	1.37	0.012	0.08	0.74	98.62	< 1	83	< 5	40	< 1	< 20	< 10	50	71	8	< 5
354918	73.65	22.05	1.75	0.145	0.11	0.15	0.31	0.44	0.007	0.05	0.40	99.07	< 1	32	< 5	40	1	< 20	< 10	30	76	7	< 5
354919	69.50	17.59	0.47	0.016	0.05	0.27	3.10	9.46	0.002	0.14	0.38	101.0	< 1	11	< 5	< 20	< 1	< 20	< 10	< 30	27	6	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
354920	73.26	14.07	0.73	0.593	0.04	0.75	0.59	6.33	0.057	< 0.01	2.25	98.66	12	5	< 5	120	< 1	< 20	170	520	29	6	52
354921	68.98	17.14	0.49	0.017	0.03	0.20	2.88	10.38	0.002	0.16	0.29	100.6	< 1	7	< 5	20	< 1	< 20	< 10	< 30	27	5	< 5
354922	76.92	13.50	0.66	0.038	0.03	0.16	3.46	5.61	0.005	0.13	0.34	100.8	< 1	118	< 5	30	1	< 20	< 10	30	29	5	< 5
354923	69.79	17.06	0.40	0.038	0.03	0.42	9.83	0.19	0.002	0.25	0.56	98.56	< 1	37	< 5	< 20	< 1	< 20	< 10	< 30	36	6	< 5
354924	72.27	17.80	0.44	0.056	0.03	0.25	9.53	0.24	0.003	0.11	0.18	100.9	< 1	94	< 5	< 20	< 1	< 20	< 10	< 30	41	7	< 5
354925	71.60	16.57	0.50	0.207	0.03	0.39	8.85	0.25	0.002	0.24	0.22	98.85	< 1	397	< 5	< 20	< 1	< 20	< 10	< 30	38	7	< 5
354926	72.88	17.26	0.43	0.049	0.03	0.35	9.15	0.30	0.002	0.23	0.19	100.9	< 1	100	< 5	< 20	< 1	< 20	< 10	< 30	39	6	< 5
354927	71.58	16.24	0.62	0.101	0.04	0.39	6.87	1.70	0.009	0.27	0.57	98.39	< 1	84	< 5	20	< 1	< 20	< 10	50	48	8	< 5
354928	69.19	17.73	0.67	0.048	0.17	0.11	2.86	8.25	0.006	0.11	0.69	99.83	< 1	54	< 5	30	< 1	< 20	< 10	30	38	7	< 5
354929	74.47	14.47	0.61	0.020	0.04	0.20	4.90	4.24	0.002	0.14	0.25	99.35	< 1	96	< 5	< 20	< 1	< 20	< 10	< 30	24	6	< 5
354930	98.56	0.59	1.53	0.015	0.02	0.02	0.04	0.07	0.034	< 0.01	0.06	100.9	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
354931	48.72	15.25	13.04	0.227	7.18	10.63	1.47	0.75	1.186	0.09	1.53	100.1	43	4	333	200	48	120	70	110	18	2	< 5
354932	49.68	14.67	13.09	0.264	5.81	11.77	1.16	0.84	1.096	0.08	1.67	100.1	43	4	330	220	47	120	60	120	18	3	< 5
354933	49.90	14.03	13.05	0.179	7.34	10.83	2.15	0.19	0.801	0.06	0.59	99.11	44	< 1	283	290	48	120	150	80	16	2	< 5
354934	48.94	14.55	12.86	0.198	7.94	10.15	1.83	0.69	0.841	0.05	0.91	98.95	43	2	277	300	47	120	140	90	16	2	< 5
354935	70.76	17.72	0.82	0.188	0.11	0.80	7.96	0.94	0.013	0.26	0.62	100.2	< 1	751	< 5	< 20	< 1	< 20	< 10	40	54	6	< 5
354936	69.43	17.67	0.79	0.245	0.09	1.10	8.47	0.84	0.012	0.35	0.64	99.64	< 1	83	< 5	< 20	< 1	< 20	< 10	90	54	6	< 5
354937	48.99	14.20	13.44	0.183	8.81	10.48	1.75	0.80	0.904	0.06	0.96	100.6	46	5	299	300	48	110	120	80	16	2	< 5
354938	49.98	14.50	12.72	0.170	8.54	10.82	2.13	0.21	0.827	0.06	0.76	100.7	45	1	285	310	49	140	150	100	16	1	< 5
354939	49.29	15.14	12.05	0.182	8.32	11.07	2.53	0.36	0.788	0.05	0.73	100.5	41	< 1	255	290	45	130	120	70	15	1	< 5
354940	74.06	13.48	0.72	0.608	0.04	0.76	0.61	6.48	0.057	0.01	2.27	99.09	12	5	< 5	110	< 1	< 20	170	520	29	6	44
354941	47.10	14.71	11.99	0.211	7.73	12.59	1.81	0.79	0.748	0.05	2.75	100.5	39	5	251	290	45	140	120	80	15	2	< 5
354942	71.08	15.77	0.77	0.168	0.23	1.14	4.90	5.71	0.020	0.65	0.40	100.8	< 1	73	7	20	< 1	< 20	20	< 30	28	6	< 5
354943	47.78	15.31	12.61	0.197	8.49	10.67	0.57	1.73	0.807	0.04	2.59	100.8	43	15	272	300	46	140	100	80	16	3	< 5
354944	72.63	20.74	1.29	0.157	0.15	0.44	2.81	0.50	0.014	0.10	0.45	99.29	< 1	164	< 5	30	< 1	< 20	< 10	< 30	64	7	< 5
354945	69.71	17.72	1.28	0.093	0.54	0.63	7.52	1.05	0.021	0.21	0.99	99.77	< 1	178	8	< 20	2	< 20	20	40	47	6	< 5
354946	48.75	15.13	12.90	0.190	7.82	11.10	1.42	0.69	0.789	0.11	1.75	100.6	42	37	278	300	48	140	200	200	16	2	< 5
354947	48.90	15.07	12.44	0.184	7.68	11.89	1.62	0.37	0.780	0.05	0.94	99.92	40	< 1	272	300	45	130	120	70	15	2	< 5
354948	48.10	14.97	14.07	0.321	4.38	11.34	1.94	0.97	0.849	0.04	2.95	99.93	57	< 1	312	320	44	120	170	80	16	1	< 5
354949	46.91	14.93	15.14	0.360	4.46	12.39	1.25	0.96	0.822	0.04	3.45	100.7	67	3	324	310	44	120	190	90	16	1	< 5
354950	98.61	0.51	1.11	0.012	0.02	0.03	0.04	0.06	0.030	< 0.01	0.14	100.6	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
354951	74.01	15.67	0.59	0.056	0.04	0.44	7.31	1.62	0.006	0.26	0.35	100.3	< 1	92	< 5	< 20	< 1	< 20	< 10	730	33	6	< 5
354952	76.46	13.76	0.65	0.065	0.01	0.26	6.67	0.72	0.005	0.17	0.37	99.13	< 1	183	< 5	20	< 1	< 20	< 10	470	32	5	< 5
354953	70.49	18.23	0.55	0.070	0.04	0.25	6.80	3.33	0.011	0.18	0.57	100.5	< 1	119	< 5	< 20	< 1	< 20	< 10	60	46	6	< 5
354954	70.28	17.95	0.76	0.056	0.04	0.17	3.98	5.21	0.004	0.17	0.29	98.90	< 1	18	< 5	20	< 1	< 20	< 10	< 30	41	6	< 5
354955	74.86	15.49	1.20	0.085	0.10	0.23	1.88	4.65	0.010	0.14	0.51	99.15	< 1	38	< 5	30	< 1	< 20	< 10	60	45	6	< 5
354956	74.16	15.93	1.07	0.087	0.09	0.15	1.96	5.40	0.012	0.12	0.64	99.62	< 1	84	< 5	30	< 1	< 20	< 10	70	48	6	< 5
354957	78.67	14.29	1.37	0.118	0.15	0.11	1.06	3.52	0.021	0.04	0.88	100.2	< 1	97	5	60	1	< 20	10	110	57	5	< 5
354958	88.67	6.84	1.07	0.057	0.06	0.10	0.75	2.58	0.013	0.02	0.47	100.6	< 1	675	< 5	60	1	< 20	< 10	60	25	5	< 5
354959	69.98	17.40	0.61	0.053	0.06	0.14	2.56	9.34	0.006	0.17	0.44	100.8	< 1	59	< 5	20	< 1	< 20	< 10	< 30	36	6	< 5
354960	74.42	13.96	0.71	0.602	0.04	0.75	0.59	6.20	0.053	< 0.01	2.23	99.55	12	5	< 5	120	< 1	< 20	170	510	29	6	39

## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
354961	68.68	18.19	0.65	0.050	0.05	0.24	2.16	8.69	0.004	0.25	0.24	99.21	< 1	6	< 5	< 20	1	< 20	10	< 30	36	7	< 5
354962	69.64	21.41	1.15	0.107	0.06	0.22	1.27	4.27	0.006	0.18	0.30	98.61	< 1	3	< 5	40	< 1	< 20	< 10	< 30	60	8	< 5
354963	79.52	13.87	1.29	0.098	0.07	0.14	1.28	1.94	0.011	0.06	0.47	98.74	< 1	62	< 5	40	< 1	< 20	< 10	50	50	6	< 5
354964	77.35	14.46	1.11	0.083	0.07	0.13	1.51	3.41	0.009	0.09	0.46	98.68	< 1	67	< 5	50	< 1	< 20	< 10	40	47	7	< 5
354965	78.39	13.71	1.46	0.147	0.18	0.24	1.12	2.46	0.024	0.15	1.08	98.97	< 1	213	< 5	50	1	< 20	< 10	140	61	5	< 5
354966	80.78	11.94	1.15	0.082	0.11	0.16	1.55	2.75	0.008	0.08	0.55	99.15	< 1	137	< 5	50	< 1	< 20	< 10	50	39	5	< 5
354967	77.52	16.91	1.51	0.141	0.09	0.15	1.24	1.40	0.012	0.08	0.64	99.69	< 1	154	< 5	60	2	< 20	10	60	66	6	< 5
354968	76.93	16.48	1.26	0.110	0.11	0.20	2.09	1.75	0.008	0.12	0.62	99.66	< 1	16	< 5	40	1	< 20	< 10	50	57	6	< 5
354969	76.14	16.22	0.97	0.095	0.12	0.22	2.36	3.69	0.006	0.15	0.62	100.6	< 1	249	< 5	40	< 1	< 20	< 10	40	43	7	< 5
354970	98.10	1.01	0.99	0.010	0.02	0.03	0.05	0.14	0.083	< 0.01	0.44	100.9	< 1	< 1	9	< 20	< 1	< 20	< 10	< 30	2	< 1	< 5
354971	67.22	23.85	1.34	0.158	0.27	0.19	2.14	2.06	0.015	0.10	1.37	98.73	< 1	904	< 5	30	2	< 20	30	120	81	7	< 5
354972	76.48	14.83	1.15	0.088	0.34	0.31	3.79	2.11	0.009	0.11	1.08	100.3	< 1	83	< 5	30	2	< 20	20	50	43	6	< 5
354973	50.27	14.40	12.46	0.200	7.52	11.13	1.77	0.48	0.796	0.05	1.47	100.6	43	4	281	310	46	120	120	70	16	2	< 5
354974	49.32	14.64	12.48	0.199	8.09	10.96	2.31	0.38	0.814	0.05	1.39	100.6	43	1	283	310	47	120	100	70	15	2	< 5
354975	48.43	14.67	12.41	0.223	6.48	14.00	1.77	0.15	0.806	0.04	1.46	100.4	42	< 1	273	310	46	140	170	80	15	2	< 5
354976	49.53	14.51	12.06	0.238	5.84	12.59	0.94	0.51	0.781	0.06	1.51	98.57	41	4	271	310	47	140	170	100	16	2	< 5
354977	66.60	20.16	0.74	0.082	0.17	0.55	8.31	2.20	0.026	0.18	0.92	99.95	1	191	6	< 20	1	< 20	20	80	59	6	< 5
354978	66.25	20.39	0.79	0.076	0.17	0.67	8.36	2.04	0.028	0.23	0.90	99.90	1	317	8	< 20	1	< 20	< 10	70	57	6	< 5
354979	69.42	19.49	0.84	0.098	0.07	0.29	5.49	2.38	0.007	0.17	0.46	98.72	< 1	104	< 5	20	< 1	< 20	10	30	52	7	< 5
354980	74.00	13.88	0.70	0.603	0.04	0.75	0.59	6.34	0.054	< 0.01	2.52	99.48	12	5	8	120	< 1	< 20	170	510	29	6	42
354981	72.85	12.06	3.76	0.156	1.96	2.37	3.46	1.65	0.240	0.69	1.21	100.4	12	105	76	120	14	40	40	130	32	4	< 5
354982	48.99	16.28	10.15	0.214	6.58	12.12	0.68	1.26	0.869	0.06	3.24	100.4	46	16	295	340	48	140	70	130	20	3	< 5
354983	50.88	13.97	10.81	0.219	6.37	13.80	0.88	0.80	0.779	0.04	2.09	100.7	44	8	263	320	47	140	230	70	15	3	< 5
354984	48.02	15.60	12.94	0.223	7.02	10.43	1.74	0.80	1.198	0.09	2.53	100.6	42	6	339	190	47	130	150	80	19	2	< 5
354985	48.80	15.67	10.90	0.249	6.36	10.30	1.23	2.16	1.003	0.50	2.24	99.41	38	47	296	190	42	120	70	90	21	3	< 5
354986	74.30	16.46	1.38	0.115	0.31	0.46	2.77	1.89	0.040	0.12	0.67	98.53	2	135	11	40	2	< 20	10	60	55	7	< 5
354987	75.16	17.10	0.96	0.118	0.05	0.29	4.75	0.76	0.008	0.19	0.47	99.85	< 1	174	< 5	30	< 1	< 20	< 10	50	55	7	< 5
354988	73.78	16.47	0.88	0.163	0.11	0.38	5.12	1.07	0.013	0.13	0.63	98.74	< 1	180	< 5	30	2	< 20	20	40	48	7	< 5
354989	68.92	15.25	2.77	0.076	1.01	2.90	0.94	6.12	0.515	0.19	1.95	100.6	7	7	71	80	10	30	20	50	18	2	< 5
354990	97.94	0.77	0.71	0.008	0.04	0.27	0.05	0.09	0.050	< 0.01	0.70	100.6	< 1	< 1	6	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
354991	69.80	13.70	3.57	0.075	0.98	4.97	0.57	4.50	0.468	0.13	1.59	100.3	9	3	68	80	7	20	20	70	18	2	< 5
354992	40.65	13.32	18.91	0.490	5.18	15.27	1.00	0.84	0.690	0.12	3.79	100.3	38	39	260	230	43	130	200	100	18	4	< 5
354993	41.69	14.15	18.74	0.486	5.45	15.41	0.81	0.71	0.669	0.06	2.72	100.9	36	22	261	230	40	130	50	90	16	5	< 5
354994	72.21	16.80	0.73	0.191	0.10	1.00	8.35	0.36	0.009	0.31	0.39	100.4	< 1	189	< 5	< 20	< 1	< 20	< 10	< 30	42	6	< 5
354995	48.47	15.59	12.65	0.229	5.90	13.64	0.85	0.63	0.839	0.05	1.53	100.4	46	34	293	270	50	150	30	90	17	4	< 5
354996	48.90	15.08	12.45	0.227	6.19	13.55	0.86	0.58	0.808	0.05	1.55	100.3	44	28	287	280	51	160	30	90	16	4	< 5
354997	48.35	15.42	12.98	0.224	5.87	13.66	0.79	0.99	0.804	0.06	1.71	100.9	43	37	280	270	49	150	90	80	17	5	< 5
354998	68.67	16.84	0.85	0.048	0.23	0.98	4.38	6.64	0.029	0.25	0.64	99.56	1	162	10	20	2	< 20	20	< 30	34	6	< 5
354999	70.83	17.83	0.42	0.032	0.04	0.39	6.61	3.98	0.003	0.22	0.30	100.7	< 1	109	< 5	< 20	< 1	< 20	< 10	< 30	35	5	< 5
355000	74.62	13.60	0.71	0.603	0.03	0.76	0.59	6.26	0.053	< 0.01	2.25	99.47	12	5	< 5	120	< 1	< 20	160	500	28	6	40
355001	74.40	17.75	1.10	0.115	0.08	0.41	4.80	0.78	0.009	0.22	0.52	100.2	< 1	222	< 5	30	< 1	< 20	< 10	50	54	6	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
355002	78.06	15.67	1.30	0.106	0.12	0.26	2.14	0.84	0.010	0.05	0.58	99.13	< 1	93	< 5	50	< 1	< 20	< 10	50	53	6	< 5
355003	74.54	16.23	1.19	0.116	0.14	0.57	4.09	1.08	0.014	0.26	0.72	98.94	< 1	151	< 5	30	1	< 20	< 10	60	53	6	< 5
355004	76.42	15.23	0.80	0.056	0.06	0.43	5.63	1.38	0.007	0.15	0.53	100.7	< 1	131	< 5	30	< 1	< 20	10	340	39	5	< 5
355005	76.93	16.32	1.08	0.082	0.08	0.20	3.19	2.32	0.006	0.10	0.40	100.7	< 1	113	< 5	40	< 1	< 20	< 10	< 30	44	6	< 5
355006	75.90	16.55	1.06	0.106	0.09	0.17	2.65	2.04	0.010	0.07	0.62	99.27	< 1	67	< 5	30	< 1	< 20	< 10	60	51	6	< 5
355007	75.37	15.95	1.06	0.106	0.18	0.22	3.26	1.58	0.010	0.09	0.68	98.52	< 1	75	< 5	40	1	< 20	10	50	51	7	< 5
355008	79.61	14.24	0.96	0.076	0.11	0.15	3.59	0.62	0.005	0.08	0.46	99.90	< 1	192	< 5	40	< 1	< 20	< 10	30	39	6	< 5
355009	71.49	17.43	1.08	0.054	0.36	0.77	7.16	0.94	0.007	0.30	1.40	101.0	< 1	202	< 5	< 20	1	< 20	20	< 30	44	6	< 5
355010	98.16	1.03	0.88	0.010	0.04	0.04	0.05	0.09	0.062	< 0.01	0.57	100.9	< 1	< 1	8	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
355011	44.14	14.24	10.94	0.246	5.41	17.06	0.55	0.96	0.775	0.09	5.98	100.4	41	6	263	290	41	120	60	100	15	3	8
355012	45.15	14.30	12.65	0.319	5.63	17.44	1.18	0.27	0.724	0.06	3.10	100.8	42	3	261	270	41	120	110	80	15	3	< 5
355013	48.16	15.24	12.49	0.278	4.56	15.68	1.68	0.27	0.830	0.05	1.69	100.9	45	1	284	310	46	130	130	90	15	2	< 5
355014	36.35	11.60	10.98	0.311	5.14	24.73	0.42	0.27	0.614	0.04	10.29	100.7	33	9	209	220	33	90	150	70	13	2	< 5
355015	74.82	13.94	1.59	0.093	0.80	1.39	4.13	1.50	0.030	0.46	1.08	99.84	2	253	10	20	3	< 20	20	70	37	6	< 5
355016	75.33	13.82	1.65	0.134	0.83	1.45	4.31	1.61	0.045	0.44	1.08	100.7	2	177	15	30	3	< 20	20	50	34	6	< 5
355017	74.77	15.56	0.78	0.140	0.07	0.31	4.41	3.35	0.016	0.21	0.74	100.3	< 1	249	< 5	30	< 1	< 20	< 10	80	43	6	< 5
355018	73.46	19.13	1.12	0.157	0.07	0.26	2.09	3.05	0.011	0.13	0.64	100.1	< 1	92	6	30	< 1	< 20	< 10	60	60	8	< 5
355019	76.70	17.23	1.07	0.118	0.08	0.29	2.51	0.75	0.008	0.10	0.51	99.37	< 1	78	7	40	< 1	< 20	< 10	50	54	7	< 5
355020	74.88	13.57	0.68	0.608	0.04	0.75	0.60	6.36	0.053	< 0.01	2.23	99.78	12	5	5	110	< 1	< 20	170	500	28	6	44
355021	72.43	17.73	0.71	0.085	0.07	0.32	5.70	0.89	0.005	0.19	0.47	98.61	< 1	95	< 5	< 20	< 1	< 20	< 10	40	47	7	< 5
355022	73.59	16.96	0.72	0.136	0.09	0.27	5.51	0.79	0.007	0.13	0.52	98.73	< 1	153	< 5	30	< 1	< 20	< 10	50	49	7	< 5
355023	47.24	15.32	11.55	0.210	6.87	14.80	1.11	0.37	0.788	0.06	2.42	100.7	41	10	273	300	46	140	140	80	16	2	< 5
355024	47.88	14.73	12.17	0.228	5.74	15.21	1.63	0.31	0.813	0.05	1.61	100.4	43	1	263	310	48	140	230	80	14	2	< 5
355025	48.26	14.83	13.28	0.208	7.97	11.65	2.03	0.28	0.793	0.05	1.13	100.5	41	< 1	260	260	54	200	140	80	14	2	< 5
355026	47.72	15.10	13.20	0.207	8.23	11.86	1.87	0.31	0.793	0.07	1.24	100.6	41	1	260	260	54	210	140	90	14	2	< 5
355027	49.14	14.10	12.53	0.209	8.36	11.15	1.34	0.51	0.726	0.06	2.49	100.6	38	8	245	240	49	180	110	80	14	2	< 5
355028	74.30	13.75	1.43	0.096	0.72	0.83	3.26	4.62	0.057	0.22	0.91	100.2	3	31	18	40	3	< 20	10	40	29	6	< 5
355029	65.73	18.39	0.31	0.012	0.02	0.25	2.08	11.99	0.002	0.18	0.41	99.36	< 1	3	< 5	< 20	< 1	< 20	< 10	< 30	24	8	< 5
355030	98.26	0.75	1.31	0.021	0.03	0.03	0.08	0.08	0.033	< 0.01	0.24	100.8	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
355031	69.18	18.15	0.69	0.047	0.10	0.36	2.16	7.50	0.004	0.21	0.72	99.12	< 1	3	< 5	< 20	< 1	< 20	< 10	30	36	12	< 5
355032	76.92	18.70	0.90	0.084	0.27	0.18	0.27	0.47	0.003	0.02	0.88	98.69	< 1	2	< 5	50	< 1	< 20	< 10	< 30	52	14	< 5
355033	89.61	8.06	1.12	0.041	0.08	0.23	0.18	0.14	0.001	< 0.01	0.40	99.84	< 1	< 1	< 5	50	< 1	< 20	< 10	< 30	23	10	< 5
355034	87.50	8.85	0.96	0.045	0.12	0.22	0.09	0.26	0.002	< 0.01	0.65	98.70	< 1	2	< 5	50	< 1	< 20	< 10	< 30	28	12	< 5
355035	92.39	5.64	1.03	0.031	0.12	0.09	0.06	0.21	0.001	< 0.01	0.38	99.94	< 1	1	< 5	60	< 1	< 20	< 10	< 30	17	10	< 5
355036	94.34	3.63	1.05	0.024	0.07	0.09	0.06	0.10	0.001	< 0.01	0.15	99.53	< 1	< 1	< 5	60	< 1	< 20	< 10	< 30	10	9	< 5
355037	83.43	10.60	1.03	0.075	0.16	1.00	0.77	0.90	0.004	0.02	1.52	99.53	< 1	229	< 5	50	< 1	< 20	< 10	< 30	36	8	< 5
355038	78.01	15.24	0.90	0.076	0.18	0.34	1.80	1.26	0.006	0.04	1.28	99.14	< 1	29	< 5	40	< 1	< 20	< 10	30	49	11	< 5
355039	71.37	17.07	0.68	0.079	0.19	0.53	7.89	0.62	0.004	0.26	0.91	99.59	< 1	547	< 5	< 20	1	< 20	20	< 30	43	7	< 5
355040	74.18	13.52	0.69	0.582	0.04	0.73	0.58	6.19	0.053	< 0.01	2.32	98.88	12	5	< 5	120	< 1	< 20	170	500	28	6	42
355041	77.40	14.73	0.79	0.064	0.08	0.66	5.06	0.50	0.005	0.28	0.69	100.3	< 1	83	< 5	30	< 1	< 20	< 10	< 30	39	6	< 5
355042	73.32	15.78	0.53	0.042	0.03	0.52	7.97	0.46	0.003	0.19	0.63	99.48	< 1	463	< 5	< 20	< 1	< 20	< 10	< 30	36	6	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
355043	72.55	16.88	0.38	0.054	0.03	0.52	9.01	0.32	0.003	0.29	0.36	100.4	< 1	150	< 5	< 20	< 1	< 20	< 10	< 30	38	8	< 5
355044	75.21	15.54	0.48	0.030	0.01	0.30	8.77	0.20	0.002	0.18	0.20	100.9	< 1	65	< 5	< 20	< 1	< 20	< 10	< 30	34	6	< 5
355045	67.10	20.21	0.55	0.050	0.05	0.71	9.71	0.95	0.009	0.19	0.94	100.5	< 1	33	< 5	< 20	< 1	< 20	< 10	40	50	7	< 5
355046	65.68	21.08	0.48	0.055	0.04	1.06	9.95	1.07	0.007	0.19	1.24	100.8	< 1	7	< 5	< 20	< 1	< 20	20	50	50	7	< 5
355047	49.76	15.94	12.77	0.295	4.51	10.45	0.67	1.11	0.877	0.04	3.66	100.1	43	8	287	330	48	140	150	140	16	3	< 5
355048	46.03	15.52	14.38	0.366	4.51	14.63	0.78	0.32	0.833	0.09	1.80	99.26	45	4	286	320	48	140	80	90	16	2	< 5
355049	49.38	16.80	11.47	0.242	4.64	14.31	1.62	0.30	0.852	0.06	1.03	100.7	46	1	291	330	51	150	120	80	16	2	< 5
355050	98.05	0.78	1.57	0.016	0.03	0.05	0.06	0.08	0.032	< 0.01	0.21	100.9	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
355051	47.81	15.44	12.28	0.226	6.62	12.65	1.08	0.61	0.794	0.07	3.12	100.7	42	13	274	300	47	140	40	70	15	3	< 5
355052	73.39	15.49	0.56	0.028	0.10	0.50	6.23	3.16	0.012	0.16	0.24	99.87	< 1	49	< 5	< 20	< 1	< 20	< 10	< 30	29	6	< 5
355053	49.79	15.73	11.85	0.230	5.50	14.18	1.30	0.36	0.816	0.05	1.05	100.9	45	3	288	320	51	150	100	90	15	2	< 5
355054	51.33	13.95	10.79	0.234	4.31	14.31	1.03	0.77	0.752	0.05	3.32	100.8	35	< 1	256	270	41	130	130	70	15	2	< 5
355055	49.62	15.24	14.54	0.296	3.72	11.18	2.42	0.24	0.834	0.06	2.04	100.2	42	< 1	286	320	55	140	320	80	15	1	< 5
355056	50.40	15.19	14.88	0.308	3.82	11.19	2.31	0.24	0.792	0.06	1.21	100.4	42	< 1	285	310	54	130	390	80	16	1	< 5
355057	52.38	15.77	13.38	0.282	4.41	9.85	2.07	0.51	0.896	0.06	0.88	100.5	49	4	312	330	48	130	140	90	15	1	< 5
355058	74.98	15.61	0.76	0.067	0.10	0.47	6.91	0.99	0.015	0.17	0.61	100.7	< 1	380	< 5	< 20	< 1	< 20	< 10	60	44	6	< 5
355059	73.27	16.52	0.31	0.047	0.03	0.48	9.42	0.17	0.002	0.28	0.17	100.7	< 1	118	< 5	< 20	< 1	< 20	< 10	< 30	36	6	< 5
355060	73.60	13.86	0.68	0.599	0.04	0.73	0.60	6.27	0.053	< 0.01	2.29	98.72	12	5	< 5	110	< 1	< 20	170	500	28	6	43
355061	76.29	15.09	0.70	0.083	0.07	0.21	6.59	1.13	0.009	0.12	0.56	100.8	< 1	203	< 5	< 20	< 1	< 20	< 10	50	39	6	< 5
355062	73.95	16.68	0.47	0.041	0.04	0.27	8.31	0.39	0.004	0.12	0.34	100.6	< 1	108	< 5	< 20	< 1	< 20	< 10	< 30	34	6	< 5
355063	76.85	14.68	0.62	0.070	0.04	0.32	7.41	0.42	0.004	0.17	0.31	100.9	< 1	132	< 5	< 20	< 1	< 20	< 10	< 30	33	6	< 5
355064	72.71	16.78	0.64	0.057	0.10	0.29	7.37	0.77	0.005	0.16	0.59	99.47	< 1	138	< 5	< 20	< 1	< 20	< 10	< 30	39	7	< 5
355065	72.44	15.70	0.71	0.045	0.10	0.20	3.16	6.55	0.005	0.10	0.45	99.47	< 1	255	< 5	< 20	< 1	< 20	< 10	< 30	33	6	< 5
355066	75.93	16.43	1.21	0.121	0.28	0.37	2.26	0.90	0.007	0.21	0.88	98.60	< 1	377	< 5	30	< 1	< 20	< 10	40	53	6	< 5
355067	81.99	11.59	1.06	0.112	0.13	0.31	2.62	1.05	0.012	0.22	0.60	99.67	< 1	774	< 5	40	< 1	< 20	< 10	70	38	5	< 5
355068	71.17	15.72	0.44	0.035	0.03	0.21	3.42	7.85	0.004	0.19	0.32	99.39	< 1	77	< 5	< 20	< 1	< 20	< 10	< 30	27	6	< 5
355069	68.72	17.10	0.35	0.014	0.05	0.22	3.63	8.99	0.002	0.16	0.28	99.51	< 1	37	< 5	< 20	< 1	< 20	< 10	< 30	26	6	< 5
355070	98.38	0.71	1.27	0.013	0.02	0.02	0.05	0.09	0.031	< 0.01	0.24	100.8	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355071	75.02	18.20	1.14	0.139	0.13	0.30	2.18	0.99	0.007	0.18	0.44	98.73	< 1	45	< 5	40	< 1	< 20	< 10	30	60	7	< 5
355072	71.38	17.69	0.88	0.072	0.15	0.27	2.24	4.97	0.005	0.15	0.63	98.44	< 1	252	< 5	30	< 1	< 20	< 10	40	45	7	< 5
355073	77.82	14.50	0.87	0.095	0.17	0.22	3.33	2.98	0.012	0.08	0.88	101.0	< 1	348	< 5	40	< 1	< 20	< 10	80	44	5	< 5
355074	71.81	17.29	0.48	0.071	0.03	0.42	7.15	2.75	0.005	0.23	0.37	100.6	< 1	87	< 5	< 20	< 1	< 20	< 10	< 30	39	7	< 5
355075	76.01	15.33	0.63	0.060	0.06	0.24	4.63	2.37	0.003	0.14	0.34	99.81	< 1	333	< 5	20	< 1	< 20	< 10	< 30	37	6	< 5
355076	75.21	15.39	0.68	0.053	0.06	0.21	4.58	2.81	0.004	0.13	0.36	99.48	< 1	258	< 5	20	< 1	< 20	< 10	< 30	36	6	< 5
355077	73.95	15.78	0.55	0.033	0.07	0.30	6.79	2.11	0.004	0.11	0.35	100.1	< 1	87	< 5	30	< 1	< 20	< 10	< 30	30	6	< 5
355078	49.39	15.22	12.13	0.189	7.59	12.63	1.25	0.37	0.786	0.04	1.04	100.6	44	1	286	320	48	140	110	80	16	1	< 5
355079	48.69	15.24	12.43	0.193	7.49	13.13	1.63	0.25	0.795	0.04	0.89	100.8	44	< 1	284	330	50	130	160	90	17	2	< 5
355080	74.17	13.95	0.72	0.603	0.05	0.77	0.60	6.44	0.054	< 0.01		97.34	12	5	< 5	120	< 1	< 20	170	540	31	6	45
355081	49.53	15.46	11.83	0.231	5.78	14.31	0.94	0.42	0.799	0.05	1.29	100.6	42	6	269	310	45	140	120	90	18	2	< 5
355082	51.38	15.88	10.52	0.189	7.20	7.99	0.84	2.11	0.769	0.09	3.43	100.4	40	95	259	280	41	130	80	80	21	3	< 5
355083	71.44	19.26	0.95	0.117	0.27	0.53	4.81	1.70	0.017	0.20	1.16	100.5	< 1	185	< 5	< 20	1	< 20	10	70	66	7	< 5

## Results

## Activation Laboratories Ltd.

Report: A17-05843

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
355084	71.91	17.30	0.55	0.071	0.04	0.47	8.06	1.27	0.006	0.17	0.64	100.5	< 1	410	< 5	< 20	< 1	< 20	< 10	50	41	7	< 5
355085	71.82	18.80	0.79	0.124	0.11	0.29	5.79	1.03	0.006	0.14	0.73	99.62	< 1	197	< 5	20	< 1	< 20	< 10	50	52	8	< 5
355086	68.67	20.79	1.58	0.136	1.20	0.39	2.10	2.73	0.008	0.17	2.11	99.87	< 1	134	6	30	2	< 20	20	40	67	7	< 5
355087	69.93	18.34	2.81	0.107	0.99	0.98	3.42	1.82	0.159	0.10	1.33	99.98	4	20	31	60	5	< 20	20	40	50	7	< 5
355088	74.14	15.17	1.34	0.082	0.64	0.67	3.95	2.36	0.007	0.16	1.64	100.1	< 1	207	< 5	30	1	< 20	10	40	40	6	< 5
355089	76.03	14.41	1.13	0.085	0.31	0.39	6.34	1.03	0.008	0.09	0.86	100.7	< 1	110	5	40	1	< 20	< 10	< 30	34	6	< 5
355090	98.88	0.69	0.54	0.007	0.02	0.03	0.10	0.07	0.030	< 0.01	0.23	100.6	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355091	50.77	17.77	11.06	0.214	3.37	9.89	0.26	2.45	1.169	0.10	3.33	100.4	44	8	318	200	49	130	80	90	21	2	< 5
355092	57.92	17.16	7.85	0.161	1.93	8.80	0.79	2.30	1.152	0.10	2.27	100.4	39	2	283	180	46	110	90	70	20	1	< 5
355093	47.58	14.71	11.72	0.247	4.93	14.68	2.08	0.23	0.793	0.04	3.59	100.6	42	< 1	275	300	45	130	110	80	15	1	< 5
355094	47.31	14.47	10.69	0.250	4.76	14.79	1.60	0.36	0.770	0.08	5.05	100.1	41	4	265	310	48	150	140	100	15	2	< 5
355095	71.12	18.46	2.21	0.141	0.68	0.68	1.38	2.66	0.041	0.04	2.21	99.62	1	56	12	50	4	< 20	40	160	77	6	< 5
355096	74.67	16.00	1.76	0.128	0.58	0.55	1.42	2.36	0.030	0.05	1.95	99.51	< 1	502	7	50	2	< 20	20	140	64	6	< 5
355097	76.68	14.94	2.00	0.134	0.33	0.38	0.99	1.95	0.014	0.18	1.08	98.69	< 1	208	6	60	2	< 20	20	80	56	6	< 5
355098	70.48	18.39	1.33	0.140	0.26	0.70	3.89	2.06	0.013	0.25	1.24	98.75	< 1	53	< 5	30	< 1	< 20	< 10	80	65	6	< 5
355099	72.32	13.29	2.82	0.082	1.84	2.00	2.88	2.30	0.015	0.21	2.39	100.2	< 1	120	5	40	3	< 20	< 10	80	49	5	< 5
355100	72.85	14.44	0.69	0.613	0.04	0.73	0.58	6.20	0.055	< 0.01	2.37	98.55	12	5	< 5	110	< 1	< 20	160	510	29	6	41
355101	48.92	15.72	11.29	0.123	7.54	7.02	3.00	0.59	1.551	0.13	4.99	100.9	37	11	355	110	54	130	220	< 30	23	2	< 5
355102	73.30	16.19	2.08	0.108	0.88	1.01	2.33	2.03	0.039	0.19	1.66	99.82	1	212	11	30	3	< 20	30	60	58	5	< 5
355103	54.80	15.22	10.47	0.215	5.11	8.32	2.05	0.47	0.827	0.09	3.20	100.8	33	48	239	180	43	100	40	70	27	4	< 5
355104	50.35	15.11	13.26	0.248	5.97	9.17	1.94	0.88	1.145	0.09	2.66	100.8	42	9	324	190	43	120	80	70	19	2	< 5
355105	53.21	15.25	12.27	0.205	5.00	8.69	2.10	0.76	1.142	0.07	1.93	100.6	43	2	326	200	47	120	140	120	18	1	< 5
355106	50.05	15.41	13.09	0.196	6.21	10.23	1.66	0.71	1.087	0.06	1.97	100.7	43	5	320	200	46	130	140	80	18	2	< 5
355107	72.46	16.01	2.00	0.085	0.82	0.95	5.99	1.01	0.088	0.26	1.23	100.9	4	93	27	40	6	< 20	30	40	41	6	< 5
355108	51.36	15.86	11.77	0.215	6.49	7.96	2.18	0.60	1.168	0.07	1.88	99.56	43	3	334	190	45	110	80	90	18	1	< 5
355109	50.75	15.21	12.81	0.202	6.89	8.46	1.75	0.72	1.215	0.06	2.52	100.6	43	2	324	200	46	120	100	110	17	1	< 5
355110	99.17	0.68	0.47	0.006	0.04	0.04	0.10	0.08	0.032	< 0.01	0.35	100.9	< 1	< 1	7	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355111	48.45	14.50	12.67	0.201	7.38	11.09	2.11	0.35	0.806	0.04	1.50	99.09	43	< 1	278	260	48	140	150	90	15	1	< 5
355112	49.80	14.80	12.74	0.210	7.39	10.89	1.60	0.93	0.826	0.04	1.61	100.8	45	4	289	260	47	130	130	90	15	2	< 5
355113	74.72	15.68	1.78	0.134	0.28	0.74	1.05	2.94	0.030	0.37	0.99	98.72	< 1	74	9	50	2	< 20	20	100	54	6	< 5
355114	76.83	16.84	1.39	0.110	0.24	0.32	0.39	1.92	0.018	0.12	0.97	99.15	< 1	9	5	50	1	< 20	20	60	61	7	< 5
355115	69.52	22.24	1.70	0.160	0.14	0.56	0.74	2.88	0.011	0.37	0.50	98.81	< 1	16	< 5	50	1	< 20	< 10	70	72	8	< 5
355116	73.72	20.23	1.29	0.135	0.13	0.36	0.67	3.31	0.012	0.22	0.47	100.6	< 1	20	7	40	2	< 20	20	30	68	7	< 5
355117	71.66	16.01	0.95	0.066	0.14	0.43	1.54	7.79	0.008	0.22	0.67	99.49	< 1	115	< 5	30	1	< 20	40	40	34	7	< 5
355118	71.94	17.28	0.81	0.110	0.12	0.23	1.02	7.58	0.008	0.11	0.66	99.87	< 1	6	< 5	30	< 1	< 20	< 10	40	37	9	< 5
355119	65.77	19.28	0.82	0.049	0.05	0.25	1.87	10.11	0.004	0.17	0.46	98.82	< 1	3	< 5	20	1	< 20	10	< 30	34	7	< 5
355120	74.79	13.69	0.69	0.603	0.03	0.74	0.59	6.26	0.052	0.02		97.47	12	5	6	220	< 1	270	170	530	30	6	40
355121	73.66	15.03	1.00	0.064	0.09	0.17	1.91	6.59	0.005	0.12	0.70	99.34	< 1	6	< 5	40	< 1	< 20	< 10	50	31	8	< 5
355122	70.48	16.89	0.48	0.024	0.03	0.16	1.52	10.67	0.004	0.15	0.57	101.0	< 1	3	< 5	< 20	< 1	< 20	< 10	< 30	26	8	< 5
355123	75.02	15.81	1.35	0.065	0.12	0.16	0.95	5.11	0.006	0.11	0.47	99.16	< 1	3	< 5	50	1	< 20	20	< 30	37	8	< 5
355124	77.26	15.25	1.12	0.066	0.09	0.28	1.00	4.20	0.006	0.09	0.67	100.0	< 1	2	< 5	50	< 1	< 20	10	< 30	40	9	< 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
355125	73.08	16.32	1.39	0.156	0.16	0.78	1.68	3.66	0.013	0.50	1.13	98.87	< 1	4	< 5	60	1	< 20	10	110	53	8	< 5
355126	73.89	17.64	0.93	0.174	0.11	0.49	5.56	0.73	0.007	0.25	0.70	100.5	< 1	261	< 5	30	< 1	< 20	20	180	47	8	< 5
355127	69.64	19.59	1.04	0.076	0.12	0.54	6.84	0.46	0.004	0.26	0.86	99.43	< 1	109	< 5	30	< 1	< 20	< 10	< 30	54	8	< 5
355128	71.65	20.81	1.66	0.209	0.13	0.49	1.78	0.99	0.011	0.31	0.89	98.94	< 1	70	< 5	40	< 1	< 20	< 10	80	82	7	< 5
355129	73.28	17.02	2.00	0.227	0.33	0.44	1.49	2.32	0.021	0.27	1.64	99.04	< 1	185	< 5	60	2	< 20	20	190	78	7	< 5
355130	97.69	0.73	0.71	0.007	0.03	0.03	0.14	0.09	0.045	< 0.01	0.21	99.66	< 1	< 1	5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
355131	71.29	18.19	0.90	0.136	0.10	0.45	5.92	1.14	0.011	0.29	1.03	99.48	< 1	327	< 5	30	< 1	< 20	< 10	90	63	7	< 5
355132	72.74	18.13	1.25	0.115	0.07	0.42	5.04	0.82	0.008	0.22	0.83	99.65	< 1	135	< 5	40	< 1	< 20	< 10	60	59	7	< 5
355133	71.71	18.56	0.86	0.072	0.09	0.30	5.93	0.53	0.004	0.10	0.64	98.79	< 1	41	< 5	30	< 1	< 20	< 10	< 30	51	9	< 5
355134	79.75	14.03	1.45	0.090	0.10	0.15	2.60	1.06	0.010	0.04	0.72	100.0	< 1	44	5	60	< 1	< 20	< 10	90	49	7	< 5
355135	76.38	14.47	0.85	0.071	0.11	0.31	5.70	0.64	0.006	0.09	0.61	99.24	< 1	217	< 5	40	< 1	< 20	< 10	< 30	39	7	< 5
355136	77.16	14.08	1.19	0.088	0.17	0.30	5.60	0.72	0.007	0.06	0.65	100.0	< 1	166	< 5	50	1	< 20	< 10	< 30	39	6	< 5
355137	48.38	15.61	11.85	0.212	7.18	12.68	1.16	0.48	0.784	0.05	2.26	100.7	43	4	279	310	47	150	150	80	17	2	< 5
355138	47.60	15.91	11.65	0.199	7.15	13.32	1.26	0.38	0.812	0.04	2.34	100.7	43	1	282	330	49	160	150	80	17	2	< 5
355139	48.33	15.08	12.81	0.272	5.83	13.29	1.51	0.56	0.853	0.04	2.17	100.8	45	5	292	320	49	150	250	90	17	2	< 5
355140	74.00	13.95	0.70	0.600	0.05	0.74	0.60	6.37	0.057	< 0.01		97.04	12	4	< 5	130	< 1	< 20	170	510	31	6	44
355141	50.46	15.45	11.80	0.272	5.91	12.24	0.83	0.98	0.783	0.06	1.84	100.6	43	14	284	310	47	140	130	100	17	3	< 5
355142	73.58	15.65	1.75	0.086	0.40	0.41	2.48	4.10	0.022	0.09	1.17	99.74	< 1	137	7	50	3	< 20	20	70	49	7	< 5
355143	73.88	14.76	0.62	0.045	0.09	0.41	5.47	3.57	0.007	0.16	0.67	99.68	< 1	46	< 5	30	< 1	< 20	< 10	< 30	34	6	< 5
355144	75.46	16.07	1.99	0.108	0.14	0.51	3.47	0.85	0.017	0.14	0.69	99.45	< 1	193	6	50	2	< 20	10	50	54	6	< 5
355145	72.14	20.28	1.85	0.186	0.10	0.36	0.73	1.93	0.021	0.14	1.10	98.82	< 1	222	< 5	60	2	< 20	20	260	94	8	< 5
355146	72.71	21.64	1.89	0.153	0.06	0.20	0.71	0.95	0.007	0.08	0.44	98.86	< 1	1530	< 5	60	1	< 20	< 10	60	74	7	< 5
355147	69.09	20.92	1.27	0.142	0.06	0.38	3.78	1.70	0.013	0.21	0.99	98.56	< 1	174	< 5	60	1	< 20	< 10	160	71	8	< 5
355148	71.92	16.59	1.01	0.101	0.07	0.55	6.19	1.39	0.014	0.22	1.06	99.11	< 1	200	< 5	30	< 1	< 20	10	120	58	7	< 5
355149	47.22	15.20	13.07	0.219	7.23	9.59	0.96	1.33	1.062	0.07	2.83	98.80	40	23	306	200	45	140	80	100	21	3	< 5
355150	95.29	0.76	5.19	0.039	0.04	0.06	0.14	0.10	0.028	0.02	-0.85	100.8	< 1	2	< 5	60	4	30	10	< 30	2	1	< 5
355151	74.09	13.89	0.92	0.061	0.36	1.10	6.60	0.76	0.024	0.19	1.23	99.22	< 1	255	8	20	1	< 20	10	40	39	6	< 5
355152	50.26	13.20	10.28	0.232	6.11	11.16	0.61	0.66	0.887	0.08	6.48	99.96	39	97	323	180	32	100	50	40	33	5	< 5
355153	47.45	14.20	13.88	0.323	7.26	7.50	2.51	0.59	1.132	0.08	3.74	98.67	43	4	320	200	46	120	80	70	19	2	< 5
355154	68.68	11.78	4.98	0.084	2.77	1.59	1.01	5.18	0.500	0.09	2.18	98.84	9	7	65	40	10	30	< 10	< 30	18	1	< 5
355155	68.42	13.19	4.73	0.085	2.34	1.65	1.30	5.30	0.493	0.15	1.92	99.58	7	6	64	50	9	20	< 10	< 30	18	1	< 5
355156	73.16	15.45	1.05	0.054	0.26	0.30	5.87	2.45	0.026	0.11	0.77	99.50	< 1	75	5	< 20	< 1	< 20	< 10	40	40	5	< 5
355157	71.82	16.43	1.25	0.048	0.42	0.37	6.09	3.20	0.033	0.17	0.77	100.6	< 1	246	< 5	< 20	1	< 20	< 10	< 30	37	5	< 5
355158	72.72	15.69	0.73	0.034	0.13	0.21	3.69	6.84	0.006	0.09	0.58	100.7	< 1	472	< 5	< 20	< 1	< 20	< 10	< 30	32	6	< 5
355159	71.71	17.25	0.91	0.075	0.08	0.20	3.69	5.56	0.007	0.10	0.61	100.2	< 1	362	< 5	20	< 1	< 20	< 10	40	41	7	< 5
355160	74.30	13.48	0.70	0.599	0.03	0.75	0.60	6.33	0.052	< 0.01		96.84	12	5	7	120	< 1	< 20	180	500	30	6	42
355161	71.24	18.33	1.02	0.116	0.15	0.30	4.56	2.72	0.007	0.07	0.54	99.04	< 1	84	< 5	30	< 1	< 20	< 10	< 30	47	6	< 5
355162	66.18	15.71	5.10	0.163	2.49	2.43	3.38	2.05	0.340	0.15	2.53	100.5	13	107	99	80	11	40	< 10	120	45	5	< 5
355163	72.81	14.90	1.72	0.061	0.77	0.37	5.12	2.58	0.007	0.07	1.07	99.46	< 1	194	< 5	< 20	3	< 20	< 10	< 30	34	5	< 5
355164	72.53	15.32	0.85	0.025	0.35	0.38	6.11	3.50	0.011	0.17	0.54	99.79	< 1	302	< 5	< 20	< 1	< 20	< 10	< 30	28	5	< 5
355165	67.81	11.27	7.97	0.138	3.94	2.28	1.96	0.49	0.496	0.09	3.52	99.95	9	4	80	60	40	40	640	240	20	1	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
355166	60.58	11.72	10.71	0.222	4.81	6.89	1.30	1.05	0.623	0.08	2.53	100.5	19	12	148	100	38	60	290	130	15	2	< 5
355167	48.83	15.17	12.84	0.203	7.94	12.00	1.75	0.20	0.779	0.04	0.98	100.7	43	< 1	273	270	49	160	130	80	15	2	< 5
355168	49.84	15.00	12.35	0.203	7.50	11.32	1.62	0.65	0.746	0.06	1.40	100.7	41	10	264	250	47	140	140	100	17	2	< 5
355169	71.79	18.55	1.64	0.151	0.36	1.05	3.39	1.17	0.042	0.41	0.89	99.45	2	156	12	40	2	< 20	< 10	90	61	6	< 5
355170	98.03	0.45	1.55	0.016	0.02	0.02	0.04	0.04	0.036	< 0.01	0.05	100.2	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355171	73.65	18.39	1.29	0.134	0.11	0.30	1.99	1.92	0.016	0.11	0.78	98.70	< 1	115	< 5	40	< 1	< 20	< 10	60	61	6	< 5
355172	69.04	17.04	2.58	0.107	0.94	1.28	3.17	2.60	0.219	0.28	1.61	98.86	3	81	30	30	6	< 20	< 10	70	48	6	< 5
355173	67.69	16.83	2.02	0.086	0.86	1.29	5.45	3.43	0.198	0.44	1.27	99.56	3	166	29	< 20	6	< 20	20	40	36	6	< 5
355174	57.49	13.74	8.41	0.210	4.72	11.78	0.63	0.81	0.498	0.19	2.15	100.6	22	26	159	160	26	70	50	100	16	3	< 5
355175	52.68	15.22	10.76	0.175	6.47	10.82	1.52	0.79	0.741	0.09	1.06	100.3	39	5	254	270	45	150	90	80	15	2	< 5
355176	53.66	14.60	9.66	0.165	5.85	10.76	1.58	0.55	0.668	0.14	0.95	98.57	35	7	233	260	41	140	80	80	15	2	< 5
355177	51.76	16.51	9.93	0.136	5.08	7.92	3.58	1.04	1.315	0.39	0.92	98.58	15	2	169	< 20	33	80	90	120	20	2	< 5
355178	49.15	15.07	11.66	0.228	4.92	12.24	2.12	0.75	0.989	0.19	2.79	100.1	32	3	238	170	37	100	140	100	17	2	< 5
355179	79.30	13.42	1.26	0.152	0.25	0.69	1.40	2.03	0.040	0.28	0.92	99.73	< 1	73	8	50	2	< 20	20	120	50	8	< 5
355180	74.16	14.46	0.69	0.607	0.03	0.75	0.59	6.32	0.057	< 0.01		97.68	12	5	< 5	120	< 1	< 20	170	500	29	6	41
355181	87.67	9.24	1.19	0.049	0.19	0.19	0.61	0.41	0.013	0.02	0.45	100.0	< 1	8	< 5	50	4	< 20	30	< 30	27	9	< 5
355182	98.95	0.51	1.15	0.015	0.06	0.09	0.04	0.06	0.004	< 0.01	0.08	100.9	< 1	2	< 5	50	2	< 20	10	< 30	2	15	< 5
355183	55.95	29.06	0.70	0.222	0.06	0.05	1.42	7.28	0.044	0.02	3.75	98.55	1	15	8	< 20	< 1	< 20	< 10	180	150	11	< 5
355184	84.48	10.85	0.95	0.037	0.31	0.23	0.75	0.48	0.002	0.01	0.74	98.82	< 1	589	< 5	40	< 1	< 20	< 10	< 30	28	10	< 5
355185	70.14	19.68	1.27	0.274	0.26	0.10	1.06	5.07	0.049	0.01	2.65	100.6	2	12	9	< 20	2	< 20	40	440	91	13	< 5
355186	64.79	23.38	0.62	0.194	0.06	0.06	1.63	5.83	0.041	0.01	3.03	99.64	1	13	8	< 20	< 1	< 20	< 10	180	116	17	< 5
355187	64.72	24.25	0.42	0.151	0.03	0.10	3.55	4.98	0.030	0.05	2.26	100.6	< 1	11	6	< 20	< 1	< 20	< 10	110	92	15	< 5
355188	65.93	21.64	0.42	0.222	0.03	0.25	5.64	3.35	0.027	0.14	1.68	99.32	1	14	< 5	< 20	< 1	< 20	< 10	70	71	17	< 5
355189	64.16	23.96	0.51	0.198	0.12	0.22	4.29	3.58	0.018	0.10	1.82	98.97	< 1	8	< 5	< 20	< 1	< 20	< 10	90	73	14	< 5
355190	97.82	0.52	1.39	0.014	0.02	0.02	0.04	0.05	0.024	< 0.01	0.22	100.1	< 1	< 1	7	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355191	64.16	21.97	0.56	0.166	0.31	0.40	4.06	4.79	0.020	0.13	2.32	98.89	< 1	11	< 5	< 20	< 1	< 20	< 10	90	76	13	< 5
355192	83.23	10.29	0.81	0.027	0.08	0.19	3.55	0.37	0.002	0.07	0.36	98.98	< 1	3	< 5	30	< 1	< 20	< 10	< 30	19	11	< 5
355193	74.75	19.11	0.90	0.061	0.08	0.18	2.62	0.28	0.003	0.07	0.43	98.48	< 1	6	< 5	40	1	< 20	< 10	< 30	51	14	< 5
355194	69.05	18.94	0.43	0.066	0.06	0.46	8.61	0.86	0.009	0.29	0.65	99.42	< 1	11	< 5	< 20	< 1	< 20	< 10	< 30	49	9	< 5
355195	69.13	19.18	0.24	0.039	0.01	0.45	10.90	0.14	0.001	0.30	0.26	100.7	< 1	173	< 5	< 20	< 1	< 20	< 10	< 30	41	8	< 5
355196	68.67	19.79	0.27	0.033	0.01	0.45	10.85	0.15	0.001	0.29	0.25	100.8	< 1	137	< 5	< 20	< 1	< 20	< 10	< 30	42	8	< 5
355197	68.69	19.36	0.32	0.040	0.01	0.47	10.90	0.13	0.001	0.34	0.23	100.5	< 1	86	< 5	< 20	< 1	< 20	< 10	< 30	41	8	< 5
355198	67.87	19.17	0.42	0.036	0.02	0.48	10.61	0.15	0.001	0.30	0.25	99.30	< 1	84	< 5	< 20	< 1	< 20	< 10	< 30	41	8	< 5
355199	65.77	20.25	0.42	0.060	0.03	1.56	10.21	0.48	0.005	0.81	0.72	100.3	< 1	21	< 5	< 20	< 1	< 20	< 10	< 30	43	7	< 5
355200	73.36	13.66	0.68	0.596	0.04	0.70	0.58	6.21	0.050	< 0.01		95.86	12	5	< 5	110	< 1	< 20	110	360	20	4	25



## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
354879	132	117	21	68	3	< 2	< 0.5	< 0.2	2	0.5	82.0	42	0.7	1.7	0.6	< 1	1.2	< 5	0.4	0.1	0.04	0.08	
354880	2240	25	13	76	63	6	1.9	0.3	14	18.5	65.0	90	35.4	5.4	11.6	108	13.9	531	24.3	47.2	0.26	0.55	
354881	74	118	21	69	3	< 2	0.6	< 0.2	2	< 0.5	39.7	47	1.5	1.6	0.7	< 1	2.2	< 5	0.5	0.2	0.04	0.08	
354882	486	18	< 2	11	58	< 2	< 0.5	< 0.2	6	< 0.5	64.2	13	8.2	1.0	179	1	3.7	6	5.0	3.5	0.01	0.03	
354883	115	118	21	67	3	< 2	< 0.5	< 0.2	< 1	< 0.5	193	45	< 0.4	1.7	0.4	1	2.0	< 5	0.4	0.1	0.04	0.08	
354884	20	123	21	66	2	< 2	< 0.5	< 0.2	< 1	< 0.5	7.7	36	< 0.4	1.7	0.2	< 1	0.6	< 5	0.4	0.1	0.02	0.05	
354885	129	133	16	47	2	< 2	< 0.5	< 0.2	< 1	1.9	14.1	72	0.6	1.2	0.1	4	1.1	< 5	0.3	0.1	0.05	0.10	
354886	116	155	16	46	2	< 2	< 0.5	< 0.2	3	1.8	27.4	57	0.7	1.1	0.2	1	1.1	< 5	0.3	0.4	0.06	0.13	
354887	1600	45	2	10	44	< 2	< 0.5	< 0.2	20	< 0.5	130	45	0.9	0.5	85.1	2	10.8	< 5	3.2	1.3	0.04	0.09	
354888	7610	95	< 2	4	25	< 2	< 0.5	< 0.2	6	< 0.5	483	64	< 0.4	0.2	91.9	< 1	75.5	16	1.0	0.8	< 0.01	0.02	2.71
354889	3240	47	< 2	13	44	< 2	< 0.5	< 0.2	19	< 0.5	342	34	1.7	1.3	110	2	33.3	9	5.0	3.5	0.34	0.72	
354890	3	9	2	37	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	119	< 0.4	0.9	< 0.1	< 1	2.7	< 5	0.4	0.2	< 0.01	< 0.01	
354891	2390	36	< 2	7	43	< 2	< 0.5	< 0.2	26	< 0.5	224	24	0.9	0.7	90.0	2	19.5	6	3.2	2.2	0.29	0.63	
354892	5260	132	18	68	23	< 2	< 0.5	< 0.2	27	1.3	1740	172	4.9	1.9	51.8	6	48.2	22	1.7	1.5	0.31	0.66	
354893	1140	98	20	70	3	< 2	< 0.5	< 0.2	3	0.6	451	125	1.4	1.8	1.2	< 1	15.1	< 5	0.4	0.4	0.19	0.41	
354894	1210	30	2	17	56	< 2	< 0.5	< 0.2	16	< 0.5	313	25	2.7	1.5	301	2	12.2	8	4.4	7.0	0.31	0.67	
354895	5840	108	11	51	50	< 2	< 0.5	< 0.2	41	< 0.5	1760	89	2.8	2.1	202	5	50.2	9	4.9	4.5	0.34	0.74	
354896	1340	25	< 2	17	72	< 2	< 0.5	< 0.2	24	< 0.5	236	9	1.1	1.7	194	3	12.2	9	5.5	4.9	0.79	1.70	
354897	1840	29	< 2	17	72	< 2	< 0.5	< 0.2	35	< 0.5	253	13	0.8	1.8	179	3	13.3	9	5.7	6.4	0.83	1.79	
354898	2760	41	< 2	16	71	3	< 0.5	< 0.2	49	< 0.5	327	13	2.0	1.5	150	3	19.1	70	19.8	60.0	0.42	0.90	2.80
354899	1430	113	19	69	3	< 2	< 0.5	< 0.2	3	0.5	744	34	0.7	1.7	1.1	< 1	15.6	7	0.5	0.7	0.15	0.33	
354900	2200	25	14	73	67	5	1.8	0.3	13	18.7	62.8	89	44.3	5.2	11.7	109	16.3	521	25.3	49.3	0.27	0.58	
354901	1460	107	21	70	3	< 2	< 0.5	< 0.2	1	< 0.5	694	46	0.5	1.8	1.4	< 1	18.5	< 5	0.5	0.2	0.18	0.39	
354902	232	109	19	68	2	< 2	< 0.5	< 0.2	< 1	< 0.5	88.4	40	0.4	1.5	0.4	< 1	4.3	< 5	0.4	0.1	0.07	0.15	
354903	2180	73	20	87	3	< 2	< 0.5	< 0.2	5	0.6	818	243	1.6	2.0	0.4	2	21.3	7	0.9	1.0	0.14	0.30	
354904	3140	42	< 2	20	72	< 2	< 0.5	< 0.2	26	< 0.5	410	39	2.7	1.8	133	2	28.4	7	11.6	2.8	0.46	0.98	
354905	449	18	< 2	15	51	3	< 0.5	< 0.2	7	< 0.5	70.0	14	1.0	1.9	237	2	5.5	6	5.4	3.0	0.02	0.03	
354906	233	111	20	68	3	< 2	< 0.5	< 0.2	< 1	< 0.5	67.7	50	< 0.4	1.7	0.4	< 1	3.5	6	0.4	0.3	0.04	0.09	
354907	35	114	18	65	2	< 2	< 0.5	< 0.2	< 1	0.7	5.7	39	< 0.4	1.7	0.2	1	1.0	< 5	0.4	0.1	0.02	0.05	
354908	770	146	13	40	4	< 2	< 0.5	< 0.2	3	0.5	303	73	0.6	1.0	3.7	< 1	6.6	< 5	0.3	0.3	0.04	0.08	3.06
354909	82	139	15	44	1	< 2	< 0.5	< 0.2	< 1	1.3	13.9	52	0.7	1.2	< 0.1	< 1	1.5	< 5	0.3	0.2	0.07	0.15	
354910	< 2	6	< 2	21	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	106	< 0.4	0.4	< 0.1	11	0.4	< 5	0.6	0.2	< 0.01	< 0.01	
354911	1810	34	< 2	11	38	2	< 0.5	< 0.2	32	< 0.5	183	12	2.8	1.0	71.7	2	10.7	< 5	2.3	3.4	0.69	1.48	
354912	562	15	< 2	9	52	3	< 0.5	< 0.2	22	< 0.5	145	9	< 0.4	0.6	70.8	< 1	5.2	5	3.7	4.6	1.41	3.03	
354913	1870	28	< 2	5	27	3	< 0.5	< 0.2	27	< 0.5	290	13	0.8	0.4	56.8	2	16.0	< 5	1.3	1.8	1.33	2.86	
354914	4970	68	< 2	7	11	< 2	< 0.5	< 0.2	14	< 0.5	463	36	1.8	0.5	29.3	< 1	50.3	10	1.4	1.3	0.59	1.26	
354915	1840	25	< 2	7	37	3	< 0.5	< 0.2	35	< 0.5	225	6	11.4	0.5	75.3	3	15.3	< 5	3.1	1.7	0.81	1.74	
354916	2230	29	< 2	6	31	3	< 0.5	< 0.2	39	< 0.5	322	8	8.3	0.5	60.6	2	17.1	< 5	3.2	2.2	0.79	1.70	
354917	1710	27	< 2	< 4	16	3	< 0.5	< 0.2	72	< 0.5	312	11	14.1	0.3	60.0	1	14.4	< 5	1.0	1.3	1.84	3.95	
354918	678	15	< 2	6	13	2	< 0.5	< 0.2	25	< 0.5	251	12	1.6	0.5	69.4	1	4.0	< 5	1.4	1.7	2.65	5.70	3.16
354919	8150	107	< 2	< 4	10	< 2	< 0.5	< 0.2	3	< 0.5	736	57	0.8	< 0.2	26.2	2	87.6	15	1.4	0.6	0.02	0.04	

## Results

## Activation Laboratories Ltd.

Report: A17-05843

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
354920	2190	26	13	74	63	5	1.4	0.3	13	19.2	60.7	89	79.8	5.4	11.7	112	19.2	548	24.7	47.5	0.28	0.60	
354921	7960	105	< 2	5	6	< 2	< 0.5	< 0.2	3	< 0.5	566	56	< 0.4	0.4	29.5	< 1	87.3	16	1.4	0.4	0.02	0.05	
354922	4770	64	< 2	7	25	< 2	< 0.5	< 0.2	11	< 0.5	429	32	< 0.4	0.6	48.7	< 1	55.1	10	2.1	1.0	0.03	0.06	
354923	47	9	< 2	16	67	< 2	< 0.5	< 0.2	2	< 0.5	14.7	< 3	< 0.4	1.9	266	< 1	0.7	< 5	5.6	3.1	< 0.01	0.01	
354924	84	8	< 2	25	97	< 2	< 0.5	< 0.2	4	< 0.5	30.6	< 3	0.7	3.9	436	2	2.1	< 5	5.7	7.2	0.04	0.09	
354925	140	8	< 2	18	53	< 2	< 0.5	< 0.2	1	< 0.5	93.6	< 3	0.6	2.5	160	< 1	1.8	< 5	6.4	3.1	0.03	0.06	
354926	171	10	< 2	19	80	< 2	< 0.5	< 0.2	2	< 0.5	38.8	4	0.5	2.4	208	< 1	1.7	5	7.7	7.4	0.01	0.03	
354927	1810	29	< 2	14	72	< 2	< 0.5	< 0.2	17	< 0.5	267	7	0.5	2.0	441	3	14.3	7	10.0	12.0	0.05	0.10	
354928	7310	93	< 2	9	27	< 2	< 0.5	< 0.2	14	< 0.5	588	45	1.1	1.1	94.3	< 1	74.7	15	5.5	3.7	0.20	0.43	2.69
354929	3620	51	< 2	7	47	< 2	< 0.5	< 0.2	3	< 0.5	285	20	0.5	0.6	86.2	2	37.4	11	4.0	1.7	< 0.01	0.02	
354930	4	7	< 2	31	< 1	2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	90	< 0.4	0.7	< 0.1	38	3.3	< 5	0.4	0.2	< 0.01	< 0.01	
354931	196	121	21	67	3	< 2	< 0.5	< 0.2	1	1.5	109	70	< 0.4	1.7	0.2	1	3.3	< 5	0.4	0.3	0.08	0.16	
354932	177	80	21	68	3	2	< 0.5	< 0.2	2	1.7	86.8	139	0.6	1.8	0.5	3	2.5	6	0.5	0.3	0.04	0.09	
354933	12	111	17	45	2	< 2	< 0.5	< 0.2	< 1	< 0.5	2.6	22	< 0.4	1.1	0.1	< 1	0.8	< 5	0.3	0.1	0.05	0.11	
354934	523	125	16	46	2	< 2	< 0.5	< 0.2	2	< 0.5	167	39	< 0.4	1.2	0.5	15	5.1	< 5	0.3	0.3	0.09	0.20	
354935	941	31	< 2	20	93	< 2	< 0.5	< 0.2	17	< 0.5	104	9	< 0.4	2.1	169	2	6.1	< 5	7.0	10.2	0.02	0.04	
354936	860	38	< 2	23	106	< 2	< 0.5	< 0.2	15	< 0.5	64.6	9	< 0.4	2.7	196	2	5.7	6	8.2	11.4	0.02	0.03	
354937	526	87	17	50	2	2	< 0.5	< 0.2	2	< 0.5	187	55	< 0.4	1.1	0.3	< 1	5.7	< 5	0.3	0.4	0.07	0.16	
354938	28	84	17	46	2	< 2	< 0.5	< 0.2	< 1	< 0.5	19.0	21	< 0.4	1.1	< 0.1	< 1	1.1	< 5	0.3	< 0.1	0.09	0.19	3.13
354939	36	95	16	42	1	< 2	< 0.5	< 0.2	< 1	< 0.5	23.1	33	< 0.4	1.0	< 0.1	< 1	0.8	< 5	0.2	< 0.1	0.05	0.11	
354940	2150	26	12	80	61	6	1.8	0.3	13	17.8	60.7	90	43.3	5.3	11.5	106	14.0	465	24.9	47.9	0.27	0.58	
354941	378	98	15	40	1	< 2	< 0.5	< 0.2	2	1.1	238	57	0.6	1.0	< 0.1	< 1	4.7	< 5	0.2	0.9	0.10	0.21	
354942	5180	84	< 2	9	18	< 2	< 0.5	< 0.2	3	0.5	372	22	41.4	0.8	94.4	1	45.8	23	2.9	5.4	0.01	0.03	
354943	1810	94	16	46	2	< 2	< 0.5	< 0.2	6	2.4	855	62	1.6	1.1	1.6	3	22.2	14	0.3	1.0	0.26	0.55	
354944	481	16	< 2	8	45	< 2	< 0.5	< 0.2	23	< 0.5	146	9	0.8	0.8	106	1	5.7	10	4.5	6.8	1.88	4.05	
354945	1180	27	< 2	64	104	< 2	< 0.5	< 0.2	19	< 0.5	248	12	0.7	6.3	147	2	8.4	9	16.6	15.9	0.07	0.15	
354946	354	82	15	44	2	< 2	< 0.5	< 0.2	2	1.5	436	99	0.4	1.0	1.4	< 1	4.1	14	0.3	1.3	0.10	0.21	
354947	25	82	15	42	1	< 2	< 0.5	< 0.2	< 1	< 0.5	4.3	59	< 0.4	1.0	< 0.1	< 1	1.0	< 5	0.2	< 0.1	0.05	0.10	
354948	125	63	17	43	2	< 2	< 0.5	< 0.2	< 1	< 0.5	113	62	< 0.4	1.1	< 0.1	< 1	1.5	< 5	0.3	< 0.1	0.06	0.12	3.06
354949	261	58	18	44	2	< 2	< 0.5	< 0.2	1	0.7	202	65	0.4	1.2	< 0.1	< 1	2.8	< 5	0.2	0.1	0.07	0.16	
354950	2	8	2	28	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	119	< 0.4	0.5	0.2	< 1	0.4	< 5	1.2	0.2	< 0.01	< 0.01	
354951	1330	26	< 2	6	53	< 2	< 0.5	< 0.2	5	< 0.5	129	8	3.5	0.7	171	2	11.8	6	3.9	3.1	0.01	0.03	
354952	766	17	< 2	8	74	< 2	< 0.5	< 0.2	8	< 0.5	149	3	8.6	0.8	153	2	6.2	5	11.9	6.3	0.03	0.06	
354953	3070	45	< 2	9	77	< 2	< 0.5	< 0.2	20	< 0.5	332	15	2.9	1.0	208	1	28.4	7	4.3	3.0	0.04	0.09	
354954	4340	61	< 2	5	22	< 2	< 0.5	< 0.2	11	< 0.5	449	29	1.3	0.4	72.3	< 1	46.9	10	2.3	1.3	0.60	1.30	
354955	4260	55	< 2	7	23	< 2	< 0.5	< 0.2	24	< 0.5	478	27	0.9	0.5	61.8	2	42.5	8	1.2	1.4	0.74	1.60	
354956	5020	64	< 2	5	38	< 2	< 0.5	< 0.2	29	< 0.5	552	31	0.6	0.4	110	2	49.7	8	1.2	1.2	0.64	1.38	
354957	3560	42	< 2	7	29	3	< 0.5	< 0.2	46	< 0.5	423	19	2.1	0.7	44.2	3	32.3	< 5	1.0	0.7	0.88	1.90	
354958	2430	30	< 2	< 4	20	3	< 0.5	< 0.2	24	< 0.5	547	8	0.7	< 0.2	30.3	2	23.4	< 5	1.1	0.6	0.11	0.24	2.73
354959	7670	98	< 2	5	22	< 2	< 0.5	< 0.2	13	< 0.5	649	53	0.5	0.5	136	2	81.5	13	1.4	0.7	0.17	0.37	
354960	2190	25	13	72	63	7	1.7	0.3	12	16.9	61.1	87	33.0	5.1	11.5	113	19.2	482	24.7	49.3	0.27	0.59	

## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
354961	7610	92	< 2	< 4	9	< 2	< 0.5	< 0.2	14	< 0.5	606	21	0.7	< 0.2	37.4	< 1	78.3	12	2.0	0.6	0.52	1.13	
354962	3780	50	< 2	< 4	10	3	< 0.5	< 0.2	32	< 0.5	360	14	0.6	0.4	40.7	3	43.9	6	1.1	0.7	1.81	3.89	
354963	2040	26	< 2	4	29	< 2	< 0.5	< 0.2	30	< 0.5	246	8	2.1	0.4	74.4	1	20.7	< 5	0.8	1.5	1.08	2.32	
354964	3270	40	< 2	5	15	3	< 0.5	< 0.2	28	< 0.5	333	12	1.2	0.5	51.3	1	32.9	5	1.1	1.4	0.94	2.03	
354965	2770	34	< 2	6	47	3	< 0.5	< 0.2	66	< 0.5	319	11	4.8	0.4	63.9	3	22.1	< 5	2.5	1.8	0.84	1.80	
354966	2720	36	< 2	10	24	3	< 0.5	< 0.2	27	< 0.5	355	20	0.6	0.8	47.3	2	26.8	5	2.9	1.3	0.66	1.43	
354967	1590	22	< 2	6	103	3	< 0.5	< 0.2	39	< 0.5	239	9	< 0.4	0.5	156	3	14.0	< 5	2.5	3.0	1.52	3.27	
354968	1830	27	< 2	6	68	3	< 0.5	< 0.2	31	< 0.5	230	13	0.4	0.8	132	16	16.4	< 5	2.0	1.6	1.33	2.87	2.90
354969	3390	49	< 2	7	42	< 2	< 0.5	< 0.2	18	< 0.5	466	32	1.3	0.7	187	1	34.0	7	3.4	1.8	0.78	1.68	
354970	5	12	< 2	86	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	189	< 0.4	1.7	< 0.1	< 1	2.8	< 5	0.8	0.3	< 0.01	< 0.01	
354971	2140	31	< 2	15	74	< 2	< 0.5	< 0.2	37	0.5	378	36	1.0	1.7	197	2	15.4	< 5	7.4	2.5	1.77	3.81	
354972	1820	29	< 2	9	39	< 2	< 0.5	< 0.2	19	< 0.5	239	38	1.1	0.8	106	2	16.3	5	4.8	2.0	0.50	1.07	
354973	214	123	15	45	2	< 2	< 0.5	< 0.2	< 1	1.2	238	78	0.5	1.1	0.2	< 1	4.1	< 5	0.3	0.1	0.07	0.16	
354974	36	113	16	45	2	< 2	< 0.5	< 0.2	< 1	0.9	20.0	67	< 0.4	1.1	< 0.1	< 1	1.4	< 5	0.2	< 0.1	0.03	0.06	
354975	12	91	15	43	2	< 2	< 0.5	< 0.2	< 1	0.6	3.2	45	< 0.4	1.0	0.1	< 1	0.3	< 5	0.3	< 0.1	0.02	0.04	
354976	201	89	15	45	2	< 2	< 0.5	< 0.2	2	0.6	103	64	< 0.4	1.1	0.2	8	1.8	< 5	0.3	0.2	0.10	0.21	
354977	2200	37	< 2	25	109	< 2	< 0.5	< 0.2	25	< 0.5	264	18	1.1	2.8	163	2	16.5	7	14.0	2.0	0.11	0.23	
354978	2060	39	< 2	25	121	< 2	< 0.5	< 0.2	24	< 0.5	278	16	1.1	2.9	173	3	17.9	6	11.6	2.1	0.05	0.11	2.66
354979	2180	32	< 2	16	162	< 2	< 0.5	< 0.2	16	< 0.5	363	16	0.4	1.9	313	2	21.4	13	8.8	3.6	0.82	1.76	
354980	2160	25	13	74	64	5	2.2	0.3	12	17.8	62.2	88	31.8	5.1	12.1	106	16.1	467	24.1	47.0	0.27	0.58	
354981	2580	55	4	18	37	2	0.5	< 0.2	28	0.7	589	38	0.5	0.9	78.9	4	24.2	< 5	2.0	2.4	0.12	0.25	
354982	772	101	15	49	2	< 2	< 0.5	< 0.2	9	1.4	202	76	0.9	1.1	0.5	24	8.5	< 5	0.3	0.2	0.11	0.23	
354983	250	88	15	47	2	3	< 0.5	< 0.2	1	1.7	27.4	96	1.1	1.2	0.2	< 1	3.6	< 5	0.3	0.2	0.04	0.09	
354984	161	104	22	77	3	< 2	< 0.5	< 0.2	1	0.9	109	81	1.2	1.8	0.3	1	2.7	< 5	0.5	1.4	0.05	0.11	
354985	2620	125	18	59	7	2	< 0.5	< 0.2	10	0.8	1370	118	0.7	1.4	28.4	3	25.8	< 5	0.8	2.1	0.14	0.30	
354986	2440	40	< 2	10	27	< 2	< 0.5	< 0.2	24	< 0.5	501	21	1.4	0.9	182	3	23.2	6	2.9	3.1	1.08	2.33	
354987	1180	20	< 2	22	95	< 2	< 0.5	< 0.2	20	< 0.5	336	5	1.1	2.7	236	2	10.1	8	8.2	11.7	0.90	1.93	
354988	1180	22	< 2	16	49	< 2	< 0.5	< 0.2	18	< 0.5	258	13	2.4	1.7	202	2	9.9	< 5	3.6	3.3	0.57	1.22	2.80
354989	1170	106	7	156	7	< 2	0.6	< 0.2	3	< 0.5	294	746	< 0.4	3.1	1.8	1	12.0	10	3.5	2.7	0.08	0.17	
354990	4	29	< 2	40	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.8	223	< 0.4	0.8	0.1	2	1.5	< 5	0.4	0.2	< 0.01	< 0.01	
354991	358	94	6	142	6	< 2	0.6	< 0.2	1	< 0.5	143	518	0.5	2.9	0.8	< 1	3.5	14	3.3	1.0	0.07	0.14	
354992	442	39	14	43	5	< 2	< 0.5	< 0.2	10	1.7	446	137	2.4	1.0	8.0	1	4.8	< 5	0.3	0.2	0.16	0.35	
354993	364	32	15	39	2	< 2	< 0.5	< 0.2	6	2.5	394	207	4.2	1.0	0.1	67	4.7	9	0.2	0.1	0.07	0.15	
354994	333	17	< 2	14	78	< 2	< 0.5	< 0.2	7	< 0.5	101	9	0.4	1.6	265	1	2.8	8	5.4	3.0	0.02	0.03	
354995	221	97	16	47	2	2	< 0.5	< 0.2	5	0.9	92.4	63	1.4	1.0	1.1	< 1	2.7	< 5	0.2	0.3	0.10	0.22	
354996	191	97	15	46	2	2	< 0.5	< 0.2	5	0.8	75.1	59	1.6	1.1	1.1	3	2.4	< 5	0.3	0.4	0.09	0.20	
354997	877	149	15	46	3	4	< 0.5	< 0.2	7	1.6	490	93	2.5	1.0	2.1	5	8.1	< 5	0.3	0.2	0.10	0.22	
354998	5340	82	< 2	7	16	< 2	< 0.5	< 0.2	11	< 0.5	666	59	0.4	0.6	84.0	< 1	55.7	14	1.3	1.7	0.09	0.20	2.71
354999	3060	51	< 2	8	56	< 2	< 0.5	< 0.2	4	< 0.5	360	23	< 0.4	0.7	125	2	35.9	10	4.5	4.6	0.10	0.21	
355000	2150	24	12	77	63	5	2.0	0.3	12	17.2	62.6	87	41.2	5.2	11.7	107	17.6	463	24.2	46.8	0.27	0.58	
355001	892	18	< 2	8	61	< 2	< 0.5	< 0.2	20	0.5	166	4	1.6	0.7	108	2	7.9	5	4.8	8.8	0.96	2.06	

## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
355002	883	15	< 2	9	39	< 2	< 0.5	< 0.2	26	< 0.5	191	6	6.2	0.6	77.1	1	7.3	< 5	2.9	4.2	1.34	2.89	
355003	1210	22	< 2	13	61	< 2	< 0.5	< 0.2	28	0.8	172	7	0.9	1.4	117	2	9.2	6	5.1	8.6	0.78	1.69	
355004	1310	30	< 2	4	27	< 2	< 0.5	< 0.2	16	1.1	177	12	9.3	0.2	54.8	1	12.5	9	1.2	3.3	0.34	0.74	
355005	1970	33	< 2	< 4	19	< 2	< 0.5	< 0.2	26	< 0.5	217	12	< 0.4	< 0.2	53.9	< 1	20.9	< 5	0.9	1.6	0.96	2.06	
355006	2100	30	< 2	9	32	< 2	< 0.5	< 0.2	25	< 0.5	276	13	< 0.4	0.9	79.8	5	20.7	7	3.2	4.5	1.08	2.31	
355007	1580	24	< 2	33	54	< 2	< 0.5	< 0.2	21	< 0.5	217	38	< 0.4	3.7	148	2	15.1	9	7.4	3.0	1.03	2.22	
355008	631	12	< 2	13	53	2	< 0.5	< 0.2	12	< 0.5	122	7	1.5	1.3	119	2	5.5	8	3.9	3.9	0.77	1.66	2.83
355009	917	27	< 2	10	42	< 2	< 0.5	< 0.2	15	< 0.5	172	13	3.7	0.9	95.5	1	7.5	12	3.8	3.0	0.12	0.25	
355010	5	13	< 2	65	< 1	4	< 0.5	< 0.2	< 1	< 0.5	0.7	230	< 0.4	1.2	0.2	< 1	1.1	5	0.6	0.3	< 0.01	< 0.01	
355011	1200	85	14	42	2	< 2	< 0.5	< 0.2	2	4.3	1380	27	1.2	1.0	0.5	1	11.6	17	0.3	0.5	0.21	0.45	
355012	60	73	18	42	2	< 2	< 0.5	< 0.2	< 1	1.4	72.0	29	0.7	0.9	0.1	2	2.0	< 5	0.2	< 0.1	0.02	0.05	
355013	24	100	16	44	1	< 2	< 0.5	< 0.2	< 1	1.2	3.8	81	0.4	1.0	0.1	< 1	0.9	< 5	0.2	< 0.1	0.02	0.05	
355014	64	78	13	33	1	< 2	< 0.5	< 0.2	2	2.1	35.7	43	1.3	0.8	0.3	3	1.1	< 5	0.2	0.2	0.02	0.05	
355015	1830	34	< 2	27	35	< 2	< 0.5	< 0.2	15	< 0.5	280	18	0.5	3.4	179	1	15.7	11	4.3	4.9	0.31	0.67	
355016	1870	37	< 2	26	35	< 2	< 0.5	< 0.2	14	< 0.5	281	20	0.8	3.3	187	2	19.2	11	3.0	4.3	0.24	0.52	
355017	3810	54	< 2	17	49	< 2	< 0.5	< 0.2	26	< 0.5	467	15	< 0.4	1.9	312	2	38.5	8	3.0	3.7	0.25	0.53	
355018	3400	48	< 2	16	59	< 2	< 0.5	< 0.2	26	0.5	500	12	0.4	2.3	338	6	36.4	20	8.4	16.2	1.41	3.04	2.90
355019	1050	21	< 2	7	25	2	< 0.5	< 0.2	20	< 0.5	296	11	< 0.4	0.9	96.7	< 1	11.2	< 5	3.0	2.6	1.59	3.42	
355020	2110	24	13	77	67	5	2.1	0.3	13	18.4	62.1	88	53.9	5.1	11.7	101	16.0	466	24.2	46.6	0.28	0.61	
355021	1220	24	< 2	20	32	< 2	< 0.5	< 0.2	12	< 0.5	263	< 3	0.4	2.3	119	2	12.2	10	3.6	3.5	0.84	1.81	
355022	1050	22	< 2	39	36	< 2	< 0.5	< 0.2	17	< 0.5	220	20	0.9	4.5	123	1	9.0	10	10.6	6.0	0.70	1.50	
355023	35	115	14	42	3	< 2	< 0.5	< 0.2	3	0.7	13.0	46	0.7	1.0	0.9	< 1	0.5	< 5	0.3	0.1	0.04	0.09	
355024	18	134	16	45	2	< 2	< 0.5	< 0.2	< 1	0.5	3.7	46	0.5	1.1	0.3	< 1	0.3	< 5	0.3	< 0.1	0.02	0.04	
355025	14	100	15	41	1	< 2	< 0.5	< 0.2	< 1	< 0.5	5.9	43	< 0.4	1.0	0.2	< 1	0.3	< 5	0.2	< 0.1	0.04	0.08	
355026	24	110	15	41	2	< 2	< 0.5	< 0.2	< 1	< 0.5	8.9	50	< 0.4	0.9	0.2	< 1	0.3	< 5	0.2	0.1	0.05	0.11	
355027	183	110	14	40	2	< 2	< 0.5	< 0.2	2	1.1	120	64	0.9	0.9	0.2	3	1.8	< 5	0.3	0.5	0.08	0.17	
355028	4660	68	< 2	7	29	< 2	< 0.5	< 0.2	12	< 0.5	474	28	5.8	0.4	69.9	1	47.9	11	3.1	1.3	0.12	0.26	2.71
355029	13200	156	< 2	< 4	3	< 2	< 0.5	< 0.2	2	< 0.5	1060	25	1.4	< 0.2	19.6	< 1	158	18	0.4	0.3	0.01	0.02	
355030	7	9	< 2	24	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.7	144	< 0.4	0.5	0.2	< 1	5.9	< 5	0.4	0.2	< 0.01	< 0.01	
355031	8740	109	< 2	< 4	4	< 2	< 0.5	< 0.2	19	3.3	817	20	47.5	< 0.2	33.5	< 1	106	18	20.7	0.8	0.56	1.21	
355032	334	6	< 2	< 4	< 1	3	< 0.5	< 0.2	26	< 0.5	120	10	7.0	0.4	7.5	< 1	2.9	< 5	0.1	0.4	2.02	4.36	
355033	106	3	< 2	< 4	< 1	3	< 0.5	< 0.2	8	< 0.5	44.1	4	< 0.4	< 0.2	2.4	1	2.6	< 5	< 0.1	0.2	0.95	2.04	
355034	223	4	< 2	5	< 1	3	< 0.5	< 0.2	16	< 0.5	58.0	3	0.7	< 0.2	0.6	< 1	2.5	< 5	< 0.1	0.1	1.01	2.17	
355035	158	3	< 2	< 4	< 1	3	< 0.5	< 0.2	9	< 0.5	48.7	4	0.4	< 0.2	2.6	< 1	1.9	< 5	0.1	0.4	0.67	1.44	
355036	53	< 2	< 2	< 4	< 1	4	< 0.5	< 0.2	5	< 0.5	27.9	3	< 0.4	< 0.2	1.1	< 1	0.9	< 5	< 0.1	0.2	0.41	0.88	
355037	1110	18	< 2	< 4	4	3	< 0.5	< 0.2	16	0.6	431	8	5.3	0.3	63.9	< 1	8.4	< 5	0.9	1.1	0.75	1.62	
355038	1740	24	< 2	< 4	6	2	< 0.5	< 0.2	26	< 0.5	401	9	0.8	0.2	56.6	< 1	12.9	< 5	0.3	3.3	0.99	2.13	2.82
355039	700	26	< 2	20	117	< 2	< 0.5	< 0.2	10	0.5	409	33	5.1	2.2	259	3	6.4	13	12.8	11.5	0.10	0.21	
355040	2160	24	13	69	69	6	2.1	0.3	12	17.9	63.6	86	32.0	4.8	11.9	112	15.2	500	24.5	45.6	0.27	0.57	
355041	646	24	< 2	22	85	2	< 0.5	< 0.2	10	< 0.5	166	7	1.2	2.0	149	2	6.1	9	13.9	6.7	0.52	1.11	
355042	522	19	< 2	29	106	< 2	< 0.5	< 0.2	7	< 0.5	224	< 3	0.6	3.4	267	1	4.8	7	14.0	8.5	0.03	0.06	

## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
355043	373	17	< 2	17	72	< 2	< 0.5	< 0.2	5	< 0.5	89.8	< 3	1.0	1.9	273	2	3.1	6	6.1	4.2	0.01	0.03	
355044	167	13	< 2	12	50	< 2	< 0.5	< 0.2	3	< 0.5	40.6	< 3	0.8	1.3	180	1	1.7	< 5	6.3	3.6	< 0.01	0.02	
355045	1290	45	< 2	14	52	< 2	< 0.5	< 0.2	18	< 0.5	182	3	0.9	1.4	169	2	9.0	5	4.9	10.5	0.03	0.07	
355046	1420	38	< 2	11	54	< 2	< 0.5	< 0.2	20	< 0.5	149	4	1.0	1.4	206	2	10.2	10	5.9	7.3	0.03	0.06	
355047	2620	83	15	46	2	< 2	< 0.5	< 0.2	3	2.3	4530	68	0.7	1.1	0.5	2	22.8	103	0.3	0.7	0.51	1.11	
355048	163	73	17	48	4	< 2	< 0.5	< 0.2	1	2.2	97.1	43	1.1	1.1	4.8	< 1	3.2	< 5	0.3	0.4	0.06	0.13	3.23
355049	23	115	17	48	2	< 2	< 0.5	< 0.2	< 1	0.7	4.3	50	0.5	1.0	0.2	< 1	1.1	< 5	0.3	< 0.1	0.02	0.05	
355050	3	9	< 2	28	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.0	144	< 0.4	0.5	0.1	2	0.4	< 5	0.4	0.2	< 0.01	< 0.01	
355051	110	130	17	45	3	< 2	< 0.5	< 0.2	3	0.5	46.8	135	1.4	1.0	2.7	3	1.2	< 5	0.3	1.0	0.06	0.14	
355052	2710	45	< 2	8	49	< 2	< 0.5	< 0.2	4	< 0.5	263	17	< 0.4	0.7	143	< 1	24.7	10	3.1	2.2	< 0.01	0.02	
355053	36	98	15	49	2	< 2	< 0.5	< 0.2	< 1	< 0.5	7.0	45	0.5	1.1	0.3	< 1	2.2	< 5	0.3	0.2	0.06	0.13	
355054	245	97	13	40	1	< 2	< 0.5	< 0.2	< 1	0.6	124	290	1.3	0.9	0.2	< 1	2.7	5	0.2	< 0.1	0.05	0.11	
355055	27	83	14	45	2	< 2	< 0.5	< 0.2	< 1	< 0.5	19.0	124	< 0.4	1.1	0.2	1	0.8	< 5	0.3	< 0.1	0.07	0.15	
355056	23	82	15	44	2	< 2	< 0.5	< 0.2	< 1	< 0.5	15.7	116	< 0.4	1.0	0.1	< 1	0.4	< 5	0.2	< 0.1	0.08	0.16	
355057	262	87	16	49	2	< 2	< 0.5	< 0.2	6	< 0.5	143	88	< 0.4	1.1	0.2	2	2.5	12	0.3	< 0.1	0.10	0.22	
355058	964	20	< 2	17	75	< 2	< 0.5	< 0.2	20	< 0.5	108	10	0.5	1.5	152	2	6.4	8	8.1	1.6	0.04	0.09	2.69
355059	39	9	< 2	16	105	< 2	< 0.5	< 0.2	< 1	< 0.5	19.3	< 3	< 0.4	1.8	239	< 1	1.0	5	6.4	3.4	< 0.01	< 0.01	
355060	2180	25	13	77	67	5	1.9	0.3	12	17.9	64.2	87	38.6	5.3	11.5	105	14.1	490	25.1	48.9	0.28	0.59	
355061	1080	20	< 2	23	108	< 2	< 0.5	< 0.2	17	< 0.5	159	5	0.4	2.1	164	4	8.3	< 5	7.5	1.9	0.06	0.12	
355062	321	13	< 2	8	38	< 2	< 0.5	< 0.2	5	< 0.5	71.1	< 3	0.6	0.6	83.7	< 1	3.3	< 5	5.5	2.5	0.09	0.19	
355063	431	14	< 2	13	45	< 2	< 0.5	< 0.2	6	< 0.5	85.8	3	0.4	1.3	103	< 1	3.2	< 5	5.1	4.0	0.10	0.21	
355064	781	21	< 2	9	43	< 2	< 0.5	< 0.2	11	< 0.5	160	8	1.1	1.0	121	1	6.0	6	4.4	5.2	0.24	0.51	
355065	5380	70	< 2	5	36	< 2	< 0.5	< 0.2	11	< 0.5	562	52	0.4	0.4	53.3	3	56.6	14	2.6	7.8	0.31	0.66	
355066	957	24	< 2	10	111	< 2	< 0.5	< 0.2	23	< 0.5	371	41	0.4	1.1	145	2	9.5	9	9.9	14.8	1.34	2.89	
355067	1200	19	< 2	22	139	2	< 0.5	< 0.2	24	< 0.5	249	12	< 0.4	2.0	203	2	9.4	9	12.7	10.1	0.56	1.21	
355068	6710	90	< 2	16	38	< 2	< 0.5	< 0.2	8	< 0.5	633	39	< 0.4	1.4	90.5	< 1	75.4	15	5.3	1.9	0.02	0.05	2.67
355069	7160	97	< 2	< 4	8	< 2	< 0.5	< 0.2	2	< 0.5	545	46	< 0.4	< 0.2	31.2	< 1	81.3	15	1.2	0.6	0.01	0.03	
355070	5	10	< 2	39	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.6	136	< 0.4	0.7	0.2	1	4.0	< 5	0.5	0.2	< 0.01	< 0.01	
355071	959	16	< 2	7	26	2	1.0	< 0.2	24	< 0.5	156	11	0.8	0.6	77.0	2	7.6	< 5	2.6	1.4	1.77	3.82	
355072	4580	61	< 2	15	42	< 2	1.0	< 0.2	18	< 0.5	537	40	0.9	1.8	163	2	45.2	13	6.3	2.7	0.95	2.04	
355073	2890	42	< 2	14	73	< 2	1.0	< 0.2	29	< 0.5	339	18	1.0	1.2	98.5	3	27.3	7	3.6	1.5	0.40	0.87	
355074	2420	37	< 2	10	67	< 2	0.8	< 0.2	10	< 0.5	200	15	< 0.4	1.4	273	5	24.9	7	4.2	2.9	0.03	0.06	
355075	2210	32	< 2	9	32	< 2	0.7	< 0.2	8	< 0.5	238	13	0.5	0.9	94.9	1	22.7	7	3.6	2.4	0.48	1.04	
355076	2640	37	< 2	13	37	< 2	0.6	< 0.2	8	< 0.5	295	16	0.4	1.4	94.0	1	28.1	9	3.5	2.9	0.42	0.91	
355077	1900	34	< 2	7	25	< 2	0.6	< 0.2	4	< 0.5	200	12	< 0.4	0.5	68.1	1	20.8	6	2.7	1.4	0.04	0.10	
355078	106	91	16	43	< 1	< 2	0.8	< 0.2	< 1	< 0.5	91.2	40	< 0.4	1.1	0.3	< 1	3.6	< 5	0.3	< 0.1	0.06	0.14	3.11
355079	14	88	17	44	< 1	< 2	0.8	< 0.2	< 1	< 0.5	1.9	32	< 0.4	1.1	0.3	2	1.5	< 5	0.3	< 0.1	0.02	0.04	
355080	2350	25	13	68	65	5	2.6	0.3	13	18.8	67.1	89	54.5	5.1	11.4	114	14.7	534	25.9	48.9	0.27	0.57	
355081	256	86	16	45	2	< 2	1.0	< 0.2	2	0.9	84.2	52	0.4	1.1	1.8	3	4.3	< 5	0.3	0.2	0.05	0.11	
355082	3360	98	14	45	9	< 2	0.9	< 0.2	7	1.1	2670	44	1.9	1.5	23.6	6	39.7	< 5	2.4	7.4	0.26	0.57	
355083	2450	40	< 2	16	73	< 2	0.7	< 0.2	31	< 0.5	486	25	1.2	2.2	232	4	19.5	10	10.0	8.1	0.82	1.77	

## Results

## Activation Laboratories Ltd.

Report: A17-05843

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
355084	1800	30	< 2	10	49	< 2	0.6	< 0.2	13	< 0.5	322	8	0.4	1.1	148	4	16.7	6	2.7	3.2	0.04	0.10	
355085	1710	29	< 2	16	74	< 2	< 0.5	< 0.2	24	< 0.5	358	14	0.9	2.4	212	2	13.1	6	6.6	5.5	0.72	1.54	
355086	1670	53	2	25	81	< 2	0.5	< 0.2	48	< 0.5	493	325	10.7	3.6	313	2	11.2	12	11.8	16.5	1.25	2.69	
355087	981	121	4	60	64	< 2	0.6	< 0.2	19	< 0.5	277	258	3.9	3.4	579	2	8.6	11	9.8	6.7	0.97	2.09	
355088	2470	42	< 2	10	34	< 2	< 0.5	< 0.2	17	< 0.5	501	140	2.7	0.9	117	2	22.1	6	3.2	2.3	0.31	0.67	2.78
355089	933	21	< 2	13	22	< 2	< 0.5	< 0.2	9	< 0.5	135	27	< 0.4	1.6	85.5	2	8.5	< 5	2.6	1.6	0.07	0.14	
355090	< 2	7	< 2	32	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.7	73	< 0.4	0.6	0.2	< 1	1.3	< 5	0.6	0.1	< 0.01	< 0.01	
355091	1290	97	20	99	3	< 2	0.7	< 0.2	3	1.4	2130	166	0.8	2.3	0.7	2	13.3	< 5	1.2	1.6	0.11	0.23	
355092	234	91	19	103	3	< 2	0.6	< 0.2	< 1	< 0.5	149	180	< 0.4	2.4	0.5	3	3.4	9	1.5	0.5	0.08	0.17	
355093	25	129	17	45	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	10.3	62	< 0.4	1.0	0.2	< 1	1.1	< 5	0.3	< 0.1	0.02	0.03	
355094	63	113	17	41	2	< 2	1.6	< 0.2	1	< 0.5	14.1	71	< 0.4	1.1	0.2	5	0.7	< 5	0.3	0.1	0.06	0.13	
355095	2900	40	3	18	72	< 2	< 0.5	< 0.2	55	< 0.5	310	51	2.3	1.8	86.4	4	18.7	< 5	8.6	2.4	0.94	2.03	
355096	2680	37	< 2	12	49	< 2	< 0.5	< 0.2	45	< 0.5	484	48	3.4	0.9	92.1	3	18.1	< 5	6.7	2.0	0.76	1.63	
355097	2120	30	< 2	13	37	2	< 0.5	< 0.2	29	< 0.5	335	28	3.8	1.1	116	2	17.3	< 5	6.3	2.5	1.03	2.21	
355098	1960	49	< 2	14	98	< 2	< 0.5	< 0.2	29	< 0.5	209	98	14.7	1.5	226	2	14.0	< 5	10.4	9.8	0.73	1.58	2.85
355099	1590	52	< 2	7	52	< 2	< 0.5	< 0.2	31	< 0.5	131	230	5.8	0.6	122	2	10.8	< 5	6.2	7.2	0.04	0.10	
355100	2290	26	14	76	63	5	2.0	0.3	12	16.3	65.1	85	37.8	5.7	10.9	111	15.4	483	25.3	46.8	0.27	0.58	
355101	37	157	24	109	6	< 2	0.9	< 0.2	2	< 0.5	17.1	123	0.6	2.7	1.7	3	2.3	< 5	2.2	2.7	0.03	0.06	
355102	1600	71	< 2	24	94	< 2	< 0.5	< 0.2	27	< 0.5	282	250	2.8	2.2	135	3	9.5	9	13.8	9.1	0.78	1.69	
355103	150	105	16	61	9	< 2	0.5	< 0.2	11	0.7	54.3	38	4.4	1.6	27.4	1	2.3	< 5	1.2	1.6	0.07	0.15	
355104	162	92	20	70	3	< 2	0.5	< 0.2	2	< 0.5	62.9	97	1.5	1.7	3.9	2	1.9	< 5	0.5	0.3	0.06	0.12	
355105	152	103	21	70	2	< 2	< 0.5	< 0.2	< 1	0.5	120	96	1.1	1.7	1.6	< 1	1.7	< 5	0.5	0.2	0.10	0.21	
355106	244	108	20	65	2	< 2	< 0.5	< 0.2	1	< 0.5	58.4	55	1.7	1.4	0.8	< 1	2.6	< 5	0.4	1.1	0.05	0.11	
355107	770	29	5	31	150	< 2	< 0.5	< 0.2	11	< 0.5	116	79	7.6	3.1	331	7	5.0	9	15.4	6.5	0.20	0.43	
355108	114	97	21	71	2	< 2	< 0.5	< 0.2	< 1	< 0.5	15.5	73	< 0.4	1.8	0.6	< 1	1.3	< 5	0.5	0.4	0.25	0.53	2.99
355109	120	101	20	66	2	< 2	< 0.5	< 0.2	< 1	< 0.5	14.6	74	< 0.4	1.6	1.0	< 1	1.0	< 5	0.5	0.2	0.16	0.35	
355110	< 2	8	3	35	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	104	< 0.4	0.7	0.1	< 1	0.2	< 5	0.3	0.2	< 0.01	< 0.01	
355111	24	106	16	44	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	4.6	56	< 0.4	1.0	0.2	10	0.4	< 5	0.3	0.1	0.05	0.10	
355112	923	116	16	48	< 1	< 2	< 0.5	< 0.2	2	< 0.5	913	28	0.5	1.1	0.2	41	10.1	< 5	0.3	0.7	0.19	0.41	
355113	3530	49	< 2	9	83	2	< 0.5	< 0.2	33	< 0.5	387	15	3.2	0.7	116	3	29.9	6	7.5	2.1	1.10	2.37	
355114	2280	29	< 2	5	16	3	< 0.5	< 0.2	36	< 0.5	272	23	3.4	0.4	55.9	2	19.9	< 5	1.7	2.5	1.70	3.65	
355115	3340	42	< 2	< 4	17	2	< 0.5	< 0.2	44	< 0.5	285	12	3.0	< 0.2	33.7	6	33.7	6	1.6	1.4	2.62	5.64	
355116	3900	48	< 2	4	21	< 2	< 0.5	< 0.2	47	< 0.5	308	14	2.0	0.2	44.3	< 1	39.2	6	1.2	1.3	1.95	4.19	
355117	8450	101	< 2	6	91	< 2	< 0.5	< 0.2	20	0.6	628	25	9.5	0.3	156	2	89.9	16	4.4	3.7	0.37	0.79	
355118	8620	101	< 2	< 4	2	< 2	< 0.5	< 0.2	25	< 0.5	684	17	3.7	< 0.2	12.1	< 1	94.3	16	2.1	1.6	0.73	1.58	2.75
355119	10700	128	< 2	< 4	7	< 2	0.5	< 0.2	12	< 0.5	628	21	0.4	< 0.2	26.8	< 1	116	15	0.3	0.7	0.42	0.89	
355120	2220	24	14	72	70	6	3.2	0.3	12	16.8	63.8	86	30.0	5.5	11.4	116	21.2	494	24.7	45.9	0.27	0.58	
355121	7540	88	< 2	7	19	< 2	0.7	< 0.2	11	< 0.5	591	18	1.5	0.8	117	2	84.8	12	6.5	2.1	0.29	0.63	
355122	12500	139	< 2	< 4	6	< 2	< 0.5	< 0.2	6	0.7	1080	23	11.7	< 0.2	35.5	< 1	152	18	0.2	0.8	0.02	0.05	
355123	5900	70	< 2	< 4	11	3	< 0.5	< 0.2	10	0.6	415	23	3.0	0.3	86.7	2	72.2	15	0.7	0.7	0.84	1.82	
355124	5120	59	< 2	< 4	4	3	< 0.5	< 0.2	13	1.2	497	14	14.5	< 0.2	21.4	2	66.4	11	0.1	0.9	0.95	2.04	

## Results

## Activation Laboratories Ltd.

## Report: A17-05843

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
355125	4540	54	< 2	6	18	4	< 0.5	< 0.2	29	0.9	471	14	7.6	0.7	75.6	7	52.2	10	4.1	3.2	0.85	1.82	
355126	915	19	< 2	25	89	< 2	< 0.5	< 0.2	15	2.2	158	12	2.4	2.9	201	3	12.3	10	13.5	19.6	0.60	1.29	
355127	612	20	< 2	47	147	< 2	< 0.5	< 0.2	9	1.5	149	11	0.7	5.3	245	2	7.3	13	27.0	32.1	0.83	1.80	
355128	1320	23	< 2	19	111	2	< 0.5	< 0.2	32	0.6	205	23	2.1	1.9	209	3	10.8	9	12.3	4.2	2.12	4.57	3.05
355129	3140	40	< 2	11	121	3	< 0.5	< 0.2	51	< 0.5	399	62	1.2	1.2	304	5	22.3	7	13.7	2.9	0.98	2.11	
355130	9	6	2	34	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.3	104	< 0.4	0.7	0.5	< 1	2.6	< 5	0.4	0.2	< 0.01	< 0.01	
355131	1610	28	< 2	36	325	2	< 0.5	< 0.2	26	< 0.5	285	28	0.7	3.9	488	4	11.7	20	38.6	21.4	0.67	1.45	
355132	1050	21	< 2	21	110	< 2	< 0.5	< 0.2	21	< 0.5	149	6	< 0.4	2.3	235	3	8.6	18	16.7	19.4	1.02	2.19	
355133	699	18	< 2	30	146	< 2	< 0.5	< 0.2	11	< 0.5	151	8	< 0.4	3.2	217	2	6.4	17	16.5	20.6	0.95	2.03	
355134	1280	19	< 2	16	21	3	< 0.5	< 0.2	23	< 0.5	162	7	1.2	1.7	79.9	6	9.6	< 5	2.9	4.2	0.85	1.82	
355135	690	18	< 2	8	33	< 2	< 0.5	< 0.2	10	< 0.5	121	25	1.0	0.8	87.1	4	5.9	7	4.5	2.5	0.36	0.78	
355136	723	18	< 2	8	22	2	< 0.5	< 0.2	10	< 0.5	163	26	0.5	0.6	56.1	< 1	5.9	7	3.7	2.2	0.34	0.72	
355137	133	91	15	44	2	< 2	< 0.5	< 0.2	< 1	0.9	58.9	69	0.5	1.1	1.0	< 1	2.1	9	0.2	0.1	0.08	0.17	
355138	58	94	14	43	2	< 2	< 0.5	< 0.2	< 1	1.2	23.9	61	0.7	1.1	0.5	2	1.2	5	0.2	0.7	0.05	0.10	3.08
355139	99	92	18	45	2	< 2	< 0.5	< 0.2	1	< 0.5	86.1	130	< 0.4	1.1	0.2	41	1.3	< 5	0.2	0.1	0.03	0.06	
355140	2320	25	13	76	66	6	2.1	0.3	12	18.1	66.3	88	45.4	5.6	12.6	109	14.7	542	26.3	50.8	0.27	0.58	
355141	502	93	16	44	3	< 2	0.6	< 0.2	3	< 0.5	156	157	0.5	1.2	12.6	2	6.1	5	0.4	0.4	0.06	0.13	
355142	4630	56	< 2	9	26	2	< 0.5	< 0.2	23	< 0.5	570	36	0.5	0.7	64.5	3	45.3	7	3.1	1.0	0.52	1.12	
355143	3320	45	< 2	7	30	< 2	< 0.5	< 0.2	8	< 0.5	333	30	0.6	0.7	108	2	35.9	9	4.3	2.8	0.03	0.05	
355144	986	24	< 2	14	84	3	< 0.5	< 0.2	28	< 0.5	182	17	0.4	1.2	112	2	10.5	7	5.8	5.8	1.04	2.23	
355145	2710	34	< 2	5	68	3	< 0.5	< 0.2	55	< 0.5	402	12	1.7	0.5	88.0	4	21.1	< 5	3.1	3.1	1.86	4.01	
355146	1130	20	< 2	5	10	3	< 0.5	< 0.2	29	< 0.5	1200	9	< 0.4	0.2	38.6	< 1	11.8	< 5	1.5	1.0	2.30	4.95	
355147	2240	33	< 2	36	167	3	1.0	< 0.2	34	< 0.5	323	8	< 0.4	4.4	396	4	17.8	12	57.6	9.9	1.28	2.75	
355148	1950	33	< 2	39	182	< 2	< 0.5	< 0.2	27	< 0.5	224	7	1.3	4.2	386	5	14.3	11	32.4	14.5	0.26	0.55	2.73
355149	1530	104	19	62	5	< 2	< 0.5	< 0.2	6	1.0	834	44	1.2	1.7	6.5	< 1	16.8	< 5	0.6	1.7	0.20	0.43	
355150	6	15	6	29	< 1	2	0.9	< 0.2	1	< 0.5	1.8	145	< 0.4	0.8	0.4	2	1.3	6	0.4	0.2	< 0.01	< 0.01	
355151	786	23	2	17	45	< 2	< 0.5	< 0.2	14	< 0.5	61.9	6	0.5	1.9	186	1	5.4	6	7.7	6.0	0.02	0.05	
355152	111	131	20	51	8	< 2	< 0.5	< 0.2	17	< 0.5	31.9	33	0.5	1.4	9.8	3	1.4	< 5	0.9	1.7	0.07	0.15	
355153	153	101	20	70	3	< 2	< 0.5	< 0.2	2	< 0.5	21.3	67	< 0.4	1.7	0.2	3	1.1	< 5	0.4	1.5	0.06	0.13	
355154	498	39	9	183	8	< 2	0.8	< 0.2	2	< 0.5	62.4	920	< 0.4	3.9	1.6	2	2.7	< 5	4.9	1.8	0.04	0.09	
355155	847	49	8	190	9	< 2	0.7	< 0.2	6	< 0.5	128	1105	< 0.4	4.2	5.4	1	5.7	5	4.9	2.3	0.05	0.11	
355156	1780	31	< 2	23	83	< 2	< 0.5	< 0.2	13	< 0.5	160	97	1.7	2.0	217	1	12.7	7	7.2	7.0	0.02	0.04	
355157	2130	36	< 2	28	78	< 2	< 0.5	< 0.2	10	< 0.5	197	114	1.3	2.3	207	1	18.6	9	6.1	7.7	0.02	0.04	
355158	5160	70	< 2	9	31	< 2	< 0.5	< 0.2	7	< 0.5	419	65	1.1	0.9	81.7	2	52.3	16	3.7	8.6	0.01	0.03	2.66
355159	4660	62	< 2	9	55	< 2	< 0.5	< 0.2	11	< 0.5	492	35	1.6	0.9	152	2	48.1	13	4.6	4.7	0.37	0.80	
355160	2280	24	13	75	65	6	1.7	0.3	12	16.4	65.3	88	40.1	5.6	11.3	115	15.0	502	25.7	47.6	0.28	0.60	
355161	2080	40	< 2	30	38	< 2	< 0.5	< 0.2	8	< 0.5	229	63	0.8	3.4	72.3	1	20.3	11	5.0	5.0	0.82	1.76	
355162	1520	75	5	35	68	< 2	< 0.5	< 0.2	19	< 0.5	182	94	1.3	2.0	103	2	13.8	7	5.1	3.9	0.09	0.20	
355163	1700	39	< 2	11	36	< 2	< 0.5	< 0.2	8	< 0.5	165	102	0.5	1.2	79.6	3	15.6	6	2.5	3.4	0.02	0.05	
355164	2410	42	< 2	16	46	< 2	< 0.5	< 0.2	3	< 0.5	233	51	0.6	1.3	121	1	25.2	10	3.3	3.1	< 0.01	0.02	
355165	110	35	8	150	7	3	0.6	< 0.2	3	0.8	33.6	47	1.1	3.0	0.8	< 1	3.3	8	3.6	2.1	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
355166	279	86	12	99	4	2	< 0.5	< 0.2	< 1	1.7	40.2	271	0.4	2.0	2.0	1	3.0	8	1.9	1.0	0.05	0.10	
355167	31	98	15	44	1	< 2	< 0.5	< 0.2	< 1	< 0.5	6.8	30	< 0.4	1.1	< 0.1	< 1	0.5	< 5	0.2	< 0.1	0.04	0.10	
355168	825	98	14	44	3	< 2	< 0.5	< 0.2	4	< 0.5	987	31	1.3	1.1	1.5	< 1	7.5	< 5	0.3	0.2	0.12	0.25	3.09
355169	1550	32	< 2	12	64	< 2	< 0.5	< 0.2	31	< 0.5	496	11	1.9	1.0	99.4	< 1	10.8	8	3.0	4.4	1.21	2.61	
355170	2	8	< 2	35	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.6	118	< 0.4	0.7	< 0.1	< 1	1.1	< 5	0.4	0.2	< 0.01	< 0.01	
355171	1890	31	< 2	16	64	3	< 0.5	< 0.2	29	< 0.5	249	14	0.6	1.5	108	1	13.4	7	6.0	4.6	1.34	2.87	
355172	3890	87	3	34	37	< 2	< 0.5	< 0.2	22	< 0.5	2450	145	1.5	1.3	70.3	2	31.9	15	5.4	7.2	0.86	1.86	
355173	4010	89	3	29	33	< 2	< 0.5	< 0.2	13	0.8	1520	153	0.5	0.9	58.6	2	40.0	12	3.4	2.1	0.26	0.57	
355174	648	99	9	69	5	< 2	< 0.5	< 0.2	6	1.6	674	176	0.9	1.5	10.9	12	9.5	21	1.3	0.8	0.11	0.25	
355175	567	101	14	53	2	< 2	< 0.5	< 0.2	< 1	0.5	553	165	0.4	1.2	1.7	< 1	7.5	8	0.5	0.2	0.11	0.23	
355176	331	96	13	53	2	< 2	< 0.5	< 0.2	< 1	< 0.5	289	131	< 0.4	1.2	9.8	< 1	4.6	6	0.6	0.2	0.09	0.20	
355177	126	1048	18	157	4	< 2	< 0.5	< 0.2	< 1	< 0.5	116	990	< 0.4	3.2	0.2	< 1	2.2	13	13.5	2.9	0.13	0.28	
355178	195	498	18	92	2	< 2	< 0.5	< 0.2	< 1	< 0.5	141	467	0.9	1.8	0.1	< 1	2.7	33	5.9	1.5	0.09	0.20	3.05
355179	2880	58	< 2	6	22	3	1.0	< 0.2	38	< 0.5	402	29	6.5	0.5	71.0	2	26.4	6	2.1	1.1	0.74	1.59	
355180	2200	25	14	70	67	6	2.8	0.3	12	16.1	62.9	87	47.4	5.6	12.2	116	17.1	528	25.0	47.1	0.28	0.60	
355181	406	12	< 2	< 4	5	3	0.9	< 0.2	30	< 0.5	132	11	< 0.4	0.2	38.3	1	4.6	< 5	0.2	0.3	0.94	2.03	
355182	71	3	< 2	< 4	< 1	3	0.7	< 0.2	2	0.6	22.1	3	< 0.4	< 0.2	47.0	< 1	1.4	< 5	< 0.1	0.1	0.02	0.05	
355183	11800	128	< 2	< 4	41	< 2	< 0.5	< 0.2	90	< 0.5	1910	25	0.8	0.4	743	3	97.5	< 5	0.2	5.6	0.10	0.21	
355184	228	14	< 2	< 4	3	< 2	< 0.5	< 0.2	15	< 0.5	615	56	< 0.4	< 0.2	157	< 1	6.1	11	8.0	22.4	0.98	2.11	
355185	8580	101	< 2	4	27	< 2	< 0.5	< 0.2	84	< 0.5	1840	26	1.7	0.3	778	4	79.6	7	0.2	11.4	0.18	0.39	
355186	9460	107	< 2	6	136	< 2	< 0.5	< 0.2	84	0.5	1500	29	0.9	1.0	3120	4	84.9	9	1.1	8.8	0.10	0.23	
355187	7590	86	< 2	7	162	< 2	< 0.5	< 0.2	135	0.8	1110	16	4.5	1.8	4870	4	72.4	8	5.0	5.7	0.05	0.12	
355188	5130	66	< 2	12	285	< 2	< 0.5	< 0.2	113	0.7	699	14	3.1	2.7	7980	8	48.1	< 5	6.8	2.2	0.03	0.06	2.73
355189	4970	77	< 2	7	194	< 2	< 0.5	< 0.2	66	1.2	699	53	16.1	1.9	7260	4	44.4	21	9.5	1.2	0.50	1.09	
355190	6	7	< 2	28	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.3	90	< 0.4	0.6	8.2	< 1	3.9	< 5	0.2	0.1	< 0.01	< 0.01	
355191	6380	85	< 2	9	148	< 2	< 0.5	< 0.2	56	0.5	909	100	0.6	1.8	4720	4	53.7	< 5	8.2	1.9	0.11	0.24	
355192	399	15	< 2	< 4	7	< 2	< 0.5	< 0.2	9	< 0.5	80.3	7	< 0.4	0.6	224	< 1	7.1	< 5	0.2	0.5	0.33	0.71	
355193	304	16	< 2	< 4	5	3	0.7	< 0.2	48	< 0.5	104	11	< 0.4	0.5	180	< 1	2.7	< 5	0.4	1.9	1.75	3.76	
355194	1330	24	< 2	11	62	< 2	< 0.5	< 0.2	13	< 0.5	219	7	0.5	1.6	564	2	10.5	5	3.1	10.5	0.08	0.17	
355195	86	16	< 2	12	60	< 2	< 0.5	< 0.2	1	< 0.5	76.3	< 3	< 0.4	1.7	440	< 1	2.2	< 5	3.9	4.4	< 0.01	< 0.01	
355196	99	16	< 2	16	51	< 2	< 0.5	< 0.2	2	< 0.5	94.4	< 3	< 0.4	2.2	370	< 1	1.5	5	3.9	3.6	< 0.01	< 0.01	
355197	72	17	< 2	12	82	< 2	< 0.5	< 0.2	< 1	< 0.5	33.1	< 3	< 0.4	1.7	452	< 1	1.1	6	7.1	7.1	< 0.01	< 0.01	
355198	123	18	< 2	14	62	< 2	< 0.5	< 0.2	2	< 0.5	63.9	< 3	< 0.4	2.1	307	< 1	1.2	6	3.6	6.4	< 0.01	< 0.01	2.71
355199	533	36	< 2	12	87	< 2	< 0.5	< 0.2	7	< 0.5	72.6	8	0.7	1.5	321	2	3.7	10	8.3	17.1	< 0.01	0.02	
355200	1470	24	14	73	49	3	1.4	0.2	11	10.9	43.2	85	16.4	3.8	10.3	100	13.4	306	15.9	29.1	0.28	0.59	



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	11.52	1.94	0.74	0.013	0.35	43.18	0.89	0.55	0.117	30.28					1594								
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	47.55	18.34	9.90	0.146	10.08	11.41	1.94	0.22	0.469	0.06			31		153	240		230	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		247	100	70			
GBW 07113 Meas	73.98	13.14	3.25	0.144	0.16	0.62	2.53	5.45	0.288	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								
GBW 07113 Meas	72.25	13.41	3.20	0.142	0.15	0.60	2.51	5.42	0.287	0.01			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	32		40	140			26
LKSD-3 Cert																87.0	30.0		35.0	152			27.0
TDB-1 Meas																240		90	330	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.45	15.28	10.88	0.160	6.41	11.09	2.23	0.61	1.070	0.13			36	< 1	271	90	43	70	110	70	18	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
W-2a Meas	52.78	15.40	10.90	0.168	6.30	11.07	2.24	0.62	1.064	0.13			36	< 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	49.50	20.58	5.96	0.105	0.52	7.95	6.91	1.65	0.286	0.11			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																			60	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.15	15.65	11.13	0.170	9.49	13.42	1.84	0.02	0.959	< 0.01			44	< 1	329	390	54	170	130		17		
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		16		
NCS DC86312 Meas																							
NCS DC86312 Cert																							
ZW-C Meas																							
ZW-C Cert																							
NCS DC70009 (GBW07241) Meas																30			930	100	16	10	70
NCS DC70009 (GBW07241) Cert																30			960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	16		160				
OREAS 100a (Fusion) Cert																	18.1		169				
OREAS 101a (Fusion) Meas																	44		410				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	43		410				

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	
OREAS 101b (Fusion) Cert																	47		420					
JR-1 Meas																				< 20	30	17	2	16
JR-1 Cert																		1.67		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 DC86304 Meas																							
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NCS DC86314 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																							
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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																							
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Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
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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																							
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																							

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																							
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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																							
354885 Orig																							
354885 Dup																							
354893 Orig	49.03	15.85	13.01	0.220	5.26	10.93	1.15	1.11	1.132	0.07	1.28	99.05	43	10	335	200	48	130	160	150	19	2	< 5
354893 Dup	49.67	15.66	13.56	0.225	5.32	11.14	1.17	1.12	1.170	0.08	1.28	100.4	44	10	344	210	48	130	160	150	19	2	< 5
354907 Orig																							
354907 Dup																							
354910 Orig	98.71	0.54	1.27	0.013	0.03	0.05	0.02	0.05	0.035	< 0.01	0.13	100.8	< 1	< 1	6	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
354910 Dup	98.78	0.55	1.27	0.013	0.03	0.04	0.03	0.05	0.034	< 0.01	0.13	100.9	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
354929 Orig																							
354929 Dup																							
354937 Orig																							
354937 Dup																							
354941 Orig	47.12	14.70	12.01	0.211	7.68	12.58	1.81	0.80	0.742	0.05	2.75	100.4	40	5	249	280	44	140	120	80	15	2	< 5
354941 Dup	47.08	14.72	11.97	0.211	7.77	12.61	1.80	0.79	0.753	0.05	2.75	100.5	39	5	253	290	45	130	120	80	15	2	< 5
354951 Orig																							
354951 Dup																							
354958 Orig	88.54	6.84	1.07	0.056	0.06	0.10	0.75	2.59	0.013	0.02	0.47	100.5	< 1	665	< 5	70	1	< 20	< 10	60	25	5	< 5
354958 Dup	88.79	6.84	1.08	0.057	0.06	0.10	0.75	2.58	0.013	0.02	0.47	100.8	< 1	686	< 5	60	1	< 20	< 10	60	24	5	< 5
354959 Orig																							
354959 Dup																							
354973 Orig																							
354973 Dup																							
354981 Orig																							
354981 Dup																							
354989 Orig	68.75	15.13	2.73	0.077	1.00	2.89	0.93	6.09	0.519	0.20	1.95	100.3	7	7	71	80	10	30	20	50	18	1	< 5
354989 Dup	69.08	15.36	2.81	0.076	1.02	2.91	0.94	6.14	0.510	0.18	1.95	101.0	7	7	72	80	10	30	20	50	18	2	< 5
354995 Orig																							
354995 Dup																							
355003 Orig																							
355003 Dup																							
355006 Orig	75.45	16.54	1.06	0.106	0.09	0.17	2.65	2.04	0.010	0.07	0.62	98.80	< 1	63	< 5	30	< 1	< 20	< 10	60	50	6	< 5
355006 Dup	76.35	16.57	1.07	0.107	0.09	0.17	2.65	2.03	0.010	0.07	0.62	99.74	< 1	71	< 5	30	< 1	< 20	< 10	60	52	6	< 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
355017 Orig																							
355017 Dup																							
355025 Orig																							
355025 Dup																							
355037 Orig	83.78	10.51	1.03	0.076	0.15	1.00	0.78	0.90	0.004	0.02	1.52	99.79	< 1	229	< 5	50	< 1	< 20	< 10	< 30	36	8	< 5
355037 Dup	83.09	10.68	1.04	0.075	0.16	1.00	0.77	0.90	0.004	0.02	1.52	99.26	< 1	229	< 5	50	2	< 20	10	< 30	36	8	< 5
355039 Orig																							
355039 Dup																							
355047 Orig																							
355047 Dup																							
355054 Orig	51.38	13.85	10.81	0.234	4.28	14.27	1.02	0.77	0.748	0.05	3.32	100.7	35	< 1	254	270	41	130	130	70	15	2	< 5
355054 Dup	51.29	14.05	10.77	0.234	4.33	14.35	1.03	0.77	0.755	0.04	3.32	100.9	35	< 1	259	270	41	130	130	70	14	2	< 5
355061 Orig																							
355061 Dup																							
355069 Orig																							
355069 Dup																							
355078 Orig	49.39	15.22	12.13	0.189	7.59	12.63	1.25	0.37	0.786	0.04	1.04	100.6	44	1	286	320	48	140	110	80	16	1	< 5
355078 Split PREP DUP	49.60	15.04	12.40	0.194	7.51	12.69	1.24	0.35	0.803	0.03	0.98	100.8	43	2	286	320	47	140	110	80	15	2	< 5
355083 Orig																							
355083 Dup																							
355085 Orig	72.03	18.87	0.80	0.124	0.10	0.29	5.84	1.04	0.006	0.14	0.73	99.97	< 1	200	< 5	20	< 1	< 20	< 10	50	53	8	< 5
355085 Dup	71.60	18.74	0.79	0.124	0.11	0.29	5.74	1.02	0.006	0.14	0.73	99.27	< 1	195	< 5	20	< 1	< 20	< 10	50	50	8	< 5
355091 Orig																							
355091 Dup																							
355102 Orig	73.56	16.24	2.08	0.108	0.89	1.02	2.34	2.02	0.040	0.19	1.66	100.1	1	215	12	30	3	< 20	30	60	58	5	< 5
355102 Dup	73.04	16.13	2.08	0.107	0.88	1.01	2.31	2.05	0.038	0.19	1.66	99.49	1	210	10	30	3	< 20	30	60	58	5	< 5
355105 Orig																							
355105 Dup																							
355113 Orig																							
355113 Dup																							
355127 Orig																							
355127 Dup																							
355128 Orig																50	1	< 20	< 10	80	82	7	< 5
355128 Split PREP DUP	70.04	22.47	1.52	0.209	0.13	0.50	1.80	0.91	0.010	0.33	0.85	98.76	< 1	51	< 5	50	1	< 20	10	80	79	7	< 5
355133 Orig	71.29	19.00	0.88	0.072	0.09	0.30	5.89	0.53	0.004	0.09	0.64	98.79	< 1	42	< 5	30	< 1	< 20	< 10	< 30	50	8	< 5
355133 Dup	72.13	18.13	0.84	0.073	0.09	0.30	5.96	0.53	0.004	0.10	0.64	98.80	< 1	40	< 5	30	< 1	< 20	< 10	40	51	9	< 5
355135 Orig																							
355135 Dup																							
355149 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
355149 Dup																							
355150 Orig	95.06	0.76	5.24	0.039	0.04	0.06	0.14	0.10	0.028	0.02	-0.85	100.7	< 1	2	< 5	60	4	30	10	< 30	2	1	< 5
355150 Dup	95.52	0.75	5.15	0.039	0.04	0.06	0.14	0.10	0.028	0.01	-0.85	101.0	< 1	2	< 5	60	4	30	10	< 30	2	1	< 5
355157 Orig																							
355157 Dup																							
355171 Orig																							
355171 Dup																							
355178 Orig	49.15	15.07	11.66	0.228	4.92	12.24	2.12	0.75	0.989	0.19	2.79	100.1	32	3	238	170	37	100	140	100	17	2	< 5
355178 Split PREP DUP	48.45	14.49	11.53	0.225	5.03	12.30	2.05	0.72	0.960	0.18	2.91	98.82	31	2	233	170	39	110	140	100	18	2	< 5
355179 Orig																							
355179 Dup																							
355181 Orig	87.50	9.19	1.20	0.049	0.19	0.19	0.61	0.42	0.012	0.02	0.45	99.82	< 1	9	< 5	40	3	< 20	30	< 30	27	8	< 5
355181 Dup	87.84	9.29	1.19	0.048	0.19	0.19	0.61	0.41	0.013	0.02	0.45	100.3	< 1	8	< 5	50	4	< 20	30	< 30	27	9	< 5
355189 Orig																							
355189 Dup																							
355193 Orig																							
355193 Dup																							
355198 Orig	68.18	19.48	0.42	0.037	0.01	0.48	10.69	0.15	0.001	0.31	0.25	100.0	< 1	85	< 5	< 20	< 1	< 20	< 10	< 30	41	8	< 5
355198 Dup	67.55	18.86	0.41	0.036	0.02	0.48	10.54	0.14	0.001	0.29	0.25	98.59	< 1	83	< 5	< 20	< 1	< 20	< 10	< 30	40	8	< 5
355200 Orig																							
355200 Dup																							
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	< 0.01	< 0.01	0.01	0.002	0.02	< 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	0.05	0.002	0.02	0.02	< 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	0.002	< 0.01			< 1	< 1	< 5								
Method Blank	< 0.01	0.01	0.02	0.002	0.02	0.02	< 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	< 0.01	0.02	0.02	0.002	0.02	0.02	< 0.01	< 0.01	0.003	< 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																							
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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
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								
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		144	15	36								106											
DNC-1 Cert		144.0	18.0	38								118											
GBW 07113 Meas		42	46	391								502											
GBW 07113 Cert		43.0	43.0	403								506											
GBW 07113 Meas		43	46	394								499											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	73					< 2	2.8				2.4			4.3					11.8	4.9			
LKSD-3 Cert	78.0					2.00	2.70				2.30			4.80					11.4	4.60			
TDB-1 Meas																					2.5		
TDB-1 Cert																					2.7		
W-2a Meas	20	201	19	86		< 2				0.8	0.9	174		2.5	0.5					2.3	0.6		
W-2a Cert	21.0	190	24.0	94.0		0.600				0.790	0.990	182		2.60	0.500					2.40	0.530		
W-2a Meas		199	19	89								175											
W-2a Cert		190	24.0	94.0								182											
SY-4 Meas		1206	118	532								344											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas														1.2	2.8					23.5	4.1		
CTA-AC-1 Cert														1.13	2.65					21.8	4.4		
BIR-1a Meas		107	13	15								7		0.6									
BIR-1a Cert		110	16	18								6		0.60									
NCS DC86312 Meas																					25.8		
NCS DC86312 Cert																					23.6		
ZW-C Meas	8720										258				89.9	331	33.8						
ZW-C Cert	8500										260				82	320	34						
NCS DC70009 (GBW07241) Meas	509						2.0	1.0	1700	3.2	37.0					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						23														51.0	140		
OREAS 100a (Fusion) Cert						24.1														51.6	135		
OREAS 101a (Fusion) Meas						23														36.5	440		
OREAS 101a (Fusion) Cert						21.9														36.6	422		
OREAS 101b (Fusion) Meas						20														35.7	405		

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
OREAS 101b (Fusion) Cert						21														37.1	396		
JR-1 Meas	258				15	3		< 0.2	3		20.4		0.6	4.9	1.9		1.5	18	27.0	9.3			
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 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 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	0.47	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.20	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	0.44	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					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		
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 DC86303 Meas																							0.20	0.44	
NCS DC86303 Cert																							0.21	0.460	
NCS DC86303 Meas																							0.21	0.46	
NCS DC86303 Cert																							0.21	0.460	
NCS DC86304 Meas																							1.05	2.26	
NCS DC86304 Cert																							1.06	2.29	
NCS DC86304 Meas																							1.05	2.50	
NCS DC86304 Cert																							1.06	2.29	
NCS DC86304 Meas																							1.07	2.27	
NCS DC86304 Cert																							1.06	2.29	
NCS DC86304 Meas																							1.09	2.31	
NCS DC86304 Cert																							1.06	2.29	
NCS DC86304 Meas																							1.07	2.34	
NCS DC86304 Cert																							1.06	2.29	
NCS DC86304 Meas																							1.04	2.30	
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																						1.10	2.24	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.11	2.37	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.08	2.39	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.07	2.33	
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	2.29	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.06	2.34	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.16	2.28	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.08	2.50	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																							2.32	
NCS DC86304 Cert																							2.29	
NCS DC86314 Meas																						1.78	3.82	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.84	3.96	



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																							1.77	3.81	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.64	3.53	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.71	3.68	
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																							1.69	3.64	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.76	3.79	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.73	3.65	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.73	3.72	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.72	3.71	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.77	3.80	
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																						1.80	3.87	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.77	3.82	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.74	3.75	
NCS DC86314 Cert																						1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.31		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.26		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.32		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.52		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.16		

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
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
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																						8.59	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.62	
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																						8.01	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.17	
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																						8.66		
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																						8.12		
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																						7.93		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.04		
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																						8.42	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
354885 Orig																						0.04	0.10
354885 Dup																						0.05	0.10
354893 Orig	1150	98	20	69	3	< 2	< 0.5	< 0.2	3	0.7	453	126	1.4	1.7	1.1	< 1	15.8	< 5	0.4	0.4	0.19	0.41	
354893 Dup	1140	97	20	71	3	< 2	< 0.5	< 0.2	2	0.6	448	124	1.4	1.8	1.2	1	14.5	< 5	0.4	0.4	0.19	0.41	
354907 Orig																						0.02	0.05
354907 Dup																						0.02	0.05
354910 Orig	< 2	6	< 2	22	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	106	< 0.4	0.4	< 0.1	10	0.5	< 5	0.7	0.2			
354910 Dup	< 2	7	< 2	20	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	105	< 0.4	0.4	< 0.1	11	0.3	< 5	0.6	0.2			
354929 Orig																						< 0.01	0.02
354929 Dup																						< 0.01	0.02
354937 Orig																						0.07	0.16
354937 Dup																						0.08	0.16
354941 Orig	377	97	15	40	1	< 2	< 0.5	< 0.2	2	1.0	240	58	0.5	1.0	< 0.1	< 1	4.8	< 5	0.2	0.9			
354941 Dup	378	98	15	40	1	< 2	< 0.5	< 0.2	2	1.2	237	56	0.6	1.0	< 0.1	< 1	4.6	< 5	0.2	0.9			
354951 Orig																						0.01	0.03
354951 Dup																						0.01	0.02
354958 Orig	2440	30	< 2	< 4	21	3	< 0.5	< 0.2	24	< 0.5	545	8	0.7	< 0.2	31.7	2	23.2	< 5	1.1	0.5			
354958 Dup	2430	30	< 2	4	19	3	< 0.5	< 0.2	24	< 0.5	550	8	0.7	< 0.2	28.9	2	23.6	< 5	1.1	0.6			
354959 Orig																						0.17	0.37
354959 Dup																						0.17	0.38
354973 Orig																						0.08	0.16
354973 Dup																						0.07	0.16
354981 Orig																						0.12	0.25
354981 Dup																						0.12	0.26
354989 Orig	1170	107	7	154	7	< 2	0.6	< 0.2	3	< 0.5	294	742	< 0.4	3.1	1.7	1	11.8	10	3.5	2.7			
354989 Dup	1180	105	7	157	7	< 2	0.6	< 0.2	3	< 0.5	295	750	< 0.4	3.1	1.8	1	12.2	10	3.6	2.7			
354995 Orig																						0.10	0.22
354995 Dup																						0.10	0.23
355003 Orig																						0.79	1.69
355003 Dup																						0.78	1.68
355006 Orig	2100	30	< 2	9	31	< 2	< 0.5	< 0.2	24	< 0.5	272	13	< 0.4	0.9	81.9	2	20.0	6	3.2	4.4			
355006 Dup	2110	30	< 2	9	33	< 2	< 0.5	< 0.2	25	< 0.5	279	13	< 0.4	0.8	77.7	8	21.4	7	3.2	4.6			

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-MS	FUS-Na2O2	FUS-Na2O2	GRAV
355017 Orig																					0.24	0.52		
355017 Dup																					0.25	0.54		
355025 Orig																					0.04	0.08		
355025 Dup																					0.04	0.08		
355037 Orig	1110	19	< 2	< 4	4	3	< 0.5	< 0.2	16	0.7	426	8	5.1	0.3	65.0	< 1	8.0	< 5	0.9	1.1				
355037 Dup	1110	18	< 2	< 4	4	3	< 0.5	< 0.2	15	0.5	436	8	5.5	0.2	62.8	8	8.8	< 5	0.9	1.1				
355039 Orig																					0.10	0.21		
355039 Dup																					0.10	0.21		
355047 Orig																					0.51	1.10		
355047 Dup																					0.52	1.12		
355054 Orig	244	95	13	39	1	< 2	< 0.5	< 0.2	< 1	0.6	125	289	1.2	0.9	0.2	< 1	2.7	5	0.2	< 0.1				
355054 Dup	246	98	13	40	1	< 2	< 0.5	< 0.2	< 1	0.7	124	291	1.4	0.9	0.2	3	2.6	5	0.2	< 0.1				
355061 Orig																					0.06	0.12		
355061 Dup																					0.06	0.12		
355069 Orig																					0.01	0.03		
355069 Dup																					0.01	0.03		
355078 Orig	106	91	16	43	< 1	< 2	0.8	< 0.2	< 1	< 0.5	91.2	40	< 0.4	1.1	0.3	< 1	3.6	< 5	0.3	< 0.1				
355078 Split PREP DUP	101	89	15	43	1	3	< 0.5	< 0.2	< 1	< 0.5	84.7	38	< 0.4	1.0	0.3	< 1	5.2	< 5	0.2	< 0.1	0.07	0.14		
355083 Orig																					0.82	1.76		
355083 Dup																					0.83	1.78		
355085 Orig	1740	29	< 2	16	77	< 2	0.5	< 0.2	25	< 0.5	367	14	1.0	2.4	215	2	13.6	6	7.1	5.5				
355085 Dup	1680	29	< 2	16	71	< 2	< 0.5	< 0.2	23	< 0.5	349	14	0.9	2.4	210	2	12.7	6	6.0	5.5				
355091 Orig																					0.11	0.24		
355091 Dup																					0.11	0.23		
355102 Orig	1590	72	< 2	23	93	< 2	< 0.5	< 0.2	27	< 0.5	283	249	2.8	2.1	136	2	9.0	9	13.9	9.0				
355102 Dup	1600	70	< 2	26	95	< 2	< 0.5	< 0.2	27	< 0.5	282	251	2.7	2.2	133	3	10.0	9	13.7	9.1				
355105 Orig																					0.10	0.21		
355105 Dup																					0.10	0.21		
355113 Orig																					1.12	2.41		
355113 Dup																					1.08	2.32		
355127 Orig																					0.81	1.74		
355127 Dup																					0.86	1.85		
355128 Orig	1320				119	2	1.4	< 0.2	32	0.6	205		2.1	1.9	209	3	12.1	9	12.3	4.2	2.12	4.57		
355128 Split PREP DUP	1250	22	< 2	16	165	2	0.8	< 0.2	31	1.7	193	22	2.6	1.7	282	3	10.0	10	12.2	4.3	2.20	4.73		
355133 Orig	696	18	< 2	32	143	< 2	< 0.5	< 0.2	11	< 0.5	150	8	< 0.4	3.4	216	2	6.6	17	16.5	20.7				
355133 Dup	702	18	< 2	29	148	< 2	< 0.5	< 0.2	11	< 0.5	153	8	0.4	3.0	219	2	6.2	17	16.4	20.5				
355135 Orig																					0.36	0.77		
355135 Dup																					0.36	0.78		
355149 Orig																					0.20	0.43		

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
355149 Dup																					0.20	0.43	
355150 Orig	6	15	6	27	< 1	2	1.0	< 0.2	1	< 0.5	1.8	146	< 0.4	0.7	0.4	1	1.7	6	0.5	0.2			
355150 Dup	5	15	6	31	< 1	2	0.9	< 0.2	1	< 0.5	1.7	144	< 0.4	0.8	0.4	2	0.8	5	0.4	0.2			
355157 Orig																					0.02	0.04	
355157 Dup																					0.02	0.04	
355171 Orig																					1.34	2.88	
355171 Dup																					1.33	2.87	
355178 Orig	195	498	18	92	2	< 2	< 0.5	< 0.2	< 1	< 0.5	141	467	0.9	1.8	0.1	< 1	2.7	33	5.9	1.5	0.09	0.20	
355178 Split PREP DUP	203	474	18	90	3	< 2	< 0.5	< 0.2	< 1	< 0.5	149	445	0.8	2.1	0.4	< 1	3.9	37	6.0	1.6	0.10	0.22	
355179 Orig																					0.76	1.63	
355179 Dup																					0.72	1.56	
355181 Orig	405	12	< 2	< 4	5	3	1.0	< 0.2	29	< 0.5	131	11	< 0.4	0.2	38.4	1	5.2	< 5	0.2	0.3			
355181 Dup	407	12	< 2	< 4	5	3	0.8	< 0.2	31	< 0.5	132	11	0.4	0.2	38.3	1	4.0	< 5	0.2	0.3			
355189 Orig																					0.51	1.09	
355189 Dup																					0.50	1.09	
355193 Orig																					1.74	3.74	
355193 Dup																					1.76	3.78	
355198 Orig	126	18	< 2	14	68	< 2	< 0.5	< 0.2	2	< 0.5	64.6	< 3	< 0.4	2.0	333	< 1	1.2	6	3.7	6.7			
355198 Dup	120	18	< 2	15	56	< 2	< 0.5	< 0.2	1	< 0.5	63.2	< 3	< 0.4	2.2	280	< 1	1.2	6	3.5	6.1			
355200 Orig																					0.28	0.60	
355200 Dup																					0.27	0.58	
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		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											
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	
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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	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											
Method Blank																					< 0.01	< 0.01	





**Date Submitted:** 11-Jul-17  
**Invoice No.:** A17-07047  
**Invoice Date:** 02-Aug-17  
**Your Reference:** Seymour Lake

**Ardiden Ltd.**  
**Suite 6, 295 Rokeby Rd**  
**Subiaco WA 6008**  
**Australia**

**ATTN: Brad Boyle (inv/res)**

## CERTIFICATE OF ANALYSIS

120 Core 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-07047**

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

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

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

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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## Results

## Activation Laboratories Ltd.

## Report: A17-07047

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
355201	49.37	14.93	10.36	0.227	5.01	13.16	0.86	1.00	0.796	0.13	3.04	98.89	43	4	277	300	47	130	110	90	16	2	6
355202	47.94	15.27	11.30	0.243	5.28	15.63	1.04	0.15	0.801	0.05	2.44	100.1	44	2	274	300	46	130	130	90	16	2	< 5
355203	48.71	13.45	13.32	0.226	7.58	11.59	2.08	0.32	0.915	0.06	1.76	100.0	49	< 1	308	290	44	80	160	150	15	2	< 5
355204	48.23	14.55	12.43	0.278	6.85	12.45	1.17	0.43	0.838	0.07	2.95	100.3	44	3	277	270	47	120	160	100	16	2	< 5
355205	88.25	6.30	1.18	0.040	0.11	0.52	2.49	0.56	0.010	0.11	0.47	100.1	< 1	6	< 5	40	< 1	< 20	< 10	< 30	17	7	< 5
355206	97.73	0.51	1.25	0.017	0.06	0.14	0.12	0.04	0.007	< 0.01	0.14	100.0	< 1	3	< 5	70	2	< 20	20	< 30	1	7	< 5
355207	95.17	2.02	1.36	0.021	0.05	0.09	0.05	0.04	0.002	0.02	0.18	99.01	< 1	2	< 5	60	< 1	< 20	10	< 30	7	7	< 5
355208	82.95	11.45	1.04	0.046	0.21	0.24	1.66	0.29	0.003	0.06	0.70	98.65	< 1	108	< 5	50	1	< 20	20	< 30	31	14	< 5
355209	68.19	19.67	0.64	0.068	0.09	0.56	8.34	0.84	0.005	0.18	1.07	99.67	< 1	139	< 5	< 20	< 1	< 20	< 10	< 30	44	11	< 5
355210	97.37	0.41	1.90	0.019	0.02	0.22	0.03	0.03	0.031	0.03	0.06	100.1	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355211	84.49	9.50	1.14	0.046	0.08	0.20	1.54	0.35	0.003	0.04	0.42	97.81	< 1	58	< 5	50	< 1	< 20	10	< 30	30	10	< 5
355212	85.67	8.61	1.00	0.063	0.08	0.35	2.07	0.58	0.005	0.04	0.72	99.17	< 1	3	< 5	50	2	< 20	40	40	27	8	< 5
355213	74.87	15.61	1.02	0.103	0.06	0.31	4.77	0.43	0.004	0.16	0.49	97.82	< 1	137	< 5	20	< 1	< 20	< 10	40	46	7	< 5
355214	75.11	15.55	0.91	0.084	0.07	0.34	4.97	0.52	0.005	0.16	0.62	98.35	< 1	168	< 5	30	< 1	< 20	< 10	30	39	6	< 5
355215	73.13	15.86	0.78	0.051	0.07	0.26	3.60	5.02	0.005	0.15	0.63	99.56	< 1	104	< 5	30	< 1	< 20	< 10	< 30	32	6	< 5
355216	72.81	16.49	0.83	0.060	0.13	0.25	3.57	4.52	0.006	0.15	0.73	99.56	< 1	106	6	30	< 1	< 20	< 10	40	34	6	< 5
355217	73.75	15.31	0.81	0.042	0.10	0.23	5.58	3.00	0.005	0.12	0.54	99.49	< 1	145	6	20	< 1	< 20	< 10	< 30	27	6	< 5
355218	72.36	16.21	0.75	0.091	0.08	0.65	7.81	0.66	0.018	0.17	0.58	99.37	1	257	9	20	1	< 20	< 10	30	36	7	< 5
355219	51.92	16.36	10.83	0.224	3.44	13.04	1.32	0.53	0.844	0.07	1.73	100.3	44	7	302	270	46	140	150	80	18	3	< 5
355220	75.02	13.66	0.71	0.603	0.04	0.72	0.60	6.11	0.053	0.05	2.04	99.60	12	6	< 5	110	< 1	< 20	160	530	27	6	46
355221	48.96	14.53	11.55	0.221	5.03	14.44	2.15	0.21	0.803	0.06	1.81	99.77	44	1	276	260	56	150	350	110	15	2	< 5
355222	49.06	15.23	12.26	0.243	5.30	13.60	2.06	0.33	0.853	0.07	1.17	100.2	45	3	281	270	51	140	160	100	15	2	< 5
355223	72.82	15.20	0.66	0.073	0.09	0.33	5.68	3.81	0.008	0.16	0.20	99.03	< 1	252	< 5	< 20	< 1	< 20	< 10	< 30	28	6	< 5
355224	72.93	15.04	0.86	0.059	0.27	0.55	5.02	3.70	0.004	0.27	0.70	99.41	< 1	169	5	< 20	< 1	< 20	10	< 30	30	5	< 5
355225	48.85	15.11	12.14	0.257	5.32	13.13	1.19	0.45	0.827	0.09	1.27	98.63	44	3	280	270	51	140	270	110	15	2	< 5
355226	49.39	14.90	12.68	0.207	6.15	13.17	1.62	0.20	0.812	0.06	0.84	100.0	42	< 1	274	260	48	140	150	110	15	2	< 5
355227	49.18	15.41	12.14	0.276	5.46	13.41	1.47	0.24	0.854	0.06	1.27	99.78	43	5	272	260	48	140	50	90	15	2	< 5
355228	48.56	15.04	12.05	0.237	5.39	11.44	1.48	1.03	0.980	0.23	3.08	99.51	31	5	225	160	40	110	130	120	17	2	< 5
355229	70.09	17.59	0.49	0.027	0.06	1.07	9.64	0.37	0.006	0.32	0.75	100.4	< 1	33	< 5	< 20	< 1	< 20	20	< 30	37	6	< 5
355230	97.19	0.45	1.65	0.016	0.02	0.02	0.03	0.04	0.025	0.02	0.17	99.64	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355231	70.23	17.36	0.78	0.093	0.08	0.44	6.93	1.40	0.013	0.20	0.98	98.51	< 1	70	< 5	< 20	< 1	< 20	20	280	52	6	< 5
355232	69.35	18.57	0.72	0.097	0.08	0.50	7.65	1.39	0.010	0.21	0.89	99.47	< 1	49	< 5	< 20	< 1	< 20	< 10	100	51	7	< 5
355233	72.44	16.27	0.62	0.071	0.06	0.65	7.99	0.63	0.004	0.17	0.87	99.77	< 1	84	< 5	< 20	< 1	< 20	< 10	< 30	35	5	< 5
355234	70.12	18.01	0.82	0.079	0.06	0.67	8.07	1.22	0.013	0.34	0.77	100.2	< 1	216	< 5	< 20	< 1	< 20	20	470	49	6	< 5
355235	70.42	17.80	0.77	0.068	0.02	0.57	9.35	0.60	0.005	0.35	0.39	100.3	< 1	80	< 5	< 20	< 1	< 20	< 10	40	44	6	< 5
355236	69.91	17.16	0.57	0.058	0.02	0.52	9.27	0.56	0.005	0.27	0.57	98.92	< 1	155	< 5	< 20	< 1	< 20	< 10	30	43	6	< 5
355237	73.04	15.71	0.88	0.117	0.08	0.42	6.75	0.89	0.008	0.17	0.79	98.84	< 1	220	< 5	< 20	< 1	< 20	< 10	60	44	6	< 5
355238	75.69	16.13	1.19	0.110	0.07	0.31	4.22	0.78	0.009	0.18	0.60	99.29	< 1	189	< 5	40	< 1	< 20	< 10	70	52	5	< 5
355239	71.38	17.65	1.09	0.103	0.11	0.28	4.43	2.47	0.015	0.14	0.85	98.52	< 1	22	< 5	20	< 1	< 20	< 10	90	56	5	< 5
355240	74.03	14.15	0.69	0.597	0.03	0.73	0.61	6.33	0.054	0.01	2.14	99.36	12	5	< 5	110	< 1	< 20	160	540	28	6	49
355241	74.57	15.32	0.95	0.072	0.09	0.28	5.69	1.02	0.012	0.12	0.74	98.87	< 1	190	< 5	20	< 1	< 20	< 10	80	45	5	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-07047

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
355242	73.93	15.76	0.81	0.059	0.07	0.30	6.02	2.02	0.007	0.14	0.60	99.72	< 1	82	< 5	20	< 1	< 20	< 10	50	42	5	< 5
355243	71.21	17.28	0.84	0.053	0.05	0.25	4.19	3.75	0.003	0.16	0.46	98.24	< 1	93	< 5	20	< 1	< 20	< 10	< 30	41	6	< 5
355244	69.11	18.40	1.28	0.084	0.09	0.39	4.35	2.78	0.012	0.17	0.53	97.20	< 1	38	< 5	20	< 1	< 20	< 10	40	50	7	< 5
355245	48.81	14.87	12.93	0.237	5.91	13.04	0.76	0.59	0.828	0.12	1.61	99.70	44	18	279	260	48	130	130	110	16	3	< 5
355246	48.32	14.56	12.22	0.235	5.15	14.25	1.17	0.26	0.809	0.06	2.16	99.18	43	5	272	250	47	140	140	100	15	2	< 5
355247	46.13	14.09	11.69	0.269	4.82	17.83	0.98	0.16	0.742	0.11	3.22	100.0	41	4	260	240	44	130	160	90	14	3	< 5
355248	48.10	14.15	11.65	0.233	5.10	15.51	0.80	0.26	0.784	0.06	2.62	99.26	42	4	270	250	44	130	90	100	14	2	< 5
355249	71.66	16.52	1.58	0.126	0.22	1.44	3.74	1.63	0.024	0.28	0.90	98.13	1	308	8	40	1	< 20	10	< 30	38	5	< 5
355250	96.63	0.61	2.13	0.021	0.04	0.10	0.02	0.04	0.035	0.01	0.17	99.81	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355251	47.94	16.68	12.12	0.248	5.43	13.58	0.67	0.51	0.900	0.07	2.30	100.4	46	6	298	270	47	140	130	70	15	2	< 5
355252	45.08	14.60	11.80	0.269	4.73	17.34	0.74	0.44	0.829	0.07	4.44	100.3	43	3	272	260	44	130	120	90	13	3	< 5
355253	44.30	14.61	19.32	0.369	4.24	11.71	1.17	0.68	0.759	0.04	2.12	99.31	44	4	278	240	46	110	310	80	15	2	< 5
355254	48.51	16.00	12.59	0.298	4.02	11.38	1.33	1.45	0.855	0.09	2.45	98.97	43	14	281	260	49	150	190	100	15	3	< 5
355255	85.79	6.89	1.42	0.157	0.19	0.83	2.63	0.71	0.026	0.51	0.31	99.47	1	8	7	40	2	< 20	20	< 30	16	4	< 5
355256	88.19	5.63	1.33	0.092	0.15	0.77	2.02	0.67	0.019	0.52	0.33	99.73	< 1	6	< 5	50	1	< 20	10	40	16	4	< 5
355257	90.18	5.23	1.25	0.059	0.19	0.13	1.54	0.45	0.005	0.08	0.43	99.54	< 1	5	< 5	50	< 1	< 20	< 10	< 30	14	4	< 5
355258	81.19	11.82	1.58	0.109	0.20	0.26	0.34	1.25	0.017	0.11	0.78	97.65	< 1	61	< 5	60	1	< 20	10	80	45	4	< 5
355259	79.59	13.35	1.57	0.088	0.22	0.16	0.61	1.57	0.008	0.07	0.63	97.87	< 1	257	< 5	60	1	< 20	10	40	43	5	< 5
355260	73.79	13.89	0.68	0.598	0.03	0.75	0.56	6.25	0.052	0.02	2.15	98.76	12	5	< 5	120	< 1	< 20	180	530	26	6	52
355261	69.69	17.74	1.13	0.094	0.22	0.41	3.60	4.87	0.020	0.22	1.26	99.24	< 1	15	< 5	30	1	< 20	10	100	53	5	< 5
355262	50.84	13.65	10.32	0.229	4.67	14.12	0.69	0.47	0.649	0.20	3.02	98.86	37	5	251	220	38	130	130	70	15	2	< 5
355263	49.28	14.37	12.43	0.252	5.04	14.24	1.49	0.27	0.777	0.06	1.54	99.75	42	1	283	260	45	130	170	80	15	2	< 5
355264	42.45	13.32	12.58	0.302	5.05	17.73	1.28	0.21	0.716	0.07	5.46	99.18	38	< 1	245	230	42	130	120	80	12	1	< 5
355265	48.86	14.76	12.33	0.245	5.48	12.96	1.00	0.38	0.837	0.06	1.37	98.29	45	2	286	280	50	150	130	90	14	2	< 5
355266	71.47	15.95	0.77	0.078	0.09	0.70	7.61	0.90	0.014	0.29	0.74	98.60	< 1	81	< 5	< 20	< 1	< 20	10	40	40	6	< 5
355267	74.10	16.01	0.97	0.097	0.09	0.51	4.87	0.75	0.010	0.26	0.70	98.38	< 1	568	< 5	40	< 1	< 20	< 10	50	42	6	< 5
355268	72.47	16.63	1.26	0.127	0.21	0.41	3.84	1.01	0.014	0.15	0.95	97.07	< 1	803	< 5	30	< 1	< 20	10	60	49	5	< 5
355269	69.52	18.79	1.46	0.124	0.18	0.39	2.99	0.80	0.011	0.19	0.81	95.26	< 1	97	< 5	40	< 1	< 20	< 10	50	60	6	< 5
355270	98.76	0.51	0.78	0.008	0.03	0.02	0.03	0.05	0.023	0.04	0.14	100.4	< 1	< 1	5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355271	69.55	20.79	1.17	0.122	0.07	0.33	2.58	0.45	0.007	0.17	0.51	95.75	< 1	215	< 5	40	< 1	< 20	< 10	< 30	62	5	< 5
355272	70.35	19.94	1.24	0.114	0.20	0.28	2.23	0.47	0.006	0.10	0.75	95.69	1	48	< 5	40	< 1	< 20	< 10	40	59	5	< 5
355273	74.33	16.00	1.15	0.113	0.15	0.28	1.73	0.96	0.011	0.11	0.72	95.55	< 1	97	< 5	60	< 1	< 20	< 10	50	51	5	< 5
355274	73.25	16.88	0.99	0.091	0.06	0.23	1.96	3.26	0.005	0.11	0.42	97.25	< 1	203	< 5	40	< 1	< 20	< 10	< 30	42	5	< 5
355275	72.21	17.64	1.05	0.087	0.07	0.23	1.68	2.97	0.006	0.10	0.41	96.46	< 1	113	< 5	70	< 1	< 20	< 10	< 30	46	5	< 5
355276	50.44	15.76	10.69	0.238	5.78	12.12	1.08	0.82	0.740	0.10	1.44	99.20	40	54	245	240	41	110	90	100	20	3	< 5
355277	45.08	15.28	12.67	0.311	5.94	16.06	0.52	0.45	0.803	0.09	2.35	99.57	43	43	259	240	42	120	200	90	16	5	< 5
355278	72.75	16.27	1.05	0.122	0.17	0.64	2.45	2.89	0.027	0.26	1.03	97.67	< 1	36	< 5	50	1	< 20	20	90	48	6	< 5
355279	78.46	11.98	0.63	0.042	0.08	0.34	2.50	4.97	0.005	0.24	0.44	99.68	< 1	206	< 5	40	< 1	< 20	< 10	< 30	21	6	< 5
355280	74.48	13.87	0.68	0.588	0.03	0.73	0.58	6.12	0.053	0.02	2.06	99.22	12	5	< 5	110	< 1	< 20	170	520	26	5	46
355281	71.76	17.26	0.73	0.119	0.08	0.35	4.81	2.16	0.011	0.25	0.82	98.34	< 1	90	< 5	30	< 1	< 20	< 10	70	48	7	< 5
355282	71.07	17.07	0.52	0.049	0.05	0.21	4.98	4.26	0.004	0.14	0.37	98.73	< 1	47	< 5	20	< 1	< 20	< 10	< 30	30	6	< 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
355283	72.69	16.00	0.73	0.111	0.12	0.31	3.20	3.26	0.010	0.23	0.75	97.40	< 1	80	< 5	30	< 1	< 20	< 10	60	42	6	< 5
355284	74.99	14.42	0.70	0.076	0.09	0.35	4.09	2.91	0.008	0.22	0.70	98.55	< 1	363	< 5	30	< 1	< 20	10	50	35	7	< 5
355285	72.84	15.64	1.13	0.075	0.31	0.65	5.00	1.82	0.029	0.23	0.86	98.57	1	107	9	40	2	< 20	10	< 30	35	7	< 5
355286	66.02	20.55	0.65	0.073	0.19	0.78	8.76	0.99	0.008	0.50	0.92	99.43	< 1	231	< 5	< 20	< 1	< 20	< 10	40	45	6	< 5
355287	48.51	15.22	11.69	0.219	6.27	11.56	0.90	0.90	0.820	0.07	3.00	99.17	43	10	283	260	46	140	30	70	14	2	< 5
355288	44.91	14.07	15.16	0.365	5.32	16.18	0.89	0.28	0.724	0.06	2.11	100.1	38	7	256	220	43	120	340	80	13	3	< 5
355289	48.46	14.55	12.17	0.171	7.57	11.35	2.03	0.46	0.819	0.07	0.97	98.63	43	< 1	277	260	46	130	130	80	13	2	< 5
355290	97.67	0.42	0.59	0.007	0.02	0.02	0.02	0.03	0.020	0.02	0.16	98.97	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355291	48.69	14.70	12.15	0.188	7.88	10.62	1.46	1.03	0.864	0.08	2.16	99.81	44	6	284	260	45	120	140	70	14	2	< 5
355292	70.83	16.80	0.98	0.076	0.55	0.77	4.74	2.79	0.011	0.30	1.40	99.26	< 1	141	< 5	20	1	< 20	10	40	39	9	< 5
355293	48.74	15.18	12.31	0.290	5.92	13.33	1.36	0.69	0.856	0.08	1.17	99.92	45	4	290	270	48	130	100	110	15	2	< 5
355294	48.62	15.63	12.43	0.251	6.16	12.18	2.31	0.63	0.885	0.08	0.74	99.93	47	< 1	291	270	50	130	150	70	14	1	< 5
355295	46.53	14.03	11.35	0.236	5.49	17.02	1.56	0.22	0.769	0.06	2.56	99.84	41	< 1	266	240	42	120	160	80	13	1	< 5
355296	48.32	13.52	11.32	0.229	5.85	16.03	1.74	0.26	0.782	0.06	1.77	99.88	44	< 1	268	260	47	130	160	90	13	2	< 5
355297	47.35	14.33	12.47	0.223	5.95	15.40	0.96	0.20	0.825	0.06	2.22	100.0	43	2	279	270	45	140	120	100	16	2	< 5
355298	67.44	16.45	1.13	0.126	0.45	2.34	5.59	3.34	0.023	0.86	1.61	99.36	1	1065	9	20	2	< 20	10	60	37	7	< 5
355299	81.06	10.58	0.97	0.033	0.10	0.21	0.61	4.15	0.004	0.11	0.40	98.23	< 1	4	< 5	40	< 1	< 20	< 10	< 30	23	9	< 5
355300	74.99	13.12	0.68	0.589	0.03	0.72	0.58	6.14	0.050	0.02	2.30	99.24	12	5	< 5	110	< 1	< 20	170	540	28	6	47
355301	79.13	12.76	1.21	0.059	0.17	0.15	0.95	3.09	0.007	0.06	0.51	98.09	< 1	152	< 5	40	< 1	< 20	10	40	36	8	< 5
355302	72.88	17.71	1.47	0.099	0.09	0.24	2.41	1.62	0.007	0.12	0.63	97.26	< 1	232	< 5	40	< 1	< 20	< 10	60	59	7	< 5
355303	72.05	17.85	1.95	0.136	0.15	0.42	2.09	1.23	0.010	0.09	0.98	96.96	< 1	67	< 5	50	< 1	< 20	< 10	70	70	6	< 5
355304	75.29	15.65	1.15	0.083	0.07	0.26	2.07	1.98	0.005	0.13	0.54	97.23	< 1	197	< 5	40	< 1	< 20	< 10	40	50	8	< 5
355305	73.57	15.65	1.08	0.063	0.06	0.20	2.59	3.53	0.004	0.14	0.40	97.29	< 1	57	< 5	30	< 1	< 20	< 10	30	42	8	< 5
355306	70.56	17.78	1.23	0.091	0.08	0.28	2.77	4.10	0.008	0.15	0.59	97.64	< 1	42	< 5	30	< 1	< 20	< 10	60	54	6	< 5
355307	70.18	17.19	1.52	0.099	0.18	0.26	2.44	4.89	0.021	0.09	0.99	97.84	1	130	< 5	30	< 1	< 20	< 10	120	61	5	< 5
355308	76.63	13.02	1.18	0.073	0.13	0.38	3.41	2.52	0.020	0.10	1.00	98.46	< 1	313	< 5	50	< 1	< 20	< 10	110	47	5	< 5
355309	73.64	17.13	1.33	0.122	0.10	0.25	3.02	1.47	0.014	0.11	0.83	98.02	< 1	92	< 5	40	< 1	< 20	< 10	80	62	6	< 5
355310	97.65	0.63	0.67	0.007	0.02	0.02	0.03	0.08	0.051	0.01	0.30	99.46	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
355311	69.41	20.03	1.57	0.119	0.48	0.20	0.80	1.13	0.008	0.06	1.28	95.07	< 1	115	< 5	50	< 1	< 20	< 10	50	74	7	< 5
355312	72.58	14.86	0.74	0.036	0.08	0.17	2.31	7.80	0.003	0.14	0.41	99.14	< 1	237	< 5	30	< 1	< 20	< 10	30	32	6	< 5
355313	67.72	17.06	0.40	0.013	0.02	0.11	3.25	9.77	0.001	0.16	0.22	98.73	< 1	16	< 5	< 20	< 1	< 20	< 10	< 30	25	6	< 5
355314	73.67	15.27	0.86	0.053	0.10	0.21	5.09	3.62	0.005	0.12	0.49	99.48	< 1	145	< 5	30	< 1	< 20	< 10	40	34	7	< 5
355315	65.53	19.45	1.61	0.176	0.51	0.88	5.05	3.18	0.031	0.26	1.93	98.60	1	160	< 5	30	2	< 20	20	170	73	7	< 5
355316	66.37	18.03	1.65	0.161	0.62	1.15	4.84	3.06	0.027	0.47	2.11	98.48	1	80	< 5	30	2	< 20	20	160	66	7	< 5
355317	47.91	14.04	12.77	0.203	6.78	12.04	1.22	0.77	0.772	0.19	1.83	98.53	43	4	270	260	48	150	150	190	15	2	< 5
355318	49.25	14.57	12.37	0.189	7.09	11.37	2.00	0.23	0.770	0.09	0.90	98.83	42	1	265	250	47	100	120	80	14	2	< 5
355319	40.54	13.00	13.54	0.336	6.33	18.64	1.00	0.60	0.593	0.05	5.18	99.80	35	< 1	224	240	40	150	150	90	13	2	< 5
355320	74.46	14.13	0.69	0.601	0.03	0.74	0.57	6.09	0.054	< 0.01	2.32	99.68	12	5	< 5	120	< 1	< 20	180	560	30	6	49

## Results

## Activation Laboratories Ltd.

## Report: A17-07047

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
355201	1660	109	15	51	2	< 2	0.9	< 0.2	2	1.9	2570	59	< 0.4	1.3	0.6	1	13.8	< 5	0.4	1.3	0.32	0.68	
355202	35	122	15	46	2	< 2	0.9	< 0.2	< 1	1.9	27.5	52	< 0.4	1.2	0.2	2	1.9	< 5	0.3	< 0.1	0.03	0.06	
355203	28	76	17	51	2	5	0.9	< 0.2	< 1	0.8	46.8	31	< 0.4	1.4	0.2	< 1	1.0	15	0.3	0.1	0.04	0.09	
355204	93	93	15	48	2	4	0.8	< 0.2	< 1	1.8	326	35	0.7	1.3	0.2	< 1	1.4	12	0.3	0.5	0.07	0.14	
355205	742	43	< 2	7	26	3	< 0.5	< 0.2	8	< 0.5	115	11	0.4	0.4	47.2	< 1	4.3	10	2.8	0.8	0.02	0.04	
355206	45	2	< 2	< 4	2	4	0.6	< 0.2	1	< 0.5	18.7	< 3	< 0.4	< 0.2	17.0	< 1	1.1	< 5	0.1	0.2	0.01	0.03	
355207	32	2	< 2	< 4	< 1	4	0.6	< 0.2	2	< 0.5	20.6	< 3	< 0.4	< 0.2	7.1	< 1	0.6	7	0.2	0.1	0.22	0.46	
355208	203	8	< 2	5	1	3	< 0.5	< 0.2	11	< 0.5	167	6	< 0.4	2.9	34.3	< 1	1.6	6	0.3	1.5	0.98	2.11	
355209	966	31	< 2	53	351	< 2	0.6	< 0.2	13	1.6	285	17	1.6	5.9	802	3	6.5	19	29.2	41.0	0.25	0.55	
355210	< 2	24	3	30	2	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	99	< 0.4	0.6	< 0.1	< 1	0.5	< 5	0.4	0.3	< 0.01	< 0.01	
355211	530	10	< 2	< 4	4	3	< 0.5	< 0.2	12	< 0.5	163	< 3	< 0.4	0.6	87.4	< 1	4.0	7	0.5	2.1	0.80	1.72	2.77
355212	950	16	< 2	17	68	3	< 0.5	< 0.2	11	0.8	197	< 3	0.5	2.2	225	1	6.3	13	18.0	11.7	0.40	0.87	
355213	618	15	< 2	15	54	< 2	< 0.5	< 0.2	13	0.6	181	< 3	1.3	1.9	163	2	4.9	7	5.9	9.4	0.85	1.83	
355214	644	25	< 2	13	57	< 2	< 0.5	< 0.2	11	< 0.5	176	10	3.5	1.2	118	1	4.0	8	4.0	6.4	0.70	1.50	
355215	5120	74	< 2	10	34	< 2	< 0.5	< 0.2	10	< 0.5	599	32	0.8	1.0	88.6	1	54.2	10	2.5	8.9	0.31	0.67	
355216	4480	64	< 2	12	41	< 2	< 0.5	< 0.2	12	< 0.5	525	38	1.5	1.8	243	1	53.9	10	2.8	11.4	0.43	0.92	
355217	3030	47	< 2	10	31	< 2	< 0.5	< 0.2	5	< 0.5	402	39	7.5	0.7	148	2	39.8	9	1.9	2.9	0.10	0.22	
355218	762	24	< 2	13	71	< 2	< 0.5	< 0.2	10	< 0.5	190	15	1.8	1.5	217	3	12.9	7	4.1	5.0	0.05	0.11	
355219	302	169	14	46	3	3	< 0.5	< 0.2	3	1.1	145	118	1.2	1.2	2.8	8	4.5	< 5	0.4	0.2	0.06	0.12	
355220	2170	25	14	78	71	5	1.9	0.3	12	15.3	62.2	89	74.3	6.3	10.0	106	16.5	496	23.4	47.3	0.27	0.58	
355221	12	121	15	45	2	< 2	0.8	< 0.2	< 1	4.2	1.5	49	2.5	1.3	0.2	< 1	2.5	23	0.3	0.2	0.02	0.05	3.08
355222	34	171	15	48	2	2	0.5	< 0.2	1	0.9	10.8	57	0.9	1.3	0.2	< 1	1.4	< 5	0.3	0.1	0.05	0.11	
355223	3320	49	< 2	12	53	< 2	< 0.5	< 0.2	3	< 0.5	356	31	0.6	1.0	118	2	31.9	10	3.4	1.9	0.07	0.16	
355224	3120	53	< 2	11	52	< 2	< 0.5	< 0.2	8	< 0.5	466	89	0.7	1.3	196	1	31.8	9	3.6	2.0	0.11	0.23	
355225	51	154	15	46	2	3	< 0.5	< 0.2	1	0.6	4.5	74	3.3	1.3	0.5	< 1	3.8	< 5	0.3	0.5	0.05	0.10	
355226	15	146	14	44	2	< 2	< 0.5	< 0.2	< 1	0.6	0.8	36	< 0.4	1.3	0.1	< 1	1.5	< 5	0.2	< 0.1	0.03	0.06	
355227	30	113	15	46	2	< 2	< 0.5	< 0.2	1	0.6	26.6	49	0.4	1.3	0.2	< 1	1.1	< 5	0.3	< 0.1	0.02	0.05	
355228	860	320	15	91	3	< 2	0.6	< 0.2	2	2.1	511	340	1.1	2.2	0.5	< 1	7.8	27	5.7	2.5	0.11	0.25	
355229	284	35	< 2	25	82	< 2	< 0.5	< 0.2	3	0.8	39.1	11	0.7	3.2	125	< 1	3.1	7	13.3	3.9	< 0.01	0.02	
355230	2	5	< 2	33	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	74	< 0.4	0.8	0.4	< 1	0.7	< 5	0.3	0.3	< 0.01	< 0.01	
355231	1640	28	< 2	52	186	< 2	< 0.5	< 0.2	23	0.7	241	7	21.6	6.4	263	3	10.4	16	25.0	23.2	0.20	0.44	2.68
355232	1420	26	< 2	101	243	< 2	0.6	< 0.2	22	0.8	171	6	8.7	12.4	330	3	11.1	17	32.7	28.1	0.24	0.51	
355233	578	17	< 2	63	107	< 2	< 0.5	< 0.2	7	< 0.5	111	9	4.3	7.5	151	1	9.3	6	11.8	8.6	0.04	0.09	
355234	1400	30	< 2	23	106	< 2	< 0.5	< 0.2	20	0.6	263	4	10.2	2.9	152	2	10.1	8	5.5	7.0	0.05	0.11	
355235	622	21	< 2	45	140	< 2	< 0.5	< 0.2	9	0.7	93.4	3	0.9	4.9	183	1	5.1	10	23.4	18.7	0.04	0.10	
355236	581	20	< 2	42	141	< 2	< 0.5	< 0.2	8	0.7	117	3	0.7	4.8	178	1	4.8	9	19.6	16.5	0.02	0.04	
355237	1080	21	< 2	59	281	< 2	< 0.5	< 0.2	16	0.6	199	5	0.9	6.7	341	3	7.4	13	21.4	27.6	0.24	0.52	
355238	932	17	< 2	20	106	2	< 0.5	< 0.2	20	< 0.5	193	4	1.3	2.1	113	2	6.8	7	7.3	10.3	0.97	2.10	
355239	2400	35	< 2	20	95	< 2	< 0.5	< 0.2	29	< 0.5	270	17	1.9	2.2	102	2	20.1	11	13.0	11.0	0.72	1.55	
355240	2170	25	14	76	66	6	1.9	0.3	13	17.7	62.5	92	58.8	5.5	10.1	100	15.9	546	24.9	46.7	0.27	0.57	
355241	1120	21	< 2	11	70	< 2	< 0.5	< 0.2	21	0.7	154	7	0.8	1.2	78.9	2	8.9	7	9.1	9.0	0.29	0.63	2.75

## Results

## Activation Laboratories Ltd.

Report: A17-07047

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
355242	1870	31	< 2	10	80	< 2	< 0.5	< 0.2	14	0.5	208	14	0.5	1.0	93.8	1	17.9	6	3.6	5.3	0.29	0.63	
355243	3260	47	< 2	6	33	< 2	< 0.5	< 0.2	6	< 0.5	339	34	0.4	0.8	87.5	9	35.2	10	1.2	3.2	0.72	1.55	
355244	2530	40	< 2	6	45	< 2	< 0.5	< 0.2	13	0.6	467	22	1.0	0.7	97.2	1	29.8	20	2.5	3.7	1.02	2.19	
355245	486	130	15	46	3	< 2	< 0.5	< 0.2	4	2.3	765	41	1.2	1.3	2.5	2	8.1	6	0.3	0.2	0.17	0.37	
355246	33	101	16	45	2	< 2	< 0.5	< 0.2	< 1	1.6	7.5	46	1.1	1.3	0.2	< 1	2.3	< 5	0.2	0.1	0.09	0.19	
355247	26	81	14	42	2	< 2	< 0.5	< 0.2	1	1.9	4.0	40	1.5	1.2	0.6	1	1.3	< 5	0.3	0.1	0.02	0.03	
355248	44	116	15	43	2	< 2	< 0.5	< 0.2	< 1	2.0	13.4	36	1.0	1.2	0.2	11	1.2	< 5	0.2	0.4	0.06	0.12	
355249	1530	30	< 2	8	54	< 2	< 0.5	< 0.2	15	0.6	220	21	4.7	0.9	105	10	11.6	9	8.5	10.8	0.65	1.40	
355250	3	7	< 2	19	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.0	132	< 0.4	0.4	0.2	< 1	1.2	< 5	0.3	0.2	< 0.01	< 0.01	
355251	116	115	15	47	2	< 2	< 0.5	< 0.2	2	1.6	28.9	90	1.5	1.3	0.7	1	1.4	< 5	0.2	0.6	0.08	0.18	3.08
355252	128	85	16	44	2	< 2	< 0.5	< 0.2	1	2.0	87.4	149	1.1	1.2	0.2	< 1	1.4	< 5	0.2	0.2	0.03	0.07	
355253	154	47	15	42	2	2	< 0.5	< 0.2	1	2.7	122	65	1.3	1.3	0.1	10	3.2	16	0.2	0.2	0.06	0.12	
355254	1860	83	15	45	3	< 2	< 0.5	< 0.2	8	1.7	2470	124	2.1	1.3	1.1	2	17.0	< 5	0.3	0.7	0.14	0.30	
355255	936	17	< 2	7	16	< 2	< 0.5	< 0.2	10	0.6	384	14	< 0.4	0.8	32.3	1	8.9	< 5	2.0	1.6	0.03	0.07	
355256	923	15	< 2	7	18	3	< 0.5	< 0.2	13	0.5	311	8	< 0.4	0.7	26.2	2	7.1	< 5	1.7	1.2	0.04	0.08	
355257	484	9	< 2	5	24	2	< 0.5	< 0.2	8	< 0.5	115	12	0.6	0.5	47.3	< 1	4.0	< 5	1.9	1.0	0.11	0.25	
355258	1690	21	< 2	< 4	22	3	< 0.5	< 0.2	33	0.7	363	12	< 0.4	0.3	30.2	4	10.5	< 5	1.6	1.5	0.99	2.14	
355259	1800	24	< 2	9	14	4	< 0.5	< 0.2	25	0.6	440	38	0.5	1.0	24.1	3	15.8	< 5	1.6	1.7	1.22	2.62	
355260	2170	25	13	80	65	5	1.8	0.3	12	18.3	62.3	91	78.8	6.3	10.0	109	15.8	504	24.7	46.5	0.27	0.58	
355261	4760	64	< 2	9	107	< 2	< 0.5	< 0.2	42	0.9	543	48	< 0.4	1.1	161	4	42.6	7	3.1	1.3	0.32	0.68	2.70
355262	218	112	13	37	17	3	< 0.5	< 0.2	4	1.5	82.4	55	1.7	1.1	11.6	1	5.8	5	0.7	0.9	0.06	0.13	
355263	24	118	15	41	2	8	< 0.5	< 0.2	< 1	0.8	2.8	40	0.9	1.3	0.2	< 1	1.4	< 5	0.2	< 0.1	0.02	0.05	
355264	18	103	14	38	2	< 2	< 0.5	< 0.2	< 1	0.8	3.1	46	< 0.4	1.2	0.1	< 1	0.7	< 5	0.2	< 0.1	0.02	0.04	
355265	94	112	17	45	2	< 2	< 0.5	< 0.2	< 1	1.0	52.4	54	0.6	1.4	0.2	< 1	1.4	< 5	0.3	0.2	0.08	0.17	
355266	1080	26	< 2	30	63	< 2	< 0.5	< 0.2	14	0.6	161	8	0.7	3.5	173	2	7.0	7	6.2	6.0	0.06	0.13	
355267	918	19	< 2	29	81	< 2	< 0.5	< 0.2	15	0.8	257	6	0.9	3.4	126	2	6.7	7	7.7	12.6	0.64	1.37	
355268	1140	23	< 2	13	54	< 2	< 0.5	< 0.2	21	0.8	418	37	0.4	1.5	112	2	8.3	32	4.7	6.0	0.93	2.00	
355269	1010	20	< 2	19	62	< 2	< 0.5	< 0.2	25	0.9	379	10	6.4	2.8	142	2	7.8	10	6.8	8.8	1.61	3.46	
355270	2	7	< 2	16	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	125	< 0.4	0.4	< 0.1	< 1	1.3	< 5	0.4	0.1	< 0.01	< 0.01	
355271	606	15	< 2	33	74	< 2	< 0.5	< 0.2	16	0.8	292	8	4.5	4.1	105	2	4.5	18	10.8	17.1	2.15	4.62	2.92
355272	483	13	< 2	34	77	< 2	< 0.5	< 0.2	14	0.9	223	15	3.5	4.0	103	2	3.8	15	16.1	28.6	1.93	4.15	
355273	1050	21	< 2	12	32	3	< 0.5	< 0.2	26	0.8	286	33	0.9	1.2	51.0	2	8.1	27	4.5	8.4	1.40	3.01	
355274	2840	44	< 2	4	32	< 2	< 0.5	< 0.2	21	0.8	470	29	< 0.4	0.5	70.8	< 1	29.1	16	1.9	2.3	1.16	2.50	
355275	2580	39	< 2	5	19	4	< 0.5	< 0.2	21	0.8	422	27	0.6	0.5	39.4	1	28.6	13	1.0	1.5	1.41	3.04	
355276	892	96	15	42	14	< 2	< 0.5	< 0.2	11	1.5	245	25	1.0	1.4	28.9	12	10.1	< 5	0.8	1.3	0.18	0.38	
355277	239	78	15	42	5	< 2	< 0.5	< 0.2	8	2.9	180	16	5.4	1.3	4.3	32	4.2	< 5	0.3	0.3	0.11	0.25	
355278	3330	56	< 2	5	90	3	< 0.5	< 0.2	34	2.1	478	18	0.4	0.7	469	3	28.3	9	1.7	2.9	0.66	1.43	
355279	4880	69	< 2	< 4	19	< 2	< 0.5	< 0.2	8	0.7	659	33	< 0.4	0.3	49.9	< 1	56.0	8	1.1	2.7	0.13	0.27	
355280	2190	24	13	73	69	5	1.8	0.3	12	18.0	63.1	90	46.9	6.1	10.2	105	18.4	470	23.6	45.7	0.27	0.57	
355281	2520	40	< 2	13	74	< 2	< 0.5	< 0.2	21	0.9	337	14	0.5	1.8	211	3	23.8	6	2.7	4.1	0.57	1.23	2.70
355282	4090	57	< 2	10	35	< 2	< 0.5	< 0.2	7	0.7	460	24	1.7	1.3	86.5	< 1	44.8	9	3.0	3.8	0.26	0.56	

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
355283	3240	47	< 2	6	53	< 2	< 0.5	< 0.2	18	1.0	380	18	7.9	0.7	111	2	33.2	16	2.9	9.6	0.67	1.44	
355284	3090	49	< 2	9	65	< 2	< 0.5	< 0.2	15	1.1	616	27	0.8	1.1	162	2	32.3	6	3.6	3.7	0.33	0.71	
355285	2010	43	< 2	11	55	< 2	< 0.5	< 0.2	12	0.9	533	22	< 0.4	1.4	132	2	22.0	< 5	5.1	4.8	0.41	0.88	
355286	1300	47	2	20	107	< 2	< 0.5	< 0.2	16	0.5	349	11	< 0.4	3.1	278	2	11.5	6	6.3	6.1	0.18	0.39	
355287	942	101	14	45	2	< 2	< 0.5	< 0.2	2	1.6	1250	32	1.4	1.3	0.6	< 1	12.0	< 5	0.3	0.7	0.15	0.32	
355288	20	63	13	42	2	< 2	< 0.5	< 0.2	1	1.9	7.6	38	1.7	1.2	0.3	< 1	2.2	< 5	0.4	0.1	0.02	0.04	
355289	39	123	14	42	2	20	< 0.5	< 0.2	< 1	0.6	9.4	70	< 0.4	1.2	0.2	< 1	1.3	< 5	0.2	< 0.1	0.04	0.09	
355290	< 2	4	< 2	36	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	73	< 0.4	0.8	< 0.1	< 1	0.5	< 5	0.3	0.2	< 0.01	< 0.01	
355291	516	96	14	47	2	3	< 0.5	< 0.2	3	0.9	141	168	0.7	1.3	0.9	< 1	4.2	< 5	0.3	0.5	0.06	0.14	3.00
355292	3550	53	< 2	10	55	< 2	< 0.5	< 0.2	15	0.9	706	46	0.7	1.1	210	3	33.2	7	3.7	6.1	0.46	0.98	
355293	327	102	16	45	2	< 2	< 0.5	< 0.2	2	0.6	117	29	0.5	1.2	0.5	1	5.4	< 5	0.3	0.3	0.05	0.11	
355294	244	101	16	47	2	< 2	< 0.5	< 0.2	< 1	0.5	99.3	66	0.4	1.3	0.2	< 1	3.3	< 5	0.2	< 0.1	0.03	0.06	
355295	18	99	15	42	2	7	< 0.5	< 0.2	< 1	0.7	5.7	28	< 0.4	1.2	0.1	< 1	1.1	< 5	0.2	< 0.1	0.03	0.06	
355296	19	96	15	44	2	6	< 0.5	< 0.2	< 1	0.7	5.4	32	< 0.4	1.2	0.1	< 1	0.6	< 5	0.2	< 0.1	0.03	0.06	
355297	25	126	15	44	2	< 2	0.6	< 0.2	< 1	1.1	7.5	19	0.9	1.3	0.1	< 1	0.5	7	0.2	0.6	0.04	0.08	
355298	3930	63	< 2	8	212	< 2	< 0.5	< 0.2	13	0.9	795	18	7.7	1.1	881	2	37.7	14	8.9	6.1	0.07	0.15	
355299	4850	57	< 2	< 4	3	< 2	< 0.5	< 0.2	8	0.6	534	15	2.8	< 0.2	6.9	< 1	53.9	7	0.2	1.0	0.60	1.29	
355300	2170	22	13	70	63	5	2.2	0.3	13	14.9	61.4	88	45.2	5.8	10.1	103	18.9	463	23.4	46.9	0.27	0.58	
355301	3260	43	< 2	< 4	8	< 2	0.6	< 0.2	15	1.0	441	16	8.1	< 0.2	37.5	< 1	33.4	7	0.7	1.5	0.95	2.04	2.82
355302	2050	31	< 2	9	22	2	< 0.5	< 0.2	25	1.3	399	9	20.6	0.9	37.9	6	21.1	13	7.1	7.0	1.42	3.05	
355303	1590	31	< 2	9	29	2	< 0.5	< 0.2	38	0.7	297	41	0.8	1.3	49.2	1	12.4	8	9.1	8.8	1.65	3.55	
355304	2190	33	< 2	< 4	19	< 2	< 0.5	< 0.2	23	< 0.5	334	18	9.7	0.5	85.7	< 1	21.2	< 5	1.6	3.3	1.32	2.84	
355305	3610	49	< 2	< 4	20	< 2	< 0.5	< 0.2	14	< 0.5	436	17	2.8	0.7	107	< 1	38.6	7	1.7	3.5	0.95	2.04	
355306	3940	55	< 2	< 4	20	< 2	< 0.5	< 0.2	22	< 0.5	434	26	< 0.4	0.3	38.0	< 1	42.7	7	1.1	1.9	0.97	2.09	
355307	4390	59	< 2	< 4	45	< 2	< 0.5	< 0.2	43	< 0.5	382	38	1.2	< 0.2	32.8	2	42.4	6	0.5	1.6	0.67	1.45	
355308	2630	41	< 2	5	37	2	< 0.5	< 0.2	37	< 0.5	294	20	2.8	0.5	29.0	2	22.8	6	1.2	1.9	0.21	0.46	
355309	1640	25	< 2	7	61	2	< 0.5	< 0.2	32	< 0.5	227	12	1.9	1.0	92.9	1	14.3	< 5	2.8	4.9	1.09	2.35	
355310	4	8	< 2	73	1	< 2	0.6	< 0.2	< 1	< 0.5	< 0.5	111	< 0.4	1.6	0.1	< 1	2.5	< 5	0.5	0.2	< 0.01	< 0.01	
355311	1200	23	< 2	12	37	2	< 0.5	< 0.2	27	< 0.5	309	103	2.2	1.8	78.3	< 1	7.8	< 5	5.1	4.8	2.09	4.50	2.93
355312	7560	92	< 2	9	74	< 2	< 0.5	< 0.2	8	< 0.5	829	48	0.4	0.9	122	1	81.6	15	1.4	3.7	0.27	0.58	
355313	8670	112	< 2	7	15	< 2	< 0.5	< 0.2	2	< 0.5	760	55	< 0.4	0.8	25.1	< 1	104	18	1.5	1.1	0.01	0.03	
355314	3750	57	< 2	13	54	< 2	< 0.5	< 0.2	10	< 0.5	577	55	< 0.4	1.6	115	< 1	44.5	9	2.6	3.2	0.20	0.44	
355315	4220	61	< 2	6	93	< 2	< 0.5	< 0.2	64	< 0.5	827	46	1.3	1.2	148	5	35.6	< 5	1.8	2.2	0.44	0.94	
355316	3800	57	< 2	5	71	< 2	< 0.5	< 0.2	56	< 0.5	690	49	0.6	0.8	127	4	31.6	< 5	2.1	2.2	0.34	0.74	
355317	1470	112	15	44	3	< 2	< 0.5	< 0.2	2	1.5	3700	35	0.9	1.3	1.0	< 1	17.3	9	0.4	0.4	0.19	0.41	
355318	38	119	15	40	3	< 2	< 0.5	< 0.2	< 1	0.5	9.9	43	< 0.4	1.1	0.2	< 1	3.0	< 5	0.2	0.1	0.03	0.07	
355319	56	68	12	35	1	5	< 0.5	< 0.2	< 1	< 0.5	8.0	359	0.6	0.9	0.1	< 1	1.7	< 5	0.2	< 0.1	0.02	0.05	
355320	2240	24	14	77	76	6	2.1	0.3	13	16.8	64.7	90	46.5	6.5	10.9	118	14.6	498	25.1	47.0	0.27	0.58	

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	11.15	1.85	0.73	0.013	0.34	43.02	0.87	0.55	0.117	30.22					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	47.62	18.13	9.58	0.144	9.91	11.42	1.89	0.22	0.470	0.07			31		150	290	56	260	100	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	30	50	30	150			27
LKSD-3 Cert																87.0	30.0	47.0	35.0	152			27.0
TDB-1 Meas																250			340	150			
TDB-1 Cert																251			323	155			
W-2a Meas	53.40	15.45	10.76	0.166	6.24	11.02	2.20	0.61	1.076	0.13			35	< 1	271	100	45		110	80	18	1	
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	50.92	20.93	6.21	0.108	0.50	8.10	6.98	1.67	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	48.56	15.78	11.39	0.173	9.47	13.47	1.81	0.02	0.987	0.03			44	< 1	328	380	51	180	120	70	15		< 5
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		0.44
NCS DC86312 Meas																							
NCS DC86312 Cert																							
NCS DC70009 (GBW07241) Meas																30	3	< 20	930	100	16	10	66
NCS DC70009 (GBW07241) Cert																30	3.7	2.8	960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	16		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																	44		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																< 20		< 20		30	17	2	
JR-1 Cert																2.83		1.67		30.6	16.1	1.88	
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 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																							
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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																							
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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																							
355207 Orig																							
355207 Dup																							
355229 Orig																							
355229 Dup																							
355232 Orig	69.35	18.30	0.72	0.098	0.08	0.50	7.66	1.38	0.010	0.20	0.89	99.20	< 1	49	< 5	< 20	< 1	< 20	< 10	100	51	6	< 5
355232 Dup	69.36	18.83	0.73	0.097	0.08	0.50	7.64	1.39	0.010	0.22	0.89	99.74	< 1	48	< 5	< 20	< 1	< 20	< 10	90	51	7	< 5
355237 Orig																							
355237 Dup																							
355251 Orig																							
355251 Dup																							
355259 Orig																							
355259 Dup																							
355263 Orig	49.74	14.38	12.56	0.256	5.07	14.32	1.51	0.27	0.778	0.05	1.54	100.5	42	1	286	260	45	130	170	80	15	2	< 5
355263 Dup	48.82	14.36	12.31	0.249	5.00	14.15	1.47	0.27	0.776	0.07	1.54	99.01	42	1	280	250	45	130	170	70	15	2	< 5
355273 Orig																							
355273 Dup																							
355281 Orig	71.66	17.15	0.72	0.118	0.08	0.35	4.79	2.17	0.011	0.25	0.82	98.12	< 1	90	< 5	30	< 1	< 20	< 10	70	48	7	< 5
355281 Dup	71.86	17.37	0.74	0.119	0.08	0.34	4.82	2.15	0.011	0.25	0.82	98.56	< 1	90	< 5	30	< 1	< 20	< 10	70	48	7	< 5
355295 Orig																							
355295 Dup																							
355299 Orig	81.06	10.58	0.97	0.033	0.10	0.21	0.61	4.15	0.004	0.11	0.40	98.23	< 1	4	< 5	40	< 1	< 20	< 10	< 30	23	9	< 5
355299 Split PREP DUP	79.94	11.42	1.01	0.034	0.10	0.21	0.64	4.38	0.004	0.11	0.36	98.21	< 1	3	< 5	40	< 1	< 20	< 10	< 30	24	9	< 5
355303 Orig																							
355303 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
355311 Orig	69.20	20.26	1.56	0.118	0.47	0.20	0.80	1.13	0.008	0.06	1.28	95.08	< 1	116	< 5	50	< 1	< 20	< 10	50	75	7	< 5
355311 Dup	69.61	19.80	1.57	0.120	0.48	0.19	0.80	1.14	0.008	0.06	1.28	95.06	< 1	114	< 5	40	< 1	< 20	< 10	50	73	7	< 5
355317 Orig																							
355317 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																							
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		139	16	39						1.0		108											
DNC-1 Cert		144.0	18.0	38						0.96		118											
LKSD-3 Meas						< 2	2.9		2		2.1					0.8			10.7	4.5			
LKSD-3 Cert						2.00	2.70		3.00		2.30				0.700				11.4	4.60			
TDB-1 Meas	23																			2.5			
TDB-1 Cert	23																			2.7			
W-2a Meas	21	196	21	96		< 2					1.0	175		2.5				8	2.2	0.6			
W-2a Cert	21.0	190	24.0	94.0		0.600					0.990	182		2.60				9.30	2.40	0.530			
SY-4 Meas		1227	117	549								335											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas														1.2	2.6					21.7	4.3		
CTA-AC-1 Cert														1.13	2.65					21.8	4.4		
BIR-1a Meas		108	13	15								8		0.6									
BIR-1a Cert		110	16	18								6		0.60									
NCS DC86312 Meas																				23.9			
NCS DC86312 Cert																				23.6			
NCS DC70009 (GBW07241) Meas	461						1.9	1.0	1720		38.9					2150	1.9			27.2			
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700		41					2200	1.8			28.3			
OREAS 100a (Fusion) Meas						23														47.8	127		
OREAS 100a (Fusion) Cert						24.1														51.6	135		
OREAS 101a (Fusion) Meas						21														33.5	388		
OREAS 101a (Fusion) Cert						21.9														36.6	422		
OREAS 101b (Fusion) Meas						20														35.3	414		
OREAS 101b (Fusion) Cert						21														37.1	396		
JR-1 Meas					16	3		< 0.2	3		19.0		0.5	4.9	2.0		1.5	18	24.5	8.2			
JR-1 Cert					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 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	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86303 Meas																					0.23	0.49	
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																					1.06	2.28	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.07	2.29	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.13	2.43	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.11	2.38	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.28	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.08	2.32	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86314 Meas																					1.77	3.81	

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																							1.74	3.76	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.72	3.70	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.70	3.65	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.77	3.81	
NCS DC86314 Cert																							1.81	3.89	
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																							7.97		
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																						8.07	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.17	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
355207 Orig																						0.22	0.46
355207 Dup																						0.22	0.47
355229 Orig																						< 0.01	0.02
355229 Dup																						< 0.01	0.02
355232 Orig	1420	26	< 2	102	245	< 2	0.5	< 0.2	21	0.8	170	6	9.2	12.5	332	3	10.9	17	32.8	28.4			
355232 Dup	1420	26	< 2	100	240	< 2	0.6	< 0.2	22	0.7	172	6	8.2	12.2	329	3	11.4	16	32.6	27.9			
355237 Orig																						0.24	0.52
355237 Dup																						0.24	0.52
355251 Orig																						0.08	0.18
355251 Dup																						0.08	0.18
355259 Orig																						1.22	2.62
355259 Dup																						1.22	2.62
355263 Orig	24	121	16	42	2	8	< 0.5	< 0.2	< 1	0.8	2.8	40	0.8	1.3	0.2	< 1	1.8	< 5	0.2	< 0.1			
355263 Dup	24	114	15	41	2	8	< 0.5	< 0.2	< 1	0.7	2.7	39	0.9	1.2	0.2	4	1.0	< 5	0.2	< 0.1			
355273 Orig																						1.36	2.94
355273 Dup																						1.44	3.09
355281 Orig	2530	40	< 2	12	72	< 2	< 0.5	< 0.2	21	1.0	335	14	0.5	1.7	205	3	23.8	6	2.7	4.2	0.58	1.24	
355281 Dup	2520	40	< 2	13	75	< 2	< 0.5	< 0.2	21	0.8	338	14	0.5	1.8	216	2	23.8	5	2.6	4.1	0.57	1.22	
355295 Orig																						0.03	0.06
355295 Dup																						0.03	0.06
355299 Orig	4850	57	< 2	< 4	3	< 2	< 0.5	< 0.2	8	0.6	534	15	2.8	< 0.2	6.9	< 1	53.9	7	0.2	1.0	0.60	1.29	
355299 Split PREP DUP	5000	64	< 2	< 4	1	< 2	< 0.5	< 0.2	8	0.7	581	16	2.0	0.2	5.9	< 1	59.7	7	0.3	1.0	0.59	1.28	
355303 Orig																						1.65	3.56
355303 Dup																						1.64	3.54



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
355311 Orig	1210	22	< 2	13	37	2	< 0.5	< 0.2	27	< 0.5	314	103	2.1	2.0	76.7	< 1	7.6	< 5	5.1	4.9			
355311 Dup	1190	23	< 2	12	37	2	< 0.5	< 0.2	27	< 0.5	305	103	2.2	1.5	79.8	< 1	8.0	< 5	5.0	4.7			
355317 Orig																					0.19	0.42	
355317 Dup																					0.19	0.41	
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



**Date Submitted:** 17-Jul-17  
**Invoice No.:** A17-07230  
**Invoice Date:** 04-Aug-17  
**Your Reference:** Seymour Lake

**Ardiden Ltd.**  
**Suite 6, 295 Rokeby Rd**  
**Subiaco WA 6008**  
**Australia**

**ATTN: Brad Boyle (inv/res)**

## 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-07230**

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

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

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

Emmanuel Esemé, Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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## Results

## Activation Laboratories Ltd.

## Report: A17-07230

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
355321	38.03	11.45	12.14	0.304	7.12	20.39	0.72	0.37	0.587	0.06	8.43	99.60	33	3	214	240	38	130	120	70	13	2	< 5
355322	73.60	14.62	1.10	0.067	0.38	1.09	7.17	0.82	0.023	0.31	0.81	99.99	1	475	9	30	2	< 20	10	< 30	38	6	< 5
355323	78.98	12.78	1.27	0.084	0.13	0.24	2.64	1.92	0.008	0.07	0.93	99.04	< 1	64	< 5	50	1	< 20	< 10	30	41	8	< 5
355324	72.42	16.32	1.38	0.083	0.14	0.60	1.96	3.11	0.005	0.11	1.00	97.14	< 1	17	< 5	< 20	< 1	< 20	< 10	< 30	48	7	< 5
355325	72.63	17.22	1.25	0.078	0.06	0.22	2.41	2.64	0.003	0.09	0.65	97.25	< 1	189	< 5	40	1	< 20	< 10	< 30	49	7	< 5
355326	73.26	15.53	1.35	0.073	0.11	0.21	1.83	3.18	0.003	0.07	0.63	96.26	< 1	7	< 5	40	1	< 20	< 10	< 30	45	8	< 5
355327	72.26	17.99	1.47	0.113	0.07	0.22	1.11	2.51	0.006	0.06	0.87	96.67	1	114	< 5	40	1	< 20	< 10	40	61	7	< 5
355328	73.20	15.77	1.27	0.088	0.09	0.21	2.07	4.08	0.013	0.11	0.67	97.58	< 1	93	< 5	40	1	< 20	< 10	50	48	6	< 5
355329	79.00	12.71	1.13	0.074	0.05	0.34	3.81	1.39	0.008	0.15	0.69	99.34	< 1	139	< 5	40	1	< 20	< 10	40	38	5	< 5
355330	96.70	0.62	2.06	0.020	0.02	0.02	0.03	0.07	0.037	< 0.01	0.18	99.74	< 1	< 1	< 5	20	1	< 20	< 10	< 30	1	1	< 5
355331	72.82	16.87	1.00	0.112	0.06	0.34	3.71	2.52	0.007	0.23	0.52	98.19	< 1	258	< 5	40	1	< 20	< 10	< 30	46	6	< 5
355332	73.21	16.50	1.18	0.132	0.07	0.39	2.85	1.08	0.010	0.25	0.74	96.41	< 1	124	< 5	50	1	< 20	< 10	60	57	6	< 5
355333	68.90	20.84	1.26	0.146	0.08	0.26	1.73	1.46	0.012	0.10	0.87	95.66	< 1	553	< 5	50	1	< 20	< 10	60	74	7	< 5
355334	74.53	15.81	1.37	0.088	0.04	0.29	2.94	2.87	0.004	0.16	0.40	98.51	< 1	424	< 5	30	1	< 20	< 10	< 30	39	6	< 5
355335	74.81	15.29	0.94	0.075	0.08	0.31	4.47	2.07	0.006	0.19	0.69	98.93	< 1	691	< 5	30	1	< 20	< 10	40	41	6	< 5
355336	73.19	15.27	1.10	0.071	0.12	0.30	4.88	2.38	0.005	0.16	0.55	98.04	< 1	254	< 5	< 20	< 1	< 20	< 10	40	43	6	< 5
355337	48.48	14.13	12.43	0.201	7.81	10.90	1.24	0.39	0.754	0.06	2.11	98.50	43	7	275	260	49	130	110	90	16	2	< 5
355338	48.60	14.47	13.12	0.201	7.09	12.35	1.75	0.27	0.768	0.06	1.32	99.98	42	10	266	250	48	120	150	90	15	2	< 5
355339	46.71	15.20	11.77	0.233	5.64	15.09	2.04	0.43	0.740	0.05	1.98	99.88	38	< 1	255	270	43	120	180	80	15	2	< 5
355340	73.67	14.06	0.70	0.594	0.04	0.76	0.59	6.17	0.057	0.01	2.19	98.85	12	5	< 5	120	1	< 20	170	560	29	6	52
355341	47.85	14.95	12.61	0.242	5.86	14.40	1.07	0.33	0.758	0.05	2.30	100.4	39	1	244	280	42	140	190	70	17	2	< 5
355342	75.07	14.19	2.01	0.090	0.63	0.50	3.43	1.87	0.025	0.19	1.40	99.41	< 1	174	9	< 20	2	< 20	< 10	120	53	4	< 5
355343	72.57	15.56	2.32	0.128	0.47	0.31	1.04	3.74	0.050	0.10	2.19	98.49	2	48	16	50	3	< 20	< 10	270	85	4	< 5
355344	69.49	17.04	2.40	0.167	0.50	0.54	1.21	4.24	0.058	0.28	2.66	98.57	3	127	14	70	4	20	10	300	88	5	< 5
355345	75.50	13.20	1.83	0.107	0.40	0.33	1.92	3.40	0.048	0.11	1.84	98.67	2	33	10	50	2	< 20	< 10	240	69	4	< 5
355346	75.47	14.50	1.66	0.094	0.20	0.26	2.78	2.84	0.030	0.13	1.24	99.21	2	134	6	50	2	< 20	< 10	120	53	5	< 5
355347	72.72	15.96	0.67	0.110	0.06	0.52	6.10	1.43	0.007	0.39	0.63	98.60	< 1	382	< 5	< 20	< 1	< 20	< 10	50	44	6	< 5
355348	70.73	15.78	1.25	0.060	0.12	0.21	2.73	6.26	0.011	0.09	0.78	98.02	< 1	98	6	< 20	< 1	< 20	< 10	60	39	4	< 5
355349	74.23	15.65	1.23	0.064	0.20	0.56	4.92	1.79	0.027	0.09	1.29	100.1	2	111	5	40	2	< 20	< 10	110	51	5	< 5
355350	96.00	0.50	3.76	0.038	0.04	0.03	0.03	0.06	0.032	< 0.01	-0.33	100.1	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355351	75.41	14.34	1.65	0.111	0.37	0.28	2.60	3.36	0.044	0.06	1.84	100.1	2	60	8	50	3	< 20	< 10	240	71	4	< 5
355352	73.29	14.31	1.44	0.086	0.21	0.55	4.59	1.91	0.025	0.17	1.49	98.07	1	334	< 5	20	1	< 20	< 10	140	52	4	< 5
355353	78.13	12.11	1.06	0.079	0.07	0.31	2.58	2.97	0.011	0.20	0.62	98.15	< 1	85	< 5	50	1	< 20	< 10	60	37	5	< 5
355354	76.06	14.08	1.78	0.093	0.07	0.27	1.21	2.67	0.007	0.12	0.50	96.85	< 1	507	< 5	60	< 1	< 20	< 10	50	46	5	< 5
355355	74.58	15.18	0.96	0.082	0.07	0.34	4.83	0.96	0.007	0.15	0.58	97.75	< 1	174	< 5	< 20	< 1	< 20	< 10	40	42	5	< 5
355356	74.93	14.29	1.29	0.087	0.07	0.38	4.64	0.94	0.006	0.20	0.51	97.35	< 1	131	< 5	< 20	< 1	< 20	< 10	40	40	5	< 5
355357	77.38	13.80	0.77	0.119	0.04	0.38	5.75	0.39	0.003	0.21	0.42	99.28	< 1	389	< 5	30	1	< 20	< 10	< 30	35	6	< 5
355358	46.61	15.12	12.05	0.215	7.48	13.01	1.09	0.68	0.706	0.06	2.74	99.75	39	4	249	250	50	160	130	70	17	3	< 5
355359	46.15	14.61	12.72	0.178	7.81	12.62	1.26	0.98	0.658	0.09	2.96	100.0	36	7	250	220	46	150	110	90	17	4	< 5
355360	74.23	13.58	0.69	0.596	0.04	0.75	0.58	6.39	0.053	< 0.01	2.24	99.16	12	5	< 5	120	1	< 20	160	540	29	6	52
355361	48.46	15.75	12.53	0.213	5.75	13.08	1.73	0.26	0.793	0.13	1.68	100.4	42	< 1	267	300	51	160	160	80	15	2	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-07230

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
355362	45.34	13.67	11.91	0.248	6.35	13.81	1.21	0.48	0.628	0.14	6.13	99.93	36	10	235	250	38	150	120	70	19	2	< 5
355363	65.14	19.42	1.63	0.114	0.49	0.71	3.54	5.88	0.050	0.37	1.94	99.29	2	109	14	< 20	3	< 20	10	170	77	4	< 5
355364	72.75	16.70	1.46	0.058	0.11	0.24	1.25	5.59	0.008	0.12	0.50	98.79	< 1	7	< 5	40	1	< 20	10	< 30	41	7	< 5
355365	77.81	13.64	1.13	0.081	0.08	0.47	2.76	2.49	0.009	0.23	0.65	99.34	< 1	152	< 5	50	1	< 20	< 10	40	42	5	< 5
355366	68.18	16.47	0.43	0.012	0.05	0.13	2.43	10.51	0.002	0.14	0.54	98.90	< 1	5	< 5	< 20	< 1	< 20	< 10	< 30	27	5	< 5
355367	68.27	16.24	0.63	0.015	0.06	0.15	2.65	10.66	0.002	0.13	0.51	99.33	< 1	62	< 5	< 20	< 1	< 20	< 10	< 30	26	4	< 5
355368	69.33	16.84	0.57	0.031	0.05	0.18	2.92	9.32	0.005	0.14	0.61	100.0	< 1	141	< 5	20	1	< 20	< 10	< 30	32	7	< 5
355369	73.29	14.28	1.22	0.076	0.22	0.26	1.58	7.31	0.017	0.14	1.02	99.42	< 1	257	< 5	30	2	< 20	10	80	36	6	< 5
355370	98.39	0.63	1.23	0.012	0.02	0.02	0.03	0.07	0.028	< 0.01	0.23	100.7	< 1	< 1	< 5	20	1	< 20	10	< 30	1	1	< 5
355371	69.69	18.77	1.61	0.142	0.19	0.19	1.05	3.88	0.022	0.11	1.03	96.70	1	133	< 5	50	2	< 20	< 10	90	64	7	< 5
355372	69.64	15.95	2.70	0.155	0.65	0.23	0.82	4.74	0.081	0.07	2.78	97.83	4	33	14	60	5	< 20	< 10	340	95	4	< 5
355373	73.78	14.82	2.21	0.146	0.54	0.17	0.83	4.13	0.065	0.04	2.36	99.08	3	42	11	60	4	< 20	< 10	300	83	4	< 5
355374	71.33	17.41	1.84	0.128	0.22	0.42	2.13	1.57	0.019	0.19	1.14	96.41	1	257	5	50	2	< 20	< 10	100	68	6	< 5
355375	74.19	16.72	1.67	0.117	0.17	0.43	1.92	1.15	0.016	0.16	0.82	97.37	1	72	< 5	50	1	< 20	< 10	70	64	6	< 5
355376	75.57	15.72	1.91	0.110	0.15	0.39	1.61	1.07	0.014	0.12	0.71	97.38	< 1	115	5	50	1	< 20	< 10	70	59	5	< 5
355377	72.82	17.13	2.27	0.132	0.13	0.36	0.93	1.84	0.014	0.07	0.66	96.36	< 1	612	< 5	50	1	< 20	< 10	80	65	6	< 5
355378	75.97	14.94	1.81	0.094	0.17	0.35	2.25	2.54	0.008	0.10	0.65	98.88	< 1	312	< 5	50	1	< 20	< 10	50	43	5	< 5
355379	73.36	15.22	1.22	0.081	0.12	0.34	4.00	3.45	0.007	0.16	0.51	98.46	< 1	84	< 5	40	1	< 20	< 10	50	41	6	< 5
355380	72.72	14.19	0.71	0.609	0.05	0.77	0.61	6.27	0.054	0.02	2.19	98.19	12	6	< 5	110	1	< 20	170	560	29	6	54
355381	73.99	15.39	1.61	0.075	0.27	0.42	5.11	1.35	0.005	0.23	0.56	99.01	< 1	214	< 5	40	1	< 20	< 10	< 30	38	6	< 5
355382	47.43	14.40	12.50	0.234	7.37	13.06	1.15	0.34	0.811	0.05	2.71	100.1	43	3	278	260	44	120	140	70	16	2	< 5
355383	49.04	15.12	12.57	0.206	6.71	12.16	1.96	0.27	0.817	0.05	0.74	99.66	45	< 1	283	270	49	130	160	90	15	2	< 5
355384	47.76	15.43	12.95	0.202	8.24	11.46	1.54	0.25	0.739	0.05	1.03	99.65	41	< 1	263	280	48	150	130	80	15	2	< 5
355385	47.36	15.38	12.87	0.203	9.37	9.48	1.29	0.51	0.758	0.06	2.65	99.93	40	5	255	280	47	150	120	100	15	2	< 5
355386	59.38	20.37	2.96	0.241	0.90	2.25	1.86	5.95	0.099	1.30	3.12	98.44	4	454	21	50	5	20	10	320	112	5	< 5
355387	59.46	16.87	1.19	0.335	0.19	5.45	1.75	9.50	0.026	4.24	1.19	100.2	1	889	6	20	1	< 20	< 10	90	47	4	< 5
355388	66.01	17.74	1.00	0.022	0.03	0.20	2.47	10.93	0.004	0.14	0.33	98.87	< 1	25	< 5	20	1	< 20	< 10	< 30	29	5	< 5
355389	68.32	16.28	0.89	0.018	0.05	0.21	1.95	10.57	0.004	0.14	0.42	98.86	< 1	11	< 5	30	1	< 20	< 10	< 30	26	5	< 5
355390	97.94	0.57	0.59	0.006	0.02	0.04	0.03	0.05	0.028	< 0.01	0.39	99.68	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	1	1	< 5
355391	73.60	13.82	1.04	0.053	0.14	0.24	1.50	7.15	0.021	0.11	0.95	98.61	< 1	30	< 5	30	2	< 20	< 10	90	41	5	< 5
355392	76.77	13.05	1.92	0.115	0.32	0.28	0.85	2.58	0.037	0.12	1.54	97.58	2	114	10	50	3	< 20	< 10	180	61	5	< 5
355393	76.23	13.47	1.81	0.125	0.31	0.39	1.67	2.72	0.035	0.12	1.59	98.48	2	172	9	70	2	< 20	< 10	190	64	5	< 5
355394	75.27	15.19	1.80	0.135	0.24	0.32	1.26	2.19	0.029	0.11	1.38	97.93	1	584	6	60	2	< 20	< 10	180	71	5	< 5
355395	75.96	14.51	1.22	0.140	0.18	0.45	1.36	2.68	0.021	0.26	1.13	97.90	1	211	< 5	50	2	< 20	< 10	130	58	5	< 5
355396	75.97	14.07	1.48	0.137	0.17	0.49	1.55	2.66	0.019	0.28	1.06	97.91	1	86	< 5	50	1	< 20	< 10	120	55	5	< 5
355397	75.25	13.51	1.16	0.074	0.10	0.35	2.03	4.31	0.012	0.11	0.83	97.74	< 1	257	< 5	30	1	< 20	10	70	41	5	< 5
355398	73.24	15.72	1.18	0.096	0.11	0.27	2.30	2.83	0.008	0.12	0.69	96.55	< 1	259	< 5	30	1	< 20	< 10	50	48	6	< 5
355399	74.15	15.31	1.52	0.147	0.21	0.26	2.22	2.03	0.015	0.11	1.17	97.14	< 1	214	< 5	40	2	< 20	< 10	120	60	5	< 5
355400	73.45	13.87	0.70	0.607	0.03	0.75	0.56	6.12	0.054	< 0.01	2.40	98.54	12	5	< 5	120	1	< 20	170	560	29	7	55
355401	72.00	16.86	1.22	0.087	0.25	0.61	4.54	0.88	0.005	0.11	0.96	97.52	< 1	251	< 5	30	1	< 20	< 10	< 30	48	5	< 5
355402	47.51	15.94	12.86	0.222	6.80	11.83	1.60	0.42	0.888	0.07	2.15	100.3	45	2	288	270	47	140	100	80	18	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	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
355403	50.74	15.31	11.35	0.225	4.52	13.26	1.62	0.30	0.863	0.10	1.62	99.91	45	< 1	283	280	49	140	110	80	17	2	< 5
355404	43.88	13.18	14.11	0.284	5.77	17.02	1.14	0.20	0.730	0.05	3.58	99.96	39	< 1	251	240	46	130	220	90	14	1	< 5
355405	47.81	14.98	12.34	0.229	6.05	13.50	0.83	0.35	0.836	0.06	1.43	98.41	45	3	283	270	51	140	140	90	16	2	< 5
355406	73.53	15.20	0.60	0.031	0.07	0.58	6.96	2.05	0.006	0.22	0.54	99.79	< 1	76	< 5	20	1	< 20	< 10	< 30	32	6	< 5
355407	70.98	16.56	1.15	0.092	0.25	0.51	3.57	2.44	0.015	0.17	1.07	96.82	< 1	19	< 5	30	2	< 20	10	60	53	6	< 5
355408	72.13	16.08	1.39	0.082	0.25	0.50	4.42	1.03	0.012	0.12	1.06	97.09	< 1	21	< 5	30	1	< 20	< 10	50	55	5	< 5
355409	69.78	20.23	1.85	0.130	0.21	0.25	1.27	0.72	0.009	0.05	0.74	95.25	2	108	< 5	30	2	< 20	20	40	74	6	< 5
355410	98.64	0.58	0.92	0.010	0.01	0.02	0.03	0.06	0.025	< 0.01	0.20	100.5	< 1	< 1	< 5	< 20	1	< 20	< 10	< 30	1	1	< 5
355411	72.07	17.97	1.68	0.112	0.09	0.16	0.89	1.83	0.007	0.06	0.47	95.35	1	22	< 5	40	1	< 20	< 10	30	66	6	< 5
355412	74.12	16.66	1.42	0.089	0.12	0.35	3.37	0.94	0.015	0.07	0.73	97.89	1	587	< 5	40	1	< 20	< 10	60	53	6	< 5
355413	71.53	17.73	1.84	0.120	0.17	0.37	2.15	1.36	0.020	0.12	0.94	96.35	1	394	5	50	2	< 20	< 10	100	69	5	< 5
355414	75.29	14.37	1.21	0.075	0.16	0.18	2.52	3.90	0.014	0.09	0.72	98.53	< 1	326	< 5	40	2	< 20	< 10	70	44	5	< 5
355415	77.62	13.07	1.20	0.058	0.16	0.25	2.70	3.67	0.017	0.11	0.81	99.66	< 1	166	< 5	40	2	< 20	< 10	80	38	5	< 5
355416	76.07	13.69	1.08	0.056	0.16	0.30	2.75	4.39	0.017	0.14	0.81	99.46	< 1	167	< 5	30	2	< 20	< 10	80	39	5	< 5
355417	72.75	14.89	1.03	0.041	0.17	0.32	2.21	6.80	0.013	0.10	0.91	99.23	< 1	71	< 5	30	1	< 20	< 10	50	36	5	< 5
355418	72.63	16.32	1.35	0.125	0.30	0.28	2.50	1.43	0.011	0.16	0.93	96.05	< 1	35	< 5	50	1	< 20	10	50	55	6	< 5
355419	72.25	18.01	1.47	0.150	0.14	0.29	2.52	1.16	0.012	0.18	0.91	97.09	< 1	913	< 5	40	1	< 20	10	80	65	7	< 5
355420	74.82	13.89	0.69	0.599	0.03	0.75	0.57	6.24	0.053	< 0.01	2.30	99.96	12	5	< 5	120	1	< 20	170	560	29	6	51

## Results

## Activation Laboratories Ltd.

## Report: A17-07230

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
355321	55	106	13	34	1	10	< 0.5	< 0.2	1	< 0.5	7.7	105	4.1	1.0	0.2	2	0.1	6	0.2	0.4	0.03	0.06	
355322	817	25	2	12	84	< 2	< 0.5	< 0.2	10	< 0.5	148	25	28.1	1.9	251	3	5.9	11	5.2	7.1	0.03	0.06	
355323	2340	36	< 2	25	70	2	< 0.5	< 0.2	25	0.9	378	47	77.8	4.6	435	3	19.6	15	14.0	39.8	0.56	1.21	
355324	3280	53	< 2	24	49	< 2	< 0.5	< 0.2	15	0.8	459	64	8.6	2.5	93.6	< 1	32.2	7	6.4	14.6	1.24	2.68	
355325	2810	44	< 2	15	76	2	< 0.5	< 0.2	15	< 0.5	571	27	3.0	2.0	176	6	32.7	11	10.5	16.9	1.32	2.84	
355326	3330	49	< 2	11	51	2	< 0.5	< 0.2	33	< 0.5	416	27	3.4	3.2	214	2	39.3	9	2.9	9.9	1.08	2.34	
355327	3000	49	< 2	5	28	2	< 0.5	< 0.2	24	< 0.5	705	88	1.0	0.7	125	3	32.4	14	2.5	5.7	1.68	3.61	
355328	3980	54	< 2	6	23	2	< 0.5	< 0.2	31	< 0.5	455	23	2.2	0.5	47.5	2	46.1	12	2.8	5.9	0.85	1.82	
355329	1600	32	< 2	5	22	2	< 0.5	< 0.2	19	< 0.5	263	12	< 0.4	0.5	28.0	15	18.6	6	1.6	1.8	0.47	1.01	
355330	7	9	< 2	42	1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.9	145	< 0.4	1.1	0.2	2	2.7	6	0.4	0.3	< 0.01	< 0.01	
355331	2680	41	< 2	12	34	2	< 0.5	< 0.2	18	< 0.5	444	15	0.7	1.3	66.2	3	28.0	9	5.0	4.6	0.85	1.83	2.73
355332	1390	21	< 2	13	90	3	< 0.5	< 0.2	25	< 0.5	247	7	0.4	1.6	170	3	12.9	8	5.4	4.1	1.23	2.64	
355333	1780	27	< 2	64	202	3	< 0.5	< 0.2	33	< 0.5	379	14	0.4	8.2	249	4	15.5	13	12.2	9.7	1.89	4.06	
355334	2660	40	< 2	21	62	2	< 0.5	< 0.2	11	< 0.5	412	16	0.5	2.7	137	2	30.9	11	5.1	6.2	0.87	1.87	
355335	2270	35	< 2	8	55	< 2	< 0.5	< 0.2	15	< 0.5	423	18	1.2	1.1	122	3	25.5	7	2.8	3.5	0.49	1.06	
355336	2510	37	< 2	10	67	< 2	< 0.5	< 0.2	12	< 0.5	390	27	1.1	0.8	123	< 1	28.2	< 5	2.9	4.2	0.50	1.08	
355337	178	95	15	43	2	3	< 0.5	< 0.2	1	< 0.5	204	35	0.6	1.3	0.4	2	4.9	6	0.3	0.2	0.16	0.34	
355338	81	97	15	42	2	3	< 0.5	< 0.2	4	< 0.5	74.9	36	0.5	1.3	0.3	18	2.0	< 5	0.2	0.1	0.06	0.13	
355339	39	89	14	39	2	26	< 0.5	< 0.2	< 1	< 0.5	5.6	102	< 0.4	1.3	0.2	2	0.9	6	0.2	0.1	0.02	0.04	
355340	2220	26	14	67	71	6	1.9	0.3	13	15.0	65.1	88	46.9	5.8	11.3	107	14.3	496	24.6	48.9	0.27	0.59	
355341	51	122	15	39	3	7	< 0.5	< 0.2	1	1.2	21.7	126	1.6	1.2	0.1	3	2.1	10	0.3	0.3	0.03	0.06	3.12
355342	2040	33	< 2	13	83	< 2	< 0.5	< 0.2	41	< 0.5	291	34	1.5	1.5	153	2	16.6	< 5	10.1	5.9	0.31	0.66	
355343	4500	52	< 2	6	105	4	< 0.5	< 0.2	96	< 0.5	593	22	2.0	0.3	66.3	5	31.1	< 5	0.9	1.2	0.58	1.25	
355344	5500	67	< 2	4	120	4	< 0.5	< 0.2	115	< 0.5	863	17	4.0	0.8	117	10	41.6	5	1.2	3.3	0.46	0.98	
355345	4070	52	2	5	82	4	< 0.5	< 0.2	84	< 0.5	524	17	1.8	0.2	56.5	5	29.8	< 5	0.5	0.8	0.23	0.49	
355346	3090	44	< 2	6	60	3	< 0.5	< 0.2	50	< 0.5	433	24	1.9	0.8	91.0	5	27.5	6	1.9	2.8	0.45	0.98	
355347	1540	27	< 2	10	56	< 2	< 0.5	< 0.2	14	< 0.5	359	21	0.9	1.3	272	1	16.9	< 5	3.9	9.2	0.39	0.83	
355348	4840	71	< 2	5	28	< 2	< 0.5	< 0.2	21	< 0.5	485	101	0.5	0.3	42.8	< 1	47.0	8	0.6	1.2	0.35	0.76	
355349	1930	46	< 2	< 4	48	2	< 0.5	< 0.2	44	< 0.5	189	16	2.6	0.2	40.3	5	18.3	5	0.7	0.9	0.23	0.49	
355350	6	7	2	26	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.9	118	< 0.4	0.6	0.1	< 1	5.8	< 5	0.5	0.2	< 0.01	< 0.01	
355351	3940	53	< 2	< 4	99	3	< 0.5	< 0.2	89	< 0.5	355	17	0.7	0.3	66.4	8	28.4	< 5	0.9	1.1	0.21	0.45	2.70
355352	2320	41	< 2	6	46	2	< 0.5	< 0.2	48	< 0.5	260	12	< 0.4	< 0.2	30.8	4	17.3	< 5	0.4	0.9	0.16	0.34	
355353	2750	40	< 2	7	32	3	< 0.5	< 0.2	25	< 0.5	360	21	< 0.4	0.7	60.6	4	29.0	7	3.1	3.0	0.39	0.85	
355354	2690	36	2	11	17	5	< 0.5	< 0.2	22	< 0.5	570	20	< 0.4	1.2	43.2	< 1	26.6	< 5	3.0	1.8	1.12	2.41	
355355	1020	21	< 2	29	129	< 2	< 0.5	< 0.2	14	< 0.5	221	10	0.4	3.8	156	< 1	12.1	< 5	6.5	10.8	0.65	1.39	
355356	1040	21	< 2	29	63	2	< 0.5	< 0.2	13	< 0.5	196	10	< 0.4	3.6	94.9	< 1	10.2	< 5	7.1	8.5	0.62	1.34	
355357	426	15	< 2	13	47	2	< 0.5	< 0.2	7	< 0.5	173	9	< 0.4	1.9	185	2	4.6	6	5.4	4.4	0.38	0.81	
355358	164	132	16	39	2	< 2	< 0.5	< 0.2	2	0.6	12.3	85	1.5	1.3	0.4	3	1.7	9	0.3	0.4	0.04	0.10	
355359	313	102	15	36	2	< 2	< 0.5	< 0.2	2	< 0.5	187	87	2.4	1.1	0.3	3	2.7	13	0.2	0.2	0.06	0.13	
355360	2180	25	13	69	72	5	1.6	0.3	13	14.7	64.6	91	56.2	6.1	11.2	114	13.9	518	25.4	49.6	0.27	0.58	
355361	30	132	16	40	2	< 2	< 0.5	< 0.2	< 1	0.8	3.8	37	< 0.4	1.3	0.2	2	2.0	< 5	0.2	0.1	0.02	0.05	3.03

## Results

## Activation Laboratories Ltd.

## Report: A17-07230

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
355362	113	87	13	35	4	6	< 0.5	< 0.2	3	0.8	12.1	60	0.7	1.2	3.8	2	1.3	5	0.3	0.6	0.06	0.13	
355363	5240	69	3	10	129	< 2	< 0.5	< 0.2	81	< 0.5	405	32	0.6	1.3	82.5	5	43.2	5	1.8	2.1	0.13	0.29	
355364	4410	63	< 2	< 4	6	2	< 0.5	< 0.2	23	< 0.5	447	29	4.6	0.3	30.3	1	50.2	11	0.5	3.8	0.94	2.02	
355365	2050	37	< 2	6	55	5	< 0.5	< 0.2	26	< 0.5	271	26	10.2	0.6	87.3	4	22.4	7	1.8	3.4	0.62	1.34	
355366	7520	103	< 2	< 4	5	< 2	< 0.5	< 0.2	2	< 0.5	661	132	< 0.4	< 0.2	19.9	< 1	77.8	14	0.4	0.6	0.02	0.03	
355367	7480	102	< 2	5	4	< 2	< 0.5	< 0.2	2	< 0.5	753	142	< 0.4	0.3	27.5	< 1	72.5	13	0.8	1.1	0.01	0.03	
355368	7360	104	< 2	7	39	< 2	< 0.5	< 0.2	11	< 0.5	938	125	0.5	1.9	434	2	84.0	17	1.3	3.7	0.09	0.20	
355369	6280	85	< 2	< 4	31	< 2	< 0.5	< 0.2	30	< 0.5	768	124	0.9	0.3	55.8	3	60.5	11	0.7	2.3	0.09	0.19	
355370	8	9	< 2	27	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.1	154	< 0.4	0.8	0.3	3	4.1	< 5	0.4	0.2	< 0.01	< 0.01	
355371	3540	52	< 2	< 4	48	3	< 0.5	< 0.2	47	< 0.5	505	46	3.3	0.5	91.0	4	30.6	5	2.1	1.6	1.33	2.87	2.88
355372	5590	64	< 2	< 4	169	4	< 0.5	< 0.2	136	< 0.5	421	24	2.7	0.4	94.4	10	41.1	< 5	0.8	1.2	0.28	0.61	
355373	4890	56	< 2	5	126	3	< 0.5	< 0.2	112	< 0.5	385	23	2.8	0.5	74.6	9	37.7	< 5	0.7	1.0	0.29	0.62	
355374	1840	32	< 2	4	50	3	< 0.5	< 0.2	44	0.6	303	25	1.8	0.5	69.8	7	16.4	< 5	1.9	2.2	1.30	2.80	
355375	1360	26	< 2	7	32	2	< 0.5	< 0.2	35	< 0.5	319	22	0.8	1.3	45.2	3	11.6	< 5	1.7	1.8	1.42	3.05	
355376	1240	21	< 2	6	41	2	< 0.5	< 0.2	31	< 0.5	275	17	1.9	1.0	90.1	3	9.8	< 5	2.1	2.3	1.35	2.90	
355377	2040	31	< 2	8	30	3	< 0.5	< 0.2	41	< 0.5	525	21	0.9	1.3	79.2	3	17.2	< 5	1.7	2.0	1.53	3.28	
355378	2340	38	< 2	9	34	3	< 0.5	< 0.2	22	< 0.5	379	30	< 0.4	1.2	61.6	2	23.7	5	1.7	2.3	0.73	1.58	
355379	3330	49	< 2	19	40	2	< 0.5	< 0.2	17	< 0.5	443	33	0.8	2.6	80.7	3	33.8	8	3.0	2.9	0.40	0.86	
355380	2150	25	12	67	57	5	2.3	0.3	12	14.4	66.6	94	50.5	5.9	10.0	103	17.5	498	24.3	47.8	0.28	0.59	
355381	1210	29	< 2	8	47	2	< 0.5	< 0.2	14	< 0.5	192	62	< 0.4	1.6	187	3	12.9	5	2.8	2.3	0.41	0.88	2.69
355382	74	81	14	41	2	7	< 0.5	< 0.2	1	1.1	24.0	31	1.1	1.3	0.2	2	2.7	5	0.3	0.6	0.06	0.13	
355383	22	89	15	42	2	5	< 0.5	< 0.2	< 1	0.8	3.1	35	< 0.4	1.5	0.2	3	0.8	< 5	0.3	0.1	0.03	0.07	
355384	25	73	14	37	2	< 2	< 0.5	< 0.2	< 1	1.0	17.6	22	< 0.4	1.3	0.2	1	< 0.1	< 5	0.2	0.1	0.15	0.32	
355385	152	68	13	38	2	< 2	< 0.5	< 0.2	1	1.0	60.3	68	< 0.4	1.2	0.3	1	0.5	7	0.2	0.5	0.18	0.40	
355386	6100	80	6	7	213	2	< 0.5	< 0.2	146	< 0.5	437	44	1.1	0.9	125	11	39.4	6	2.8	3.2	0.30	0.65	
355387	6590	105	16	< 4	49	< 2	< 0.5	< 0.2	39	< 0.5	658	112	1.5	0.4	26.7	4	62.9	21	6.6	5.5	0.09	0.19	
355388	7110	103	< 2	< 4	27	< 2	< 0.5	< 0.2	5	< 0.5	557	130	< 0.4	0.3	88.0	1	77.6	16	0.8	1.0	0.03	0.06	
355389	7250	108	< 2	< 4	6	< 2	< 0.5	< 0.2	4	< 0.5	678	131	0.8	0.2	66.3	1	82.0	17	0.5	1.1	0.04	0.08	
355390	4	8	< 2	27	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	150	< 0.4	0.8	0.1	1	5.6	< 5	0.4	0.2	< 0.01	< 0.01	
355391	5530	76	< 2	7	35	< 2	< 0.5	< 0.2	35	< 0.5	502	90	0.4	0.8	46.6	5	52.1	12	2.2	2.5	0.08	0.18	2.71
355392	3030	38	< 2	6	62	3	< 0.5	< 0.2	63	< 0.5	451	15	1.3	0.7	64.9	6	25.2	< 5	1.7	2.0	0.67	1.44	
355393	3190	41	< 2	5	60	4	< 0.5	< 0.2	66	< 0.5	364	18	1.5	0.4	72.2	6	25.1	< 5	0.8	1.8	0.44	0.95	
355394	2700	34	< 2	< 4	67	3	< 0.5	< 0.2	68	< 0.5	364	11	0.5	0.2	46.6	5	21.5	< 5	0.7	1.2	0.90	1.94	
355395	2760	37	< 2	6	84	3	< 0.5	< 0.2	46	< 0.5	347	24	0.7	0.9	93.3	4	24.4	5	5.8	3.9	0.84	1.80	
355396	2680	37	< 2	9	104	3	< 0.5	< 0.2	42	< 0.5	335	22	0.5	1.2	126	4	24.3	6	5.5	3.7	0.81	1.75	
355397	3860	55	< 2	4	34	< 2	< 0.5	< 0.2	29	< 0.5	482	42	0.6	0.5	43.4	3	42.5	8	2.1	3.2	0.42	0.91	
355398	2710	40	< 2	5	18	< 2	< 0.5	< 0.2	24	< 0.5	434	23	< 0.4	0.6	48.6	2	30.4	6	2.4	1.8	1.02	2.19	
355399	2240	35	< 2	17	64	2	< 0.5	< 0.2	41	< 0.5	337	49	0.7	2.4	85.0	4	19.2	5	3.6	2.6	0.86	1.84	
355400	2150	24	13	68	62	5	2.2	0.3	13	15.1	63.8	89	64.7	6.4	10.5	104	16.8	512	25.3	50.1	0.27	0.58	
355401	501	32	< 2	10	45	< 2	< 0.5	< 0.2	13	< 0.5	139	158	< 0.4	1.2	59.0	3	5.7	< 5	2.9	1.7	0.92	1.97	2.86
355402	105	133	15	43	4	9	< 0.5	< 0.2	2	1.3	9.7	63	0.7	1.4	0.7	2	1.8	5	0.3	0.2	0.10	0.21	

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
355403	36	226	16	55	3	< 2	< 0.5	< 0.2	1	1.4	14.4	148	0.4	1.8	0.2	2	0.9	7	1.4	0.3	0.06	0.13	
355404	21	76	14	37	2	3	< 0.5	< 0.2	< 1	1.0	1.2	35	< 0.4	1.2	0.1	2	0.5	< 5	0.2	0.1	0.02	0.03	
355405	120	102	15	42	2	6	< 0.5	< 0.2	1	1.5	90.2	49	0.8	1.5	0.2	2	1.4	6	0.3	0.8	0.08	0.17	
355406	1700	37	< 2	9	86	< 2	< 0.5	< 0.2	4	0.5	177	18	< 0.4	1.3	150	2	15.8	8	7.2	3.9	< 0.01	0.02	
355407	2320	37	< 2	10	56	< 2	< 0.5	< 0.2	24	< 0.5	314	18	1.3	1.6	115	2	20.9	7	6.1	6.9	0.82	1.77	
355408	1010	22	< 2	8	60	< 2	< 0.5	< 0.2	22	0.8	187	15	1.2	1.1	78.2	3	9.3	5	6.3	10.4	0.77	1.67	
355409	865	17	< 2	4	25	< 2	< 0.5	< 0.2	33	0.7	314	12	7.1	0.5	42.8	2	7.5	< 5	1.1	2.0	2.16	4.64	
355410	4	7	3	29	1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.9	145	< 0.4	0.9	0.1	1	1.1	5	1.4	0.2	< 0.01	< 0.01	
355411	1870	26	< 2	4	42	2	< 0.5	< 0.2	30	0.5	353	14	2.1	0.7	105	2	17.6	6	3.4	3.6	1.97	4.25	2.90
355412	1030	25	< 2	< 4	31	2	< 0.5	< 0.2	29	0.6	183	8	0.7	0.2	35.1	3	9.1	< 5	1.3	2.9	1.01	2.17	
355413	1590	27	< 2	< 4	47	2	< 0.5	< 0.2	46	0.6	242	8	1.6	0.3	51.6	4	12.2	< 5	0.4	1.2	1.30	2.80	
355414	3460	47	< 2	< 4	49	2	< 0.5	< 0.2	27	< 0.5	413	41	< 0.4	0.3	71.4	3	35.3	7	2.0	2.6	0.53	1.14	
355415	3180	47	< 2	< 4	38	2	< 0.5	< 0.2	30	0.5	344	42	8.3	0.3	43.2	3	31.8	7	1.5	1.7	0.20	0.43	
355416	3740	55	< 2	5	39	< 2	< 0.5	< 0.2	31	0.5	394	48	1.0	0.5	41.8	3	36.2	8	1.4	1.4	0.17	0.36	
355417	5200	75	< 2	< 4	26	< 2	< 0.5	< 0.2	24	1.0	468	102	0.8	0.2	33.0	2	48.0	10	0.5	0.8	0.11	0.23	
355418	1350	22	< 2	16	64	3	< 0.5	< 0.2	24	1.0	222	18	1.5	2.0	109	3	14.5	5	4.1	4.2	1.13	2.42	
355419	1380	22	< 2	25	110	2	< 0.5	< 0.2	31	1.1	448	10	0.7	3.9	175	3	11.4	6	7.4	7.4	1.44	3.11	
355420	2170	25	13	68	73	6	2.4	0.3	13	16.4	63.5	91	51.6	6.8	10.7	115	16.3	512	25.1	47.1	0.28	0.59	



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	1.85	0.76	0.013	0.34	42.86	0.88	0.56	0.121	30.23					1638								
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	1.85	0.76	0.010	0.34	42.86	0.88	0.56	0.120	30.23					1638								
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	47.24	18.11	9.78	0.146	10.08	11.50	1.90	0.22	0.479	0.07				31	150	270	52	240	90		13		
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		15		
DNC-1 Meas	47.24	18.11	9.78	0.150	10.08	11.50	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	71.78	13.12	3.26	0.143	0.14	0.59	2.47	5.40	0.276	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							
GBW 07113 Meas	71.78	13.12	3.26	0.140	0.14	0.59	2.47	5.40	0.280	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																	28	50	30	140			27
LKSD-3 Cert																	30.0	47.0	35.0	152			27.0
TDB-1 Meas																240		100	330	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.43	15.18	10.83	0.165	6.27	11.04	2.22	0.62	1.066	0.13				35	< 1	265	100	43	70	110	80	19	1
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
W-2a Meas	52.43	15.18	10.83	0.170	6.27	11.04	2.22	0.62	1.070	0.13				35	< 1	265							
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	50.27	20.76	6.24	0.107	0.50	8.05	6.92	1.67	0.291	0.12				1	3	5							
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	50.27	20.76	6.24	0.110	0.50	8.05	6.92	1.67	0.290	0.12				1	3	5							
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	48.09	15.41	11.34	0.173	9.50	13.54	1.82	0.02	0.951	0.02				44	< 1	324	360	47	170	120	60	14	< 5
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	0.44
BIR-1a Meas	48.09	15.41	11.34	0.170	9.50	13.54	1.82	0.02	0.950	0.02				44	< 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																	4		870	100	15	11	65
NCS DC70009 (GBW07241) Cert																	3.7		960	100	16.5	11.2	69.9
OREAS 100a (Fusion) Meas																	17		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
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																							
355327 Orig																							
355327 Dup																							
355335 Orig	74.72	15.50	0.96	0.075	0.09	0.31	4.47	2.07	0.006	0.20	0.69	99.08	< 1	692	< 5	30	1	< 20	< 10	40	40	6	< 5
355335 Dup	74.90	15.08	0.91	0.074	0.08	0.31	4.47	2.07	0.006	0.18	0.69	98.77	< 1	690	< 5	30	1	< 20	< 10	40	42	6	< 5
355349 Orig																							
355349 Dup																							
355352 Orig	73.40	14.22	1.43	0.085	0.22	0.55	4.57	1.90	0.024	0.16	1.49	98.04	1	332	< 5	20	1	< 20	< 10	140	52	4	< 5
355352 Dup	73.17	14.39	1.44	0.086	0.21	0.55	4.62	1.93	0.025	0.18	1.49	98.10	1	335	7	20	1	< 20	< 10	140	52	4	< 5
355357 Orig																							
355357 Dup																							
355369 Orig	73.29	14.28	1.22	0.076	0.22	0.26	1.58	7.31	0.017	0.14	1.02	99.42	< 1	257	< 5	30	2	< 20	10	80	36	6	< 5
355369 Split PREP DUP	73.53	14.19	1.24	0.067	0.21	0.25	1.63	7.43	0.014	0.14	0.92	99.61	< 1	272	< 5	40	2	< 20	10	70	34	6	< 5
355371 Orig																							
355371 Dup																							
355379 Orig																							
355379 Dup																							
355383 Orig	48.92	15.28	12.67	0.206	6.87	12.29	1.96	0.28	0.832	0.06	0.74	100.1	45	< 1	284	270	49	130	160	90	15	2	< 5
355383 Dup	49.17	14.96	12.47	0.205	6.55	12.04	1.96	0.27	0.803	0.05	0.74	99.22	45	< 1	282	270	48	120	160	80	15	2	< 5
355393 Orig																							
355393 Dup																							
355400 Orig	73.17	13.97	0.70	0.618	0.03	0.76	0.56	6.10	0.053	< 0.01	2.40	98.36	12	5	< 5	120	1	< 20	170	550	29	6	49
355400 Dup	73.73	13.76	0.69	0.597	0.03	0.75	0.57	6.14	0.054	< 0.01	2.40	98.72	12	5	< 5	120	1	< 20	170	570	29	7	60
355401 Orig																							
355401 Dup																							
355415 Orig																							
355415 Dup																							
355420 Orig	74.93	13.72	0.69	0.600	0.03	0.75	0.57	6.24	0.053	0.01	2.30	99.89	12	5	< 5	120	1	< 20	170	560	29	6	51

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
355420 Dup	74.72	14.06	0.70	0.597	0.03	0.75	0.57	6.24	0.053	< 0.01	2.30	100.0	12	5	< 5	120	1	< 20	170	550	29	6	51
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
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																							
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								

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	4	144	14	38						0.8		109											
DNC-1 Cert	5	144.0	18.0	38						0.96		118											
DNC-1 Meas		144	14	38								109											
DNC-1 Cert		144.0	18.0	38								118											
GBW 07113 Meas		41	43	399								500											
GBW 07113 Cert		43.0	43.0	403								506											
GBW 07113 Meas		41	43	399								500											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	76					< 2	2.8			1.2	2.1			4.8	0.7				11.1	4.5			
LKSD-3 Cert	78.0					2.00	2.70			1.30	2.30			4.80	0.700				11.4	4.60			
TDB-1 Meas																				2.5			
TDB-1 Cert																				2.7			
W-2a Meas	21	195	18	88	8	< 2					0.9	174	< 0.4	2.4		< 1	0.2		2.3	0.6			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600					0.990	182	0.0300	2.60		0.300	0.200		2.40	0.530			
W-2a Meas		195	18	88								174											
W-2a Cert		190	24.0	94.0								182											
SY-4 Meas		1205	111	535								347											
SY-4 Cert		1191	119	517								340											
SY-4 Meas		1205	111	535								347											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas														1.2					22.7	4.3			
CTA-AC-1 Cert														1.13					21.8	4.4			
BIR-1a Meas		109	12	16						< 0.5		7		0.5				< 5					
BIR-1a Cert		110	16	18						0.58		6		0.60				3					
BIR-1a Meas		109	12	16								7											
BIR-1a Cert		110	16	18								6											
NCS DC86312 Meas																				24.0			
NCS DC86312 Cert																				23.6			
NCS DC70009 (GBW07241) Meas	509						1.9	1.0	1770	2.9	37.2					2110	1.7	81	26.7				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8	81	28.3				
OREAS 100a (Fusion) Meas						24														48.6	130		
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	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) Cert																							
OREAS 101a (Fusion) Meas						21														33.9	402		
OREAS 101a (Fusion) Cert						21.9														36.6	422		
OREAS 101b (Fusion) Meas						20														36.1	416		
OREAS 101b (Fusion) Cert						21														37.1	396		
JR-1 Meas	261				15	4		< 0.2		1.0	20.4		0.5	4.6	2.0		1.5	18	24.6	8.2			
JR-1 Cert	257				15.2	3.25		0.028		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	
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 DC86303 Meas																					0.21	0.46	
NCS DC86303 Cert																					0.21	0.460	
NCS DC86304 Meas																					1.06	2.29	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.29	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.05	2.26	
NCS DC86304 Cert																					1.06	2.29	
NCS DC86304 Meas																					1.06	2.28	

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																						1.05	2.27	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86314 Meas																						1.82	3.93	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.78	3.82	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.84	3.95	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.80	3.86	
NCS DC86314 Cert																						1.81	3.89	
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																						8.26		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						7.98		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
Lithium																						8.26		



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																						8.47	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
355327 Orig																						1.67	3.59
355327 Dup																						1.68	3.62
355335 Orig	2240	36	< 2	8	57	< 2	< 0.5	< 0.2	15	< 0.5	417	19	1.2	1.0	121	3	25.7	7	2.8	3.5	0.49	1.06	
355335 Dup	2290	34	< 2	9	53	< 2	< 0.5	< 0.2	15	< 0.5	429	18	1.2	1.2	124	3	25.3	7	2.8	3.6	0.49	1.05	
355349 Orig																						0.23	0.50
355349 Dup																						0.23	0.49
355352 Orig	2340	41	< 2	5	45	2	< 0.5	< 0.2	47	< 0.5	261	12	< 0.4	< 0.2	31.2	3	17.2	< 5	0.4	0.9			
355352 Dup	2310	41	< 2	6	46	2	< 0.5	< 0.2	48	< 0.5	259	12	< 0.4	0.3	30.4	4	17.4	< 5	0.4	0.9			
355357 Orig																						0.37	0.80
355357 Dup																						0.38	0.83
355369 Orig	6280	85	< 2	< 4	31	< 2	< 0.5	< 0.2	30	< 0.5	768	124	0.9	0.3	55.8	3	60.5	11	0.7	2.3	0.09	0.19	
355369 Split PREP DUP	6220	87	< 2	< 4	23	2	< 0.5	< 0.2	25	0.9	776	128	1.1	0.4	52.7	5	64.7	11	0.7	2.4	0.08	0.17	
355371 Orig																						1.33	2.87
355371 Dup																						1.33	2.86
355379 Orig																						0.40	0.86
355379 Dup																						0.40	0.86
355383 Orig	22	90	15	42	2	5	< 0.5	< 0.2	< 1	0.8	3.1	36	< 0.4	1.5	0.2	1	1.1	< 5	0.3	0.1			
355383 Dup	22	89	15	41	2	5	< 0.5	< 0.2	< 1	0.7	3.1	34	< 0.4	1.4	0.2	4	0.5	< 5	0.3	0.1			
355393 Orig																						0.45	0.97
355393 Dup																						0.43	0.93
355400 Orig	2160	24	13	69	67	5	2.0	0.3	13	14.6	63.8	88	44.3	6.7	10.6	101	16.9	504	25.1	49.4			
355400 Dup	2130	24	13	68	57	5	2.3	0.3	12	15.5	63.8	90	85.0	6.2	10.3	107	16.7	519	25.4	50.7			
355401 Orig																						0.91	1.95
355401 Dup																						0.92	1.99
355415 Orig																						0.20	0.42
355415 Dup																						0.20	0.44
355420 Orig	2190	24	13	69	72	6	2.3	0.3	13	16.6	63.8	91	45.7	6.8	10.8	112	16.2	522	25.5	48.3			

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
355420 Dup	2150	25	13	68	73	5	2.5	0.3	13	16.2	63.2	91	57.5	6.8	10.6	118	16.3	502	24.8	45.9			
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																							1.00
Method Blank		< 2	< 2	< 4								< 3											
Method Blank		< 2	< 2	< 4								< 3											



**Date Submitted:** 18-Jul-17  
**Invoice No.:** A17-07319  
**Invoice Date:** 03-Aug-17  
**Your Reference:** Seymour Lake

**Ardiden Ltd.**  
**Suite 6, 295 Rokeby Rd**  
**Subiaco WA 6008**  
**Australia**

**ATTN: Brad Boyle (inv/res)**

## CERTIFICATE OF ANALYSIS

40 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-07319**

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

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

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

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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## Results

## Activation Laboratories Ltd.

## Report: A17-07319

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
355421	69.68	19.96	1.58	0.153	0.06	0.21	0.48	0.85	0.010	0.12	0.49	93.60	< 1	167	< 5	50	< 1	< 20	< 10	60	74	7	< 5
355422	71.67	19.28	1.74	0.141	0.09	0.17	0.72	1.12	0.012	0.08	0.51	95.54	< 1	87	< 5	50	< 1	< 20	10	50	67	7	< 5
355423	73.94	16.16	1.13	0.110	0.09	0.12	2.21	2.63	0.009	0.10	0.49	96.98	< 1	107	< 5	40	< 1	< 20	< 10	50	49	6	< 5
355424	73.32	15.73	0.87	0.079	0.06	0.18	3.55	3.60	0.007	0.15	0.58	98.12	< 1	145	< 5	40	< 1	< 20	< 10	40	39	7	< 5
355425	74.65	14.48	1.29	0.086	0.32	0.34	4.21	2.16	0.015	0.19	0.97	98.72	< 1	77	< 5	40	1	< 20	20	70	46	6	< 5
355426	48.26	14.91	13.70	0.194	8.16	10.22	1.38	0.30	0.784	0.07	1.84	99.84	42	2	270	270	48	130	120	90	16	2	< 5
355427	48.90	14.36	13.34	0.188	8.47	10.64	1.83	0.22	0.780	0.06	1.23	100.0	43	< 1	276	260	49	130	160	90	16	2	< 5
355428	49.52	15.08	13.60	0.229	4.28	12.69	1.54	0.34	0.765	0.07	1.33	99.45	43	< 1	286	300	50	160	120	90	17	2	< 5
355429	49.39	14.93	12.48	0.221	5.15	11.49	1.29	0.78	0.741	0.08	3.29	99.84	40	25	261	280	47	150	100	80	17	2	< 5
355430	95.96	0.47	2.58	0.026	0.02	0.04	0.02	0.04	0.033	0.03	-0.05	99.17	< 1	< 1	7	30	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355431	71.26	14.81	1.67	0.085	0.41	1.56	1.60	5.15	0.059	0.41	2.46	99.47	3	83	12	50	2	< 20	< 10	190	70	4	< 5
355432	76.92	12.71	1.53	0.061	0.18	0.24	1.32	5.60	0.024	0.14	0.96	99.68	< 1	20	5	60	1	< 20	< 10	110	46	4	< 5
355433	70.81	16.75	0.84	0.043	0.12	0.18	3.02	7.72	0.016	0.14	0.83	100.5	< 1	14	< 5	30	< 1	< 20	< 10	80	44	5	< 5
355434	75.46	14.30	1.44	0.073	0.24	0.29	1.98	3.99	0.021	0.11	1.04	98.95	< 1	55	< 5	40	1	< 20	< 10	100	51	5	< 5
355435	71.88	15.89	2.00	0.101	0.42	0.57	2.77	3.09	0.042	0.19	1.52	98.46	2	146	8	40	2	< 20	< 10	160	65	5	< 5
355436	74.73	14.43	1.85	0.090	0.36	0.52	2.68	2.91	0.034	0.18	1.32	99.09	2	159	6	50	2	< 20	< 10	140	56	5	< 5
355437	73.81	15.98	1.97	0.118	0.26	0.41	2.18	2.05	0.031	0.20	1.15	98.17	2	182	< 5	40	2	< 20	< 10	140	67	5	< 5
355438	78.19	12.91	1.64	0.090	0.27	0.29	2.37	2.28	0.031	0.12	1.17	99.35	2	42	8	50	2	< 20	< 10	140	54	5	< 5
355439	78.11	12.85	1.78	0.097	0.34	0.31	2.23	2.92	0.043	0.12	1.54	100.3	2	45	10	60	2	< 20	< 10	190	62	5	< 5
355440	74.24	13.31	0.73	0.599	0.03	0.75	0.59	6.46	0.051	0.02	2.19	98.97	12	5	< 5	120	< 1	< 20	170	570	30	6	54
355441	77.35	12.83	1.59	0.089	0.30	0.23	1.17	3.88	0.026	0.15	1.25	98.86	1	41	6	40	1	< 20	< 10	130	55	5	< 5
355442	74.13	15.00	2.04	0.131	0.41	0.19	1.29	3.87	0.046	0.07	2.06	99.23	2	23	9	50	3	< 20	< 10	260	88	4	< 5
355443	74.84	14.73	1.53	0.133	0.29	0.36	1.17	4.38	0.028	0.23	1.51	99.20	1	195	< 5	40	2	< 20	< 10	170	65	5	< 5
355444	77.04	13.67	1.62	0.134	0.15	0.43	1.89	1.60	0.013	0.29	0.73	97.58	< 1	273	< 5	40	< 1	< 20	< 10	80	52	5	< 5
355445	71.69	15.05	1.34	0.087	0.57	1.16	6.45	1.16	0.021	0.40	1.20	99.13	1	157	7	30	2	< 20	20	40	37	6	< 5
355446	49.77	14.93	11.85	0.211	6.40	10.52	1.43	0.26	0.757	0.09	3.42	99.62	44	9	270	320	48	160	130	130	18	2	< 5
355447	51.15	15.07	11.15	0.210	4.11	12.64	2.64	0.23	0.747	0.07	1.40	99.42	45	< 1	271	320	56	170	230	100	16	2	< 5
355448	46.35	15.47	13.20	0.249	8.63	9.82	1.66	0.53	0.740	0.08	2.88	99.62	42	3	266	300	49	160	140	140	16	2	< 5
355449	47.88	14.90	12.93	0.237	6.76	11.67	1.32	0.46	0.750	0.06	2.47	99.44	41	4	261	300	49	150	160	290	16	2	< 5
355450	96.20	0.74	1.45	0.016	0.04	0.07	0.05	0.06	0.031	< 0.01	0.10	98.75	< 1	< 1	5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
355451	73.35	14.67	1.85	0.089	0.77	0.97	4.00	2.05	0.047	0.26	1.49	99.54	2	240	15	40	3	< 20	10	110	52	5	< 5
355452	72.96	15.82	2.12	0.117	0.48	0.53	2.16	2.46	0.036	0.25	1.42	98.36	2	174	7	40	2	< 20	< 10	130	67	5	< 5
355453	67.12	15.35	3.34	0.143	1.47	2.08	2.89	3.06	0.156	0.69	2.17	98.47	9	201	51	80	10	40	30	140	53	5	< 5
355454	71.34	15.58	2.12	0.129	0.60	0.46	2.48	3.65	0.061	0.18	2.01	98.62	3	102	14	40	3	< 20	< 10	230	78	5	< 5
355455	74.67	15.49	1.98	0.109	0.39	0.37	1.60	2.34	0.033	0.22	1.37	98.58	2	153	8	50	2	< 20	< 10	130	68	4	< 5
355456	74.57	15.04	1.92	0.100	0.39	0.44	2.21	2.31	0.030	0.17	1.36	98.53	2	137	7	40	2	< 20	< 10	120	65	5	< 5
355457	71.68	18.04	1.49	0.090	0.14	0.32	2.56	3.45	0.017	0.13	0.79	98.73	1	76	5	40	< 1	< 20	< 10	80	59	5	< 5
355458	73.75	16.75	1.37	0.069	0.13	0.32	3.68	2.53	0.010	0.13	0.47	99.21	< 1	160	< 5	30	< 1	< 20	< 10	40	50	5	< 5
355459	69.79	16.88	0.42	0.010	0.02	0.17	2.36	10.72	0.001	0.18	0.30	100.8	< 1	27	< 5	20	< 1	< 20	< 10	< 30	25	5	< 5
355460	74.59	13.46	0.72	0.605	0.03	0.76	0.60	6.49	0.050	0.04	2.22	99.54	12	5	< 5	120	< 1	< 20	160	570	29	6	50

## Results

## Activation Laboratories Ltd.

## Report: A17-07319

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
355421	1210	19	< 2	15	47	2	0.5	< 0.2	27	0.9	363	7	< 0.4	1.4	115	3	7.4	7	7.4	8.4	2.53	5.44	
355422	1320	20	< 2	10	39	3	< 0.5	< 0.2	27	0.9	306	8	2.0	1.2	101	3	10.4	< 5	3.5	3.9	2.12	4.57	
355423	2630	36	< 2	17	72	< 2	0.5	< 0.2	22	0.8	366	14	1.0	2.0	124	3	24.3	7	4.7	4.6	1.16	2.49	
355424	3450	48	< 2	19	45	< 2	< 0.5	< 0.2	16	0.9	490	19	1.6	2.4	95.8	3	37.2	9	5.0	3.6	0.55	1.18	
355425	2290	35	< 2	8	49	3	< 0.5	< 0.2	27	0.7	250	25	1.5	1.2	138	4	22.4	6	3.6	3.1	0.29	0.62	
355426	202	105	15	42	2	< 2	0.6	< 0.2	1	1.7	206	23	< 0.4	1.3	0.3	2	4.3	< 5	0.3	0.3	0.22	0.48	
355427	68	111	16	42	3	< 2	< 0.5	< 0.2	2	1.2	10.5	27	< 0.4	1.2	0.7	2	1.5	< 5	0.2	< 0.1	0.14	0.30	
355428	27	111	17	40	2	14	< 0.5	< 0.2	< 1	0.8	3.4	49	0.4	1.3	0.2	2	0.7	6	0.2	< 0.1	0.04	0.08	
355429	390	93	16	37	3	8	< 0.5	< 0.2	2	1.5	74.6	72	0.6	1.2	1.0	4	2.1	10	0.2	0.6	0.09	0.19	3.06
355430	3	7	< 2	27	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	78	< 0.4	0.7	< 0.1	1	0.2	< 5	0.3	0.3	< 0.01	< 0.01	
355431	4690	97	3	6	89	< 2	< 0.5	< 0.2	78	0.7	326	37	0.4	0.5	75.5	6	31.7	5	1.0	1.6	0.17	0.36	
355432	4460	66	< 2	6	51	3	< 0.5	< 0.2	45	0.7	362	45	< 0.4	0.8	66.0	4	39.2	6	1.3	1.9	0.10	0.22	
355433	5730	84	< 2	5	43	< 2	< 0.5	< 0.2	33	0.7	507	59	< 0.4	0.5	60.9	3	57.1	11	0.7	1.1	0.08	0.16	
355434	3560	49	< 2	5	45	2	< 0.5	< 0.2	39	0.7	382	35	1.0	0.5	71.5	4	33.4	6	1.0	1.6	0.46	0.99	
355435	3170	48	< 2	5	77	2	< 0.5	< 0.2	64	0.9	283	32	2.3	0.5	93.8	7	25.7	5	2.7	3.8	0.43	0.93	
355436	2910	48	< 2	7	59	3	< 0.5	< 0.2	53	0.8	270	33	1.1	0.7	61.3	5	23.3	6	3.0	3.2	0.35	0.75	
355437	2330	35	< 2	7	83	3	< 0.5	< 0.2	54	0.9	228	14	1.2	0.6	91.5	5	18.0	6	2.7	3.9	0.90	1.94	
355438	2650	39	< 2	7	67	2	< 0.5	< 0.2	50	0.9	362	16	2.1	0.9	108	5	21.2	5	4.3	7.5	0.42	0.90	
355439	3430	47	< 2	5	86	3	< 0.5	< 0.2	71	0.9	345	18	3.7	0.6	93.5	7	26.8	< 5	1.2	4.3	0.23	0.49	2.76
355440	2240	25	15	74	66	6	2.0	0.3	14	13.9	65.9	89	59.6	6.1	10.9	121	18.3	501	24.5	49.7	0.28	0.61	
355441	3610	47	< 2	11	54	2	< 0.5	< 0.2	51	1.2	347	35	2.0	1.1	53.8	5	31.7	8	5.6	7.7	0.49	1.06	
355442	4510	52	< 2	6	114	3	< 0.5	< 0.2	105	1.0	303	15	1.0	0.7	65.2	8	32.4	< 5	2.9	2.6	0.38	0.81	
355443	4240	55	< 2	7	69	< 2	< 0.5	< 0.2	63	1.0	404	27	0.5	0.8	52.1	5	36.6	7	3.4	6.1	0.54	1.16	
355444	1810	26	< 2	18	75	< 2	< 0.5	< 0.2	37	0.9	279	12	< 0.4	2.3	96.8	4	16.6	< 5	7.2	4.8	1.04	2.23	
355445	1110	29	< 2	31	85	< 2	< 0.5	< 0.2	14	0.8	167	11	< 0.4	3.8	178	3	11.4	5	8.9	3.8	0.19	0.42	
355446	41	82	13	43	3	< 2	< 0.5	< 0.2	2	1.1	8.2	76	1.1	1.2	0.4	2	2.3	9	0.2	0.5	0.06	0.14	
355447	13	115	17	44	2	< 2	< 0.5	< 0.2	< 1	1.1	1.7	159	0.9	1.4	0.2	3	1.1	< 5	0.2	< 0.1	0.01	0.03	
355448	135	139	15	43	2	10	< 0.5	< 0.2	< 1	1.7	41.8	82	< 0.4	1.3	0.2	2	1.4	12	0.2	0.5	0.09	0.18	
355449	94	186	15	40	2	3	< 0.5	< 0.2	1	2.6	12.5	66	0.7	1.2	0.3	2	0.8	14	0.2	0.5	0.08	0.18	3.02
355450	3	9	< 2	28	< 1	< 2	< 0.5	< 0.2	< 1	0.6	< 0.5	154	< 0.4	0.8	0.1	2	0.1	< 5	0.4	0.2	< 0.01	< 0.01	
355451	2050	47	3	7	42	< 2	< 0.5	< 0.2	34	0.8	398	108	< 0.4	0.6	70.8	5	13.0	< 5	1.8	1.8	0.30	0.64	
355452	2660	41	< 2	7	86	< 2	< 0.5	< 0.2	54	0.8	439	70	0.4	0.9	129	6	18.5	< 5	3.0	2.7	0.69	1.48	
355453	4530	82	< 2	13	66	< 2	< 0.5	< 0.2	44	1.0	2860	33	2.9	1.2	120	5	38.8	7	2.8	5.6	0.36	0.77	
355454	4430	57	2	6	108	< 2	< 0.5	< 0.2	92	0.8	552	24	0.4	0.5	84.5	9	32.9	< 5	1.2	2.5	0.30	0.64	
355455	2470	38	< 2	7	69	2	< 0.5	< 0.2	56	0.8	304	62	< 0.4	0.5	47.5	6	19.5	6	1.9	4.1	0.83	1.78	
355456	2480	39	< 2	6	68	2	< 0.5	< 0.2	55	0.8	308	67	0.4	0.5	42.2	5	18.1	5	2.0	4.4	0.69	1.48	
355457	2670	45	< 2	7	41	2	< 0.5	< 0.2	37	0.8	269	37	0.5	0.7	46.0	10	24.5	8	1.2	2.8	0.96	2.08	
355458	2010	36	< 2	5	26	< 2	< 0.5	< 0.2	20	0.7	229	31	0.9	0.3	26.6	3	19.4	7	1.0	3.8	0.82	1.78	
355459	7760	107	< 2	< 4	3	< 2	< 0.5	< 0.2	2	0.7	685	82	0.4	0.4	17.1	1	87.7	19	0.6	1.2	0.03	0.06	2.68
355460	2240	24	14	75	72	6	2.3	0.3	13	13.8	65.0	92	62.6	6.1	10.6	115	21.2	524	24.7	51.0	0.28	0.60	

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	1.89	0.81	0.013	0.36	42.84	0.88	0.54	0.117	30.09					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	47.07	18.75	10.50	0.147	10.23	11.37	1.92	0.22	0.475	0.11			31		154	270	52	240	90		13		
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		15		
GBW 07113 Meas	71.86	13.25	3.22	0.143	0.15	0.60	2.45	5.40	0.281	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																	28	50	30	140			27
LKSD-3 Cert																	30.0	47.0	35.0	152			27.0
TDB-1 Meas																240		100	330	150			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.97	15.31	10.80	0.164	6.40	11.10	2.23	0.62	1.007	0.17			36	< 1	273	100	43	70	110	80	19	1	
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	50.36	20.68	6.02	0.107	0.53	8.08	6.90	1.68	0.279	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				
CTA-AC-1 Cert																			54.0				
BIR-1a Meas	48.67	15.15	11.08	0.167	9.52	13.53	1.82	0.02	0.961	0.03			44	< 1	331	360	47	170	120	60	14		< 5
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		0.44
NCS DC86312 Meas																							
NCS DC86312 Cert																							
ZW-C Meas																				970	92		
ZW-C Cert																				1050.00	99		
NCS DC70009 (GBW07241) Meas																	4		870	100	15	11	65
NCS DC70009 (GBW07241) Cert																	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																	44		410				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	43		410				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20	< 10	30	16	2	18

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																		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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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																								
355427 Orig																								
355427 Dup																								
355435 Orig	72.18	15.70	1.97	0.099	0.42	0.57	2.80	3.11	0.042	0.19	1.52	98.59	2	147	8	40	2	< 20	< 10	160	65	5	< 5	
355435 Dup	71.58	16.08	2.03	0.103	0.42	0.57	2.75	3.07	0.041	0.19	1.52	98.34	2	146	9	40	2	< 20	< 10	160	65	5	< 5	
355449 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
355449 Dup																							
355452 Orig	72.61	16.01	2.14	0.119	0.49	0.53	2.18	2.48	0.036	0.24	1.42	98.24	2	176	7	50	2	< 20	< 10	130	67	5	< 5
355452 Dup	73.32	15.64	2.11	0.116	0.48	0.52	2.14	2.44	0.036	0.26	1.42	98.48	2	172	8	40	2	< 20	< 10	130	66	5	< 5
355457 Orig																							
355457 Dup																							
355459 Orig																							
355459 Dup																							
Method Blank	< 0.01	< 0.01	0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	0.001	0.02	0.00	< 0.01	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
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	4	147	16	35						0.8		105											
DNC-1 Cert	5	144.0	18.0	38						0.96		118											
GBW 07113 Meas		43	43	397								494											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	76					< 2	2.8			1.2	2.1			4.8	0.7				11.1	4.5			
LKSD-3 Cert	78.0					2.00	2.70			1.30	2.30			4.80	0.700				11.4	4.60			
TDB-1 Meas																				2.5			
TDB-1 Cert																				2.7			
W-2a Meas	21	199	19	89	8	< 2				< 0.5	0.9	173	< 0.4	2.4		< 1	0.2			2.3	0.6		
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600				0.790	0.990	182	0.0300	2.60		0.300	0.200			2.40	0.530		
SY-4 Meas		1188	117	530								351											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas														1.2						22.7	4.3		
CTA-AC-1 Cert														1.13						21.8	4.4		
BIR-1a Meas		108	14	14						< 0.5		6		0.5				< 5					
BIR-1a Cert		110	16	18						0.58		6		0.60				3					
NCS DC86312 Meas																				24.0			
NCS DC86312 Cert																				23.6			
ZW-C Meas	8470				200						248				77.8	317	32.6						
ZW-C Cert	8500				198						260				82	320	34						
NCS DC70009 (GBW07241) Meas	509						1.9	1.0	1770	2.9	37.2					2110	1.7	81	26.7				
NCS DC70009 (GBW07241) Cert	500						1.8	1.3	1700	3.1	41					2200	1.8	81	28.3				
OREAS 100a (Fusion) Meas						24														48.6	130		
OREAS 100a (Fusion) Cert						24.1														51.6	135		
OREAS 101a (Fusion) Meas						21														33.9	402		
OREAS 101a (Fusion) Cert						21.9														36.6	422		
OREAS 101b (Fusion) Meas						20														36.1	416		
OREAS 101b (Fusion) Cert						21														37.1	396		
JR-1 Meas	261				15	4		< 0.2		1.0	20.4		0.5	4.6	2.0		1.5	18	24.6	8.2			
JR-1 Cert	257				15.2	3.25		0.028		1.19	20.8		0.56	4.51	1.86		1.56	19.3	26.7	8.88			

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	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																						0.22	0.47	
NCS DC86303 Cert																						0.21	0.460	
NCS DC86303 Meas																						0.21	0.45	
NCS DC86303 Cert																						0.21	0.460	
NCS DC86304 Meas																						1.10	2.36	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.07	2.29	
NCS DC86304 Cert																						1.06	2.29	
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	
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																						8.43		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
355427 Orig																						0.14	0.29	
355427 Dup																						0.14	0.30	
355435 Orig	3180	48	< 2	5	74	2	< 0.5	< 0.2	63	0.9	283	32	2.2	0.6	91.9	6	26.1	5	2.9	3.9	0.44	0.94		
355435 Dup	3170	49	< 2	4	79	2	< 0.5	< 0.2	65	0.9	282	32	2.4	0.4	95.7	7	25.3	5	2.5	3.6	0.43	0.92		
355449 Orig																						0.08	0.18	
355449 Dup																						0.09	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
355452 Orig	2680	41	< 2	7	85	6	< 0.5	< 0.2	54	0.9	443	71	0.4	1.0	128	6	18.6	< 5	3.1	2.7			
355452 Dup	2640	40	< 2	7	87	< 2	< 0.5	< 0.2	53	0.7	436	69	0.4	0.9	130	6	18.3	< 5	3.0	2.6			
355457 Orig																					1.01	2.18	
355457 Dup																					0.92	1.97	
355459 Orig																							2.69
355459 Dup																							2.67
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																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	
Method Blank																							1.00



**Date Submitted:** 24-Jul-17  
**Invoice No.:** A17-07652 (i)  
**Invoice Date:** 23-Aug-17  
**Your Reference:** Seymour Lake

**Ardiden Ltd.**  
**Suite 6, 295 Rokeby Rd**  
**Subiaco WA 6008**  
**Australia**

**ATTN: Brad Boyle (inv/res)**

## CERTIFICATE OF ANALYSIS

83 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-07652 (i)**

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

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé".

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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## Results

## Activation Laboratories Ltd.

## Report: A17-07652

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
355461	66.46	16.69	0.63	0.012	0.04	0.15	2.29	11.32	0.002	0.15	0.20	97.95	< 1	10	< 5	20	< 1	< 20	< 10	< 30	24	6	< 5
355462	70.14	15.51	1.07	0.026	0.08	0.19	3.13	8.26	0.003	0.17	0.25	98.82	< 1	180	< 5	30	< 1	< 20	< 10	< 30	24	6	< 5
355463	69.02	15.53	1.72	0.105	0.65	1.64	6.01	1.83	0.016	0.34	1.99	98.85	< 1	213	6	30	3	< 20	20	90	48	6	< 5
355464	48.01	14.01	10.94	0.215	5.27	15.02	1.04	0.44	0.675	0.07	2.93	98.61	40	1	247	290	48	160	170	300	17	2	7
355465	46.24	14.34	11.49	0.238	5.31	15.63	2.02	0.41	0.753	0.05	3.67	100.2	40	1	248	280	46	160	120	150	14	2	< 5
355466	48.55	15.20	11.70	0.197	7.09	12.51	1.13	0.74	0.776	0.06	2.21	100.2	41	< 1	249	290	50	160	220	70	15	2	< 5
355467	47.21	14.60	11.67	0.173	9.41	9.29	0.62	1.04	0.740	0.08	5.06	99.89	36	8	230	270	45	150	70	70	16	3	< 5
355468	68.84	17.67	1.30	0.066	0.55	1.59	8.05	0.59	0.032	0.25	1.10	100.0	2	24	11	30	3	< 20	20	< 30	40	7	< 5
355469	47.14	15.04	11.08	0.218	5.31	16.70	0.42	0.32	0.740	0.05	3.14	100.2	40	5	260	280	45	140	170	70	16	3	< 5
355470	96.77	0.57	1.75	0.018	0.02	0.04	0.04	0.06	0.042	< 0.01	-0.12	99.18	< 1	< 1	< 5	20	1	< 20	< 10	< 30	1	1	< 5
355471	47.34	15.62	12.45	0.218	6.35	13.49	1.36	0.65	0.802	0.05	1.45	99.78	42	1	268	310	51	170	80	90	15	2	< 5
355472	48.17	15.32	10.72	0.238	4.30	16.95	1.13	0.28	0.713	0.09	2.26	100.2	38	28	242	270	45	140	110	80	18	3	< 5
355473	48.84	14.91	11.99	0.232	5.18	14.80	0.69	0.57	0.777	0.06	1.69	99.73	42	5	261	310	51	180	130	90	15	2	< 5
355474	69.53	17.09	1.67	0.117	0.21	2.00	4.29	0.66	0.020	0.56	0.61	96.75	2	135	7	40	2	< 20	< 10	40	56	6	< 5
355475	49.62	16.12	12.43	0.243	4.67	10.30	1.81	0.54	0.799	0.06	2.62	99.21	44	2	290	320	55	180	170	70	17	2	< 5
355476	51.13	16.27	12.30	0.241	4.42	9.95	2.28	0.69	0.831	0.06	2.07	100.3	43	2	282	320	52	170	160	160	17	2	< 5
355477	52.09	15.47	11.27	0.223	4.34	8.62	3.06	0.90	0.784	0.04	1.75	98.56	44	< 1	279	320	53	170	180	70	16	2	< 5
355478	47.44	14.34	11.82	0.200	6.31	14.33	1.31	0.20	0.726	0.05	1.55	98.29	39	< 1	247	300	49	160	160	90	15	2	< 5
355479	49.25	14.69	11.89	0.203	6.70	12.32	1.23	0.57	0.739	0.09	2.11	99.79	40	3	252	290	48	160	140	90	16	2	< 5
355480	74.25	13.15	0.70	0.583	0.04	0.75	0.58	6.34	0.052	< 0.01	2.13	98.58	12	5	< 5	110	< 1	< 20	170	500	28	6	54
355481	80.20	10.95	1.71	0.068	0.51	0.44	2.27	1.92	0.033	0.13	1.17	99.39	2	369	7	80	3	< 20	< 10	120	47	4	< 5
355482	78.63	11.73	2.15	0.093	0.36	0.18	0.90	3.08	0.046	0.05	1.44	98.64	2	68	9	70	3	< 20	< 10	200	62	4	< 5
355483	72.00	14.97	1.01	0.036	0.10	0.15	2.63	7.11	0.013	0.10	0.47	98.59	< 1	106	< 5	50	1	< 20	< 10	50	32	5	< 5
355484	69.58	16.68	0.80	0.028	0.05	0.17	2.91	8.49	0.004	0.15	0.24	99.11	< 1	117	< 5	30	< 1	< 20	< 10	< 30	29	6	< 5
355485	74.69	14.44	1.96	0.110	0.34	0.44	2.60	2.62	0.044	0.21	1.37	98.82	2	270	10	60	3	< 20	< 10	190	65	6	< 5
355486	71.84	15.91	2.77	0.141	0.51	0.17	0.56	4.35	0.063	0.07	2.13	98.51	3	39	11	60	4	< 20	< 10	300	92	5	< 5
355487	73.83	14.70	2.40	0.126	0.42	0.19	1.37	3.56	0.050	0.10	1.77	98.52	2	26	10	70	3	< 20	< 10	240	75	5	< 5
355488	72.73	15.06	2.19	0.128	0.38	0.17	1.18	3.64	0.047	0.08	1.88	97.50	2	35	9	60	3	< 20	< 10	240	81	5	< 5
355489	74.08	15.57	2.08	0.105	0.14	0.17	1.11	2.13	0.012	0.09	0.44	95.92	< 1	100	< 5	50	1	< 20	< 10	60	56	6	< 5
355490	97.16	0.59	2.20	0.022	0.02	0.02	0.04	0.07	0.031	< 0.01	-0.27	99.89	< 1	< 1	5	20	1	< 20	< 10	< 30	1	< 1	< 5
355491	72.11	16.41	1.89	0.150	0.16	0.31	2.14	1.70	0.020	0.14	0.91	95.94	1	1060	< 5	50	2	< 20	< 10	100	63	5	< 5
355492	69.90	17.71	1.73	0.138	0.12	0.60	5.12	1.39	0.008	0.35	0.51	97.58	< 1	420	< 5	40	1	< 20	< 10	60	46	7	< 5
355493	47.29	14.70	10.99	0.190	7.04	11.79	2.34	0.38	0.704	0.11	2.72	98.25	38	9	238	280	44	150	100	70	16	2	< 5
355494	47.66	15.70	11.87	0.213	7.33	12.63	2.46	0.40	0.779	0.08	1.26	100.4	41	2	259	290	49	160	130	80	15	2	< 5
355495	47.04	15.48	11.84	0.277	5.28	16.34	1.44	0.23	0.756	0.06	1.76	100.5	40	< 1	251	290	48	160	120	80	14	2	< 5
355496	45.58	14.35	11.32	0.279	5.05	17.57	1.47	0.22	0.706	0.05	3.06	99.67	40	< 1	246	280	47	160	110	80	14	2	< 5
355497	48.73	15.48	11.87	0.237	5.29	14.14	1.15	0.34	0.764	0.06	1.53	99.62	41	3	255	300	48	160	160	90	15	2	< 5
355498	61.28	17.90	3.25	0.225	1.24	1.93	2.59	5.63	0.115	1.16	2.09	97.42	6	412	40	60	8	30	< 10	160	65	5	< 5
355499	67.64	16.74	1.16	0.040	0.08	0.17	2.70	8.56	0.009	0.13	0.42	97.63	< 1	78	< 5	30	1	< 20	< 10	40	32	6	< 5
355500	72.12	14.18	0.70	0.607	0.04	0.75	0.59	6.43	0.054	0.01	2.39	97.86	12	5	< 5	120	< 1	< 20	160	530	28	7	58
355501	66.24	17.02	0.87	0.021	0.04	0.11	2.62	10.74	0.003	0.14	0.25	98.05	< 1	6	< 5	20	< 1	< 20	< 10	< 30	29	6	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-07652

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
355502	64.81	17.51	0.81	0.016	0.03	0.12	2.35	11.34	0.003	0.13	0.21	97.32	< 1	3	< 5	30	< 1	< 20	< 10	< 30	27	6	< 5
355503	66.74	17.61	0.69	0.038	0.05	0.32	4.74	7.49	0.002	0.22	0.25	98.15	< 1	45	< 5	20	< 1	< 20	< 10	< 30	32	7	< 5
355504	62.98	19.73	2.97	0.184	0.81	0.57	0.95	7.13	0.105	0.30	2.91	98.64	5	15	34	50	6	30	< 10	390	110	5	< 5
355505	67.62	19.11	2.82	0.181	0.48	0.25	1.11	3.85	0.056	0.17	1.84	97.49	3	89	17	60	4	< 20	< 10	260	87	6	< 5
355506	74.15	15.33	2.06	0.184	0.30	0.45	1.78	2.74	0.037	0.25	1.52	98.81	2	860	10	70	3	< 20	< 10	220	67	5	< 5
355507	74.10	15.50	1.18	0.123	0.13	0.45	6.93	0.62	0.006	0.20	0.51	99.75	< 1	456	< 5	50	1	< 20	< 10	30	37	6	< 5
355508	47.68	14.96	12.01	0.206	6.84	12.26	1.57	0.31	0.781	0.09	3.69	100.4	42	6	262	260	45	140	90	80	17	2	< 5
355509	50.69	14.48	11.99	0.205	5.78	12.36	2.59	0.30	0.797	0.08	1.36	100.6	42	1	262	260	48	150	80	90	14	2	< 5
355510	96.25	0.51	2.10	0.021	0.03	0.05	0.05	0.06	0.026	< 0.01	-0.24	98.84	< 1	< 1	< 5	20	1	< 20	< 10	< 30	1	< 1	< 5
355511	48.95	14.58	12.86	0.189	7.95	11.19	2.38	0.28	0.802	0.06	0.70	99.95	44	< 1	278	260	49	130	140	80	15	2	< 5
355512	48.29	14.98	13.22	0.207	8.26	11.30	1.76	0.28	0.803	0.06	1.01	100.2	44	1	283	260	48	140	140	90	16	2	< 5
355513	69.22	19.91	2.02	0.139	0.25	0.44	2.74	1.66	0.027	0.17	0.90	97.47	2	76	< 5	60	2	< 20	< 10	100	73	6	< 5
355514	56.59	24.87	3.25	0.240	0.70	0.41	0.91	6.44	0.087	0.23	3.25	96.98	4	66	25	50	5	20	< 10	430	143	5	< 5
355515	60.56	21.90	2.95	0.199	0.77	0.47	1.12	5.98	0.094	0.29	3.01	97.35	5	99	31	50	6	30	10	380	116	5	< 5
355516	61.48	20.68	3.15	0.199	0.73	0.58	1.05	5.85	0.085	0.39	2.67	96.86	4	73	29	50	5	30	< 10	360	113	5	< 5
355517	72.00	15.58	1.45	0.082	0.26	0.25	2.03	5.87	0.033	0.15	1.26	98.98	2	198	< 5	50	2	< 20	< 10	150	53	5	< 5
355518	74.29	13.52	2.58	0.119	0.49	0.23	1.00	3.73	0.055	0.12	1.81	97.93	3	278	9	60	4	< 20	< 10	240	74	5	< 5
355519	76.41	12.99	2.07	0.110	0.46	0.19	0.63	4.11	0.057	0.10	1.67	98.80	3	175	11	60	4	< 20	< 10	230	70	4	< 5
355520	72.94	13.51	0.70	0.576	0.03	0.72	0.58	6.33	0.051	0.01	2.57	98.02	12	5	< 5	120	< 1	< 20	170	550	29	7	59
355521	71.27	15.28	2.70	0.124	0.56	0.25	1.07	4.36	0.056	0.12	2.04	97.83	3	81	11	70	4	< 20	< 10	230	72	5	< 5
355522	67.55	18.45	2.65	0.160	0.64	0.22	1.31	4.40	0.070	0.07	2.46	97.99	4	19	15	60	5	< 20	< 10	310	97	5	< 5
355523	72.64	17.38	2.56	0.143	0.24	0.38	1.45	1.76	0.025	0.21	0.90	97.69	2	415	6	60	2	< 20	< 10	130	67	6	< 5
355524	71.26	17.06	1.28	0.114	0.07	0.33	4.08	1.50	0.007	0.21	0.45	96.37	< 1	401	< 5	40	< 1	< 20	< 10	50	49	6	< 5
355525	72.87	16.55	1.19	0.094	0.08	0.23	4.37	1.80	0.007	0.14	0.38	97.72	< 1	395	< 5	40	1	< 20	< 10	40	46	6	< 5
355526	71.58	16.51	0.77	0.084	0.05	0.27	5.11	4.13	0.005	0.19	0.33	99.04	< 1	172	< 5	30	< 1	< 20	< 10	< 30	34	6	< 5
355527	71.17	15.47	1.74	0.100	0.53	0.56	4.97	1.55	0.008	0.36	0.93	97.40	< 1	218	< 5	30	2	< 20	10	40	44	6	< 5
355528	71.29	14.81	2.72	0.107	1.19	1.17	3.20	1.47	0.058	0.35	1.82	98.20	3	323	20	60	5	< 20	30	40	43	6	< 5
355529	48.99	14.80	12.75	0.220	6.54	11.24	0.88	0.48	0.809	0.06	2.32	99.10	45	4	286	270	50	150	70	80	16	2	< 5
355530	96.93	0.60	1.96	0.019	0.03	0.03	0.04	0.11	0.026	< 0.01	-0.14	99.59	< 1	< 1	< 5	20	1	< 20	< 10	< 30	1	< 1	< 5
355531	50.10	14.57	12.74	0.216	5.90	13.04	1.00	0.23	0.802	0.05	1.22	99.86	44	< 1	280	270	49	140	130	100	16	2	< 5
355532	48.72	14.98	12.49	0.226	6.50	12.26	1.12	0.29	0.831	0.07	1.42	98.91	44	1	283	260	50	140	100	90	15	2	< 5
355533	44.10	13.33	12.65	0.245	5.59	16.92	0.28	0.17	0.719	0.06	5.71	99.77	39	4	250	230	57	140	480	450	16	2	5
355534	59.41	15.25	4.18	0.142	3.23	3.96	1.23	3.94	0.097	0.25	6.10	97.79	5	90	26	40	10	30	40	200	63	4	< 5
355535	63.33	16.69	5.81	0.206	2.35	0.84	0.77	4.44	0.233	0.16	3.53	98.35	11	82	59	90	11	40	10	260	84	5	< 5
355536	64.59	16.23	4.81	0.178	1.87	1.23	1.48	4.20	0.184	0.32	3.19	98.27	9	63	49	80	9	40	20	230	77	5	< 5
355537	72.77	14.31	2.69	0.137	0.60	0.30	1.52	4.34	0.067	0.09	2.16	98.98	3	68	11	60	4	< 20	< 10	260	80	5	< 5
355538	68.33	15.96	3.30	0.151	0.71	0.26	0.88	5.18	0.084	0.07	2.29	97.22	4	337	13	60	5	< 20	< 10	310	94	5	< 5
355539	72.27	14.79	2.62	0.137	0.64	0.23	0.63	4.66	0.082	0.08	2.13	98.27	4	136	15	70	5	< 20	< 10	290	89	5	< 5
355540	73.28	13.56	0.71	0.593	0.03	0.71	0.59	6.48	0.054	< 0.01	2.29	98.32	12	5	< 5	110	< 1	< 20	170	550	28	7	53
355541	63.27	16.62	4.58	0.156	2.08	2.43	1.83	3.66	0.169	0.15	3.86	98.79	9	80	49	80	10	40	30	230	75	4	< 5
355542	46.20	14.86	13.29	0.310	6.19	12.29	0.17	0.12	0.816	0.08	5.72	100.1	43	9	272	260	49	140	150	60	20	2	< 5

Results

Activation Laboratories Ltd.

Report: A17-07652

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
355543	43.53	14.39	16.43	0.375	4.66	16.56	0.31	0.26	0.770	0.06	1.85	99.19	41	13	266	250	50	140	400	80	17	2	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-07652

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
355461	8390	114	< 2	4	2	< 2	< 0.5	< 0.2	2	0.5	790	89	< 0.4	< 0.2	15.1	1	79.8	18	0.3	0.8	0.01	0.02	
355462	6050	86	< 2	10	20	< 2	< 0.5	< 0.2	3	0.6	602	97	< 0.4	1.0	76.0	1	61.6	14	2.1	1.6	0.11	0.23	
355463	1760	36	2	31	78	2	< 0.5	< 0.2	29	0.7	303	103	2.4	2.9	159	3	15.6	8	6.6	4.1	0.02	0.03	
355464	145	98	14	42	5	< 2	< 0.5	< 0.2	3	1.5	12.0	49	0.5	1.0	1.4	< 1	2.8	27	0.2	0.2	0.01	0.03	
355465	47	88	14	42	2	< 2	< 0.5	< 0.2	< 1	1.3	10.2	63	0.6	0.9	0.2	2	0.9	10	0.2	< 0.1	< 0.01	0.02	
355466	109	135	14	42	2	< 2	< 0.5	< 0.2	< 1	1.0	14.4	117	< 0.4	1.0	0.2	1	0.5	< 5	0.2	< 0.1	0.03	0.06	
355467	215	81	13	41	3	< 2	< 0.5	< 0.2	4	0.9	60.5	96	2.2	0.9	4.0	3	0.5	< 5	0.2	1.0	0.09	0.18	
355468	407	31	< 2	8	39	< 2	< 0.5	< 0.2	8	0.7	28.9	18	0.7	0.7	98.1	2	1.9	< 5	4.2	2.5	0.01	0.02	
355469	49	119	14	42	2	< 2	< 0.5	< 0.2	2	1.6	5.5	44	2.4	0.9	1.2	3	< 0.1	< 5	0.2	0.3	0.02	0.04	3.15
355470	3	7	< 2	56	< 1	< 2	< 0.5	< 0.2	< 1	0.5	< 0.5	112	< 0.4	1.1	0.1	< 1	< 0.1	< 5	0.7	0.2	< 0.01	< 0.01	
355471	79	121	15	46	2	< 2	< 0.5	< 0.2	< 1	1.3	15.7	119	0.8	1.1	0.1	< 1	< 0.1	< 5	0.2	< 0.1	0.02	0.05	
355472	38	117	13	40	8	< 2	< 0.5	< 0.2	5	1.5	3.6	61	1.9	1.1	20.1	1	< 0.1	6	0.5	1.0	0.01	0.03	
355473	128	136	15	42	2	< 2	< 0.5	< 0.2	< 1	1.1	6.5	112	0.6	1.1	0.2	< 1	< 0.1	< 5	0.2	< 0.1	0.04	0.08	
355474	354	33	3	6	40	< 2	< 0.5	< 0.2	17	0.9	116	56	< 0.4	0.6	76.1	1	1.2	6	2.0	2.3	1.03	2.22	
355475	100	158	16	44	2	2	< 0.5	< 0.2	< 1	2.0	16.5	93	0.9	1.2	0.4	< 1	< 0.1	11	0.3	0.2	0.10	0.21	
355476	118	138	16	44	2	3	< 0.5	< 0.2	2	1.6	18.1	123	0.5	1.2	1.4	1	< 0.1	10	0.3	0.3	0.08	0.17	
355477	105	97	17	43	2	4	< 0.5	< 0.2	< 1	0.7	18.8	160	1.0	1.1	< 0.1	1	< 0.1	11	0.2	0.4	0.06	0.13	
355478	17	97	14	37	1	< 2	< 0.5	< 0.2	< 1	0.7	1.8	28	< 0.4	1.0	0.1	1	< 0.1	< 5	0.2	< 0.1	0.02	0.04	
355479	101	137	16	41	3	< 2	< 0.5	< 0.2	< 1	0.8	9.4	69	< 0.4	1.1	2.9	< 1	< 0.1	9	0.4	0.2	0.04	0.10	3.07
355480	2110	23	14	69	63	6	1.9	0.3	12	15.1	59.7	89	38.4	5.3	10.9	102	11.2	532	24.6	41.3	0.28	0.61	
355481	1940	30	< 2	8	54	4	< 0.5	< 0.2	41	0.6	185	28	< 0.4	0.8	71.2	3	10.8	< 5	1.4	0.6	0.09	0.19	
355482	3520	41	< 2	6	76	4	< 0.5	< 0.2	74	0.6	269	22	0.4	0.4	67.2	5	20.1	< 5	1.3	0.9	0.16	0.34	
355483	5000	72	< 2	7	36	2	< 0.5	< 0.2	19	0.5	445	98	0.6	0.5	64.1	2	46.3	12	2.1	2.5	0.07	0.16	
355484	5810	82	< 2	< 4	16	< 2	< 0.5	< 0.2	7	0.6	612	134	1.6	0.2	82.1	1	59.2	15	0.8	1.5	0.15	0.32	
355485	3160	41	< 2	7	92	3	< 0.5	< 0.2	67	0.8	351	15	1.3	0.6	96.7	6	23.6	< 5	2.1	2.9	0.36	0.77	
355486	5360	59	< 2	8	121	3	< 0.5	< 0.2	116	0.7	498	20	2.1	0.6	98.5	8	35.9	< 5	3.5	5.9	0.33	0.71	
355487	4150	52	< 2	8	98	4	< 0.5	< 0.2	86	0.6	414	18	3.7	0.6	115	6	29.2	8	6.5	3.5	0.27	0.57	
355488	4300	51	< 2	11	116	3	< 0.5	< 0.2	91	0.8	413	17	3.4	1.0	97.5	7	29.6	7	8.9	3.9	0.36	0.79	
355489	1800	26	< 2	6	25	3	< 0.5	< 0.2	27	0.7	226	19	0.7	0.4	37.7	2	16.5	5	1.5	4.4	1.43	3.08	2.92
355490	5	7	< 2	39	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.5	126	< 0.4	0.7	0.1	< 1	1.7	< 5	0.2	0.1	< 0.01	< 0.01	
355491	1830	26	< 2	21	59	2	< 0.5	< 0.2	42	0.8	264	10	< 0.4	1.9	58.7	3	11.2	6	5.3	3.8	1.07	2.31	
355492	1760	31	< 2	29	66	< 2	< 0.5	< 0.2	18	0.8	487	13	0.4	3.3	148	3	13.0	7	6.9	8.3	0.68	1.46	
355493	44	124	13	39	5	< 2	< 0.5	< 0.2	2	1.0	8.7	36	0.8	1.2	15.5	< 1	1.5	< 5	0.5	0.8	0.04	0.09	
355494	39	122	15	42	2	2	< 0.5	< 0.2	< 1	1.0	10.6	37	0.4	1.0	3.0	< 1	0.3	< 5	0.3	0.2	0.02	0.05	
355495	23	122	15	40	1	< 2	< 0.5	< 0.2	< 1	0.7	2.6	49	< 0.4	0.9	0.2	7	< 0.1	< 5	0.2	< 0.1	0.02	0.05	
355496	20	115	15	38	1	< 2	< 0.5	< 0.2	< 1	0.6	2.4	50	< 0.4	1.0	0.1	< 1	< 0.1	< 5	0.2	< 0.1	0.02	0.05	
355497	54	130	15	41	2	< 2	< 0.5	< 0.2	< 1	1.0	6.2	66	< 0.4	1.1	1.3	5	< 0.1	< 5	0.2	< 0.1	0.04	0.08	
355498	5380	72	5	18	75	< 2	< 0.5	< 0.2	59	0.6	595	38	0.9	1.4	72.1	4	37.3	10	3.5	2.0	0.21	0.45	
355499	6360	89	< 2	5	15	< 2	< 0.5	< 0.2	12	0.5	591	66	< 0.4	0.6	38.0	1	57.8	13	1.0	0.8	0.09	0.19	2.66
355500	2150	25	15	72	68	5	1.8	0.3	12	14.8	60.7	90	49.4	5.4	11.1	101	17.7	524	24.1	41.9	0.27	0.59	
355501	8090	105	< 2	< 4	12	< 2	< 0.5	< 0.2	4	0.6	724	90	< 0.4	0.3	41.4	1	79.9	17	0.8	0.9	0.05	0.10	



## Results

## Activation Laboratories Ltd.

## Report: A17-07652

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
355502	8530	110	< 2	< 4	11	< 2	< 0.5	< 0.2	4	0.6	776	101	< 0.4	0.3	58.5	< 1	87.1	17	1.3	1.0	0.03	0.06	
355503	5390	76	< 2	5	25	< 2	< 0.5	< 0.2	4	0.6	494	89	0.7	0.7	141	1	56.1	13	1.3	2.2	0.04	0.09	
355504	7580	82	< 2	4	208	< 2	< 0.5	< 0.2	153	0.6	560	46	1.1	0.4	85.7	11	55.5	< 5	0.8	1.3	0.36	0.78	
355505	4380	53	< 2	8	110	3	< 0.5	< 0.2	91	0.7	366	17	1.5	0.7	87.7	6	32.7	< 5	1.8	1.8	0.85	1.83	
355506	3310	43	< 2	15	104	4	< 0.5	< 0.2	70	0.7	441	12	0.7	1.5	136	5	23.9	5	8.4	2.7	0.56	1.21	
355507	628	19	< 2	44	82	2	< 0.5	< 0.2	11	0.7	194	16	< 0.4	4.5	122	2	6.9	6	7.5	4.8	0.19	0.40	
355508	44	110	16	50	2	< 2	< 0.5	< 0.2	1	1.1	7.6	39	3.5	1.3	0.4	< 1	1.4	8	0.4	0.3	0.05	0.12	
355509	19	132	16	46	2	< 2	< 0.5	< 0.2	< 1	1.1	2.5	41	0.6	1.1	0.2	< 1	0.1	6	0.4	0.1	0.02	0.04	3.12
355510	4	7	8	57	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	141	< 0.4	1.3	< 0.1	< 1	< 0.1	6	1.7	0.4	< 0.01	< 0.01	
355511	64	104	16	45	2	2	< 0.5	< 0.2	< 1	0.8	62.0	22	< 0.4	1.1	0.1	< 1	0.3	< 5	0.2	< 0.1	0.07	0.14	
355512	59	105	16	44	2	2	< 0.5	< 0.2	< 1	1.2	19.6	25	< 0.4	1.0	0.1	< 1	0.3	< 5	0.2	0.1	0.11	0.23	
355513	1780	27	< 2	10	59	3	< 0.5	< 0.2	44	0.8	267	12	1.5	0.9	67.2	2	9.7	< 5	3.0	3.2	1.35	2.91	
355514	7410	81	< 2	6	222	2	< 0.5	< 0.2	176	0.6	614	21	1.5	0.4	103	11	45.9	< 5	1.1	1.8	0.78	1.68	
355515	6720	75	< 2	6	215	< 2	< 0.5	< 0.2	147	0.6	602	33	1.3	0.5	96.0	10	46.2	< 5	3.2	3.6	0.64	1.37	
355516	6490	72	< 2	6	205	< 2	< 0.5	< 0.2	142	0.6	612	33	0.7	0.5	91.8	10	45.5	< 5	3.6	3.4	0.63	1.36	
355517	4820	62	< 2	< 4	49	< 2	< 0.5	< 0.2	49	0.6	560	75	0.4	< 0.2	42.3	4	38.6	8	0.6	1.2	0.17	0.36	
355518	4190	47	< 2	5	92	3	< 0.5	< 0.2	87	0.5	391	17	1.7	0.3	59.4	7	29.5	< 5	1.1	1.2	0.26	0.56	
355519	4350	47	< 2	4	105	3	< 0.5	< 0.2	88	0.6	405	30	1.3	0.2	61.0	7	30.3	< 5	2.7	1.9	0.31	0.67	2.80
355520	2230	23	13	77	63	5	2.2	0.3	13	15.7	61.7	88	50.3	5.6	10.5	96	16.9	512	24.4	40.7	0.27	0.58	
355521	4410	52	< 2	5	81	4	< 0.5	< 0.2	77	0.6	448	38	2.5	0.4	70.3	7	29.6	< 5	2.8	2.0	0.32	0.68	
355522	5220	58	< 2	< 4	145	3	< 0.5	< 0.2	119	0.7	451	22	2.7	0.3	81.5	8	36.4	< 5	0.5	1.3	0.60	1.29	
355523	1990	27	< 2	5	57	3	< 0.5	< 0.2	47	0.7	310	9	2.3	0.4	58.6	3	15.8	< 5	1.3	1.6	1.23	2.66	
355524	1400	24	< 2	13	77	< 2	< 0.5	< 0.2	17	0.7	286	10	0.6	1.5	118	1	12.7	7	3.8	6.5	0.89	1.92	
355525	1640	25	< 2	13	56	< 2	< 0.5	< 0.2	15	0.8	317	11	1.4	1.4	90.4	1	14.7	8	4.7	5.2	0.78	1.67	
355526	3430	52	< 2	9	40	< 2	< 0.5	< 0.2	7	0.6	420	25	1.1	0.8	103	< 1	35.0	10	2.3	3.7	0.20	0.44	
355527	1250	40	< 2	11	56	< 2	< 0.5	< 0.2	14	0.6	288	166	4.8	1.2	168	2	12.5	7	5.7	3.5	0.46	0.99	
355528	1350	43	3	9	30	< 2	< 0.5	< 0.2	15	0.9	630	177	1.1	0.8	74.1	2	11.4	< 5	1.7	1.6	0.67	1.44	
355529	196	131	17	44	2	< 2	< 0.5	< 0.2	< 1	1.9	176	49	0.7	1.1	0.2	< 1	3.4	< 5	0.2	0.7	0.24	0.51	3.11
355530	4	10	3	26	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	109	< 0.4	0.5	< 0.1	< 1	0.6	< 5	0.3	0.1	< 0.01	< 0.01	
355531	41	132	16	46	2	< 2	< 0.5	< 0.2	< 1	1.5	8.1	27	< 0.4	1.1	0.1	< 1	0.6	< 5	0.2	< 0.1	0.17	0.37	
355532	82	115	16	44	2	< 2	< 0.5	< 0.2	< 1	1.9	8.4	45	< 0.4	1.1	0.1	< 1	0.6	< 5	0.2	< 0.1	0.15	0.32	
355533	39	76	15	40	3	< 2	< 0.5	< 0.2	4	3.2	16.7	20	3.1	1.0	1.2	23	0.6	27	0.2	0.8	0.15	0.32	
355534	3750	57	3	7	95	< 2	< 0.5	< 0.2	78	0.8	484	146	0.5	0.5	65.8	6	21.3	9	0.9	2.0	0.22	0.46	
355535	5650	64	< 2	12	136	2	< 0.5	< 0.2	114	1.4	1040	40	1.2	0.4	66.0	9	36.3	23	0.8	2.9	0.33	0.71	
355536	5350	65	< 2	10	122	2	< 0.5	< 0.2	102	1.2	1110	47	0.9	0.4	65.4	8	35.9	16	0.8	2.6	0.30	0.64	
355537	4950	54	< 2	< 4	123	3	< 0.5	< 0.2	106	0.7	515	43	< 0.4	0.2	64.5	8	33.0	< 5	0.3	1.1	0.27	0.59	
355538	5750	66	< 2	< 4	145	3	< 0.5	< 0.2	127	0.6	493	39	< 0.4	< 0.2	65.3	9	39.3	< 5	0.2	1.0	0.32	0.70	
355539	5380	58	< 2	< 4	133	3	< 0.5	< 0.2	121	0.6	403	33	< 0.4	< 0.2	61.9	8	35.2	< 5	0.2	0.9	0.27	0.59	2.81
355540	2190	24	13	73	69	5	1.8	0.3	13	15.0	61.9	90	40.4	5.6	10.7	95	16.8	466	22.8	39.2	0.27	0.59	
355541	3990	67	< 2	9	129	3	< 0.5	< 0.2	96	0.9	331	57	2.8	0.4	74.8	7	25.9	< 5	0.9	3.3	0.22	0.47	
355542	52	78	15	42	5	2	< 0.5	< 0.2	4	3.1	68.3	10	2.0	1.2	2.8	2	3.4	9	0.2	2.1	0.10	0.21	

Results

Activation Laboratories Ltd.

Report: A17-07652

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
355543	92	69	15	40	3	< 2	< 0.5	< 0.2	3	1.8	101	33	1.2	1.0	1.1	12	2.3	< 5	0.2	0.1	0.14	0.29	

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	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	11.62	1.78	0.77	0.010	0.35	42.88	0.88	0.56	0.110	30.24					1611								
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	47.32	18.32	9.61	0.140	10.54	11.44	1.94	0.22	0.470	0.06			32		152	270	58	270	100		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		15		
GBW 07113 Meas	71.15	12.85	3.14	0.140	0.15	0.58	2.42	5.36	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	31	50	30	160			26
LKSD-3 Cert																87.0	30.0	47.0	35.0	152			27.0
TDB-1 Meas																250			340	160			
TDB-1 Cert																251			323	155			
W-2a Meas	52.32	15.50	10.72	0.170	6.55	11.00	2.21	0.62	1.070	0.13			35	< 1	268	100	45	80	120	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	20.88	6.35	0.110	0.52	8.07	6.89	1.69	0.290	0.12			2	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																							
CTA-AC-1 Cert																							
BIR-1a Meas	46.74	15.79	11.51	0.170	9.76	13.45	1.83	0.01	0.980	0.04			44	< 1	327	370	54	170	130	70	16		< 5
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		0.44
ZW-C Meas																				1010	97		
ZW-C Cert																				1050.00	99		
NCS DC70009 (GBW07241) Meas																			970	100	17	11	73
NCS DC70009 (GBW07241) Cert																			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																	47		430				
OREAS 101a (Fusion) Cert																	48.8		430				
OREAS 101b (Fusion) Meas																	45		420				
OREAS 101b (Fusion) Cert																	47		420				
JR-1 Meas																		< 20			17		16
JR-1 Cert																		1.67			16.1		16.3
NCS DC86303 Meas																							
NCS DC86303																							

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																							
NCS DC86303 Meas																							
NCS DC86303 Cert																							
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NCS DC86314 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																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Cert																							
355467 Orig																							
355467 Dup																							
355475 Orig	49.32	15.86	12.27	0.241	4.66	10.31	1.81	0.54	0.781	0.06	2.62	98.46	44	2	289	320	54	180	170	70	17	2	< 5
355475 Dup	49.92	16.38	12.59	0.246	4.68	10.29	1.81	0.54	0.818	0.06	2.62	99.96	45	2	290	330	56	190	170	70	17	2	< 5
355489 Orig																							
355489 Dup																							
355492 Orig	69.53	17.66	1.69	0.134	0.12	0.60	5.10	1.38	0.008	0.34	0.51	97.08	< 1	412	< 5	40	1	< 20	< 10	60	47	7	< 5
355492 Dup	70.26	17.76	1.77	0.142	0.12	0.61	5.15	1.41	0.007	0.35	0.51	98.09	< 1	427	< 5	40	1	< 20	< 10	60	45	7	< 5
355497 Orig																							
355497 Dup																							
355511 Orig	48.95	14.58	12.86	0.189	7.95	11.19	2.38	0.28	0.802	0.06	0.70	99.95	44	< 1	278	260	49	130	140	80	15	2	< 5
355511 Split PREP DUP	48.33	14.75	13.29	0.191	7.85	11.33	2.40	0.28	0.828	0.06	0.74	100.0	44	< 1	278	260	48	130	140	90	15	2	< 5
355511 Orig																							
355511 Dup																							
355519 Orig																							
355519 Dup																							
355533 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
355533 Dup																							
355541 Orig	63.71	16.89	4.68	0.159	2.08	2.46	1.85	3.69	0.171	0.15	3.86	99.70	9	81	48	80	10	40	30	230	75	4	< 5
355541 Dup	62.83	16.35	4.47	0.154	2.08	2.40	1.81	3.63	0.167	0.15	3.86	97.89	9	80	50	80	10	40	30	230	75	4	< 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																							
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		146	16	36						1.0		108						7					
DNC-1 Cert		144.0	18.0	38						0.96		118						6.3					
GBW 07113 Meas		42	43	391								485											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas						< 2	2.3		2	1.0	2.2			4.5	0.6				10.9	4.5			
LKSD-3 Cert						2.00	2.70		3.00	1.30	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	21	197	21	93	7	< 2				0.8	0.9	174	< 0.4	2.5		2	< 0.1		2.4	0.6			
W-2a Cert	21.0	190	24.0	94.0	7.90	0.600				0.790	0.990	182	0.0300	2.60		0.300	0.200		2.40	0.530			
SY-4 Meas		1200	115	551								356											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas														1.2	2.7						4.2		
CTA-AC-1 Cert														1.13	2.65						4.4		
BIR-1a Meas		109	14	15								6		0.6							< 5		
BIR-1a Cert		110	16	18								6		0.60							3		
ZW-C Meas	8610														82.1	331	33.4						
ZW-C Cert	8500														82	320	34						
NCS DC70009 (GBW07241) Meas	460							1.0	1670	2.9	41.0						2130			29.3			
NCS DC70009 (GBW07241) Cert	500							1.3	1700	3.1	41						2200			28.3			
OREAS 100a (Fusion) Meas						24														53.1	143		
OREAS 100a (Fusion) Cert						24.1														51.6	135		
OREAS 101a (Fusion) Meas						20														36.8	437		
OREAS 101a (Fusion) Cert						21.9														36.6	422		
OREAS 101b (Fusion) Meas						21														37.3	421		
OREAS 101b (Fusion) Cert						21														37.1	396		
JR-1 Meas	232				15	4		< 0.2	2	1.2	20.1		0.5	4.3	1.7		1.5	20	27.6	9.3			
JR-1 Cert	257				15.2	3.25		0.028	2.86	1.19	20.8		0.56	4.51	1.86		1.56	19.3	26.7	8.88			
NCS DC86303 Meas																					0.20	0.44	
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	0.44	
NCS DC86303 Cert																						0.21	0.460	
NCS DC86304 Meas																						1.09	2.34	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.09	2.36	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.05	2.25	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.11	2.40	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86314 Meas																						1.82	3.92	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.71	3.68	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.83	3.95	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.81	3.89	
NCS DC86314 Cert																						1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.07		
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																						8.29	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.64	
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	
355467 Orig																						0.09	0.18
355467 Dup																						0.08	0.18
355475 Orig	100	157	16	43	2	2	< 0.5	< 0.2	< 1	1.9	16.5	93	0.9	1.2	0.3	< 1	< 0.1	11	0.3	0.2	0.10	0.21	
355475 Dup	99	159	16	45	2	2	< 0.5	< 0.2	< 1	2.0	16.6	93	0.8	1.2	0.4	1	< 0.1	11	0.3	0.2	0.10	0.21	
355489 Orig																						1.42	3.06
355489 Dup																						1.44	3.11
355492 Orig	1770	30	< 2	28	63	< 2	< 0.5	< 0.2	18	0.8	492	13	0.4	3.2	149	3	13.1	7	7.1	8.4			
355492 Dup	1740	31	< 2	29	69	2	< 0.5	< 0.2	18	0.8	481	13	0.4	3.3	147	3	12.9	7	6.7	8.1			
355497 Orig																						0.04	0.08
355497 Dup																						0.04	0.08
355511 Orig	64	104	16	45	2	2	< 0.5	< 0.2	< 1	0.8	62.0	22	< 0.4	1.1	0.1	< 1	0.3	< 5	0.2	< 0.1	0.07	0.14	
355511 Split PREP DUP	61	106	16	42	2	3	< 0.5	< 0.2	< 1	0.8	59.7	21	< 0.4	1.1	0.1	< 1	1.3	< 5	0.2	< 0.1	0.07	0.16	
355511 Orig																						0.07	0.14
355511 Dup																						0.07	0.14
355519 Orig																						0.31	0.67
355519 Dup																						0.31	0.66
355533 Orig																						0.15	0.32
355533 Dup																						0.14	0.31

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		
355541 Orig	3990	66	< 2	9	124	3	< 0.5	< 0.2	94	0.9	331	57	3.0	0.4	73.5	7	25.5	< 5	0.8	3.3	0.22	0.46			
355541 Dup	3990	68	< 2	8	134	2	< 0.5	< 0.2	98	1.0	332	56	2.6	0.4	76.1	7	26.3	< 5	0.9	3.3	0.22	0.47			
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																						< 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



Date Submitted: 08-Sep-17
Invoice No.: A17-09798
Invoice Date: 20-Oct-17
Your Reference: Seymour Lake

Ardiden Ltd.
Suite 6, 295 Rokeby Rd
Subiaco WA 6008
Australia

ATTN: Brad Boyle (inv/res)

CERTIFICATE OF ANALYSIS

265 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion
Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT A17-09798

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

Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

[Handwritten signature]

Emmanuel Esemé, Ph.D.
Quality Control

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## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355611	71.14	16.74	1.38	0.066	0.32	0.99	6.77	1.09	0.045	0.35	0.63	99.52	1	251	11	< 20	2	< 20	< 10	< 30	44	5	< 5
355612	44.69	14.01	14.03	0.437	5.05	16.21	0.86	0.47	0.746	0.12	3.36	99.98	41	25	258	260	45	140	110	110	17	4	< 5
355613	46.49	14.35	14.49	0.357	4.82	13.81	1.56	0.31	0.784	0.05	2.17	99.20	41	11	259	260	51	150	330	90	17	2	< 5
355614	48.95	12.25	8.70	0.174	8.10	12.87	2.00	1.39	0.662	0.37	3.29	98.76	25	3	177	330	34	110	80	110	16	1	< 5
355615	47.44	15.22	12.74	0.297	6.63	10.90	1.65	1.61	0.811	0.16	2.00	99.46	42	17	269	270	48	130	170	150	20	3	< 5
355616	70.03	14.88	0.99	0.023	0.13	0.41	3.18	8.24	0.009	0.23	0.37	98.48	< 1	31	5	20	< 1	< 20	10	< 30	23	7	< 5
355617	71.11	14.80	0.82	0.019	0.11	0.23	2.86	8.32	0.005	0.17	0.36	98.81	< 1	14	6	20	< 1	< 20	< 10	< 30	23	7	< 5
355618	68.72	15.97	2.20	0.149	1.02	0.56	3.18	3.84	0.029	0.29	2.29	98.24	1	407	10	30	3	< 20	50	150	63	6	< 5
355619	71.23	16.61	1.34	0.123	0.22	0.43	4.40	3.21	0.031	0.25	1.51	99.36	1	96	6	20	1	< 20	< 10	160	68	5	< 5
355620	73.65	13.48	0.67	0.588	0.03	0.72	0.60	6.24	0.052	< 0.01	2.40	98.43	12	5	< 5	110	< 1	< 20	170	520	29	6	53
355621	67.25	18.54	0.91	0.060	0.26	0.73	8.59	1.27	0.019	0.20	1.05	98.87	< 1	108	8	< 20	1	< 20	< 10	60	52	6	< 5
355622	49.99	14.66	11.85	0.239	4.92	13.39	1.32	0.43	0.815	0.06	1.33	99.00	44	7	278	280	50	140	70	100	16	2	< 5
355623	47.74	14.91	13.99	0.346	4.80	13.23	2.07	0.42	0.792	0.06	0.81	99.17	42	< 1	274	280	46	140	100	110	16	2	< 5
355624	48.79	14.16	12.29	0.200	7.60	12.21	1.52	0.29	0.808	0.06	0.94	98.86	45	< 1	290	280	47	120	140	110	16	2	< 5
355625	47.84	14.94	12.22	0.192	8.41	10.06	1.42	0.94	0.857	0.05	2.51	99.43	46	9	293	280	48	120	110	100	15	2	< 5
355626	71.28	16.85	1.32	0.129	0.27	0.60	5.99	2.00	0.031	0.19	1.25	99.90	2	431	8	20	2	< 20	< 10	130	62	5	< 5
355627	72.79	15.52	1.23	0.080	0.21	0.42	3.11	4.23	0.026	0.18	1.07	98.86	2	287	6	30	1	< 20	< 10	110	48	5	< 5
355628	76.55	13.17	1.52	0.116	0.26	0.37	1.82	3.13	0.028	0.22	1.39	98.57	2	293	6	40	1	< 20	< 10	150	58	6	< 5
355629	69.91	16.69	1.10	0.079	0.18	0.46	4.57	4.47	0.022	0.17	1.19	98.85	< 1	624	< 5	20	1	< 20	< 10	130	56	5	< 5
355630	97.44	0.48	1.34	0.016	0.03	0.04	0.04	0.05	0.022	< 0.01	0.01	99.46	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355631	75.14	13.89	1.54	0.102	0.22	0.21	1.10	3.62	0.023	0.12	1.10	97.07	1	18	6	40	1	< 20	< 10	130	59	6	< 5
355632	72.58	14.50	1.56	0.097	0.32	0.11	1.16	6.06	0.040	0.06	1.52	98.03	2	10	7	30	2	< 20	< 10	210	66	4	< 5
355633	73.21	14.52	1.14	0.057	0.19	0.39	4.03	4.13	0.024	0.08	1.06	98.82	1	63	< 5	30	1	< 20	< 10	110	48	5	< 5
355634	72.26	14.97	1.07	0.063	0.15	0.39	4.63	3.50	0.020	0.14	0.82	97.99	< 1	136	< 5	30	1	< 20	< 10	90	45	5	< 5
355635	76.21	13.45	1.32	0.100	0.20	0.33	2.04	3.47	0.026	0.18	1.00	98.33	2	322	9	40	1	< 20	< 10	120	53	5	< 5
355636	75.04	13.81	1.38	0.099	0.16	0.39	2.45	3.05	0.021	0.19	1.00	97.59	2	347	8	40	1	< 20	< 10	100	51	5	< 5
355637	74.38	13.90	1.06	0.070	0.15	0.45	3.66	3.54	0.019	0.23	1.00	98.46	< 1	419	7	30	1	< 20	< 10	90	44	5	< 5
355638	73.71	14.95	1.33	0.113	0.16	0.28	2.04	3.38	0.019	0.18	0.92	97.09	1	144	7	30	< 1	< 20	< 10	110	56	5	< 5
355639	74.48	14.74	1.23	0.092	0.16	0.37	1.98	3.68	0.015	0.18	1.00	97.93	< 1	25	6	40	< 1	< 20	< 10	90	49	6	< 5
355640	73.58	13.04	0.67	0.587	0.03	0.74	0.60	6.24	0.050	0.02	2.31	97.87	12	5	< 5	120	< 1	< 20	170	520	29	6	51
355641	75.34	14.82	1.58	0.123	0.15	0.38	0.89	2.65	0.017	0.24	0.93	97.12	1	188	6	50	< 1	< 20	< 10	100	64	5	< 5
355642	73.94	16.08	1.32	0.139	0.13	0.17	1.15	3.25	0.019	0.09	1.08	97.35	< 1	450	< 5	40	< 1	< 20	< 10	110	67	6	< 5
355643	74.65	15.10	1.14	0.083	0.09	0.17	3.05	3.13	0.012	0.10	0.73	98.26	< 1	138	< 5	40	< 1	< 20	< 10	80	50	6	< 5
355644	72.03	16.06	1.22	0.108	0.14	0.35	2.99	2.77	0.009	0.20	0.62	96.49	< 1	129	< 5	30	< 1	< 20	< 10	60	49	6	< 5
355645	48.81	14.18	12.83	0.198	6.78	12.58	1.30	0.34	0.795	0.05	0.86	98.73	44	4	273	280	50	150	160	90	15	2	< 5
355646	49.02	14.28	12.83	0.200	6.34	12.63	1.73	0.27	0.774	0.05	0.58	98.70	44	1	272	280	51	150	140	100	16	2	< 5
355647	47.03	14.67	12.46	0.244	5.02	15.22	1.26	0.18	0.782	0.05	2.40	99.33	45	< 1	279	280	49	150	130	90	16	1	< 5
355648	47.16	14.07	13.42	0.310	5.93	12.81	0.70	0.50	0.734	0.08	2.44	98.13	44	8	273	260	45	150	190	130	17	2	< 5
355649	72.62	13.89	1.73	0.095	0.46	1.03	2.12	4.10	0.048	0.20	1.92	98.20	2	1448	13	40	3	< 20	< 10	180	64	4	< 5
355650	96.83	0.54	1.47	0.015	0.04	0.04	0.03	0.05	0.033	< 0.01	0.04	99.06	< 1	2	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355651	68.66	16.62	0.56	0.026	0.04	0.28	2.65	10.24	0.004	0.26	0.27	99.61	< 1	13	< 5	< 20	< 1	< 20	< 10	< 30	27	5	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355652	66.91	17.50	0.45	0.013	0.04	0.13	2.38	11.17	0.003	0.14	0.19	98.92	< 1	15	< 5	< 20	< 1	< 20	< 10	< 30	28	5	< 5
355653	67.74	16.97	0.56	0.020	0.06	0.13	2.83	10.46	0.003	0.14	0.45	99.36	< 1	161	< 5	< 20	< 1	< 20	< 10	< 30	29	5	< 5
355654	66.74	16.93	0.53	0.020	0.05	0.14	2.32	10.53	0.003	0.14	0.43	97.83	< 1	46	< 5	< 20	< 1	< 20	< 10	< 30	30	6	< 5
355655	66.80	17.12	0.70	0.022	0.10	0.14	3.11	9.48	0.004	0.12	0.34	97.93	< 1	8	< 5	< 20	< 1	< 20	< 10	< 30	31	5	< 5
355656	67.56	17.55	0.52	0.022	0.05	0.12	3.11	9.95	0.003	0.13	0.36	99.37	< 1	4	< 5	< 20	< 1	< 20	< 10	< 30	30	5	< 5
355657	66.66	17.26	0.75	0.023	0.04	0.16	2.11	9.89	0.002	0.16	0.37	97.42	< 1	11	< 5	< 20	< 1	< 20	< 10	< 30	31	6	< 5
355658	78.32	11.15	0.93	0.030	0.10	0.14	1.35	6.70	0.010	0.10	0.40	99.21	< 1	7	< 5	30	< 1	< 20	< 10	50	25	4	< 5
355659	75.69	13.23	1.82	0.129	0.41	0.22	1.33	3.56	0.046	0.12	1.67	98.22	2	122	11	40	3	< 20	< 10	220	67	5	< 5
355660	74.21	13.34	0.68	0.612	0.03	0.72	0.59	6.14	0.054	< 0.01	2.31	98.68	12	5	6	110	< 1	< 20	160	550	29	6	50
355661	71.65	16.77	1.90	0.152	0.36	0.19	0.56	3.84	0.034	0.11	1.76	97.33	1	131	6	60	2	< 20	< 10	200	80	6	< 5
355662	74.47	15.63	1.67	0.130	0.24	0.23	0.81	3.03	0.024	0.12	1.32	97.69	1	86	8	50	1	< 20	< 10	140	69	6	< 5
355663	72.79	14.78	0.86	0.053	0.08	0.13	2.44	7.15	0.011	0.14	0.71	99.13	< 1	22	< 5	40	< 1	< 20	< 10	60	39	5	< 5
355664	74.93	14.94	1.07	0.074	0.10	0.15	2.26	4.32	0.008	0.12	0.57	98.53	< 1	68	< 5	40	< 1	< 20	< 10	50	42	6	< 5
355665	69.04	19.02	1.56	0.137	0.21	0.31	2.63	1.98	0.024	0.15	0.87	95.93	1	263	9	40	1	< 20	< 10	80	68	6	< 5
355666	71.94	17.10	0.94	0.276	0.05	0.29	6.56	0.97	0.011	0.07	0.60	98.79	< 1	550	< 5	20	< 1	< 20	< 10	70	56	6	< 5
355667	74.68	15.32	1.24	0.127	0.10	0.49	3.38	1.73	0.012	0.21	0.52	97.81	< 1	75	5	30	< 1	< 20	< 10	50	45	6	< 5
355668	46.41	14.89	12.61	0.277	5.09	15.37	1.00	0.35	0.791	0.06	2.05	98.90	42	8	282	250	44	130	70	70	17	3	< 5
355669	49.13	15.28	12.27	0.235	5.10	12.83	2.00	0.22	0.841	0.06	0.91	98.87	45	2	283	290	52	160	130	90	16	2	< 5
355670	97.08	0.75	1.82	0.017	0.03	0.04	0.06	0.06	0.038	< 0.01	0.10	99.99	< 1	< 1	7	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
355671	49.07	15.10	12.58	0.202	7.34	12.94	1.63	0.22	0.763	0.05	0.63	100.5	43	< 1	269	310	49	160	150	90	15	2	< 5
355672	49.82	15.89	9.46	0.265	4.37	10.60	1.64	1.80	0.600	0.37	3.03	97.83	35	48	221	260	42	140	130	110	23	4	< 5
355673	66.69	16.65	1.41	0.067	0.18	0.75	3.01	0.77	0.017	0.33	1.85	91.74	2	27480	9	60	2	< 20	< 10	220	37	3	< 5
355674	57.74	21.35	2.24	0.382	0.56	3.08	1.51	6.10	0.085	2.10	3.14	98.28	4	216	21	40	4	< 20	< 10	370	119	5	< 5
355675	73.78	12.26	0.81	0.149	0.09	1.74	2.69	5.11	0.008	1.25	0.59	98.49	< 1	104	< 5	20	2	< 20	10	40	28	5	< 5
355676	72.97	13.35	0.83	0.073	0.09	0.69	2.03	6.71	0.010	0.43	0.62	97.82	< 1	36	< 5	30	< 1	< 20	< 10	40	29	5	< 5
355677	66.07	17.75	0.47	0.019	0.03	0.37	2.16	12.16	0.003	0.27	0.26	99.56	< 1	46	< 5	< 20	< 1	< 20	< 10	< 30	26	5	< 5
355678	67.45	16.82	0.47	0.021	0.05	0.20	2.11	10.93	0.003	0.20	0.36	98.61	< 1	11	< 5	< 20	< 1	< 20	< 10	< 30	27	5	< 5
355679	64.58	18.51	0.49	0.060	0.06	0.54	2.18	11.69	0.008	0.43	0.54	99.09	< 1	15	5	< 20	< 1	< 20	< 10	< 30	34	6	< 5
355680	74.28	13.53	0.69	0.611	0.03	0.74	0.59	6.20	0.052	< 0.01	2.37	99.09	12	5	6	120	< 1	< 20	170	560	29	6	54
355681	70.67	16.24	0.70	0.049	0.06	0.15	1.50	8.53	0.011	0.11	0.53	98.55	< 1	9	< 5	40	< 1	< 20	< 10	50	40	5	< 5
355682	73.12	14.60	0.58	0.037	0.07	0.17	1.62	8.47	0.008	0.13	0.52	99.34	< 1	91	< 5	40	< 1	< 20	< 10	50	33	5	< 5
355683	72.35	14.61	0.48	0.020	0.03	0.12	1.87	8.74	0.004	0.11	0.36	98.69	< 1	898	< 5	< 20	< 1	< 20	< 10	< 30	28	5	< 5
355684	72.36	14.12	1.12	0.119	0.23	1.05	1.60	5.36	0.028	0.70	1.27	97.97	1	2938	8	50	2	< 20	10	150	53	4	< 5
355685	72.94	15.65	1.86	0.139	0.47	0.41	1.21	3.58	0.047	0.25	2.02	98.59	3	362	14	60	2	< 20	< 10	210	78	5	< 5
355686	71.48	16.18	1.83	0.139	0.41	0.24	1.21	3.91	0.052	0.13	2.07	97.65	2	38	13	70	2	< 20	< 10	250	86	4	< 5
355687	73.98	15.23	1.51	0.134	0.32	0.15	0.91	3.08	0.036	0.06	1.71	97.13	1	18	10	70	2	< 20	< 10	190	78	5	< 5
355688	76.14	15.15	0.92	0.092	0.10	0.27	3.46	1.06	0.011	0.13	0.74	98.05	< 1	212	< 5	< 20	< 1	< 20	< 10	70	51	6	< 5
355689	72.10	18.42	1.53	0.128	0.07	0.18	2.28	0.95	0.009	0.13	0.50	96.31	< 1	174	7	20	< 1	< 20	< 10	40	60	6	< 5
355690	96.35	0.55	1.94	0.019	0.04	0.02	0.04	0.05	0.027	< 0.01	-0.04	99.00	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355691	72.17	18.13	1.24	0.129	0.05	0.21	2.42	1.84	0.005	0.14	0.35	96.67	< 1	68	< 5	< 20	< 1	< 20	< 10	< 30	57	7	< 5
355692	71.97	16.06	1.15	0.077	0.11	0.45	5.60	1.80	0.006	0.24	0.49	97.95	< 1	106	< 5	< 20	2	< 20	< 10	< 30	42	5	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355693	47.99	14.63	12.99	0.196	6.70	12.24	0.82	0.57	0.808	0.05	2.73	99.71	41	3	265	260	47	140	170	70	16	2	< 5
355694	50.74	15.95	11.05	0.156	6.15	8.56	3.17	0.55	1.214	0.31	2.28	100.1	25	2	207	110	40	100	160	130	19	1	< 5
355695	48.59	14.52	13.04	0.205	8.07	11.20	1.59	0.23	0.810	0.05	1.08	99.39	45	< 1	282	270	48	120	140	100	15	2	< 5
355696	48.74	14.45	12.56	0.208	7.76	11.33	1.63	0.18	0.803	0.05	0.99	98.71	45	< 1	285	270	49	130	140	100	15	2	< 5
355697	47.82	13.98	12.61	0.204	8.65	9.20	1.14	0.67	0.832	0.05	3.02	98.18	44	11	281	270	49	130	140	150	16	2	< 5
355698	77.51	12.15	2.39	0.097	0.61	0.54	2.03	2.50	0.061	0.15	1.40	99.43	3	93	15	40	4	< 20	< 10	150	59	4	< 5
355699	71.07	16.14	2.16	0.135	0.48	0.83	3.08	3.20	0.062	0.35	1.96	99.47	3	219	14	30	3	< 20	< 10	230	79	5	< 5
355700	74.67	13.60	0.69	0.595	0.03	0.74	0.60	6.23	0.054	< 0.01	2.17	99.38	12	5	< 5	120	< 1	< 20	170	520	29	6	51
355701	71.29	16.54	1.88	0.105	0.35	0.25	2.34	4.07	0.039	0.10	1.43	98.41	2	171	10	30	2	< 20	< 10	160	65	5	< 5
355702	74.93	15.95	1.50	0.127	0.12	0.32	2.61	0.91	0.013	0.19	0.62	97.29	< 1	58	< 5	20	< 1	< 20	< 10	60	56	5	< 5
355703	73.34	15.42	1.68	0.121	0.17	0.22	1.59	2.92	0.024	0.12	1.23	96.82	< 1	86	< 5	30	1	< 20	< 10	130	65	5	< 5
355704	71.03	15.81	1.03	0.080	0.15	0.30	2.78	5.60	0.012	0.25	0.80	97.83	< 1	38	< 5	< 20	< 1	< 20	< 10	60	45	5	< 5
355705	73.43	15.96	1.84	0.094	0.28	0.17	2.55	2.82	0.031	0.11	1.08	98.37	2	106	7	30	2	< 20	< 10	130	62	5	< 5
355706	74.67	14.30	2.07	0.114	0.45	0.16	1.31	3.97	0.056	0.12	1.65	98.86	3	63	10	40	3	< 20	< 10	220	71	4	< 5
355707	73.33	15.17	2.26	0.131	0.51	0.18	1.17	3.59	0.061	0.08	1.93	98.42	3	151	11	40	3	< 20	< 10	270	79	5	< 5
355708	71.28	15.56	0.98	0.051	0.17	0.15	2.05	7.95	0.020	0.11	0.94	99.26	< 1	11	6	30	1	< 20	< 10	110	45	5	< 5
355709	73.38	14.51	1.97	0.127	0.41	0.18	1.04	3.81	0.055	0.13	2.04	97.64	2	80	11	50	3	< 20	< 10	270	84	4	< 5
355710	98.84	0.47	1.11	0.011	0.02	0.02	0.05	0.06	0.021	< 0.01	0.15	100.8	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355711	71.65	15.70	1.20	0.082	0.19	0.20	1.24	6.54	0.020	0.20	1.06	98.08	< 1	38	< 5	30	< 1	< 20	< 10	100	50	5	< 5
355712	70.68	15.23	0.48	0.014	0.04	0.12	2.73	9.15	0.002	0.15	0.34	98.93	< 1	9	< 5	< 20	< 1	< 20	< 10	< 30	25	6	< 5
355713	74.04	14.46	1.10	0.087	0.15	0.13	2.43	4.79	0.014	0.10	0.92	98.21	< 1	249	< 5	30	< 1	< 20	< 10	100	47	5	< 5
355714	71.56	16.43	0.96	0.185	0.13	0.24	4.22	4.39	0.018	0.15	1.06	99.34	< 1	219	< 5	< 20	< 1	< 20	< 10	90	54	5	< 5
355715	71.67	18.19	1.27	0.137	0.10	0.20	2.09	2.55	0.011	0.12	0.57	96.91	< 1	238	5	30	< 1	< 20	< 10	60	59	6	< 5
355716	71.56	17.94	1.19	0.120	0.10	0.19	2.47	3.45	0.012	0.12	0.71	97.87	< 1	122	< 5	30	< 1	< 20	< 10	70	55	6	< 5
355717	71.74	18.90	1.41	0.131	0.08	0.16	0.85	1.75	0.007	0.12	0.52	95.68	< 1	211	< 5	30	< 1	< 20	< 10	30	61	7	< 5
355718	75.77	16.17	1.43	0.136	0.10	0.15	0.58	1.28	0.011	0.09	0.64	96.35	< 1	483	< 5	50	< 1	< 20	< 10	60	60	6	< 5
355719	76.70	14.00	0.96	0.092	0.09	0.16	3.15	2.84	0.007	0.10	0.52	98.62	< 1	224	5	30	< 1	< 20	< 10	< 30	36	6	< 5
355720	75.08	13.22	0.68	0.626	0.03	0.76	0.60	6.15	0.052	< 0.01	2.11	99.29	12	5	< 5	120	< 1	< 20	170	570	29	6	60
355721	75.94	14.67	1.14	0.102	0.11	0.19	1.75	1.86	0.008	0.11	0.46	96.33	< 1	41	< 5	40	< 1	< 20	< 10	40	46	6	< 5
355722	72.37	16.26	0.95	0.111	0.11	0.35	5.47	1.21	0.007	0.17	0.47	97.49	< 1	311	< 5	< 20	< 1	< 20	< 10	30	44	5	< 5
355723	46.16	14.19	12.36	0.258	7.03	14.62	0.83	0.48	0.718	0.06	2.45	99.15	40	20	258	260	47	130	80	80	15	3	< 5
355724	45.13	13.51	15.65	0.339	6.85	14.43	1.28	0.29	0.724	0.06	1.25	99.51	41	2	263	250	45	120	180	130	14	2	< 5
355725	49.36	15.81	11.88	0.224	4.57	14.51	0.66	0.37	0.835	0.05	2.23	100.5	46	3	294	300	53	150	160	70	18	2	6
355726	47.53	15.99	10.99	0.203	6.10	12.03	0.34	0.49	0.841	0.06	3.68	98.27	45	15	291	300	49	150	60	60	22	3	7
355727	72.38	14.74	0.83	0.044	0.23	0.70	3.64	5.86	0.020	0.32	0.77	99.53	< 1	118	8	< 20	1	< 20	< 10	60	35	5	< 5
355728	73.06	14.74	1.25	0.092	0.23	0.22	1.44	6.56	0.028	0.16	1.25	99.03	1	15	7	30	1	< 20	< 10	150	58	4	< 5
355729	74.94	14.00	1.70	0.123	0.31	0.32	1.08	4.48	0.037	0.14	1.60	98.74	2	594	13	50	2	< 20	< 10	180	66	5	< 5
355730	97.50	0.59	0.92	0.011	0.05	0.04	0.05	0.07	0.027	0.01	0.17	99.44	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355731	75.27	14.90	1.85	0.138	0.25	0.38	0.57	2.23	0.029	0.34	1.19	97.15	2	192	7	50	2	< 20	< 10	130	67	6	< 5
355732	74.54	15.35	1.95	0.157	0.17	0.50	0.71	1.67	0.020	0.34	1.02	96.43	1	479	7	30	< 1	< 20	< 10	100	66	5	< 5
355733	73.90	15.26	2.08	0.125	0.17	0.46	0.96	0.99	0.011	0.31	0.57	94.84	1	292	5	30	< 1	< 20	< 10	50	56	6	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355734	76.57	14.07	1.22	0.114	0.26	0.46	1.76	2.16	0.034	0.21	1.20	98.07	2	138	13	30	2	< 20	< 10	110	57	5	< 5
355735	73.54	15.61	1.36	0.115	0.30	0.34	1.29	3.70	0.036	0.15	1.59	98.03	2	8	13	30	2	< 20	< 10	140	66	5	< 5
355736	73.27	16.32	1.31	0.111	0.22	0.25	1.16	3.42	0.025	0.11	1.16	97.37	2	7	10	40	1	< 20	< 10	110	66	5	< 5
355737	72.12	16.33	1.28	0.106	0.20	0.23	1.23	2.98	0.021	0.13	1.09	95.71	2	162	8	50	< 1	< 20	< 10	90	65	5	< 5
355738	73.71	15.86	1.17	0.101	0.14	0.36	1.59	2.69	0.014	0.22	0.77	96.64	2	436	13	40	< 1	< 20	< 10	60	55	5	< 5
355739	77.95	13.86	1.06	0.097	0.16	0.36	2.19	1.91	0.020	0.18	1.09	98.86	1	356	10	40	< 1	< 20	< 10	110	55	5	< 5
355740	73.65	13.71	0.75	0.592	0.06	0.75	0.59	6.03	0.057	< 0.01	2.29	98.48	12	5	< 5	110	< 1	< 20	160	520	29	7	46
355741	73.68	16.04	1.11	0.096	0.10	0.38	1.69	2.85	0.010	0.25	0.62	96.82	1	181	7	40	< 1	< 20	< 10	40	54	5	< 5
355742	73.35	15.37	0.60	0.054	0.09	0.15	2.30	6.18	0.010	0.13	0.75	98.98	< 1	424	< 5	40	< 1	< 20	< 10	60	41	5	< 5
355743	72.64	15.94	0.59	0.057	0.11	0.27	3.46	5.44	0.011	0.15	0.84	99.52	< 1	111	< 5	30	< 1	< 20	< 10	60	42	6	< 5
355744	45.24	16.00	11.85	0.300	3.66	15.13	1.18	0.43	0.691	0.75	3.03	98.25	38	21	239	290	49	140	380	100	18	2	< 5
355745	48.41	16.00	13.46	0.305	4.07	12.05	1.77	0.41	0.806	0.06	1.62	98.95	44	7	285	320	49	150	230	100	16	2	< 5
355746	48.00	15.27	12.11	0.183	8.24	10.88	1.99	0.25	0.767	0.05	1.10	98.84	44	6	279	270	48	130	120	100	16	2	< 5
355747	48.39	14.47	12.72	0.191	7.47	11.50	1.40	0.32	0.794	0.06	1.03	98.36	44	2	275	280	51	140	190	100	16	2	< 5
355748	73.48	15.66	1.21	0.106	0.28	0.54	2.67	2.88	0.036	0.22	1.32	98.38	2	506	6	40	2	< 20	< 10	130	64	5	< 5
355749	71.17	16.09	0.32	0.043	0.06	0.46	7.19	2.60	0.007	0.19	0.66	98.80	< 1	59	5	< 20	< 1	< 20	< 10	< 30	36	5	< 5
355750	97.90	0.54	0.58	0.008	0.07	0.11	0.06	0.06	0.024	< 0.01	0.32	99.66	< 1	< 1	6	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355751	72.05	15.88	0.58	0.112	0.11	0.43	6.42	1.52	0.020	0.18	0.88	98.18	< 1	379	< 5	< 20	< 1	< 20	< 10	70	48	5	< 5
355752	77.82	13.86	0.92	0.105	0.29	0.25	2.27	1.39	0.019	0.06	1.18	98.16	1	142	< 5	50	< 1	< 20	< 10	80	54	5	< 5
355753	77.18	14.50	0.81	0.094	0.16	0.28	1.88	1.99	0.016	0.18	0.86	97.93	1	427	< 5	40	< 1	< 20	< 10	70	53	5	< 5
355754	71.43	15.67	1.03	0.139	0.40	0.80	2.25	3.74	0.032	0.44	1.73	97.66	2	1140	7	40	1	< 20	< 10	130	56	6	< 5
355755	46.14	14.01	11.71	0.187	7.71	9.20	1.00	2.33	0.756	0.09	4.17	97.30	40	18	250	230	42	120	30	90	17	2	< 5
355756	47.16	13.84	11.32	0.190	7.96	9.01	1.04	2.48	0.693	0.08	4.20	97.97	40	22	251	240	43	120	30	100	18	2	< 5
355757	47.89	14.20	12.44	0.191	8.42	10.73	1.74	0.32	0.767	0.05	1.38	98.13	43	1	274	270	50	150	130	90	15	2	< 5
355758	49.33	13.89	12.01	0.206	6.71	13.38	1.34	0.15	0.767	0.06	0.90	98.75	42	2	270	260	48	140	160	80	15	2	< 5
355759	65.22	17.94	1.19	0.055	0.83	2.55	5.94	2.12	0.045	0.15	2.12	98.17	2	555	14	20	2	< 20	10	60	54	7	< 5
355760	74.46	13.59	0.68	0.611	0.03	0.75	0.59	6.19	0.052	0.02	2.13	99.11	13	5	5	110	< 1	< 20	160	540	28	6	50
355761	47.49	15.59	11.69	0.322	4.24	15.84	0.77	0.50	0.798	0.04	1.62	98.91	45	4	287	320	49	160	20	100	17	2	< 5
355762	48.81	16.00	10.84	0.295	4.43	13.48	1.81	0.48	0.844	0.04	1.42	98.46	46	2	284	320	51	160	20	110	16	2	< 5
355763	46.24	13.80	18.47	0.347	5.16	10.21	1.50	0.68	0.739	0.09	2.21	99.45	40	9	272	230	43	100	390	230	16	2	< 5
355764	70.61	15.48	1.54	0.118	0.67	1.83	6.13	1.26	0.035	0.65	1.66	99.99	1	73	9	30	3	< 20	90	90	46	5	< 5
355765	71.83	16.24	0.59	0.103	0.11	0.54	5.89	1.28	0.014	0.31	1.00	97.92	< 1	228	< 5	20	< 1	< 20	< 10	90	55	7	< 5
355766	70.06	16.65	0.50	0.087	0.12	0.50	5.31	2.80	0.012	0.30	0.81	97.16	< 1	331	< 5	20	< 1	< 20	< 10	50	46	7	< 5
355767	47.66	14.69	14.86	0.349	4.10	11.91	1.73	0.59	0.772	0.04	2.06	98.75	51	3	294	300	49	160	120	160	16	2	< 5
355768	46.89	15.62	14.88	0.313	4.99	11.84	1.00	1.04	0.809	0.08	2.58	100.0	43	8	276	300	48	150	140	170	16	2	< 5
355769	50.07	14.54	13.67	0.270	5.27	11.30	1.97	0.45	0.735	0.09	1.61	99.97	37	3	232	230	40	120	160	170	16	2	< 5
355770	97.83	0.74	0.68	0.011	0.08	0.15	0.06	0.05	0.039	0.01	0.31	99.96	< 1	< 1	7	20	< 1	< 20	< 10	< 30	1	< 1	< 5
355771	52.76	15.52	8.40	0.164	5.23	8.67	1.95	0.96	0.517	0.11	3.88	98.15	16	13	121	80	22	70	90	160	19	2	< 5
355772	63.86	19.04	1.19	0.172	0.32	1.66	3.98	5.99	0.042	1.21	1.55	99.03	2	28	10	30	2	< 20	< 10	130	69	5	< 5
355773	69.64	16.10	0.32	0.019	0.09	0.21	2.01	9.76	0.008	0.17	0.58	98.90	< 1	16	< 5	< 20	< 1	< 20	< 10	< 30	28	6	< 5
355774	68.90	18.16	0.85	0.109	0.19	0.56	3.62	3.39	0.024	0.28	1.09	97.17	< 1	229	5	30	1	< 20	< 10	110	62	5	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355775	74.75	16.03	0.97	0.145	0.15	0.22	0.97	1.29	0.019	0.06	0.99	95.59	1	92	< 5	40	< 1	< 20	< 10	90	65	6	< 5
355776	71.64	19.04	0.98	0.159	0.13	0.25	0.92	1.01	0.018	0.05	0.97	95.15	< 1	159	< 5	40	< 1	< 20	< 10	80	70	6	< 5
355777	75.06	14.98	0.58	0.070	0.15	0.53	4.47	1.89	0.012	0.26	1.02	99.02	< 1	378	< 5	30	< 1	< 20	< 10	60	43	6	< 5
355778	76.06	13.65	1.36	0.098	0.33	0.26	2.14	3.04	0.041	0.14	1.77	98.90	2	12	10	80	2	< 20	< 10	200	70	4	< 5
355779	73.10	14.91	1.18	0.081	0.30	0.15	1.85	5.42	0.038	0.09	1.59	98.71	2	21	11	50	2	< 20	< 10	190	64	6	< 5
355780	73.44	13.76	0.68	0.619	0.04	0.73	0.60	6.27	0.054	0.02	2.13	98.34	12	5	6	110	< 1	< 20	160	510	29	6	49
355781	73.87	14.64	1.29	0.121	0.31	0.38	1.11	3.65	0.040	0.25	1.64	97.29	2	292	12	50	2	< 20	< 10	180	70	5	< 5
355782	71.94	16.04	0.68	0.068	0.17	0.31	4.76	3.77	0.020	0.17	1.22	99.15	< 1	7	5	30	< 1	< 20	< 10	110	53	6	< 5
355783	79.64	12.12	0.86	0.106	0.17	0.19	1.29	3.18	0.022	0.08	1.49	99.13	1	101	5	60	< 1	< 20	< 10	150	55	6	< 5
355784	75.91	14.21	0.58	0.088	0.14	0.28	2.06	4.86	0.015	0.10	1.24	99.49	< 1	329	5	40	< 1	< 20	< 10	120	48	5	< 5
355785	76.12	14.34	0.65	0.143	0.15	0.31	1.17	3.37	0.012	0.15	1.16	97.58	< 1	184	< 5	60	< 1	< 20	< 10	90	48	6	< 5
355786	73.76	15.47	0.65	0.089	0.23	0.34	4.24	3.08	0.029	0.17	0.97	99.03	< 1	120	< 5	40	< 1	< 20	< 10	50	41	5	< 5
355787	49.27	14.59	11.25	0.164	7.84	9.12	1.99	0.85	0.906	0.29	2.24	98.51	36	15	250	200	42	110	120	80	17	2	< 5
355788	50.26	14.38	11.47	0.159	7.23	8.53	2.23	0.62	1.022	0.21	2.15	98.26	32	3	245	160	42	120	120	80	16	2	< 5
355789	48.15	14.38	11.32	0.260	4.38	14.88	1.39	0.17	0.795	0.04	2.74	98.50	41	< 1	265	260	46	140	150	90	15	2	< 5
355790	98.32	0.46	0.70	0.007	0.03	0.03	0.05	0.04	0.042	< 0.01	0.19	99.85	< 1	< 1	6	250	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355791	49.09	14.50	11.88	0.224	6.21	11.05	0.80	0.68	0.771	0.17	2.87	98.23	41	12	270	260	46	140	90	120	17	3	< 5
355792	74.38	14.90	1.18	0.085	0.29	0.52	2.98	2.41	0.040	0.19	1.58	98.57	2	70	14	60	2	< 20	< 10	100	55	5	< 5
355793	74.32	14.12	1.56	0.105	0.44	0.20	1.49	3.45	0.054	0.09	1.95	97.77	3	36	11	50	3	< 20	< 10	190	71	4	< 5
355794	77.42	11.96	1.32	0.086	0.38	0.25	1.98	2.65	0.045	0.08	1.85	98.01	2	90	13	60	2	< 20	< 10	180	59	4	< 5
355795	72.54	16.73	0.61	0.081	0.14	0.40	6.41	1.17	0.015	0.22	1.06	99.37	< 1	89	5	< 20	< 1	< 20	< 10	60	53	5	< 5
355796	72.91	16.78	0.45	0.074	0.14	0.38	6.82	0.77	0.009	0.16	0.87	99.37	< 1	113	< 5	20	< 1	< 20	< 10	30	47	5	< 5
355797	73.75	17.21	1.04	0.156	0.16	0.44	1.30	1.79	0.022	0.24	1.38	97.49	< 1	80	< 5	60	< 1	< 20	< 10	110	73	5	< 5
355798	75.51	16.00	0.90	0.121	0.19	0.22	0.70	1.19	0.014	0.12	1.25	96.21	< 1	58	< 5	60	< 1	< 20	< 10	80	61	6	< 5
355799	71.52	16.69	1.05	0.102	0.44	0.35	1.83	4.78	0.025	0.19	2.00	98.97	1	15	7	40	1	< 20	< 10	160	61	5	< 5
355800	74.14	13.25	0.67	0.610	0.02	0.74	0.61	6.52	0.051	< 0.01	2.38	98.99	12	5	7	120	< 1	< 20	180	520	30	6	44
355801	73.00	14.43	0.68	0.065	0.16	0.14	1.60	6.46	0.018	0.09	1.38	98.02	< 1	67	6	30	< 1	< 20	< 10	90	48	5	< 5
355802	71.83	16.65	1.40	0.121	0.33	0.24	1.78	2.65	0.038	0.12	1.89	97.05	2	114	11	60	2	< 20	< 10	180	77	5	< 5
355803	73.75	15.00	1.44	0.111	0.38	0.19	1.40	3.33	0.043	0.10	1.87	97.61	2	188	12	70	2	< 20	< 10	180	68	5	< 5
355804	74.88	14.35	1.27	0.099	0.33	0.32	2.08	3.31	0.039	0.19	1.73	98.59	2	362	8	70	2	< 20	< 10	160	63	4	< 5
355805	79.87	11.37	1.40	0.103	0.41	0.13	1.05	2.78	0.046	0.03	2.00	99.20	2	12	15	90	2	< 20	< 10	210	60	4	< 5
355806	73.19	14.19	1.60	0.122	0.44	0.19	1.12	4.54	0.063	0.11	2.25	97.82	3	165	13	80	3	< 20	< 10	260	74	4	< 5
355807	78.62	12.22	1.06	0.121	0.25	0.17	1.48	2.63	0.037	0.14	1.58	98.31	2	458	7	70	2	< 20	< 10	170	57	5	< 5
355808	74.88	15.30	0.82	0.092	0.22	0.37	2.10	1.53	0.018	0.14	1.36	96.84	< 1	517	6	40	< 1	< 20	< 10	90	56	7	< 5
355809	74.37	15.19	1.25	0.123	0.30	0.34	1.50	3.21	0.035	0.20	1.61	98.13	2	537	5	40	2	< 20	< 10	150	59	4	< 5
355810	96.96	0.59	2.05	0.023	0.08	0.09	0.03	0.08	0.030	< 0.01	-0.02	99.93	< 1	< 1	6	< 20	1	< 20	< 10	< 30	< 1	< 1	< 5
355811	74.04	14.93	1.03	0.154	0.27	0.26	3.52	2.49	0.037	0.12	1.65	98.49	2	80	8	30	2	< 20	< 10	210	65	5	< 5
355812	73.08	15.94	1.07	0.167	0.27	0.47	2.80	2.31	0.034	0.29	1.64	98.07	2	426	8	40	2	< 20	< 10	190	69	6	< 5
355813	77.39	14.81	0.69	0.110	0.12	0.16	2.04	1.65	0.016	0.10	1.02	98.09	< 1	634	< 5	50	< 1	< 20	< 10	100	53	6	< 5
355814	72.76	16.12	0.51	0.090	0.12	0.34	3.86	2.74	0.009	0.19	0.88	97.62	< 1	307	< 5	30	< 1	< 20	< 10	50	43	6	< 5
355815	70.88	17.85	0.99	0.118	0.24	0.57	4.45	1.61	0.030	0.13	1.32	98.19	2	184	10	30	1	< 20	< 10	100	63	6	< 5



## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355816	71.06	17.58	1.01	0.100	0.25	0.54	4.76	1.78	0.030	0.13	1.45	98.69	2	258	9	20	1	< 20	< 10	120	66	6	< 5
355817	43.67	14.95	13.07	0.262	5.46	17.07	0.90	0.27	0.831	0.07	3.38	99.93	46	4	305	270	48	150	60	100	17	2	< 5
355818	48.68	15.27	12.66	0.235	6.13	12.53	1.46	0.45	0.824	0.05	0.83	99.13	45	3	293	270	50	150	140	100	16	2	< 5
355819	47.97	15.36	12.85	0.241	6.30	13.72	1.29	0.28	0.784	0.06	1.08	99.94	42	6	264	300	50	170	190	90	15	2	< 5
355820	73.66	13.62	0.69	0.607	0.06	0.76	0.60	6.31	0.053	0.01	2.19	98.55	12	5	8	120	< 1	< 20	170	550	29	6	56
355821	48.69	14.94	12.06	0.234	5.74	14.15	0.64	0.34	0.758	0.05	1.57	99.17	41	3	267	300	48	160	100	90	16	2	< 5
355822	65.70	19.07	1.85	0.135	0.50	1.10	3.86	4.79	0.072	0.43	1.88	99.37	3	93	21	30	4	< 20	< 10	190	77	5	< 5
355823	77.76	12.53	1.23	0.128	0.18	0.20	0.90	4.90	0.031	0.14	1.41	99.41	< 1	16	< 5	40	1	< 20	< 10	210	62	5	< 5
355824	71.01	17.10	0.86	0.100	0.05	0.27	1.81	5.59	0.008	0.19	0.75	97.74	< 1	289	< 5	30	< 1	< 20	< 10	70	49	9	< 5
355825	76.98	14.48	1.27	0.141	0.10	0.31	1.20	0.91	0.012	0.13	0.70	96.22	< 1	431	< 5	50	< 1	< 20	< 10	80	55	7	< 5
355826	76.77	15.26	1.27	0.133	0.06	0.21	0.78	0.46	0.008	0.09	0.50	95.54	< 1	658	< 5	50	< 1	< 20	< 10	50	60	7	< 5
355827	75.73	12.57	1.38	0.262	0.10	2.20	0.71	1.48	0.020	1.58	1.09	97.12	< 1	1506	< 5	50	< 1	< 20	< 10	140	60	6	< 5
355828	61.22	14.90	1.05	0.523	0.20	7.24	4.71	1.85	0.023	5.38	1.47	98.56	< 1	2308	< 5	20	< 1	< 20	< 10	140	57	5	< 5
355829	65.94	16.84	1.38	0.342	0.15	3.31	2.85	2.21	0.029	2.38	1.52	96.96	< 1	2281	< 5	40	1	< 20	< 10	200	71	7	< 5
355830	94.86	0.54	3.51	0.035	0.01	0.02	0.04	0.05	0.023	< 0.01	-0.21	98.88	< 1	13	< 5	20	< 1	< 20	< 10	< 30	1	1	< 5
355831	72.53	15.85	0.55	0.085	0.03	0.89	8.24	0.50	0.006	0.51	0.44	99.63	< 1	418	< 5	< 20	< 1	< 20	< 10	30	40	7	< 5
355832	71.62	15.73	0.70	0.103	0.05	0.53	7.40	1.05	0.010	0.28	0.67	98.15	< 1	194	< 5	< 20	< 1	< 20	< 10	70	45	7	< 5
355833	77.00	13.15	0.72	0.049	0.02	0.26	5.52	2.53	0.004	0.13	0.31	99.69	< 1	72	< 5	30	< 1	< 20	< 10	< 30	29	8	< 5
355834	82.68	10.06	1.20	0.072	0.33	0.25	2.00	1.46	0.007	0.13	0.75	98.93	< 1	107	< 5	40	< 1	< 20	< 10	40	32	8	< 5
355835	48.35	13.11	11.49	0.165	10.83	8.23	0.93	0.84	0.643	0.09	5.64	100.3	36	31	226	230	44	170	30	60	17	3	< 5
355836	47.94	14.74	12.73	0.189	8.72	10.70	2.05	0.41	0.774	0.07	1.81	100.1	42	4	262	260	51	180	130	90	15	2	< 5
355837	47.45	15.38	13.08	0.248	5.53	13.38	2.12	0.50	0.816	0.06	1.26	99.80	46	< 1	297	280	54	140	200	100	17	2	< 5
355838	49.72	14.80	12.34	0.226	4.94	14.00	1.11	0.33	0.820	0.06	1.89	100.2	44	4	284	280	50	140	210	240	17	2	< 5
355839	73.87	14.73	1.49	0.088	0.22	0.69	2.77	3.68	0.028	0.35	0.91	98.81	2	510	7	30	2	< 20	20	170	52	5	< 5
355840	74.70	13.47	0.67	0.585	0.03	0.74	0.59	6.17	0.051	< 0.01	2.37	99.39	12	5	< 5	120	< 1	< 20	180	560	30	7	47
355841	75.00	14.78	1.51	0.102	0.23	0.29	2.89	2.47	0.028	0.10	0.99	98.39	1	146	6	30	1	< 20	< 10	120	55	5	< 5
355842	70.00	16.42	0.92	0.050	0.14	0.31	2.38	7.63	0.018	0.13	0.46	98.46	1	59	6	30	1	< 20	20	70	39	6	< 5
355843	68.85	18.06	0.77	0.034	0.09	0.13	2.48	7.98	0.004	0.12	0.44	98.95	< 1	4	< 5	< 20	< 1	< 20	< 10	< 30	37	6	< 5
355844	78.57	13.14	1.60	0.104	0.13	0.23	1.02	1.31	0.015	0.15	0.65	96.92	1	177	5	60	< 1	< 20	< 10	90	58	5	< 5
355845	78.42	12.16	1.70	0.106	0.31	0.34	1.33	3.19	0.038	0.19	1.37	99.14	2	98	8	60	2	< 20	< 10	210	66	5	< 5
355846	77.00	13.65	1.24	0.083	0.13	0.60	3.97	1.05	0.014	0.29	0.76	98.79	1	284	6	40	< 1	< 20	< 10	80	45	7	< 5
355847	77.62	13.06	1.73	0.131	0.16	0.38	0.93	1.59	0.020	0.23	0.84	96.68	1	205	7	50	1	< 20	< 10	120	63	5	< 5
355848	80.61	11.11	1.36	0.098	0.09	0.19	0.89	1.70	0.012	0.10	0.71	96.88	< 1	377	< 5	50	< 1	< 20	< 10	80	47	6	< 5
355849	71.01	16.16	0.52	0.019	0.03	0.13	3.48	8.09	0.002	0.12	0.32	99.87	< 1	26	< 5	< 20	< 1	< 20	< 10	< 30	27	7	< 5
355850	94.95	0.54	4.06	0.040	0.02	0.01	0.04	0.06	0.028	< 0.01	-0.43	99.31	< 1	2	5	30	< 1	< 20	< 10	< 30	1	1	< 5
355851	77.50	12.96	1.12	0.078	0.13	0.18	1.96	4.42	0.013	0.11	0.75	99.22	< 1	397	< 5	40	< 1	< 20	< 10	70	39	5	< 5
355852	76.58	14.41	1.12	0.084	0.10	0.13	0.97	3.99	0.010	0.09	0.62	98.10	< 1	180	< 5	40	< 1	< 20	< 10	60	42	6	< 5
355853	71.13	15.88	0.66	0.039	0.06	0.32	3.81	6.87	0.007	0.17	0.44	99.39	< 1	114	< 5	< 20	< 1	< 20	< 10	40	30	6	< 5
355854	49.39	15.59	11.71	0.182	6.89	10.33	2.58	0.73	1.015	0.18	0.93	99.54	34	2	244	170	43	120	110	120	17	1	< 5
355855	52.34	16.22	9.82	0.139	5.31	8.27	3.88	1.09	1.343	0.44	1.00	99.85	16	2	175	< 20	33	70	80	110	19	1	< 5
355856	48.88	15.19	12.55	0.222	4.67	13.68	1.01	0.27	0.861	0.05	1.19	98.56	44	< 1	283	260	48	130	150	90	15	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
355857	47.75	14.77	12.58	0.237	5.76	13.14	0.94	0.36	0.826	0.05	2.19	98.60	45	3	289	260	50	130	300	90	16	2	6
355858	72.92	15.94	1.34	0.102	0.29	0.65	4.58	1.41	0.028	0.12	0.91	98.29	1	175	9	30	2	< 20	< 10	80	50	5	< 5
355859	72.41	16.53	1.11	0.107	0.17	0.45	5.05	1.97	0.018	0.22	0.69	98.73	< 1	302	< 5	20	< 1	< 20	< 10	80	51	5	< 5
355860	75.15	13.26	0.69	0.592	0.03	0.75	0.61	6.45	0.053	0.01	2.07	99.66	12	5	< 5	110	< 1	< 20	160	530	29	7	58
355861	75.02	15.83	1.54	0.103	0.21	0.47	2.99	1.28	0.019	0.19	0.75	98.40	1	293	< 5	40	1	< 20	< 10	90	55	5	< 5
355862	73.03	15.96	1.33	0.099	0.20	0.60	4.62	1.57	0.024	0.23	0.92	98.58	1	258	9	20	1	< 20	< 10	100	54	5	< 5
355863	73.67	15.99	1.24	0.109	0.14	0.83	4.45	1.10	0.016	0.44	0.72	98.71	< 1	110	6	40	1	< 20	< 10	70	48	5	< 5
355864	74.88	14.36	1.21	0.103	0.25	0.59	5.59	1.10	0.021	0.25	0.67	99.04	1	184	5	30	1	< 20	< 10	70	47	6	< 5
355865	78.29	13.72	1.32	0.109	0.14	0.35	3.38	0.76	0.013	0.13	0.48	98.68	< 1	447	< 5	30	< 1	< 20	< 10	60	48	6	< 5
355866	75.96	14.61	1.80	0.107	0.33	0.46	2.35	1.69	0.035	0.19	0.94	98.48	2	166	8	50	2	< 20	< 10	120	54	5	< 5
355867	77.03	13.20	1.74	0.128	0.39	0.49	2.13	2.42	0.041	0.26	1.26	99.08	2	203	13	50	2	< 20	< 10	180	58	5	< 5
355868	77.01	15.02	1.67	0.144	0.14	0.44	0.99	1.14	0.015	0.31	0.62	97.51	1	849	7	40	< 1	< 20	< 10	100	60	5	< 5
355869	77.39	12.80	1.35	0.127	0.22	0.62	1.93	2.02	0.016	0.43	0.83	97.74	< 1	550	< 5	40	< 1	< 20	< 10	90	45	4	< 5
355870	95.35	0.55	4.17	0.041	0.05	0.03	0.05	0.06	0.025	0.03	-0.57	99.78	< 1	4	< 5	30	1	< 20	< 10	< 30	1	1	< 5
355871	79.62	11.57	1.02	0.060	0.16	0.14	2.71	2.90	0.015	0.08	0.69	98.96	< 1	216	< 5	40	< 1	< 20	< 10	90	38	5	< 5
355872	76.62	12.91	1.29	0.103	0.26	0.38	3.06	3.61	0.023	0.15	0.54	98.95	1	222	7	40	2	< 20	< 10	70	34	5	< 5
355873	49.54	14.91	12.11	0.193	7.32	12.61	1.42	0.28	0.790	0.05	0.99	100.2	42	3	269	250	50	150	160	90	15	2	< 5
355874	47.98	14.40	10.85	0.194	6.77	14.60	1.79	0.22	0.702	0.05	2.86	100.4	37	< 1	242	210	43	140	150	80	14	2	< 5
355759A	48.64	13.68	14.48	0.413	5.26	13.03	1.11	0.62	0.776	0.11	1.58	99.69	41	39	260	240	42	130	30	240	18	4	< 5

## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355611	877	37	< 2	13	65	< 2	< 0.5	< 0.2	13	< 0.5	234	33	< 0.4	1.2	130	1	6.5	9	5.4	6.7	0.39	0.83	
355612	256	61	16	42	3	< 2	< 0.5	< 0.2	6	2.3	289	61	3.4	1.2	1.7	6	3.1	6	0.4	0.8	0.07	0.14	
355613	31	70	18	45	3	< 2	< 0.5	< 0.2	3	8.6	9.1	74	1.9	1.2	2.7	< 1	1.3	47	0.4	0.8	0.03	0.07	
355614	254	972	18	133	6	< 2	< 0.5	< 0.2	< 1	1.0	146	987	< 0.4	2.9	0.3	< 1	2.6	9	9.8	2.1	0.06	0.12	
355615	1850	196	18	48	8	< 2	< 0.5	< 0.2	18	0.7	472	159	1.2	1.4	3.3	1	15.5	6	0.8	0.5	0.13	0.29	
355616	7530	102	< 2	< 4	6	< 2	< 0.5	< 0.2	3	< 0.5	515	36	1.7	< 0.2	23.7	< 1	88.7	13	0.6	0.4	0.01	0.03	
355617	8110	102	2	< 4	14	< 2	< 0.5	< 0.2	3	< 0.5	558	40	1.1	< 0.2	57.0	< 1	100	13	0.2	0.3	0.03	0.06	
355618	4230	60	3	31	63	< 2	< 0.5	< 0.2	57	< 0.5	683	122	0.7	2.9	132	5	43.0	< 5	5.0	1.9	0.25	0.54	
355619	3720	48	3	31	76	< 2	< 0.5	< 0.2	61	< 0.5	474	16	0.6	3.1	109	4	34.8	6	4.7	1.3	0.33	0.70	2.75
355620	2080	23	14	69	67	6	1.7	0.3	13	19.0	62.3	88	42.8	5.5	10.8	102	19.8	487	25.8	51.4	0.31	0.68	
355621	1370	31	< 2	16	54	< 2	< 0.5	< 0.2	22	< 0.5	196	16	< 0.4	1.8	137	3	13.9	< 5	1.5	2.5	0.06	0.12	
355622	71	88	18	44	2	2	< 0.5	< 0.2	2	0.8	33.2	51	0.6	1.2	0.3	2	3.4	< 5	0.3	< 0.1	0.04	0.08	
355623	25	83	18	45	2	< 2	< 0.5	< 0.2	< 1	0.7	2.8	80	0.5	1.2	0.2	< 1	1.9	< 5	0.3	< 0.1	0.02	0.05	
355624	25	76	17	43	2	< 2	< 0.5	< 0.2	< 1	< 0.5	5.2	44	< 0.4	1.1	0.2	< 1	1.2	6	0.3	0.2	0.06	0.14	
355625	956	91	17	46	2	< 2	< 0.5	< 0.2	2	1.2	1350	33	0.5	1.3	0.6	< 1	10.1	9	0.3	0.5	0.19	0.40	
355626	2070	36	< 2	9	62	< 2	< 0.5	< 0.2	46	< 0.5	263	12	2.0	0.9	86.4	4	14.9	< 5	1.9	2.6	0.20	0.43	
355627	3310	55	< 2	6	44	< 2	< 0.5	< 0.2	38	< 0.5	340	60	1.0	0.7	45.4	3	31.0	8	2.4	5.4	0.29	0.63	
355628	3340	44	< 2	< 4	49	2	< 0.5	< 0.2	54	< 0.5	699	24	2.2	0.4	58.0	4	29.3	< 5	0.8	1.5	0.52	1.13	
355629	3720	54	< 2	12	58	< 2	< 0.5	< 0.2	38	0.6	420	35	2.9	1.2	107	3	37.4	8	1.4	2.8	0.20	0.43	2.70
355630	< 2	8	< 2	25	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	136	< 0.4	0.6	< 0.1	< 1	< 0.1	< 5	0.3	0.1	< 0.01	< 0.01	
355631	3370	43	< 2	4	49	2	< 0.5	< 0.2	49	< 0.5	390	26	1.3	0.4	96.8	4	29.3	< 5	1.0	1.5	0.78	1.68	
355632	5390	67	< 2	< 4	71	< 2	< 0.5	< 0.2	73	< 0.5	410	48	0.5	< 0.2	50.3	5	50.0	8	0.3	0.8	0.22	0.46	
355633	3440	57	< 2	< 4	44	< 2	< 0.5	< 0.2	40	< 0.5	316	49	0.7	< 0.2	24.9	3	35.8	7	0.2	0.7	0.14	0.30	
355634	3150	50	< 2	5	41	2	< 0.5	< 0.2	29	< 0.5	356	38	2.5	0.4	83.3	3	34.6	7	1.2	3.2	0.22	0.48	
355635	3370	44	4	5	48	2	< 0.5	< 0.2	43	0.6	403	36	1.1	0.5	58.4	4	33.0	7	2.3	4.1	0.59	1.26	
355636	3070	43	< 2	5	38	2	< 0.5	< 0.2	38	< 0.5	405	31	0.9	0.4	57.4	4	31.3	6	2.7	3.7	0.59	1.27	
355637	3040	48	< 2	6	35	2	< 0.5	< 0.2	30	< 0.5	271	36	0.7	0.2	51.1	12	31.0	6	0.9	1.4	0.22	0.48	
355638	3280	44	< 2	5	45	2	< 0.5	< 0.2	39	< 0.5	403	32	1.0	0.3	63.7	3	32.5	5	1.7	1.5	0.78	1.69	
355639	3140	63	2	6	29	3	< 0.5	< 0.2	33	< 0.5	386	149	1.2	0.5	42.7	4	34.1	7	3.2	2.0	0.74	1.59	2.82
355640	2090	23	14	75	67	6	1.7	0.3	13	17.7	62.0	87	57.4	5.9	11.0	111	19.2	497	25.7	48.9	0.29	0.63	
355641	2570	32	< 2	5	35	3	< 0.5	< 0.2	43	0.6	347	17	1.2	0.3	32.7	6	23.2	< 5	1.0	1.5	1.20	2.57	
355642	3300	40	< 2	7	57	3	< 0.5	< 0.2	46	< 0.5	465	21	0.5	0.6	73.1	4	30.8	< 5	2.0	2.6	1.10	2.37	
355643	3150	41	< 2	14	55	2	< 0.5	< 0.2	28	< 0.5	415	18	< 0.4	2.2	113	3	33.2	7	2.6	2.8	0.63	1.36	
355644	2860	39	< 2	13	41	5	< 0.5	< 0.2	22	< 0.5	419	23	0.4	1.5	79.6	2	30.9	7	3.4	3.5	0.87	1.88	
355645	57	107	18	43	2	< 2	< 0.5	< 0.2	1	< 0.5	63.4	45	< 0.4	1.2	0.3	2	5.2	< 5	0.2	0.1	0.10	0.21	
355646	14	103	16	43	2	< 2	< 0.5	< 0.2	< 1	< 0.5	1.2	42	< 0.4	1.1	0.1	6	2.2	< 5	0.2	< 0.1	0.03	0.07	
355647	17	90	17	43	2	< 2	< 0.5	< 0.2	< 1	0.8	3.7	49	< 0.4	1.2	0.1	< 1	1.4	< 5	0.2	< 0.1	0.02	0.04	
355648	206	71	17	43	2	< 2	< 0.5	< 0.2	2	2.3	31.5	64	1.1	1.1	1.0	7	2.0	15	0.3	1.0	0.10	0.21	
355649	3920	49	3	5	87	< 2	< 0.5	< 0.2	75	< 0.5	457	34	1.1	0.5	65.6	6	28.1	< 5	1.0	1.1	0.17	0.36	2.73
355650	2	7	< 2	26	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	127	< 0.4	0.6	< 0.1	< 1	3.3	< 5	0.5	0.2	< 0.01	< 0.01	
355651	6500	94	< 2	5	33	< 2	< 0.5	< 0.2	5	< 0.5	522	86	< 0.4	0.6	116	< 1	68.7	16	2.5	0.7	0.02	0.04	

## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355652	7460	105	< 2	5	10	< 2	< 0.5	< 0.2	3	< 0.5	601	100	< 0.4	< 0.2	40.2	1	80.6	15	0.4	0.3	0.01	0.03	
355653	7100	100	< 2	5	29	< 2	< 0.5	< 0.2	5	< 0.5	657	103	0.4	0.2	74.5	< 1	82.4	15	0.8	0.5	0.03	0.07	
355654	7340	103	< 2	< 4	23	< 2	< 0.5	< 0.2	5	< 0.5	574	112	< 0.4	0.2	74.8	< 1	89.5	15	1.1	0.5	0.08	0.16	
355655	6840	96	< 2	< 4	16	< 2	< 0.5	< 0.2	5	< 0.5	578	108	< 0.4	< 0.2	29.0	< 1	80.3	15	0.9	0.4	0.05	0.11	
355656	6940	100	< 2	< 4	28	< 2	< 0.5	< 0.2	6	< 0.5	561	112	< 0.4	< 0.2	38.5	< 1	83.1	15	0.6	0.4	0.05	0.10	
355657	7180	101	< 2	< 4	16	< 2	< 0.5	< 0.2	8	< 0.5	648	110	0.5	< 0.2	44.6	2	85.9	15	0.8	1.0	0.30	0.64	
355658	4870	68	3	< 4	18	< 2	< 0.5	< 0.2	16	< 0.5	422	85	< 0.4	< 0.2	23.0	2	58.1	9	0.7	0.6	0.06	0.13	
355659	4040	50	< 2	8	89	3	< 0.5	< 0.2	77	< 0.5	439	20	0.6	1.2	124	10	25.7	< 5	3.9	2.1	0.39	0.84	2.82
355660	2130	24	13	76	65	6	1.6	0.3	13	16.8	63.6	89	33.3	5.7	10.7	105	17.1	458	25.3	49.7	0.30	0.64	
355661	4350	52	< 2	5	102	4	< 0.5	< 0.2	87	1.0	563	22	0.8	0.6	111	8	34.1	< 5	5.0	4.2	1.01	2.17	
355662	3190	45	2	7	65	2	< 0.5	< 0.2	57	< 0.5	414	35	1.7	1.0	84.3	3	18.7	6	6.4	5.7	1.09	2.35	
355663	5430	79	< 2	< 4	22	< 2	< 0.5	< 0.2	23	< 0.5	550	58	< 0.4	0.2	35.2	2	49.8	11	0.5	1.4	0.13	0.27	
355664	3700	54	2	6	28	2	< 0.5	< 0.2	21	< 0.5	424	32	0.4	0.7	59.2	2	44.8	9	1.2	2.2	0.71	1.53	
355665	2170	35	< 2	9	42	< 2	< 0.5	< 0.2	31	< 0.5	345	14	0.4	1.0	63.0	1	19.6	6	2.8	4.6	1.46	3.14	
355666	1050	20	< 2	19	132	< 2	< 0.5	< 0.2	19	< 0.5	190	5	< 0.4	2.2	176	3	11.1	8	11.4	9.0	0.44	0.95	
355667	1600	36	< 2	11	71	< 2	< 0.5	< 0.2	17	< 0.5	254	24	0.4	1.5	146	2	16.5	8	4.6	4.0	0.92	1.99	
355668	117	165	18	43	2	< 2	< 0.5	< 0.2	2	0.7	71.0	40	2.5	1.1	0.7	5	4.3	< 5	0.3	0.1	0.07	0.15	
355669	18	96	18	45	2	< 2	< 0.5	< 0.2	< 1	0.8	2.3	41	0.4	1.2	0.2	< 1	1.5	< 5	0.3	< 0.1	0.06	0.12	3.06
355670	2	6	4	49	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	100	< 0.4	1.1	< 0.1	< 1	0.5	< 5	0.4	0.3	< 0.01	< 0.01	
355671	29	93	15	41	2	< 2	< 0.5	< 0.2	< 1	0.8	1.7	28	< 0.4	1.1	0.1	2	0.7	< 5	0.2	0.2	0.04	0.09	
355672	3090	98	16	38	17	< 2	< 0.5	< 0.2	12	2.7	2240	29	1.5	1.4	44.4	16	28.3	12	1.4	2.6	0.22	0.48	
355673	1190	24	< 2	< 4	34	3	< 0.5	< 0.2	13	< 0.5	2150	11	< 0.4	0.3	50.1	< 1	7.6	6	1.3	12.6	0.22	0.47	
355674	6840	92	7	9	235	< 2	< 0.5	< 0.2	148	< 0.5	667	29	1.3	0.9	156	14	39.3	7	5.4	5.9	0.40	0.86	
355675	4340	63	< 2	5	212	< 2	< 0.5	< 0.2	16	< 0.5	351	22	1.2	0.4	316	3	45.6	16	6.3	4.7	0.04	0.09	
355676	5010	75	< 2	< 4	56	< 2	< 0.5	< 0.2	14	< 0.5	382	32	1.1	0.3	112	2	47.0	14	1.7	1.9	0.05	0.10	
355677	9620	122	< 2	< 4	2	< 2	< 0.5	< 0.2	2	< 0.5	539	42	0.5	< 0.2	6.1	< 1	106	18	0.8	0.4	< 0.01	0.01	
355678	7900	108	< 2	< 4	39	< 2	< 0.5	< 0.2	6	< 0.5	483	42	0.6	0.2	78.2	< 1	77.2	15	1.1	0.4	0.01	0.02	
355679	8290	119	< 2	< 4	298	< 2	< 0.5	< 0.2	13	< 0.5	536	44	0.6	0.3	555	3	82.4	16	1.4	1.2	0.02	0.04	2.71
355680	2190	24	15	72	72	6	1.8	0.3	13	17.9	65.4	89	46.8	5.8	11.1	108	24.1	467	27.3	51.0	0.28	0.59	
355681	6870	86	< 2	< 4	15	< 2	< 0.5	< 0.2	23	< 0.5	385	30	1.3	< 0.2	15.0	3	71.5	13	0.3	0.3	0.38	0.81	
355682	6820	87	< 2	4	21	< 2	< 0.5	< 0.2	14	< 0.5	469	31	0.8	0.4	41.1	2	75.1	12	2.8	2.2	0.14	0.29	
355683	6400	82	< 2	< 4	10	< 2	< 0.5	< 0.2	9	< 0.5	416	40	0.5	< 0.2	15.3	1	74.9	12	0.4	1.3	0.14	0.30	
355684	4710	61	< 2	4	86	< 2	< 0.5	< 0.2	56	< 0.5	558	30	1.8	0.4	81.2	5	48.7	9	4.5	5.3	0.20	0.44	
355685	3780	50	< 2	5	74	3	< 0.5	< 0.2	78	< 0.5	487	23	2.1	0.5	75.8	6	33.2	< 5	2.0	4.5	0.55	1.19	
355686	4270	55	< 2	6	100	< 2	< 0.5	< 0.2	96	< 0.5	489	19	1.5	0.7	77.8	6	32.4	< 5	1.3	2.5	0.51	1.10	
355687	3730	42	< 2	6	85	2	< 0.5	< 0.2	81	< 0.5	487	12	2.5	0.5	87.1	6	33.3	< 5	1.9	2.7	0.86	1.85	
355688	1420	24	< 2	9	38	< 2	< 0.5	< 0.2	27	< 0.5	285	6	0.9	1.1	80.7	2	15.2	5	6.4	5.9	0.90	1.93	
355689	1190	21	< 2	9	35	< 2	< 0.5	< 0.2	19	< 0.5	246	12	0.7	1.0	79.0	< 1	13.0	< 5	2.0	3.8	1.63	3.51	2.92
355690	4	8	< 2	36	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	169	< 0.4	0.9	0.1	< 1	1.6	< 5	0.4	0.3	< 0.01	< 0.01	
355691	2050	28	< 2	9	46	< 2	< 0.5	< 0.2	16	< 0.5	316	8	0.9	0.9	103	2	20.7	6	4.1	4.0	1.53	3.28	
355692	1800	34	< 2	11	59	< 2	< 0.5	< 0.2	15	< 0.5	224	19	0.9	1.2	110	2	20.3	6	4.5	3.5	0.50	1.08	

## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355693	154	127	18	39	2	< 2	< 0.5	< 0.2	1	1.1	15.3	126	0.7	1.1	0.2	3	3.7	< 5	0.3	0.4	0.04	0.10	
355694	93	667	20	127	4	< 2	< 0.5	< 0.2	1	2.0	47.4	467	0.5	3.1	0.4	15	2.2	21	11.7	2.8	0.07	0.16	
355695	17	97	19	44	2	< 2	< 0.5	< 0.2	< 1	1.3	8.3	39	< 0.4	1.2	0.1	< 1	0.8	< 5	0.3	< 0.1	0.06	0.14	
355696	18	98	20	44	2	< 2	< 0.5	< 0.2	< 1	1.5	8.2	33	< 0.4	1.2	0.1	2	0.5	< 5	0.3	< 0.1	0.07	0.16	
355697	585	86	19	41	2	< 2	< 0.5	< 0.2	2	1.4	769	57	2.8	1.2	0.3	< 1	5.0	< 5	0.3	0.7	0.14	0.30	
355698	2710	41	3	< 4	86	3	< 0.5	< 0.2	66	< 0.5	402	31	1.0	0.4	55.7	5	18.3	< 5	2.0	2.2	0.32	0.70	
355699	3760	54	< 2	6	146	< 2	< 0.5	< 0.2	96	< 0.5	453	21	0.9	0.5	112	7	27.6	< 5	1.9	2.9	0.35	0.75	2.75
355700	2120	24	14	73	75	6	1.8	0.3	13	18.1	63.5	88	66.3	6.0	11.3	108	17.5	464	26.9	51.4	0.26	0.56	
355701	3670	52	< 2	6	98	2	< 0.5	< 0.2	65	0.8	414	37	1.6	0.6	136	6	32.8	9	2.8	5.4	0.64	1.38	
355702	1010	19	< 2	16	96	< 2	< 0.5	< 0.2	31	0.7	184	7	1.4	1.8	108	3	11.0	6	6.5	5.8	1.26	2.72	
355703	2900	43	< 2	9	46	< 2	< 0.5	< 0.2	49	< 0.5	350	19	1.2	0.7	51.0	3	21.5	7	3.1	7.5	0.73	1.57	
355704	4280	66	< 2	6	33	< 2	< 0.5	< 0.2	24	< 0.5	471	50	0.7	0.4	28.0	2	41.1	11	2.6	7.0	0.38	0.81	
355705	2660	40	< 2	6	73	< 2	< 0.5	< 0.2	55	< 0.5	278	23	0.7	0.5	44.4	3	23.2	< 5	1.0	2.9	0.63	1.35	
355706	3800	51	3	< 4	121	< 2	< 0.5	< 0.2	84	< 0.5	340	40	0.7	0.2	83.2	5	27.9	< 5	0.8	1.6	0.32	0.68	
355707	3820	52	< 2	< 4	124	2	< 0.5	< 0.2	104	0.6	389	23	0.5	0.3	146	6	26.3	< 5	0.7	1.0	0.41	0.88	
355708	5800	81	< 2	< 4	49	< 2	< 0.5	< 0.2	39	0.8	543	84	0.7	0.3	54.9	3	58.8	13	0.4	0.8	0.10	0.21	
355709	4160	52	< 2	5	89	2	< 0.5	< 0.2	98	< 0.5	356	19	2.0	0.4	59.0	6	28.4	< 5	0.6	1.1	0.23	0.49	2.80
355710	10	6	< 2	25	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.0	117	< 0.4	0.6	0.2	2	4.4	< 5	0.3	0.2	< 0.01	< 0.01	
355711	5100	75	< 2	7	43	< 2	< 0.5	< 0.2	39	< 0.5	529	50	1.0	0.7	42.5	2	46.8	10	4.4	3.4	0.36	0.77	
355712	7130	96	< 2	8	10	< 2	< 0.5	< 0.2	2	0.8	704	77	0.4	1.1	44.8	< 1	93.2	17	4.6	1.6	0.02	0.03	
355713	4450	60	< 2	8	37	< 2	< 0.5	< 0.2	30	< 0.5	604	34	1.0	0.8	113	2	52.2	9	4.5	4.5	0.35	0.76	
355714	3770	58	< 2	15	58	< 2	< 0.5	< 0.2	33	< 0.5	476	35	0.6	1.7	58.7	1	34.8	8	3.7	7.1	0.11	0.24	
355715	2580	33	< 2	17	112	< 2	< 0.5	< 0.2	29	< 0.5	409	14	< 0.4	2.0	158	2	29.4	8	4.2	6.6	1.42	3.06	
355716	3480	46	< 2	15	53	< 2	< 0.5	< 0.2	29	< 0.5	468	18	< 0.4	1.7	87.0	1	37.6	9	6.1	6.0	1.00	2.16	
355717	1700	28	2	9	30	< 2	< 0.5	< 0.2	18	< 0.5	348	16	0.4	0.9	61.4	< 1	18.7	6	4.7	4.4	1.94	4.18	
355718	1530	21	< 2	15	35	3	< 0.5	< 0.2	28	< 0.5	350	8	< 0.4	1.6	57.3	2	14.8	< 5	2.6	4.3	1.68	3.62	
355719	2580	41	2	11	29	< 2	< 0.5	< 0.2	16	< 0.5	420	20	0.5	1.5	58.0	< 1	25.8	8	3.5	6.2	0.56	1.20	2.73
355720	2120	24	14	78	68	5	1.7	0.3	13	19.5	64.1	88	66.7	6.1	11.2	112	18.9	506	25.0	49.0	0.27	0.57	
355721	1850	26	< 2	11	45	< 2	< 0.5	< 0.2	18	< 0.5	306	12	1.8	1.0	75.3	< 1	19.9	< 5	2.7	4.8	1.24	2.67	
355722	1150	22	< 2	11	45	4	< 0.5	< 0.2	11	< 0.5	226	13	0.9	1.3	111	14	12.8	6	4.9	4.9	0.59	1.28	
355723	280	69	15	40	2	2	< 0.5	< 0.2	3	2.4	253	23	1.9	1.1	0.4	27	4.8	< 5	0.2	0.7	0.08	0.17	
355724	20	67	17	42	2	< 2	< 0.5	< 0.2	< 1	2.2	4.7	36	0.7	1.1	0.1	< 1	1.6	35	0.3	< 0.1	0.03	0.06	
355725	172	126	17	45	2	< 2	< 0.5	< 0.2	< 1	1.7	54.8	44	1.1	1.3	0.2	< 1	2.1	< 5	0.3	< 0.1	0.04	0.09	
355726	372	97	20	44	3	< 2	< 0.5	< 0.2	4	1.7	333	27	2.4	1.3	1.0	< 1	3.5	< 5	0.3	1.2	0.08	0.18	
355727	4400	66	2	8	49	< 2	< 0.5	< 0.2	17	< 0.5	424	58	1.6	0.7	115	1	43.0	15	6.4	2.3	0.04	0.09	
355728	5130	70	2	5	42	< 2	< 0.5	< 0.2	48	< 0.5	367	47	0.7	0.3	39.1	2	41.3	8	1.5	1.5	0.12	0.27	
355729	4100	57	< 2	10	66	2	< 0.5	< 0.2	61	< 0.5	532	33	1.8	0.9	53.7	5	32.4	5	1.0	3.8	0.35	0.76	2.74
355730	11	8	4	31	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.2	95	< 0.4	0.7	0.2	< 1	4.7	< 5	0.4	0.2	< 0.01	< 0.01	
355731	2520	36	3	11	65	2	< 0.5	< 0.2	53	< 0.5	485	15	1.3	1.2	49.6	3	15.5	< 5	3.0	3.3	1.16	2.49	
355732	1940	29	4	9	48	< 2	< 0.5	< 0.2	41	< 0.5	486	13	8.6	0.9	62.0	2	13.4	< 5	1.9	2.5	1.40	3.01	
355733	1190	20	< 2	5	36	< 2	< 0.5	< 0.2	24	< 0.5	355	15	0.7	0.7	57.9	< 1	8.9	< 5	1.8	2.7	1.60	3.45	

## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355734	2220	32	2	4	49	< 2	< 0.5	< 0.2	42	0.6	268	21	2.5	0.5	47.9	3	17.8	6	1.8	3.2	0.84	1.81	
355735	3340	44	< 2	6	69	< 2	< 0.5	< 0.2	56	0.6	316	33	1.7	0.7	52.4	4	29.9	5	1.1	1.8	0.79	1.71	
355736	2960	39	2	4	50	< 2	< 0.5	< 0.2	45	< 0.5	296	34	1.3	0.3	44.1	2	27.6	5	0.8	1.8	1.14	2.45	
355737	2600	39	< 2	5	42	2	< 0.5	< 0.2	41	< 0.5	401	37	1.3	0.6	44.8	1	18.8	5	0.7	1.8	1.21	2.61	
355738	2160	37	< 2	6	24	< 2	< 0.5	< 0.2	25	< 0.5	275	37	0.9	0.4	29.7	4	18.3	8	2.5	4.5	1.19	2.56	
355739	2010	30	< 2	< 4	41	< 2	< 0.5	< 0.2	41	< 0.5	270	12	1.2	0.3	42.5	2	17.6	< 5	1.1	1.8	0.70	1.50	2.76
355740	2010	26	11	69	62	5	1.1	0.3	12	13.5	59.3	90	48.2	5.9	9.6	95	14.5	463	24.6	47.0	0.27	0.59	
355741	2060	37	< 2	5	28	2	< 0.5	< 0.2	21	< 0.5	316	37	1.4	0.3	45.3	< 1	18.2	7	1.4	2.2	1.32	2.85	
355742	4570	65	< 2	< 4	26	< 2	< 0.5	< 0.2	22	< 0.5	532	49	1.6	0.3	33.7	2	49.7	11	0.7	2.0	0.36	0.77	
355743	4520	62	< 2	7	39	< 2	< 0.5	< 0.2	20	< 0.5	355	31	1.9	0.8	55.8	< 1	48.9	14	2.9	4.8	0.23	0.50	
355744	104	82	18	41	11	< 2	< 0.5	< 0.2	6	0.7	40.9	48	0.5	2.1	117	8	6.5	12	0.5	1.3	0.05	0.11	
355745	108	87	16	46	2	< 2	< 0.5	< 0.2	3	0.5	100	73	0.6	1.2	0.4	8	3.3	11	0.3	0.1	0.04	0.09	
355746	67	105	17	43	3	< 2	< 0.5	< 0.2	2	< 0.5	51.2	23	0.5	1.3	3.8	< 1	2.0	6	0.4	0.3	0.14	0.31	
355747	102	95	16	43	2	< 2	< 0.5	< 0.2	< 1	< 0.5	58.4	27	0.6	1.2	0.2	< 1	2.0	21	0.3	0.4	0.16	0.34	
355748	2760	47	< 2	5	76	< 2	< 0.5	< 0.2	46	< 0.5	457	33	0.8	0.6	70.9	4	20.4	7	5.4	4.5	0.64	1.38	
355749	1940	35	2	12	36	< 2	< 0.5	< 0.2	9	< 0.5	211	24	< 0.4	1.1	54.4	< 1	21.1	9	3.4	5.4	0.04	0.09	2.67
355750	11	8	< 2	19	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.2	135	< 0.4	0.4	0.1	< 1	2.5	< 5	0.4	0.2	< 0.01	< 0.01	
355751	1420	26	< 2	19	89	< 2	< 0.5	< 0.2	24	< 0.5	177	12	< 0.4	1.6	91.1	2	11.0	5	5.0	8.4	0.21	0.45	
355752	1420	22	< 2	29	76	< 2	< 0.5	< 0.2	32	< 0.5	249	15	0.4	3.1	86.8	2	10.6	6	8.1	8.7	0.92	1.98	
355753	1860	34	< 2	12	41	< 2	< 0.5	< 0.2	29	< 0.5	377	27	0.5	1.2	52.5	3	16.0	8	8.6	9.5	0.98	2.11	
355754	3830	78	< 2	11	53	< 2	< 0.5	< 0.2	46	< 0.5	1200	88	0.4	1.2	70.5	4	35.3	9	4.5	4.2	0.49	1.05	
355755	3680	173	13	42	7	< 2	< 0.5	< 0.2	4	< 0.5	6940	67	0.5	1.3	9.8	< 1	37.1	< 5	0.4	0.5	0.40	0.85	
355756	4090	166	16	44	9	< 2	< 0.5	< 0.2	4	< 0.5	7460	77	0.7	1.4	18.5	13	50.6	< 5	0.6	0.8	0.38	0.81	
355757	181	118	19	42	2	< 2	< 0.5	< 0.2	< 1	0.8	270	28	< 0.4	1.3	0.1	< 1	6.8	< 5	0.3	0.3	0.16	0.33	
355758	14	115	16	42	2	< 2	< 0.5	< 0.2	< 1	< 0.5	5.7	22	< 0.4	1.3	0.4	< 1	2.0	< 5	0.3	< 0.1	0.07	0.14	
355759	2120	39	3	7	49	< 2	< 0.5	< 0.2	38	< 0.5	260	38	13.4	0.6	144	2	14.7	8	4.1	6.5	0.07	0.15	2.72
355760	2100	24	16	78	62	5	1.7	0.3	12	14.7	62.5	88	36.9	6.3	10.4	118	16.0	483	27.2	49.8	0.28	0.59	
355761	231	95	17	45	2	< 2	< 0.5	< 0.2	2	1.8	113	129	0.8	1.3	0.3	1	3.9	< 5	0.5	0.1	0.03	0.07	
355762	87	94	17	46	2	< 2	< 0.5	< 0.2	< 1	1.1	20.0	164	< 0.4	1.3	0.1	< 1	1.7	< 5	0.3	< 0.1	0.03	0.07	
355763	286	41	14	45	2	6	< 0.5	< 0.2	5	0.5	155	76	0.8	1.2	0.7	< 1	3.2	13	0.4	0.4	0.08	0.17	
355764	1490	34	4	24	103	3	< 0.5	< 0.2	24	0.6	184	16	9.9	2.6	146	2	10.7	11	13.4	7.2	0.07	0.16	
355765	1760	33	3	25	139	< 2	< 0.5	< 0.2	28	< 0.5	437	29	13.7	3.1	251	3	12.8	8	16.5	13.0	0.44	0.96	
355766	2660	47	< 2	16	71	< 2	< 0.5	< 0.2	20	< 0.5	503	29	4.7	1.8	174	4	26.0	8	7.4	3.8	0.36	0.77	
355767	92	48	18	42	2	< 2	< 0.5	< 0.2	1	1.0	146	131	0.5	1.2	0.3	1	3.8	15	0.3	0.1	0.06	0.13	
355768	725	70	16	43	2	< 2	< 0.5	< 0.2	2	0.9	1010	77	0.7	1.2	0.5	2	10.0	19	0.3	1.3	0.10	0.21	
355769	146	81	13	54	2	< 2	< 0.5	< 0.2	1	< 0.5	109	54	< 0.4	1.4	0.2	9	2.9	27	0.5	0.2	0.04	0.09	3.08
355770	5	9	< 2	15	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	4.3	148	< 0.4	0.3	0.2	< 1	0.5	< 5	0.4	0.2	< 0.01	< 0.01	
355771	613	85	8	124	7	< 2	< 0.5	< 0.2	3	1.2	310	130	0.7	3.1	8.7	< 1	5.2	78	2.8	2.4	0.11	0.24	
355772	4790	77	< 2	10	115	< 2	< 0.5	< 0.2	62	< 0.5	349	48	0.5	0.8	90.1	3	32.8	11	4.2	2.8	0.11	0.23	
355773	6620	96	< 2	< 4	16	< 2	< 0.5	< 0.2	7	< 0.5	504	59	0.5	0.4	110	< 1	62.8	14	1.8	2.3	0.02	0.04	
355774	2920	42	< 2	14	90	< 2	< 0.5	< 0.2	42	< 0.5	270	21	0.4	1.2	84.9	3	30.1	7	4.8	4.1	0.74	1.60	

## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355775	1550	20	< 2	7	38	< 2	< 0.5	< 0.2	40	< 0.5	350	10	0.5	0.4	42.5	2	14.4	< 5	1.1	2.1	1.58	3.41	
355776	1230	18	< 2	6	59	< 2	< 0.5	< 0.2	38	0.6	470	10	0.8	0.5	70.2	2	11.0	< 5	0.9	2.2	2.03	4.38	
355777	1750	40	< 2	6	30	< 2	< 0.5	< 0.2	24	< 0.5	418	16	1.7	0.6	45.1	< 1	20.7	< 5	2.5	2.2	0.40	0.86	
355778	3420	47	2	< 4	86	3	< 0.5	< 0.2	83	< 0.5	362	17	1.4	0.3	132	4	24.3	< 5	0.7	1.5	0.20	0.44	
355779	5730	67	< 2	6	97	2	< 0.5	< 0.2	70	< 0.5	534	28	1.6	0.7	102	4	57.6	7	2.1	3.4	0.24	0.52	2.72
355780	2060	23	15	72	67	5	1.8	0.3	13	15.1	62.6	89	47.0	5.6	10.8	107	20.2	473	27.0	53.8	0.27	0.59	
355781	3900	49	< 2	8	91	< 2	< 0.5	< 0.2	74	< 0.5	378	23	1.5	0.7	71.4	5	33.4	5	4.4	4.2	0.61	1.31	
355782	3610	55	< 2	5	67	< 2	< 0.5	< 0.2	44	< 0.5	319	29	1.6	0.6	92.4	4	33.3	6	1.0	3.2	0.10	0.22	
355783	3620	42	< 2	20	72	3	< 0.5	< 0.2	50	< 0.5	461	16	9.8	2.1	113	3	33.6	7	4.0	4.5	0.44	0.95	
355784	4830	65	< 2	14	35	< 2	< 0.5	< 0.2	34	< 0.5	566	38	0.6	1.6	44.1	2	53.5	8	2.2	3.9	0.28	0.61	
355785	3430	51	< 2	8	37	3	< 0.5	< 0.2	29	< 0.5	505	50	1.9	1.7	141	< 1	34.2	6	1.0	3.5	0.89	1.92	
355786	2880	48	< 2	15	55	< 2	< 0.5	< 0.2	18	< 0.5	326	26	0.8	1.5	81.5	< 1	30.5	7	4.0	4.4	0.39	0.84	
355787	482	310	17	70	5	< 2	< 0.5	< 0.2	2	0.9	453	156	0.6	1.9	4.9	10	9.6	6	4.2	1.7	0.16	0.34	
355788	263	326	19	87	4	< 2	< 0.5	< 0.2	1	0.8	262	203	0.5	2.3	0.4	< 1	5.0	7	6.5	2.0	0.14	0.30	
355789	14	119	18	42	2	< 2	< 0.5	< 0.2	< 1	1.5	5.2	44	< 0.4	1.2	0.2	< 1	1.6	8	0.3	< 0.1	0.02	0.04	3.01
355790	< 2	14	3	28	< 1	4	< 0.5	< 0.2	< 1	< 0.5	< 0.5	161	< 0.4	0.6	< 0.1	< 1	0.6	< 5	0.5	0.2	< 0.01	< 0.01	
355791	494	100	16	43	6	< 2	< 0.5	< 0.2	5	1.3	388	47	0.7	1.2	3.8	1	3.8	< 5	0.3	1.0	0.11	0.24	
355792	2130	40	3	7	44	3	< 0.5	< 0.2	44	< 0.5	305	28	0.5	0.3	44.1	< 1	9.9	< 5	0.7	1.0	0.32	0.69	
355793	3410	42	< 2	6	90	3	< 0.5	< 0.2	76	< 0.5	226	37	0.5	0.5	59.0	5	24.5	< 5	1.2	2.2	0.44	0.94	
355794	2900	38	< 2	< 4	81	3	< 0.5	< 0.2	69	< 0.5	227	15	1.1	0.3	56.1	5	21.5	< 5	0.7	1.5	0.25	0.53	
355795	1150	23	< 2	12	116	< 2	< 0.5	< 0.2	26	< 0.5	110	7	1.3	1.3	165	2	11.3	6	6.2	7.9	0.41	0.87	
355796	772	22	5	13	105	< 2	< 0.5	< 0.2	17	< 0.5	97.9	9	1.6	1.6	162	< 1	4.4	5	6.8	7.9	0.44	0.95	
355797	1920	26	< 2	18	70	3	< 0.5	< 0.2	54	< 0.5	249	9	0.9	1.8	54.3	3	13.4	< 5	3.7	7.8	1.37	2.94	
355798	1360	20	< 2	10	46	3	< 0.5	< 0.2	34	< 0.5	273	11	0.8	1.2	69.8	2	10.9	9	10.7	10.1	1.51	3.26	
355799	4170	61	3	8	61	< 2	< 0.5	< 0.2	48	< 0.5	437	89	0.8	0.6	51.0	3	37.3	9	3.8	5.4	0.52	1.11	2.78
355800	2160	24	14	78	69	5	1.7	0.3	13	14.4	64.7	89	37.3	6.1	11.1	110	18.3	473	27.5	53.1	0.27	0.57	
355801	5040	71	2	7	31	2	< 0.5	< 0.2	37	< 0.5	514	52	0.5	0.5	29.5	< 1	38.4	10	2.8	2.7	0.24	0.51	
355802	2930	37	< 2	7	102	3	< 0.5	< 0.2	76	0.5	281	14	1.0	0.6	111	5	25.3	< 5	1.7	3.5	0.84	1.80	
355803	3390	45	3	6	76	6	< 0.5	< 0.2	67	< 0.5	335	31	0.5	0.5	67.2	< 1	24.8	< 5	1.3	1.9	0.64	1.38	
355804	3360	46	5	6	67	4	< 0.5	< 0.2	64	< 0.5	283	26	0.6	0.3	41.1	< 1	24.3	< 5	1.0	1.5	0.38	0.81	
355805	3160	42	4	7	85	5	< 0.5	< 0.2	77	< 0.5	242	17	0.9	0.3	59.7	1	21.0	< 5	1.3	1.9	0.21	0.46	
355806	5030	62	3	6	93	5	< 0.5	< 0.2	95	< 0.5	508	31	1.5	0.4	54.0	3	35.9	10	2.1	2.4	0.26	0.55	
355807	3150	41	< 2	6	64	4	< 0.5	< 0.2	58	< 0.5	407	17	2.1	0.7	108	< 1	23.0	< 5	2.6	4.3	0.41	0.87	
355808	1980	33	3	11	67	2	< 0.5	< 0.2	41	0.5	404	11	12.4	1.1	186	< 1	15.3	8	5.7	10.3	0.94	2.02	
355809	3010	44	< 2	8	81	3	< 0.5	< 0.2	51	< 0.5	296	28	4.8	0.7	59.5	3	24.3	8	6.5	10.2	0.78	1.67	2.81
355810	3	7	< 2	28	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	91	< 0.4	0.8	< 0.1	< 1	3.0	< 5	0.2	0.2	< 0.01	< 0.01	
355811	2940	39	< 2	7	70	< 2	< 0.5	< 0.2	58	< 0.5	257	9	1.6	0.7	67.1	4	19.2	< 5	2.5	4.4	0.29	0.63	
355812	2860	38	< 2	8	98	2	< 0.5	< 0.2	62	< 0.5	329	9	1.8	0.8	102	4	20.7	6	6.2	7.3	0.70	1.51	
355813	1970	28	< 2	16	72	3	< 0.5	< 0.2	31	< 0.5	362	5	2.0	1.7	97.4	2	16.6	5	3.4	6.0	1.00	2.16	
355814	2550	44	3	18	50	< 2	< 0.5	< 0.2	17	0.7	409	26	1.4	1.7	76.4	< 1	25.0	9	5.7	7.6	0.73	1.58	
355815	1800	32	< 2	12	74	< 2	< 0.5	< 0.2	40	< 0.5	198	17	1.9	1.4	98.6	3	14.1	6	2.3	3.9	0.75	1.61	

## Results

## Activation Laboratories Ltd.

## Report: A17-09798

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
355816	1980	34	< 2	8	96	< 2	< 0.5	< 0.2	47	< 0.5	189	13	1.3	1.2	130	4	14.5	7	3.4	4.7	0.58	1.25	
355817	34	106	17	44	3	< 2	< 0.5	< 0.2	2	< 0.5	4.4	30	0.7	1.3	1.3	< 1	1.8	< 5	0.3	0.1	0.03	0.07	
355818	49	130	17	44	2	< 2	< 0.5	< 0.2	< 1	< 0.5	4.3	75	0.9	1.2	0.3	< 1	0.7	< 5	0.3	0.1	0.03	0.07	
355819	115	84	15	39	2	9	< 0.5	< 0.2	< 1	0.6	44.7	44	0.6	1.1	0.1	2	1.1	< 5	0.2	< 0.1	0.02	0.05	3.14
355820	2130	27	13	70	64	6	1.9	0.3	13	15.5	61.5	93	56.0	5.6	10.3	95	15.4	497	24.2	46.8	0.27	0.58	
355821	145	84	15	38	2	2	< 0.5	< 0.2	< 1	2.5	77.8	23	0.4	1.1	0.2	2	2.8	< 5	0.2	0.4	0.06	0.13	
355822	4730	67	< 2	7	105	< 2	< 0.5	< 0.2	75	< 0.5	518	32	1.8	0.7	62.6	5	34.1	7	2.0	2.5	0.15	0.32	
355823	5090	62	< 2	< 4	56	< 2	< 0.5	< 0.2	51	< 0.5	332	20	2.8	0.2	80.9	5	41.6	6	1.2	1.8	0.17	0.36	
355824	7260	91	< 2	< 4	42	< 2	< 0.5	< 0.2	26	0.8	814	10	11.8	0.3	213	1	86.3	18	4.1	8.2	0.84	1.80	
355825	1430	21	< 2	< 4	27	2	< 0.5	< 0.2	29	1.2	331	4	48.1	0.4	85.1	1	16.5	10	2.5	2.8	1.42	3.07	
355826	944	16	3	< 4	12	3	< 0.5	< 0.2	46	1.6	240	8	89.2	0.3	43.5	< 1	7.5	7	1.9	2.2	1.72	3.71	
355827	2250	29	2	7	89	3	< 0.5	< 0.2	51	< 0.5	465	< 3	12.3	1.0	101	3	16.3	9	8.3	8.4	0.99	2.14	
355828	2550	52	16	20	279	< 2	< 0.5	< 0.2	43	< 0.5	770	11	2.4	2.2	225	5	19.1	21	29.8	27.2	0.19	0.40	
355829	3600	52	7	15	189	2	< 0.5	< 0.2	57	< 0.5	1860	5	2.2	1.5	143	7	25.5	11	16.0	14.0	0.83	1.78	2.83
355830	5	7	2	20	1	< 2	< 0.5	< 0.2	< 1	< 0.5	3.1	144	< 0.4	0.5	0.4	< 1	2.9	< 5	0.4	0.3	< 0.01	< 0.01	
355831	648	22	< 2	31	80	< 2	< 0.5	< 0.2	9	< 0.5	190	< 3	0.9	3.5	128	2	5.4	6	9.3	7.7	0.04	0.08	
355832	1670	30	< 2	34	105	< 2	< 0.5	< 0.2	17	< 0.5	279	< 3	0.6	4.1	190	2	12.0	6	7.0	8.0	0.12	0.26	
355833	3230	46	< 2	11	21	< 2	< 0.5	< 0.2	5	< 0.5	337	3	0.4	1.3	52.0	< 1	35.4	6	1.8	2.9	0.03	0.07	
355834	1890	31	< 2	9	29	3	< 0.5	< 0.2	23	< 0.5	261	36	2.0	0.6	90.3	< 1	16.0	< 5	1.7	2.7	0.44	0.95	
355835	587	53	12	35	4	< 2	< 0.5	< 0.2	2	< 0.5	370	49	1.0	1.0	5.8	< 1	7.9	< 5	0.3	1.5	0.12	0.26	
355836	69	79	15	39	2	< 2	< 0.5	< 0.2	< 1	< 0.5	26.0	35	< 0.4	1.1	0.3	3	2.2	< 5	0.2	0.1	0.08	0.17	
355837	115	81	16	44	2	< 2	< 0.5	< 0.2	< 1	< 0.5	93.2	83	< 0.4	1.3	0.1	< 1	1.7	< 5	0.3	< 0.1	0.03	0.06	
355838	41	87	17	42	2	< 2	< 0.5	< 0.2	1	0.7	13.4	52	0.6	1.2	0.4	< 1	0.9	55	0.2	0.2	0.04	0.09	
355839	2850	47	< 2	6	47	2	< 0.5	< 0.2	33	< 0.5	205	49	0.4	0.7	51.6	3	21.3	9	3.2	2.4	0.47	1.01	2.74
355840	2100	23	13	69	68	6	1.7	0.3	12	14.6	61.6	86	38.0	5.5	9.9	96	15.0	447	25.4	46.5	0.27	0.58	
355841	2380	42	< 2	19	59	< 2	< 0.5	0.4	48	0.5	205	21	1.1	1.9	48.7	< 1	16.7	5	1.5	1.4	0.55	1.19	
355842	5670	81	< 2	4	25	< 2	< 0.5	< 0.2	14	0.6	499	63	1.1	0.3	28.9	2	55.5	15	0.8	1.6	0.36	0.77	
355843	5690	84	< 2	< 4	10	< 2	< 0.5	< 0.2	6	< 0.5	548	65	0.6	< 0.2	19.0	< 1	65.0	14	0.6	1.3	0.49	1.06	
355844	1460	19	< 2	< 4	46	3	< 0.5	< 0.2	34	0.6	249	3	1.8	0.3	58.5	2	15.1	< 5	1.2	1.5	1.09	2.35	
355845	3470	42	< 2	< 4	82	3	< 0.5	< 0.2	69	< 0.5	271	14	0.9	0.2	47.5	5	25.2	< 5	1.0	1.3	0.27	0.58	
355846	1330	29	< 2	< 4	27	< 2	< 0.5	< 0.2	23	< 0.5	354	5	1.1	0.6	55.8	2	11.7	7	5.8	3.3	0.48	1.04	
355847	1840	23	< 2	6	67	3	< 0.5	< 0.2	45	< 0.5	234	7	0.8	0.8	61.7	2	13.2	5	2.7	4.8	1.03	2.22	
355848	1960	25	< 2	10	37	3	< 0.5	< 0.2	25	< 0.5	381	7	0.5	1.1	82.5	2	14.9	< 5	4.1	3.9	0.83	1.78	
355849	6550	91	< 2	< 4	11	< 2	< 0.5	< 0.2	4	< 0.5	687	43	< 0.4	0.4	32.0	< 1	72.1	15	2.3	1.2	0.05	0.10	2.66
355850	7	7	< 2	27	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.3	141	< 0.4	0.6	0.3	< 1	5.2	< 5	0.3	0.2	< 0.01	< 0.01	
355851	3850	55	3	9	31	2	< 0.5	< 0.2	27	< 0.5	596	32	0.8	0.7	46.8	2	31.8	7	2.0	2.4	0.34	0.73	
355852	3530	47	< 2	7	35	< 2	< 0.5	< 0.2	21	< 0.5	490	24	< 0.4	1.2	163	1	34.3	6	1.0	2.3	0.78	1.67	
355853	5320	80	< 2	7	27	< 2	< 0.5	< 0.2	10	< 0.5	474	40	0.5	0.7	62.7	< 1	57.5	12	1.7	2.1	0.07	0.15	
355854	256	443	19	79	3	< 2	< 0.5	< 0.2	1	< 0.5	207	344	< 0.4	2.0	0.4	< 1	8.2	6	4.9	1.0	0.08	0.18	
355855	141	1070	20	153	5	< 2	< 0.5	< 0.2	< 1	< 0.5	106	788	< 0.4	3.5	0.3	< 1	3.2	12	13.7	2.8	0.11	0.23	
355856	36	90	19	41	2	< 2	< 0.5	< 0.2	< 1	< 0.5	9.3	70	< 0.4	1.2	0.2	< 1	1.4	< 5	0.3	0.1	0.03	0.06	



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
355857	58	81	19	43	2	< 2	< 0.5	< 0.2	< 1	1.3	21.7	72	0.6	1.3	0.3	< 1	1.5	6	0.3	0.5	0.08	0.18	
355858	1440	30	< 2	24	69	< 2	< 0.5	< 0.2	29	< 0.5	126	23	1.5	2.2	88.7	2	12.0	9	6.9	8.8	0.46	1.00	
355859	1800	34	< 2	9	60	< 2	< 0.5	< 0.2	30	< 0.5	163	19	0.6	0.5	59.5	2	13.7	5	3.8	10.5	0.43	0.92	2.74
355860	2110	23	14	82	70	5	1.8	0.2	12	15.4	60.8	91	45.0	6.2	10.1	102	14.1	456	24.1	44.7	0.27	0.59	
355861	1460	28	3	10	57	2	< 0.5	< 0.2	35	< 0.5	219	15	0.8	0.7	67.2	2	10.4	11	3.0	4.3	0.92	1.98	
355862	1570	32	2	5	57	< 2	< 0.5	< 0.2	32	0.6	205	16	1.4	0.5	58.2	3	11.4	< 5	1.5	3.6	0.52	1.12	
355863	1240	30	< 2	4	47	< 2	< 0.5	< 0.2	27	0.6	210	12	1.9	0.5	54.6	3	9.8	< 5	2.0	2.9	0.67	1.44	
355864	1020	23	2	10	59	< 2	< 0.5	< 0.2	21	0.6	127	21	0.7	1.2	133	2	7.6	5	3.5	7.1	0.27	0.59	
355865	781	16	< 2	10	61	< 2	< 0.5	< 0.2	22	< 0.5	148	13	1.2	1.2	104	2	5.6	< 5	4.7	5.2	0.78	1.67	
355866	2000	33	5	4	51	3	< 0.5	< 0.2	49	0.5	193	18	0.8	0.3	53.2	3	13.3	< 5	0.7	2.3	0.74	1.60	
355867	2870	37	2	4	73	2	< 0.5	< 0.2	58	< 0.5	355	18	1.7	0.6	77.5	4	20.0	< 5	2.0	4.4	0.49	1.06	
355868	1390	19	< 2	11	32	< 2	< 0.5	< 0.2	31	< 0.5	266	6	< 0.4	1.2	39.4	2	10.8	< 5	2.3	1.8	1.33	2.86	
355869	2180	35	< 2	12	66	2	< 0.5	< 0.2	38	< 0.5	331	21	0.8	0.8	59.3	2	15.5	5	3.1	4.8	0.62	1.34	2.91
355870	6	11	< 2	19	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.5	134	< 0.4	0.3	0.3	< 1	3.1	< 5	0.6	0.2	< 0.01	< 0.01	
355871	2710	39	< 2	10	30	< 2	< 0.5	< 0.2	25	< 0.5	337	26	3.9	1.2	61.6	2	22.7	9	2.4	2.9	0.17	0.37	
355872	3160	49	< 2	20	43	2	< 0.5	< 0.2	21	< 0.5	376	39	1.2	1.8	79.3	1	26.5	9	4.4	7.0	0.19	0.40	
355873	124	96	16	40	2	< 2	< 0.5	< 0.2	< 1	< 0.5	119	28	< 0.4	1.2	1.4	< 1	4.4	< 5	0.3	0.2	0.08	0.17	
355874	23	115	16	36	1	< 2	< 0.5	< 0.2	< 1	< 0.5	10.2	37	< 0.4	1.0	0.1	< 1	1.5	< 5	0.2	< 0.1	0.05	0.10	
355759A	406	68	16	41	6	< 2	< 0.5	< 0.2	5	1.9	264	63	1.2	1.2	5.8	8	3.8	< 5	0.4	0.4	0.06	0.12	

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	11.38	1.79	0.75	0.010	0.34	42.36	0.89	0.54	0.120	30.18					1597								
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	46.72	18.71	9.74	0.150	10.10	11.51	1.88	0.22	0.500	0.06			31		156	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	72.74	12.74	3.12	0.140	0.18	0.64	2.50	5.45	0.290	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	30	50	30	150			25
LKSD-3 Cert																87.0	30.0	47.0	35.0	152			27.0
TDB-1 Meas																250		100	340	170			
TDB-1 Cert																251		92	323	155			
W-2a Meas	52.47	15.17	10.23	0.170	6.43	11.27	2.22	0.62	1.060	0.13			36	< 1	278	100	44	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	49.53	20.84	6.22	0.110	0.51	8.14	6.97	1.66	0.290	0.13			< 1	4	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	47.63	15.49	11.43	0.170	9.53	13.63	1.80	0.02	0.980	0.02			44	< 1	330	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		63
NCS DC70009 (GBW07241) Cert																			960	100	16.5		69.9
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	17
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 DC86314 Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
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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																							

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																							
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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																							
OREAS 922 (Peroxide Fusion) Meas																							
OREAS 922 (Peroxide Fusion) Cert																							
355617 Orig																							
355617 Dup																							
355625 Orig	47.74	14.87	12.21	0.192	8.34	10.08	1.44	0.93	0.852	0.05	2.51	99.21	46	9	292	280	48	120	110	100	15	2	< 5
355625 Dup	47.94	15.02	12.23	0.192	8.47	10.03	1.40	0.95	0.863	0.05	2.51	99.65	47	9	293	280	48	120	110	110	15	2	< 5
355639 Orig																							
355639 Dup																							
355642 Orig	74.36	16.01	1.30	0.138	0.13	0.17	1.15	3.24	0.019	0.08	1.08	97.67	< 1	457	< 5	40	< 1	< 20	< 10	110	66	6	< 5
355642 Dup	73.51	16.14	1.34	0.140	0.13	0.17	1.16	3.25	0.019	0.09	1.08	97.03	< 1	443	< 5	50	< 1	< 20	< 10	120	67	6	< 5
355647 Orig																							
355647 Dup																							
355659 Orig																40	3	< 20	< 10	220	67	5	< 5
355659 Split PREP DUP	76.97	13.14	1.84	0.130	0.42	0.22	1.38	3.56	0.049	0.12	1.56	99.40	2	121	11	50	2	< 20	< 10	240	68	5	< 5
355661 Orig																							
355661 Dup																							
355669 Orig																							
355669 Dup																							
355673 Orig	66.41	16.83	1.41	0.066	0.19	0.75	3.01	0.76	0.017	0.33	1.85	91.63	2	27750	9	60	1	< 20	< 10	220	37	3	< 5
355673 Dup	66.98	16.47	1.42	0.068	0.18	0.75	3.02	0.78	0.017	0.33	1.85	91.85	2	27220	9	60	2	< 20	< 10	220	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
355683 Orig																							
355683 Dup																							
355690 Orig	96.62	0.55	1.95	0.019	0.04	0.02	0.04	0.05	0.026	< 0.01	-0.04	99.28	< 1	< 1	6	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355690 Dup	96.07	0.55	1.93	0.019	0.04	0.02	0.04	0.05	0.027	< 0.01	-0.04	98.72	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5
355691 Orig																							
355691 Dup																							
355705 Orig																							
355705 Dup																							
355709 Orig																							
355709 Dup																							
355713 Orig																							
355713 Dup																							
355721 Orig	75.85	14.64	1.09	0.104	0.09	0.19	1.74	1.85	0.007	0.11	0.46	96.12	< 1	42	< 5	30	< 1	< 20	< 10	40	46	6	< 5
355721 Dup	76.04	14.70	1.18	0.100	0.12	0.19	1.77	1.86	0.008	0.12	0.46	96.54	< 1	41	< 5	40	< 1	< 20	< 10	40	46	6	< 5
355727 Orig																							
355727 Dup																							
355735 Orig																							
355735 Dup																							
355738 Orig	73.82	15.86	1.17	0.101	0.14	0.36	1.59	2.70	0.014	0.23	0.77	96.76	2	435	14	40	< 1	< 20	< 10	60	54	5	< 5
355738 Dup	73.61	15.85	1.18	0.100	0.14	0.36	1.58	2.69	0.014	0.22	0.77	96.52	2	437	12	40	< 1	< 20	< 10	60	55	5	< 5
355749 Orig																							
355749 Dup																							
355757 Orig																							
355757 Dup																							
355759 Orig																20	2	< 20	10	60	54	7	< 5
355759 Split PREP DUP	66.74	17.78	1.21	0.058	0.86	2.60	5.95	2.30	0.050	0.07	2.02	99.63	2	562	14	20	2	< 20	< 10	70	55	8	< 5
355769 Orig	50.00	14.54	13.67	0.271	5.27	11.26	1.97	0.44	0.733	0.08	1.61	99.85	37	3	232	230	39	120	170	170	16	2	< 5
355769 Dup	50.14	14.53	13.67	0.269	5.28	11.33	1.97	0.46	0.737	0.10	1.61	100.1	37	3	232	230	40	130	160	170	15	2	< 5
355771 Orig																							
355771 Dup																							
355779 Orig																							
355779 Dup																							
355786 Orig	73.66	15.81	0.65	0.090	0.23	0.34	4.21	3.09	0.029	0.18	0.97	99.25	< 1	121	7	30	< 1	< 20	< 10	50	42	5	< 5
355786 Dup	73.87	15.13	0.65	0.088	0.23	0.34	4.26	3.08	0.028	0.17	0.97	98.81	< 1	118	< 5	40	1	< 20	< 10	50	40	5	< 5
355793 Orig																							
355793 Dup																							
355801 Orig																							
355801 Dup																							
355815 Orig																							
355815 Dup																							



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	17	34						1.0		105						6					
DNC-1 Cert		144.0	18.0	38						0.96		118						6.3					
GBW 07113 Meas		39	44	383								504											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	73					< 2	2.5		3		2.1			4.5	0.6				10.6	4.3			
LKSD-3 Cert	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	20	197	21	87	8	< 2				0.8	0.9	174	< 0.4	2.5	0.5	< 1	< 0.1	9	2.2	0.6			
W-2a Cert	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		1203	112	547								353											
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		106	13	13						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	489							1.0	1650	3.0	40.8					2270			30.4				
NCS DC70009 (GBW07241) Cert	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	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	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																							0.20	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																							0.21	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																							0.23	0.50	
NCS DC86303 Cert																							0.21	0.460	
NCS DC86303 Meas																							0.23	0.49	
NCS DC86303 Cert																							0.21	0.460	
NCS DC86303 Meas																							0.22	0.48	
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																							0.21	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 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 DC86304 Meas																						1.10	2.36	
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	2.30	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.01	2.18	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.17	2.51	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.10	2.36	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.15	2.47	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.06	2.27	

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																							1.08	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																							1.09	2.34	
NCS DC86304 Cert																							1.06	2.29	
NCS DC86304 Meas																							1.06	2.29	
NCS DC86314 Meas																							1.79	3.85	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.78	3.83	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.84	3.97	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.76	3.79	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.73	3.73	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.79	3.84	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.89	4.07	
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																						1.85	3.97	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.75	3.77	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.77	3.81	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.78	3.82	
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																						8.18		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.03		
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																						8.30		

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																						8.20	
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																						8.61	
Lithium Tetraborate FX-LT 100 lot#220610B Cert																						8	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																						8.83	
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	



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																					8.29		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
Lithium Tetraborate FX-LT 100 lot#220610B Meas																					8.34		
Lithium Tetraborate FX-LT 100 lot#220610B Cert																					8		
OREAS 922 (Peroxide Fusion) Meas																					< 0.01		
OREAS 922 (Peroxide Fusion) Cert																					0.003		
355617 Orig																					0.03	0.06	
355617 Dup																					0.03	0.06	
355625 Orig	966	91	17	46	2	< 2	< 0.5	< 0.2	2	1.2	1350	32	0.5	1.2	0.6	1	9.6	9	0.3	0.5	0.19	0.40	
355625 Dup	945	92	18	46	2	< 2	< 0.5	< 0.2	2	1.1	1350	33	0.5	1.3	0.6	< 1	10.7	9	0.3	0.5	0.19	0.40	
355639 Orig																					0.76	1.63	
355639 Dup																					0.72	1.55	
355642 Orig	3280	40	< 2	7	54	3	< 0.5	< 0.2	45	< 0.5	465	21	0.5	0.7	74.0	4	30.3	< 5	2.0	2.6			
355642 Dup	3330	40	< 2	7	59	3	< 0.5	< 0.2	46	< 0.5	465	21	0.5	0.5	72.2	4	31.4	< 5	1.9	2.6			
355647 Orig																					0.02	0.04	
355647 Dup																					0.02	0.04	
355659 Orig	4040				89	3	< 0.5	< 0.2	77	< 0.5	439		0.6	1.2	124	10	25.7	< 5	3.9	2.1			
355659 Split PREP DUP	4030	48	< 2	6	102	2	< 0.5	< 0.2	75	< 0.5	447	19	0.4	1.0	111	5	26.1	< 5	3.7	2.0	0.33	0.71	
355661 Orig																					1.02	2.19	
355661 Dup																					1.00	2.14	
355669 Orig																					0.06	0.13	
355669 Dup																					0.05	0.12	
355673 Orig	1180	24	< 2	5	37	3	< 0.5	< 0.2	13	< 0.5	2150	11	0.4	0.3	54.7	2	7.7	6	1.3	12.6			
355673 Dup	1200	25	< 2	< 4	31	2	< 0.5	< 0.2	13	< 0.5	2140	11	< 0.4	0.3	45.5	< 1	7.6	6	1.3	12.5			

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
355683 Orig																					0.14	0.30	
355683 Dup																					0.14	0.30	
355690 Orig	4	8	< 2	36	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	0.6	167	< 0.4	0.9	0.1	1	2.2	< 5	0.4	0.2			
355690 Dup	3	9	< 2	35	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	172	< 0.4	0.9	0.1	< 1	1.0	< 5	0.4	0.3			
355691 Orig																					1.51	3.25	
355691 Dup																					1.54	3.32	
355705 Orig																					0.62	1.34	
355705 Dup																					0.63	1.36	
355709 Orig																							2.79
355709 Dup																							2.80
355713 Orig																					0.36	0.77	
355713 Dup																					0.35	0.76	
355721 Orig	1870	26	< 2	10	44	< 2	< 0.5	< 0.2	18	0.6	304	11	1.6	1.0	76.5	1	20.1	< 5	2.9	4.8			
355721 Dup	1820	26	2	11	45	< 2	< 0.5	< 0.2	17	< 0.5	309	12	1.9	1.1	74.2	< 1	19.6	< 5	2.5	4.8			
355727 Orig																					0.04	0.09	
355727 Dup																					0.04	0.09	
355735 Orig																					0.80	1.72	
355735 Dup																					0.79	1.69	
355738 Orig	2170	37	< 2	5	24	2	< 0.5	< 0.2	25	< 0.5	275	36	0.9	0.3	30.3	6	18.3	8	2.4	4.5			
355738 Dup	2160	37	< 2	6	24	< 2	< 0.5	< 0.2	25	< 0.5	276	38	0.9	0.5	29.1	1	18.3	8	2.5	4.5			
355749 Orig																					0.04	0.09	
355749 Dup																					0.04	0.09	
355757 Orig																					0.16	0.33	
355757 Dup																					0.16	0.33	
355759 Orig	2120				49	< 2	< 0.5	< 0.2	38	< 0.5	260		13.4	0.6	144	2	14.7	8	4.1	6.5			
355759 Split PREP DUP	2160	39	< 2	7	60	< 2	< 0.5	< 0.2	38	< 0.5	262	40	13.5	0.8	133	2	17.9	6	3.6	5.7	0.07	0.16	
355769 Orig	144	80	13	54	2	< 2	< 0.5	< 0.2	1	< 0.5	107	54	0.4	1.4	0.2	9	3.5	28	0.5	0.2			
355769 Dup	148	81	13	55	2	< 2	< 0.5	< 0.2	1	< 0.5	110	55	< 0.4	1.4	0.2	9	2.3	26	0.5	0.2			
355771 Orig																					0.11	0.24	
355771 Dup																					0.12	0.25	
355779 Orig																					0.24	0.53	
355779 Dup																					0.24	0.52	
355786 Orig	2920	48	< 2	15	56	< 2	< 0.5	< 0.2	18	< 0.5	334	26	0.8	1.5	85.5	< 1	30.8	7	4.0	4.4			
355786 Dup	2850	47	< 2	14	54	< 2	< 0.5	< 0.2	17	< 0.5	319	26	0.8	1.6	77.5	< 1	30.3	7	3.9	4.3			
355793 Orig																					0.44	0.95	
355793 Dup																					0.44	0.94	
355801 Orig																					0.24	0.51	
355801 Dup																					0.24	0.52	
355815 Orig																					0.75	1.61	
355815 Dup																					0.75	1.62	

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
355817 Orig	33	104	18	44	3	< 2	< 0.5	< 0.2	2	< 0.5	4.3	30	0.7	1.3	1.3	< 1	2.4	< 5	0.3	0.1			
355817 Dup	34	107	17	45	3	< 2	< 0.5	< 0.2	2	< 0.5	4.4	30	0.7	1.3	1.2	< 1	1.2	< 5	0.3	0.1			
355823 Orig																					0.17	0.36	
355823 Dup																					0.17	0.36	
355834 Orig	1860	32	3	10	28	3	< 0.5	< 0.2	22	< 0.5	260	36	1.9	0.5	96.6	< 1	15.3	< 5	1.6	2.8			
355834 Dup	1910	31	< 2	8	30	2	< 0.5	< 0.2	24	< 0.5	263	36	2.1	0.6	84.1	< 1	16.6	< 5	1.7	2.5			
355837 Orig																					0.03	0.06	
355837 Dup																					0.03	0.06	
355845 Orig																					0.27	0.59	
355845 Dup																					0.27	0.57	
355861 Orig																					0.92	1.99	
355861 Dup																					0.92	1.98	
355865 Orig	787	15	< 2	11	59	< 2	< 0.5	< 0.2	21	0.5	148	14	1.2	1.2	105	2	5.7	7	4.5	5.1			
355865 Dup	775	16	< 2	9	62	< 2	< 0.5	< 0.2	22	< 0.5	148	13	1.2	1.2	104	2	5.4	< 5	4.9	5.3			
355867 Orig																					0.49	1.05	
355867 Dup																					0.49	1.06	
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		< 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	1.00
Method Blank																					< 0.01	< 0.01	
Method Blank																					< 0.01	< 0.01	



**Date Submitted:** 27-Sep-17  
**Invoice No.:** A17-10608  
**Invoice Date:** 24-Nov-17  
**Your Reference:** Seymour Lake

**Ardiden Ltd.**  
**Suite 6, 295 Rokeby Rd**  
**Subiaco WA 6008**  
**Australia**

**ATTN: Brad Boyle (inv/res)**

## CERTIFICATE OF ANALYSIS

46 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-10608**

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Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is stylized and somewhat cursive, with a horizontal line underneath it.

Emmanuel Esemé, Ph.D.  
Quality Control

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## Results

## Activation Laboratories Ltd.

## Report: A17-10608

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
355875	48.50	15.50	12.62	0.217	6.42	13.23	1.42	0.19	0.799	0.05	1.23	100.2	42	< 1	266	320	52	160	160	120	14	2	< 5
355876	49.38	15.14	12.49	0.210	6.39	13.15	1.40	0.18	0.781	0.06	0.89	100.1	42	< 1	263	310	50	160	120	110	13	1	< 5
355877	48.73	15.36	11.73	0.255	6.13	13.05	0.74	0.28	0.789	0.05	1.58	98.69	41	3	260	310	49	160	90	120	14	2	< 5
355878	66.07	18.18	1.29	0.152	0.31	1.45	2.18	7.47	0.046	0.98	1.65	99.77	1	25	9	50	3	< 20	< 10	240	72	7	< 5
355879	76.84	12.90	0.84	0.041	0.08	0.17	1.19	6.22	0.007	0.08	0.50	98.87	< 1	3	< 5	50	1	< 20	< 10	60	26	7	< 5
355880	74.59	13.61	0.72	0.599	0.05	0.73	0.61	6.24	0.057	0.02	2.00	99.22	12	5	< 5	120	1	< 20	160	540	29	6	46
355881	76.26	14.58	0.81	0.071	0.06	0.13	1.08	5.28	0.007	0.11	0.46	98.85	< 1	39	< 5	40	1	< 20	< 10	50	36	8	< 5
355882	76.52	13.92	1.13	0.089	0.11	0.15	1.65	4.50	0.013	0.09	0.71	98.87	< 1	186	6	50	1	< 20	< 10	100	44	6	< 5
355883	73.37	17.75	1.31	0.191	0.08	0.63	0.46	1.00	0.012	0.47	0.77	96.06	< 1	173	< 5	50	1	< 20	220	100	65	7	< 5
355884	67.18	16.85	1.60	0.290	0.16	2.05	1.08	2.43	0.033	1.57	1.54	94.78	1	1073	7	50	1	< 20	< 10	2990	72	5	< 5
355885	59.92	19.43	1.48	0.371	0.30	4.44	4.21	3.25	0.050	3.28	2.05	98.79	2	358	11	40	2	< 20	< 10	230	73	5	< 5
355886	64.13	21.08	1.48	0.167	0.29	0.83	4.52	3.24	0.049	0.46	2.02	98.25	2	190	10	30	2	< 20	10	220	79	5	< 5
355887	68.18	17.46	1.29	0.127	0.23	0.66	5.01	2.64	0.037	0.35	1.57	97.54	2	202	11	60	2	< 20	< 10	180	62	5	< 5
355888	72.64	15.91	0.93	0.074	0.23	0.62	5.64	2.48	0.015	0.17	1.05	99.77	< 1	187	< 5	60	2	< 20	< 10	80	47	7	< 5
355889	43.53	12.73	9.89	0.253	4.69	21.01	0.37	0.20	0.658	0.07	6.79	100.2	35	17	223	230	42	120	160	80	14	3	< 5
355890	96.85	0.52	0.97	0.011	0.02	0.07	0.05	0.06	0.022	0.02	0.15	98.74	< 1	< 1	< 5	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
355891	46.92	13.39	11.24	0.249	5.52	15.91	1.58	0.17	0.763	0.07	2.90	98.70	41	3	264	260	51	140	130	90	13	2	< 5
355892	49.73	14.73	13.07	0.221	5.45	13.35	1.08	0.26	0.841	0.05	1.07	99.86	45	1	279	290	55	150	130	100	14	2	< 5
355893	49.17	15.09	13.06	0.230	5.87	11.05	0.79	0.89	0.840	0.06	1.79	98.83	44	5	279	290	56	150	100	110	15	2	< 5
355894	63.89	17.47	2.29	0.150	0.72	2.82	3.56	3.36	0.101	1.61	1.89	97.86	5	11	29	60	5	< 20	20	140	58	5	< 5
355895	77.87	12.59	0.94	0.053	0.11	0.09	0.95	5.78	0.014	0.06	0.60	99.06	< 1	8	< 5	50	2	< 20	< 10	90	37	5	< 5
355896	78.47	12.93	1.20	0.060	0.11	0.07	0.78	4.69	0.015	0.05	0.61	99.00	< 1	6	< 5	60	2	< 20	< 10	90	38	5	< 5
355897	67.23	17.79	0.70	0.040	0.06	0.15	1.77	8.50	0.005	0.12	0.27	96.62	< 1	149	5	< 20	< 1	< 20	< 10	< 30	32	5	< 5
355898	78.15	14.51	1.55	0.114	0.17	0.13	0.39	2.15	0.026	< 0.01	1.03	98.23	< 1	38	< 5	90	2	< 20	< 10	190	57	4	< 5
355899	77.58	14.28	1.50	0.130	0.20	0.14	0.70	3.32	0.032	0.05	1.24	99.17	2	131	6	90	3	< 20	10	310	69	6	< 5
355900	73.79	13.71	0.72	0.604	0.04	0.73	0.60	6.23	0.054	< 0.01	2.02	98.49	12	5	< 5	130	1	< 20	150	530	28	6	46
355901	77.81	14.09	1.46	0.133	0.17	0.13	0.47	2.23	0.027	0.02	1.07	97.60	< 1	76	< 5	90	2	< 20	< 10	210	63	8	< 5
355902	73.27	16.28	1.67	0.165	0.18	0.11	0.31	2.53	0.032	0.06	1.29	95.89	< 1	83	6	70	2	< 20	< 10	230	72	5	< 5
355903	75.98	14.13	0.92	0.071	0.12	0.16	1.95	4.97	0.013	0.10	0.76	99.16	< 1	22	< 5	60	3	< 20	20	100	40	6	< 5
355904	74.87	14.82	1.48	0.135	0.15	0.37	0.59	3.35	0.029	0.26	1.08	97.14	< 1	19	5	60	1	< 20	< 10	160	63	4	< 5
355905	70.06	15.50	2.01	0.142	0.41	0.63	1.02	5.18	0.058	0.44	1.72	97.16	3	21	16	70	3	< 20	< 10	250	69	4	< 5
355906	71.87	16.47	1.36	0.101	0.17	0.55	3.68	1.53	0.019	0.31	0.82	96.88	1	50	8	40	1	< 20	< 10	120	55	5	< 5
355907	72.97	16.33	1.77	0.132	0.22	0.40	2.11	2.03	0.030	0.21	1.00	97.22	2	8	11	70	2	< 20	< 10	150	65	5	< 5
355908	73.00	15.66	1.59	0.164	0.22	0.54	2.91	2.52	0.030	0.29	1.28	98.21	1	14	9	60	2	< 20	< 10	180	56	5	< 5
355909	71.75	16.82	1.66	0.178	0.29	0.31	1.80	3.14	0.038	0.16	1.60	97.75	2	9	10	70	2	< 20	< 10	230	69	5	< 5
355910	98.06	0.44	0.83	0.008	0.02	0.04	0.02	0.04	0.023	0.02	0.08	99.57	< 1	< 1	5	< 20	1	< 20	< 10	< 30	1	1	< 5
355921	48.63	14.41	12.39	0.182	7.98	10.50	2.08	0.53	0.831	0.07	1.61	99.21	45	2	278	270	50	120	60	80	14	2	< 5
355922	49.22	14.67	12.36	0.191	7.70	10.36	1.70	0.64	0.861	0.08	1.54	99.31	44	6	282	270	50	120	140	90	15	2	< 5
355923	67.12	18.68	0.93	0.089	0.26	0.54	6.61	2.65	0.017	0.29	0.88	98.06	< 1	493	6	< 20	1	< 20	20	80	47	7	< 5
355924	48.87	14.65	12.80	0.202	7.52	12.45	1.24	0.34	0.865	0.06	0.85	99.85	44	1	280	270	51	120	150	100	14	2	< 5
355925	49.17	14.77	12.56	0.207	7.25	12.96	1.35	0.24	0.869	0.05	0.70	100.1	44	2	277	260	49	120	160	90	14	2	< 5

Results

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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
355926	56.10	17.76	8.36	0.149	3.07	7.66	3.52	0.93	0.939	0.06	0.99	99.53	44	1	289	360	65	190	190	60	15	1	< 5
355927	50.01	15.56	11.90	0.204	5.59	10.85	1.88	0.66	0.810	0.05	1.72	99.24	42	5	273	310	55	160	340	120	15	2	< 5
355928	72.44	16.83	1.25	0.093	0.20	0.49	4.00	1.96	0.028	0.22	0.56	98.08	2	245	8	30	2	< 20	< 10	60	47	5	< 5
355929	70.60	17.05	0.99	0.052	0.08	0.42	3.97	4.80	0.008	0.22	0.33	98.51	< 1	257	7	20	< 1	< 20	< 10	170	35	4	< 5
355930	98.57	0.45	0.76	0.006	0.02	0.03	0.03	0.04	0.027	0.01	0.08	100.0	< 1	< 1	< 5	< 20	< 1	< 20	10	< 30	1	< 1	< 5

## Results

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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
355875	20	115	15	41	2	< 2	< 0.5	< 0.2	< 1	< 0.5	4.2	45	< 0.4	1.3	0.3	1	0.2	< 5	0.3	< 0.1	0.03	0.06	
355876	17	108	15	39	1	< 2	< 0.5	< 0.2	< 1	< 0.5	3.3	43	< 0.4	1.0	< 0.1	1	0.2	< 5	0.2	< 0.1	0.02	0.05	
355877	82	114	15	41	2	< 2	< 0.5	< 0.2	< 1	0.8	27.3	51	< 0.4	1.2	0.9	< 1	0.8	6	0.2	0.3	0.08	0.18	
355878	9130	111	4	7	91	< 2	< 0.5	< 0.2	68	< 0.5	717	18	3.0	0.4	81.1	5	76.6	15	2.7	3.4	0.16	0.35	
355879	7630	97	2	< 4	3	< 2	< 0.5	< 0.2	7	< 0.5	698	8	3.0	< 0.2	30.5	5	83.5	10	0.4	0.7	0.22	0.47	
355880	2180	26	16	74	34	6	1.5	0.4	9	12.0	63.8	88	62.9	5.5	8.9	105	23.2	451	23.7	38.5	0.27	0.59	
355881	6290	75	3	< 4	7	< 2	< 0.5	< 0.2	13	< 0.5	554	9	12.4	< 0.2	62.6	3	68.1	9	1.6	1.7	0.80	1.72	
355882	5530	66	3	< 4	16	< 2	< 0.5	< 0.2	28	< 0.5	681	11	3.5	< 0.2	84.2	4	62.8	< 5	0.6	1.4	0.62	1.34	
355883	1940	26	4	< 4	20	< 2	< 0.5	< 0.2	36	< 0.5	455	4	5.9	< 0.2	65.8	2	20.0	< 5	1.8	2.1	1.87	4.03	
355884	3540	43	5	8	77	2	< 0.5	< 0.2	65	0.5	611	9	2.8	0.7	95.4	6	23.4	7	7.8	6.7	1.14	2.46	2.88
355885	4050	62	10	17	228	< 2	< 0.5	< 0.2	88	< 0.5	515	14	3.5	1.9	188	7	25.9	15	19.1	14.7	0.31	0.67	
355886	3870	53	< 2	21	243	< 2	< 0.5	< 0.2	89	< 0.5	383	15	2.5	2.7	188	7	24.5	11	14.8	13.0	0.54	1.17	
355887	3040	43	< 2	22	147	< 2	< 0.5	< 0.2	58	< 0.5	299	13	2.8	2.3	192	6	19.9	8	10.5	8.1	0.20	0.43	
355888	2840	45	3	17	47	< 2	< 0.5	< 0.2	22	< 0.5	218	35	0.8	2.0	131	2	27.7	7	3.7	5.8	0.08	0.18	
355889	153	90	13	35	5	< 2	< 0.5	< 0.2	5	2.3	13.0	19	1.8	1.0	2.6	3	1.7	6	0.2	0.7	0.02	0.04	
355890	< 2	7	< 2	28	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	88	< 0.4	0.6	0.1	< 1	0.2	< 5	0.3	0.3	< 0.01	< 0.01	
355891	29	110	15	41	2	< 2	< 0.5	< 0.2	< 1	1.8	4.5	50	0.4	1.2	0.2	< 1	0.4	< 5	0.3	< 0.1	0.02	0.05	
355892	24	128	16	43	2	< 2	< 0.5	< 0.2	< 1	< 0.5	3.4	26	< 0.4	1.4	0.1	< 1	0.2	< 5	0.3	< 0.1	0.02	0.04	
355893	1110	115	16	43	3	< 2	< 0.5	< 0.2	5	< 0.5	1150	46	0.7	1.3	0.7	2	9.1	< 5	0.3	0.3	0.11	0.23	
355894	3660	61	6	8	60	< 2	< 0.5	< 0.2	68	< 0.5	721	28	1.9	0.5	51.0	4	22.4	< 5	2.0	2.4	0.14	0.29	2.79
355895	5460	70	3	< 4	9	< 2	< 0.5	< 0.2	18	< 0.5	346	13	0.8	< 0.2	12.0	1	48.7	< 5	0.1	0.4	0.22	0.47	
355896	4550	57	3	< 4	13	< 2	< 0.5	< 0.2	22	< 0.5	312	10	0.6	< 0.2	14.6	2	44.1	< 5	0.1	0.4	0.34	0.72	
355897	7800	96	< 2	< 4	6	< 2	< 0.5	< 0.2	11	< 0.5	484	21	3.2	< 0.2	20.9	< 1	69.2	12	0.3	0.5	0.59	1.27	
355898	2880	34	3	< 4	15	< 2	< 0.5	< 0.2	35	< 0.5	237	6	24.9	< 0.2	34.8	2	24.5	< 5	0.5	0.6	0.62	1.33	
355899	4540	51	3	< 4	27	2	< 0.5	< 0.2	51	1.0	483	8	43.7	0.5	60.4	10	35.6	33	1.7	3.3	0.72	1.55	
355900	2150	26	14	73	38	5	1.4	0.3	10	12.4	63.5	85	63.5	5.4	9.0	104	18.2	451	24.5	42.6	0.27	0.59	
355901	3380	42	3	5	22	< 2	< 0.5	< 0.2	41	< 0.5	436	8	27.3	0.8	61.2	6	24.7	< 5	0.6	2.2	0.90	1.94	
355902	3630	41	< 2	5	41	3	< 0.5	< 0.2	71	< 0.5	375	8	9.4	0.4	65.3	5	23.3	9	2.6	1.2	1.17	2.53	
355903	4850	63	4	7	20	< 2	< 0.5	< 0.2	20	< 0.5	434	19	2.4	0.9	78.7	2	44.0	7	5.0	2.6	0.22	0.48	
355904	3630	44	< 2	< 4	33	3	< 0.5	< 0.2	55	< 0.5	307	12	1.1	0.2	34.5	6	25.6	< 5	1.3	1.3	0.84	1.82	2.84
355905	5370	65	< 2	5	115	< 2	< 0.5	< 0.2	97	< 0.5	392	30	1.5	0.5	63.7	7	37.5	5	2.2	1.8	0.31	0.66	
355906	1770	29	< 2	6	41	< 2	< 0.5	< 0.2	38	< 0.5	245	9	0.6	0.4	48.7	3	12.0	< 5	1.8	2.2	0.78	1.69	
355907	2410	32	< 2	7	55	< 2	< 0.5	< 0.2	55	< 0.5	296	11	1.0	0.6	134	4	16.0	< 5	1.8	2.2	1.03	2.22	
355908	3530	48	< 2	12	51	< 2	< 0.5	< 0.2	51	< 0.5	456	11	0.4	1.4	94.7	4	22.8	< 5	4.5	3.6	0.55	1.19	
355909	4830	56	< 2	5	89	< 2	< 0.5	< 0.2	77	< 0.5	739	14	0.8	0.6	143	6	32.7	< 5	1.9	1.7	0.76	1.64	
355910	< 2	6	7	27	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	80	< 0.4	0.7	< 0.1	2	0.5	< 5	0.5	0.3	< 0.01	< 0.01	
355921	111	105	15	42	2	< 2	< 0.5	< 0.2	< 1	< 0.5	50.7	87	0.5	1.2	0.3	< 1	1.0	< 5	0.2	0.3	0.06	0.12	
355922	438	109	14	44	3	< 2	< 0.5	< 0.2	2	< 0.5	176	51	0.6	1.4	4.9	4	5.0	< 5	0.3	0.3	0.14	0.31	
355923	3970	56	< 2	10	99	< 2	< 0.5	< 0.2	32	< 0.5	489	23	< 0.4	1.7	197	5	34.6	6	6.0	1.8	0.05	0.10	
355924	55	76	14	42	2	< 2	< 0.5	< 0.2	< 1	< 0.5	16.5	34	< 0.4	1.1	0.2	< 1	1.0	7	0.3	< 0.1	0.09	0.19	3.16
355925	23	81	16	46	2	< 2	< 0.5	< 0.2	< 1	< 0.5	1.6	26	< 0.4	1.4	0.2	1	0.4	< 5	0.3	< 0.1	0.04	0.09	

Results

Activation Laboratories Ltd.

Report: A17-10608

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
355926	188	112	15	47	2	8	< 0.5	< 0.2	< 1	< 0.5	73.2	226	< 0.4	1.2	0.9	< 1	1.5	< 5	0.3	0.1	0.08	0.17	
355927	349	101	14	41	2	11	< 0.5	< 0.2	3	1.5	244	84	0.7	1.2	0.4	< 1	3.2	74	0.3	0.4	0.12	0.26	
355928	1680	31	< 2	10	53	< 2	< 0.5	< 0.2	25	< 0.5	309	29	0.7	1.5	55.0	2	12.6	9	2.7	3.9	0.83	1.79	
355929	3290	56	< 2	4	47	< 2	< 0.5	< 0.2	12	< 0.5	437	79	1.1	0.4	59.7	< 1	28.9	14	2.9	4.6	0.49	1.05	
355930	< 2	7	< 2	23	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	109	< 0.4	0.5	< 0.1	< 1	0.4	< 5	0.6	0.1	< 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	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	0.013	0.34	42.92	0.85	0.55	0.119	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	0.148	10.00	11.51	1.88	0.22	0.490	0.06			31		152	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	72.01	12.70	3.16	0.141	0.14	0.60	2.51	5.42	0.274	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																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	52.65	15.82	11.17	0.170	6.09	11.02	2.17	0.61	1.095	0.13			35	< 1	267	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	50.22	20.31	6.25	0.105	0.50	8.10	6.88	1.66	0.278	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																				40			
CTA-AC-1 Cert																				38.0			
BIR-1a Meas	48.19	15.33	11.33	0.169	9.53	13.52	1.80	0.02	0.976	0.01			44	< 1	326	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																				990			
ZW-C Cert																				1050.00			
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

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																		1.67	2.68	30.6	16.1		16.3
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86303 Meas																							
NCS DC86303 Cert																							
NCS DC86304 Meas																							
NCS DC86304 Cert																							
NCS DC86304 Meas																							
NCS DC86304 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																							

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																							
355881 Orig																							
355881 Dup																							
355884 Orig																							
355884 Dup																							
355889 Orig	43.26	12.88	9.84	0.253	4.68	20.95	0.37	0.20	0.656	0.07	6.79	99.94	35	17	224	230	41	120	160	80	13	3	< 5
355889 Dup	43.80	12.58	9.94	0.254	4.71	21.06	0.37	0.20	0.660	0.06	6.79	100.4	35	17	222	230	43	120	170	80	14	3	< 5
355903 Orig																							
355903 Dup																							
355906 Orig	72.28	16.34	1.34	0.099	0.17	0.55	3.66	1.52	0.019	0.30	0.82	97.09	1	49	8	40	1	< 20	< 10	140	56	5	< 5
355906 Dup	71.45	16.61	1.37	0.103	0.17	0.56	3.70	1.54	0.020	0.31	0.82	96.66	1	51	9	40	1	< 20	< 10	100	53	5	< 5
355921 Orig																							
355921 Dup																							
355930 Orig																							
355930 Dup																							
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	0.02			< 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								

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	147	15	34						0.9		107											
DNC-1 Cert	5	144.0	18.0	38						0.96		118											
GBW 07113 Meas		41	44	387								507											
GBW 07113 Cert		43.0	43.0	403								506											
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	195	19	87	8	< 2					0.9	173	< 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		1201	113	542								346											
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	14	< 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			
ZW-C Meas	9140				208						256				83.2	330	33.8						
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			

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 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																						1.82	3.91	
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																						8.15		
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																						8.13		
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																							
355881 Orig																					0.80	1.73	
355881 Dup																					0.80	1.72	
355884 Orig																							2.87
355884 Dup																							2.88
355889 Orig	149	91	13	36	4	< 2	< 0.5	< 0.2	5	2.3	12.7	19	1.6	1.1	2.5	3	1.7	5	0.2	0.7	0.02	0.04	
355889 Dup	157	89	13	35	5	< 2	< 0.5	< 0.2	5	2.2	13.4	19	2.1	1.0	2.7	3	1.6	6	0.2	0.7	0.02	0.04	
355903 Orig																					0.22	0.48	
355903 Dup																					0.22	0.48	
355906 Orig	1810	29	< 2	6	42	< 2	< 0.5	< 0.2	38	< 0.5	251	9	0.6	0.5	49.2	2	12.3	< 5	1.8	2.2			
355906 Dup	1730	29	< 2	5	40	< 2	< 0.5	< 0.2	38	< 0.5	240	10	0.6	0.4	48.1	3	11.6	< 5	1.9	2.2			
355921 Orig																					0.06	0.12	
355921 Dup																					0.06	0.12	
355930 Orig																					< 0.01	< 0.01	
355930 Dup																					< 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	< 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											



**Date Submitted:** 06-Oct-17  
**Invoice No.:** A17-11016  
**Invoice Date:** 01-Dec-17  
**Your Reference:** Seymour Lake

**Ardiden Ltd.**  
**Suite 6, 295 Rokeby Rd**  
**Subiaco WA 6008**  
**Australia**

**ATTN: Brad Boyle (inv/res)**

## 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-Li (Sodium Peroxide Fusion) Sodium Peroxide Fusion

Code Specific Gravity-Pycnometer (Nitrogen) Pulp by Nitrogen Pycnometer

REPORT **A17-11016**

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Notes:

Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

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

Emmanuel Esemé, Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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## Results

## Activation Laboratories Ltd.

## Report: A17-11016

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
355911	75.37	14.81	0.80	0.112	0.23	0.51	3.72	1.82	0.027	0.16	1.29	98.84	1	10	8	30	2	< 20	< 10	140	47	7	< 5
355912	74.26	16.39	0.86	0.105	0.18	0.33	2.45	1.73	0.020	0.13	1.08	97.54	1	17	7	30	1	< 20	< 10	110	53	5	< 5
355913	72.66	17.59	0.87	0.148	0.17	0.46	3.09	2.17	0.022	0.21	1.26	98.65	< 1	219	< 5	50	2	< 20	< 10	140	63	6	< 5
355914	80.13	12.18	0.44	0.080	0.12	0.36	3.83	0.99	0.010	0.17	0.70	99.01	< 1	327	< 5	60	1	< 20	< 10	70	35	6	< 5
355915	72.40	16.67	0.39	0.069	0.08	0.49	7.25	0.77	0.007	0.20	0.52	98.84	< 1	220	< 5	50	1	< 20	< 10	50	40	7	< 5
355916	74.25	15.69	0.38	0.062	0.05	0.41	7.79	0.72	0.004	0.17	0.34	99.88	< 1	216	< 5	40	1	< 20	< 10	30	36	7	< 5
355917	49.48	13.93	12.30	0.195	7.70	10.73	1.35	0.88	0.800	0.06	1.90	99.34	43	8	276	270	46	120	110	80	15	2	< 5
355918	48.12	13.85	12.57	0.185	8.30	10.69	1.87	0.65	0.796	0.06	1.96	99.05	45	1	289	280	47	120	40	80	14	2	< 5
355919	49.13	14.22	12.34	0.171	8.30	9.70	2.17	0.70	0.838	0.06	2.42	100.1	45	1	295	290	46	130	20	70	14	1	< 5
355920	73.44	13.50	0.70	0.621	0.05	0.73	0.62	6.14	0.051	0.01	3.10	98.97	12	5	< 5	120	1	< 20	160	510	29	6	46
355931	76.32	14.42	0.82	0.068	0.21	0.42	3.67	2.27	0.023	0.13	1.12	99.47	1	226	7	50	2	< 20	< 10	100	46	5	< 5
355932	71.00	16.37	0.35	0.030	0.10	0.26	3.03	7.49	0.008	0.17	0.54	99.35	< 1	73	< 5	40	1	< 20	90	150	32	5	< 5
355933	72.27	15.41	0.26	0.029	0.05	0.19	2.43	7.99	0.005	0.14	0.47	99.24	< 1	110	< 5	50	1	< 20	< 10	50	28	6	< 5
355934	71.17	17.54	0.53	0.071	0.11	0.43	4.73	3.87	0.005	0.25	0.45	99.16	< 1	397	< 5	40	1	< 20	< 10	< 30	37	6	< 5
355935	47.73	16.07	11.74	0.209	7.30	10.48	1.60	0.67	0.866	0.06	2.85	99.57	44	7	272	340	45	170	40	80	15	2	< 5
355936	47.66	15.75	12.43	0.227	7.10	11.32	1.62	0.74	0.819	0.11	2.32	100.1	42	4	265	320	47	170	80	80	14	2	< 5
355937	48.28	13.92	12.91	0.278	6.95	13.43	1.75	0.36	0.775	0.05	1.45	100.1	42	2	261	310	48	170	180	90	13	2	< 5
355938	51.66	15.47	12.55	0.229	4.08	9.35	2.91	0.94	0.829	0.05	1.84	99.92	42	1	286	340	54	200	160	80	15	2	< 5
355939	49.68	16.29	13.35	0.243	4.49	9.10	2.63	1.05	0.846	0.06	2.37	100.1	45	1	292	320	54	170	160	80	15	2	< 5
355940	72.82	14.74	0.70	0.589	0.05	0.75	0.60	6.12	0.054	0.03	2.11	98.56	12	5	7	130	1	< 20	170	550	29	7	55
355941	70.32	16.13	1.28	0.084	0.28	0.63	4.13	3.37	0.025	0.27	0.70	97.21	1	80	9	< 20	< 1	< 20	< 10	50	41	6	< 5
355942	66.55	17.15	0.25	0.010	0.06	0.17	2.03	11.47	0.007	0.16	0.36	98.22	< 1	16	5	< 20	< 1	< 20	< 10	< 30	23	6	< 5
355943	66.95	17.56	0.25	0.022	0.08	0.22	3.99	8.12	0.005	0.19	0.48	97.87	< 1	6	< 5	< 20	< 1	< 20	< 10	< 30	29	5	< 5
355944	69.08	17.54	0.33	0.028	0.09	0.27	5.08	4.66	0.003	0.17	0.47	97.73	< 1	52	< 5	< 20	< 1	< 20	< 10	< 30	31	5	< 5
355945	69.95	17.23	0.76	0.078	0.16	0.33	2.30	5.40	0.013	0.17	0.84	97.24	1	48	< 5	30	< 1	< 20	< 10	50	45	5	< 5
355946	67.23	18.52	0.15	0.012	0.03	0.20	4.32	8.94	0.002	0.16	0.35	99.91	< 1	13	< 5	< 20	< 1	< 20	< 10	< 30	27	5	< 5
355947	68.95	17.07	0.58	0.073	0.22	0.64	4.06	6.43	0.013	0.31	0.66	99.02	< 1	48	8	20	1	< 20	< 10	< 30	29	5	< 5
355948	71.38	16.52	0.60	0.073	0.23	0.51	4.99	3.84	0.009	0.28	0.73	99.16	< 1	221	5	20	1	< 20	< 10	50	37	5	< 5
355949	48.15	14.96	11.40	0.153	8.18	10.49	1.09	0.73	0.760	0.06	3.59	99.55	43	7	269	330	46	170	100	60	17	2	< 5
355950	96.89	0.89	1.65	0.015	0.03	0.05	0.16	0.14	0.024	< 0.01	0.13	99.97	< 1	4	5	< 20	1	< 20	< 10	< 30	2	< 1	< 5
355951	47.92	14.07	12.63	0.177	7.12	12.73	1.92	0.49	0.732	0.05	1.25	99.09	40	< 1	263	300	49	160	120	80	14	2	< 5
355952	50.63	13.85	13.82	0.258	4.46	10.91	2.35	0.49	0.751	0.04	1.84	99.41	42	< 1	254	300	48	170	230	90	13	2	< 5
355953	50.49	14.43	13.28	0.235	4.59	11.70	1.11	0.61	0.755	0.07	1.70	98.96	42	2	254	300	48	160	180	110	14	2	< 5
355954	71.96	15.13	0.74	0.067	0.15	0.69	2.67	4.88	0.019	0.27	0.72	97.29	< 1	363	7	30	1	< 20	< 10	50	40	5	< 5
355955	76.10	13.53	1.05	0.076	0.19	0.26	1.15	3.11	0.016	0.07	0.67	96.22	1	519	6	50	1	< 20	10	50	42	5	< 5
355956	75.13	14.72	0.80	0.066	0.13	0.30	1.52	4.09	0.008	0.13	0.68	97.57	< 1	252	< 5	40	< 1	< 20	< 10	30	39	5	< 5
355957	71.64	15.79	0.75	0.048	0.30	0.22	2.01	6.89	0.012	0.10	1.02	98.79	< 1	63	< 5	< 20	1	< 20	< 10	40	36	5	< 5
355958	71.61	14.72	0.46	0.019	0.23	0.22	2.98	7.99	0.005	0.14	0.58	98.96	< 1	20	< 5	20	< 1	< 20	< 10	< 30	24	5	< 5
355959	70.22	16.33	0.46	0.041	0.09	0.26	3.16	6.59	0.006	0.14	0.60	97.89	< 1	24	< 5	20	< 1	< 20	< 10	30	33	5	< 5
355960	72.13	14.32	0.70	0.599	0.03	0.75	0.57	6.33	0.053	0.01	2.12	97.61	12	5	6	110	< 1	< 20	170	530	26	5	50
355961	77.95	13.78	0.98	0.122	0.20	0.25	0.88	2.54	0.019	0.11	1.18	98.01	< 1	147	< 5	50	1	< 20	< 10	110	51	6	< 5



## Results

## Activation Laboratories Ltd.

## Report: A17-11016

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
355962	73.35	16.39	1.00	0.083	0.42	0.69	2.00	2.52	0.015	0.14	1.39	98.00	1	93	7	40	1	< 20	< 10	80	52	5	< 5
355963	73.86	15.33	0.78	0.070	0.18	0.31	1.85	4.53	0.014	0.16	0.77	97.86	1	193	6	30	< 1	< 20	< 10	50	43	4	< 5
355964	75.47	13.89	0.70	0.051	0.17	0.39	3.53	2.77	0.018	0.12	0.94	98.05	1	156	< 5	30	1	< 20	< 10	70	38	4	< 5
355965	74.74	14.96	0.88	0.087	0.23	0.50	3.57	2.66	0.025	0.21	1.19	99.05	2	340	8	30	2	< 20	< 10	110	47	4	< 5
355966	75.56	13.46	0.86	0.132	0.23	0.55	2.07	3.92	0.027	0.31	1.28	98.40	1	246	8	30	1	< 20	< 10	160	48	4	< 5
355967	70.24	16.70	0.33	0.038	0.06	0.21	2.21	7.75	0.004	0.19	0.49	98.23	< 1	102	< 5	< 20	< 1	< 20	< 10	< 30	30	5	< 5
355968	70.27	16.60	0.52	0.042	0.12	0.17	2.68	7.71	0.013	0.14	0.80	99.07	< 1	31	< 5	< 20	< 1	< 20	< 10	110	35	4	< 5
355969	71.56	16.46	0.95	0.080	0.28	0.31	1.03	5.65	0.025	0.13	1.04	97.52	1	35	8	40	2	< 20	< 10	90	50	5	< 5
355970	97.74	0.61	0.48	0.005	0.02	0.03	0.04	0.08	0.031	0.01	0.27	99.31	< 1	< 1	6	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
355971	74.43	14.69	0.72	0.079	0.25	0.71	4.32	3.88	0.009	0.41	0.77	100.3	< 1	225	5	30	< 1	< 20	< 10	30	33	5	< 5
355972	46.13	14.85	11.90	0.194	6.84	15.11	1.00	0.30	0.792	0.06	3.07	100.3	41	3	261	260	48	140	110	80	13	2	< 5
355973	45.07	14.74	13.51	0.191	7.77	12.97	1.62	0.51	0.798	0.05	1.25	98.48	42	< 1	267	280	55	160	140	130	13	2	< 5
355974	46.73	16.44	11.97	0.215	5.17	15.36	1.39	0.18	0.798	0.05	1.64	99.95	42	< 1	271	340	53	150	150	160	14	2	< 5
355975	45.73	15.74	12.19	0.216	5.63	14.79	1.23	0.22	0.803	0.04	2.84	99.43	41	2	275	330	52	150	190	120	14	2	< 5
355976	74.12	14.56	0.99	0.095	0.32	0.54	3.73	1.72	0.029	0.20	1.31	97.61	1	451	6	20	2	< 20	< 10	130	44	5	< 5
355977	75.04	14.04	1.03	0.092	0.30	0.71	4.03	1.71	0.034	0.24	1.23	98.45	1	339	9	30	2	< 20	20	130	43	5	< 5
355978	78.72	13.72	0.64	0.068	0.07	0.25	2.90	1.46	0.009	0.11	0.66	98.62	< 1	250	< 5	50	< 1	< 20	< 10	30	39	6	< 5
355979	75.49	14.84	0.57	0.068	0.09	0.46	4.75	0.85	0.010	0.14	0.88	98.16	< 1	691	5	30	< 1	< 20	< 10	60	34	5	< 5
355980	74.10	13.64	0.70	0.605	0.04	0.75	0.60	6.19	0.052	< 0.01	2.17	98.85	12	5	< 5	120	< 1	< 20	170	550	27	6	42
355981	73.33	15.34	0.61	0.071	0.11	0.44	4.59	1.65	0.014	0.17	1.07	97.39	< 1	323	< 5	20	< 1	< 20	< 10	80	37	5	< 5
355982	75.71	15.25	0.77	0.076	0.17	0.29	3.88	2.95	0.020	0.10	1.04	100.3	1	239	6	40	1	< 20	< 10	100	43	4	< 5
355983	75.72	15.37	0.89	0.095	0.12	0.40	3.26	1.01	0.016	0.11	0.81	97.81	1	263	6	50	1	< 20	< 10	70	40	5	< 5
355984	74.49	15.05	0.77	0.085	0.16	0.40	3.92	2.33	0.022	0.09	1.13	98.44	1	76	< 5	50	1	< 20	< 10	100	42	5	< 5
355985	72.63	15.43	0.90	0.084	0.21	0.51	4.77	2.09	0.030	0.09	1.32	98.07	1	176	6	30	2	< 20	10	120	44	4	< 5
355986	73.85	16.69	0.88	0.115	0.09	0.25	1.71	1.53	0.012	0.10	0.79	96.03	< 1	225	< 5	60	< 1	< 20	< 10	80	50	5	< 5
355987	74.62	16.33	0.78	0.106	0.07	0.28	1.74	0.86	0.008	0.12	0.74	95.65	< 1	202	< 5	40	< 1	< 20	< 10	50	45	5	< 5
355988	73.27	15.55	0.41	0.070	0.13	0.47	7.38	1.54	0.005	0.20	0.67	99.70	< 1	75	< 5	30	< 1	< 20	< 10	< 30	28	5	< 5
355989	40.42	12.33	14.57	0.328	5.55	19.00	0.64	0.19	0.665	0.05	5.55	99.28	38	6	239	230	39	100	210	100	12	2	< 5
355990	97.09	0.71	1.28	0.016	0.10	0.40	0.06	0.08	0.038	0.04	0.55	100.4	< 1	< 1	13	< 20	< 1	< 20	< 10	< 30	1	< 1	< 5
355991	47.73	14.67	13.05	0.245	7.20	12.79	1.94	0.46	0.822	0.04	1.40	100.3	44	1	275	280	51	120	80	240	12	2	< 5
355992	47.41	15.44	12.44	0.203	6.39	13.95	1.88	0.20	0.856	0.10	1.15	100.0	39	< 1	264	280	49	140	160	90	13	2	< 5
355993	49.20	14.93	12.14	0.203	6.92	11.58	1.78	0.35	0.763	0.13	2.01	100.0	42	3	259	320	47	140	120	100	13	2	< 5
355994	78.71	11.37	1.25	0.085	0.33	0.65	2.63	2.53	0.031	0.26	0.89	98.74	< 1	17	9	50	2	< 20	< 10	100	41	5	< 5
355995	73.79	16.14	1.31	0.069	0.07	0.18	2.84	3.15	0.007	0.06	0.25	97.88	< 1	6	< 5	40	< 1	< 20	< 10	< 30	35	6	< 5
355996	71.67	18.00	1.04	0.088	0.05	0.22	2.46	3.29	0.005	0.11	0.31	97.24	< 1	235	< 5	30	< 1	< 20	< 10	30	42	6	< 5
355997	69.46	20.46	1.17	0.109	0.05	0.20	3.85	0.49	0.005	0.10	0.29	96.18	< 1	5	< 5	30	< 1	< 20	< 10	30	53	6	< 5
355998	71.29	19.61	0.99	0.100	0.04	0.17	4.32	0.44	0.005	0.08	0.34	97.38	< 1	12	< 5	40	< 1	< 20	< 10	40	48	6	< 5
355999	74.06	17.90	0.95	0.092	0.05	0.20	2.44	0.70	0.005	0.08	0.40	96.88	< 1	34	< 5	50	< 1	< 20	< 10	90	46	7	< 5
356000	72.85	13.50	0.69	0.588	0.03	0.75	0.59	6.32	0.052	< 0.01	2.17	97.53	12	5	< 5	110	< 1	< 20	170	510	24	6	49
389501	72.52	17.83	0.89	0.105	0.06	0.23	4.18	1.40	0.006	0.11	0.52	97.85	< 1	160	< 5	40	< 1	< 20	< 10	50	44	6	< 5
389502	75.86	14.56	0.66	0.138	0.06	0.26	6.64	0.50	0.005	0.14	0.46	99.28	< 1	334	< 5	30	< 1	< 20	< 10	40	30	6	< 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
389503	73.97	15.77	0.81	0.105	0.12	0.41	7.07	0.76	0.010	0.21	0.59	99.81	< 1	179	< 5	20	1	< 20	< 10	70	34	5	< 5
389504	48.92	13.67	12.90	0.227	5.85	12.96	0.98	0.32	0.766	0.05	2.16	98.80	41	4	251	260	53	120	200	180	12	2	< 5
389505	48.77	14.35	13.60	0.230	5.64	13.06	1.45	0.17	0.807	0.05	1.07	99.18	43	1	262	270	55	130	220	140	12	2	< 5
389506	48.05	14.54	15.36	0.237	5.52	12.40	1.76	0.20	0.791	0.05	1.29	100.2	42	< 1	267	260	58	120	330	280	13	1	< 5
389507	49.07	14.65	14.64	0.230	5.55	12.10	1.75	0.21	0.798	0.04	1.03	100.1	42	< 1	261	260	56	130	270	210	13	2	< 5
389508	47.05	13.32	15.26	0.219	8.02	11.88	1.36	0.47	0.716	0.05	1.24	99.59	38	2	255	240	57	120	170	130	13	2	< 5
389509	43.10	13.06	13.79	0.224	7.32	15.78	0.61	0.28	0.649	0.05	4.50	99.37	36	17	244	220	47	110	310	90	14	4	< 5
389510	96.60	0.53	1.21	0.018	0.13	0.61	0.04	0.06	0.034	0.05	0.66	99.94	< 1	< 1	< 5	< 20	< 1	< 20	< 10	50	1	< 1	< 5
389511	47.88	15.37	10.87	0.196	7.46	8.57	0.38	2.29	0.641	0.16	4.31	98.11	35	69	229	210	39	100	30	110	22	5	< 5
389512	66.84	18.12	1.25	0.101	0.41	1.12	5.50	3.95	0.030	0.31	0.97	98.60	1	72	11	20	2	< 20	10	40	33	5	< 5
389513	75.01	15.48	0.71	0.152	0.17	0.17	1.49	2.29	0.008	0.22	0.79	96.50	< 1	11	< 5	40	< 1	< 20	< 10	50	44	9	< 5
389514	72.89	15.00	0.52	0.035	0.10	0.31	1.85	6.92	0.005	0.18	0.56	98.38	< 1	63	< 5	30	< 1	< 20	< 10	< 30	23	8	< 5
389515	76.31	13.11	0.62	0.019	0.03	0.19	3.10	5.96	0.004	0.14	0.23	99.72	< 1	10	< 5	30	< 1	< 20	< 10	< 30	17	4	< 5
389516	71.78	15.49	0.36	0.020	0.04	0.19	3.71	6.82	0.004	0.12	0.39	98.93	< 1	80	< 5	< 20	< 1	< 20	< 10	< 30	22	6	< 5
389517	71.73	16.75	0.69	0.070	0.13	0.58	6.89	2.23	0.010	0.24	0.50	99.83	< 1	156	< 5	< 20	< 1	< 20	< 10	< 30	30	5	< 5
389518	47.15	15.09	12.27	0.238	7.95	11.48	1.03	0.90	0.723	0.08	2.02	98.93	40	9	251	240	49	150	130	100	13	2	< 5
389519	48.50	14.54	12.97	0.201	7.86	12.05	1.94	0.24	0.744	0.06	0.91	100.0	40	< 1	262	260	53	130	180	90	13	2	< 5
389520	74.36	13.83	0.71	0.610	0.03	0.74	0.59	6.21	0.054	< 0.01	2.21	99.34	12	5	< 5	110	< 1	< 20	170	480	25	5	46

## Results

## Activation Laboratories Ltd.

## Report: A17-11016

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
355911	2740	42	< 2	22	61	3	< 0.5	< 0.2	41	< 0.5	396	19	0.8	3.2	106	2	17.5	< 5	6.2	2.2	0.43	0.92	
355912	2470	34	< 2	4	52	< 2	< 0.5	< 0.2	41	< 0.5	477	12	1.1	0.3	55.9	3	16.7	< 5	1.8	1.3	1.11	2.39	
355913	3090	45	3	25	54	3	< 0.5	< 0.2	46	< 0.5	574	17	0.6	2.9	75.9	3	19.3	< 5	3.2	3.0	0.88	1.89	
355914	1400	28	< 2	38	30	2	< 0.5	< 0.2	17	< 0.5	318	22	0.6	5.2	77.0	2	10.3	< 5	8.1	6.8	0.35	0.74	
355915	1020	26	2	11	51	< 2	< 0.5	< 0.2	12	< 0.5	201	15	1.2	1.3	160	< 1	9.0	< 5	4.8	8.8	0.17	0.37	
355916	860	23	< 2	14	75	< 2	< 0.5	< 0.2	5	< 0.5	175	9	0.5	2.2	497	< 1	9.2	5	5.4	9.4	0.10	0.22	
355917	513	91	15	43	4	< 2	< 0.5	< 0.2	2	0.8	318	117	0.7	1.3	9.1	< 1	4.9	< 5	0.5	0.6	0.10	0.21	
355918	90	91	14	41	2	< 2	< 0.5	< 0.2	< 1	< 0.5	34.3	110	< 0.4	1.2	0.4	1	0.6	< 5	0.3	0.3	0.05	0.10	
355919	65	97	14	41	2	< 2	< 0.5	< 0.2	< 1	< 0.5	27.0	118	0.4	1.3	0.2	1	0.4	< 5	0.3	0.6	0.06	0.12	3.08
355920	2120	26	13	78	66	5	1.6	0.3	12	14.8	63.4	85	70.6	6.6	10.2	100	13.0	492	24.8	41.2	0.30	0.64	
355931	2180	41	< 2	5	36	< 2	< 0.5	< 0.2	33	< 0.5	359	28	5.7	0.2	62.2	3	15.9	< 5	0.8	1.6	0.14	0.31	
355932	5700	86	3	< 4	19	< 2	< 0.5	< 0.2	13	< 0.5	619	71	0.8	0.2	36.0	2	52.6	14	0.8	1.0	0.36	0.77	
355933	6320	95	3	7	17	< 2	< 0.5	< 0.2	11	< 0.5	702	63	0.5	0.7	45.5	< 1	67.5	12	3.8	1.1	0.05	0.11	
355934	2820	50	3	29	100	< 2	< 0.5	< 0.2	9	< 0.5	333	43	1.1	3.8	264	9	33.4	9	8.2	6.6	0.48	1.04	
355935	267	90	14	42	2	2	< 0.5	< 0.2	3	< 0.5	101	50	0.4	1.2	0.7	< 1	2.8	< 5	0.3	0.3	0.08	0.17	
355936	307	91	14	44	2	2	< 0.5	< 0.2	2	0.5	112	61	0.5	1.4	2.5	1	2.9	< 5	0.3	0.3	0.07	0.15	
355937	40	82	16	39	2	5	< 0.5	< 0.2	< 1	0.6	11.5	36	0.6	1.2	0.2	< 1	0.6	6	0.2	< 0.1	0.02	0.05	
355938	145	135	15	41	2	< 2	< 0.5	< 0.2	< 1	1.2	120	186	0.5	1.3	0.2	< 1	1.3	12	0.2	0.1	0.08	0.17	
355939	186	128	15	41	2	< 2	< 0.5	< 0.2	< 1	0.7	95.1	136	0.4	1.2	0.3	< 1	1.8	10	0.2	0.2	0.12	0.25	3.13
355940	2150	26	16	74	70	5	1.6	0.3	13	17.1	65.4	86	81.8	6.1	10.3	91	18.8	500	25.7	44.6	0.28	0.60	
355941	2620	51	< 2	13	41	< 2	< 0.5	< 0.2	19	< 0.5	376	204	2.0	1.1	116	2	21.3	8	5.8	5.5	0.48	1.04	
355942	8630	116	< 2	< 4	2	< 2	< 0.5	< 0.2	2	< 0.5	894	108	1.3	< 0.2	34.8	< 1	79.0	17	0.5	2.7	0.01	0.03	
355943	5700	89	< 2	< 4	11	< 2	< 0.5	< 0.2	6	< 0.5	458	77	0.6	0.2	40.2	< 1	51.9	14	1.1	2.4	0.06	0.14	
355944	3310	57	< 2	< 4	11	< 2	< 0.5	< 0.2	5	< 0.5	354	58	0.5	0.5	62.7	< 1	30.4	9	1.5	3.4	0.26	0.55	
355945	4100	59	< 2	5	30	< 2	< 0.5	< 0.2	21	< 0.5	479	67	0.7	0.5	73.9	2	33.7	11	15.6	8.5	0.87	1.87	
355946	6530	95	< 2	< 4	8	3	< 0.5	< 0.2	2	< 0.5	576	86	< 0.4	0.3	71.0	< 1	62.0	15	0.4	1.4	< 0.01	0.02	
355947	4650	75	3	18	33	2	< 0.5	< 0.2	7	< 0.5	498	96	< 0.4	2.0	156	12	41.6	11	5.9	5.6	0.09	0.19	
355948	2910	46	< 2	13	29	< 2	< 0.5	< 0.2	17	< 0.5	294	42	< 0.4	1.4	78.2	1	24.6	7	2.9	2.0	0.17	0.38	
355949	143	98	14	40	2	2	< 0.5	< 0.2	1	0.6	87.5	92	0.7	1.3	0.4	1	1.9	< 5	0.3	0.9	0.06	0.14	3.04
355950	48	7	< 2	22	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	5.3	108	< 0.4	0.6	1.2	< 1	0.6	< 5	0.3	0.2	< 0.01	< 0.01	
355951	35	108	14	38	2	2	< 0.5	< 0.2	< 1	0.6	20.2	71	0.4	1.3	0.1	< 1	0.5	< 5	0.2	0.1	0.02	0.05	
355952	35	75	18	38	2	< 2	< 0.5	< 0.2	< 1	< 0.5	14.1	62	0.4	1.1	0.1	< 1	0.4	8	0.2	< 0.1	0.07	0.14	
355953	233	98	17	39	2	< 2	< 0.5	< 0.2	< 1	0.7	265	41	0.5	1.2	3.1	< 1	2.7	21	0.3	0.4	0.23	0.49	
355954	3950	67	< 2	5	31	< 2	< 0.5	< 0.2	20	< 0.5	669	49	< 0.4	0.6	62.4	2	33.8	10	1.7	1.5	0.56	1.20	
355955	2830	40	< 2	7	24	2	< 0.5	< 0.2	21	< 0.5	582	33	< 0.4	1.0	111	1	24.8	6	0.9	2.8	1.05	2.27	
355956	3470	48	< 2	7	20	< 2	< 0.5	< 0.2	19	< 0.5	667	40	< 0.4	0.9	59.8	1	31.7	7	2.0	2.6	0.98	2.12	
355957	5490	76	< 2	5	30	< 2	< 0.5	< 0.2	18	< 0.5	581	72	0.4	0.4	55.2	< 1	50.2	11	0.9	0.9	0.44	0.95	
355958	6010	86	< 2	5	13	< 2	< 0.5	< 0.2	6	< 0.5	532	81	0.5	0.4	53.8	1	58.6	13	2.0	0.8	0.02	0.05	
355959	5310	76	< 2	4	26	< 2	< 0.5	< 0.2	12	< 0.5	535	66	< 0.4	0.4	152	1	48.0	10	1.9	1.1	0.36	0.77	2.69
355960	2160	25	15	74	66	5	2.7	0.3	13	15.8	63.7	95	44.3	6.2	10.6	110	14.7	440	26.4	46.9	0.27	0.59	
355961	2940	36	< 2	6	45	3	< 0.5	< 0.2	47	< 0.5	415	21	0.4	0.7	113	4	20.0	< 5	1.8	2.1	0.80	1.73	

## Results

## Activation Laboratories Ltd.

## Report: A17-11016

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
355962	2400	34	< 2	6	36	3	< 0.5	< 0.2	34	< 0.5	281	52	1.3	0.5	46.7	3	16.4	8	2.0	4.1	0.76	1.64	
355963	3520	48	< 2	5	36	< 2	< 0.5	< 0.2	27	< 0.5	350	82	0.5	0.5	35.0	2	28.4	9	3.7	2.5	0.66	1.42	
355964	2380	41	< 2	5	42	2	< 0.5	< 0.2	30	< 0.5	222	40	3.1	0.4	72.2	2	18.1	5	2.1	1.9	0.27	0.59	
355965	2610	42	< 2	5	53	3	< 0.5	< 0.2	44	< 0.5	267	36	0.5	0.3	37.8	4	18.2	< 5	1.3	1.7	0.36	0.77	
355966	4050	52	< 2	8	63	2	< 0.5	< 0.2	51	< 0.5	457	38	1.0	0.8	56.8	5	30.4	7	3.9	7.2	0.31	0.67	
355967	6570	87	< 2	4	22	< 2	< 0.5	< 0.2	11	< 0.5	628	81	0.5	0.2	44.9	< 1	62.5	12	0.9	1.8	0.33	0.70	
355968	6260	86	< 2	< 4	37	< 2	< 0.5	< 0.2	30	< 0.5	498	80	< 0.4	0.3	37.7	2	54.6	12	0.6	1.1	0.09	0.19	
355969	5160	64	< 2	4	45	3	< 0.5	< 0.2	43	< 0.5	538	47	1.4	0.3	91.7	3	43.6	7	0.5	1.0	0.67	1.43	2.75
355970	25	7	2	28	1	< 2	< 0.5	< 0.2	< 1	< 0.5	2.3	112	< 0.4	0.7	0.6	< 1	0.9	9	0.3	0.2	< 0.01	< 0.01	
355971	2660	48	5	24	73	< 2	< 0.5	< 0.2	16	< 0.5	259	40	0.6	2.7	120	2	23.1	7	7.6	4.1	0.18	0.38	
355972	52	91	19	39	2	2	< 0.5	< 0.2	1	0.7	23.2	21	0.9	1.3	0.3	< 1	1.0	11	0.3	0.3	0.03	0.07	
355973	67	84	21	38	2	2	< 0.5	< 0.2	< 1	0.9	52.4	41	0.6	1.2	0.1	1	0.6	< 5	0.2	< 0.1	0.03	0.06	
355974	21	103	21	38	2	4	< 0.5	< 0.2	< 1	1.1	2.0	26	< 0.4	1.2	0.2	< 1	0.3	6	0.3	< 0.1	0.01	0.03	
355975	40	121	21	40	2	12	< 0.5	< 0.2	< 1	1.9	7.1	33	1.2	1.3	0.1	1	0.6	19	0.3	0.3	0.03	0.07	
355976	1920	34	< 2	9	39	< 2	< 0.5	< 0.2	32	< 0.5	332	12	2.5	1.0	127	3	12.4	< 5	3.8	2.9	0.45	0.96	
355977	1890	35	< 2	9	57	3	< 0.5	< 0.2	30	< 0.5	308	10	2.1	1.4	194	4	12.8	5	3.8	3.4	0.34	0.73	
355978	1450	26	< 2	7	35	2	< 0.5	< 0.2	15	< 0.5	249	12	1.2	0.3	76.1	1	13.3	< 5	4.0	5.1	0.84	1.80	
355979	1050	29	< 2	< 4	28	< 2	< 0.5	< 0.2	20	< 0.5	316	5	1.2	0.7	81.6	2	7.5	< 5	2.2	4.5	0.52	1.11	2.77
355980	2050	24	16	65	48	5	2.2	0.3	10	13.9	55.7	86	50.8	5.5	9.4	98	13.0	482	24.2	43.4	0.27	0.59	
355981	1710	35	< 2	< 4	17	< 2	< 0.5	< 0.2	19	< 0.5	351	13	1.5	0.3	60.4	2	13.1	5	1.9	2.2	0.46	0.99	
355982	2570	45	< 2	< 4	31	3	< 0.5	< 0.2	28	0.5	268	38	0.5	< 0.2	36.1	3	20.2	< 5	0.7	1.1	0.42	0.90	
355983	1220	26	2	< 4	15	3	< 0.5	< 0.2	22	< 0.5	264	7	0.9	< 0.2	39.3	2	8.8	< 5	1.2	1.1	0.95	2.04	
355984	2540	45	< 2	5	38	3	< 0.5	< 0.2	35	< 0.5	320	20	1.1	1.2	61.0	3	18.6	7	1.8	1.4	0.43	0.93	
355985	2310	48	< 2	< 4	33	< 2	< 0.5	< 0.2	40	< 0.5	225	12	0.5	< 0.2	30.4	4	15.1	< 5	0.5	1.9	0.19	0.41	
355986	1700	28	< 2	5	28	4	< 0.5	< 0.2	28	< 0.5	370	8	< 0.4	0.6	61.0	2	14.0	7	5.9	4.3	1.40	3.01	
355987	960	19	2	11	24	3	< 0.5	< 0.2	21	< 0.5	284	8	< 0.4	1.3	50.2	26	7.2	< 5	4.9	5.2	1.61	3.47	
355988	1120	29	3	11	56	< 2	< 0.5	< 0.2	7	< 0.5	125	37	0.6	1.3	121	1	9.9	6	4.9	8.7	0.08	0.18	
355989	18	70	20	37	3	< 2	< 0.5	< 0.2	3	1.0	6.2	33	2.2	1.0	0.5	< 1	0.7	8	0.3	0.3	0.03	0.06	3.21
355990	2	45	4	44	19	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	122	< 0.4	1.1	0.7	< 1	0.1	6	5.5	0.7	< 0.01	< 0.01	
355991	67	101	21	41	2	< 2	< 0.5	< 0.2	< 1	0.9	6.8	87	0.8	1.2	0.1	< 1	0.4	< 5	0.3	< 0.1	0.02	0.05	
355992	9	145	21	52	5	3	< 0.5	< 0.2	< 1	1.2	2.2	30	0.9	1.5	0.1	< 1	0.1	< 5	2.0	0.4	0.02	0.03	
355993	53	144	19	40	2	< 2	< 0.5	< 0.2	2	0.8	8.6	54	0.8	1.2	0.9	< 1	0.5	14	0.5	0.8	0.05	0.11	
355994	2980	45	< 2	7	35	2	< 0.5	< 0.2	28	< 0.5	310	20	1.4	0.4	98.7	3	24.8	40	1.2	7.6	0.26	0.55	
355995	3430	47	< 2	21	111	< 2	< 0.5	< 0.2	18	< 0.5	408	15	0.7	3.1	298	2	34.0	19	22.6	37.5	0.92	1.98	
355996	3650	49	< 2	18	94	< 2	< 0.5	< 0.2	17	< 0.5	584	12	1.0	3.1	265	4	36.8	20	15.5	30.6	1.24	2.68	
355997	709	16	< 2	34	178	< 2	< 0.5	< 0.2	14	< 0.5	252	3	< 0.4	4.7	270	3	5.7	25	45.3	50.9	1.78	3.83	
355998	634	15	< 2	35	147	2	< 0.5	< 0.2	14	< 0.5	179	3	0.5	5.5	274	3	4.6	24	28.7	46.4	1.53	3.29	
355999	921	17	< 2	28	65	2	< 0.5	< 0.2	24	< 0.5	236	4	0.6	4.3	183	2	7.0	22	11.1	16.5	1.60	3.44	2.92
356000	1980	25	13	69	57	6	3.0	0.3	12	15.3	62.2	89	42.4	5.9	10.2	101	13.6	441	25.4	45.9	0.27	0.58	
389501	1580	27	< 2	21	68	< 2	< 0.5	< 0.2	16	< 0.5	352	5	0.7	3.8	389	2	13.9	8	7.5	13.8	1.14	2.45	
389502	622	16	< 2	17	66	< 2	< 0.5	< 0.2	9	< 0.5	185	4	0.6	2.5	143	2	4.3	6	8.4	10.3	0.19	0.40	

## Results

## Activation Laboratories Ltd.

## Report: A17-11016

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
389503	896	21	< 2	12	70	< 2	< 0.5	< 0.2	13	< 0.5	190	9	1.1	1.8	235	2	6.3	13	4.3	8.9	0.18	0.38	
389504	57	73	18	45	2	< 2	< 0.5	< 0.2	2	1.1	14.6	69	1.0	1.4	0.6	1	1.0	38	0.5	0.7	0.14	0.29	
389505	16	83	21	41	2	< 2	< 0.5	< 0.2	< 1	0.9	1.9	60	1.0	1.4	0.2	< 1	0.3	< 5	0.3	0.1	0.09	0.19	
389506	17	74	19	48	2	< 2	< 0.5	< 0.2	< 1	0.8	1.6	70	0.9	1.4	0.3	< 1	0.4	6	0.5	0.4	0.07	0.16	
389507	18	73	18	48	2	< 2	< 0.5	< 0.2	< 1	1.0	1.8	65	1.5	1.4	0.2	2	0.4	< 5	0.6	0.3	0.08	0.16	
389508	311	84	18	43	2	< 2	< 0.5	< 0.2	< 1	1.1	170	87	1.1	1.3	0.1	< 1	3.6	< 5	0.5	0.2	0.07	0.15	
389509	46	82	17	42	2	< 2	< 0.5	< 0.2	3	0.9	22.3	31	6.0	1.4	0.2	32	0.8	< 5	0.4	0.3	0.06	0.12	3.17
389510	< 2	45	4	49	51	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	120	< 0.4	1.4	3.4	< 1	0.1	5	15.6	2.1	< 0.01	< 0.01	
389511	3790	104	13	40	11	< 2	< 0.5	< 0.2	36	0.8	3550	119	2.6	1.3	9.5	2	33.0	< 5	0.8	1.2	0.22	0.46	
389512	4370	72	< 2	7	38	< 2	< 0.5	< 0.2	14	< 0.5	728	30	1.2	1.0	93.8	1	39.8	8	2.5	2.0	0.33	0.70	
389513	2850	39	< 2	< 4	15	< 2	< 0.5	< 0.2	40	< 0.5	473	20	3.3	0.5	140	2	23.8	< 5	1.1	5.3	1.14	2.45	
389514	8110	104	< 2	< 4	4	< 2	< 0.5	< 0.2	10	< 0.5	770	22	4.3	< 0.2	27.1	< 1	81.3	13	0.4	0.8	0.36	0.77	
389515	5800	79	< 2	6	18	< 2	< 0.5	< 0.2	4	< 0.5	507	28	1.3	0.6	38.0	< 1	57.5	10	2.4	0.8	0.03	0.06	
389516	6920	91	2	5	35	< 2	< 0.5	< 0.2	5	< 0.5	675	38	2.7	0.6	64.2	1	69.4	11	3.8	0.9	0.11	0.24	
389517	2100	45	2	13	42	< 2	< 0.5	< 0.2	11	< 0.5	281	21	0.8	2.3	113	1	20.9	9	6.8	3.1	0.03	0.07	
389518	974	131	19	38	3	3	< 0.5	< 0.2	5	1.7	524	48	0.8	1.2	1.7	3	8.4	< 5	0.4	0.7	0.16	0.35	
389519	18	99	15	39	2	3	< 0.5	< 0.2	< 1	< 0.5	4.0	27	< 0.4	1.3	< 0.1	< 1	0.2	< 5	0.2	< 0.1	0.05	0.11	3.09
389520	2010	25	13	74	73	6	2.8	0.3	13	16.1	62.6	92	39.2	6.0	10.7	115	13.2	440	26.1	48.0	0.27	0.59	

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	0.013	0.34	42.92	0.85	0.55	0.119	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	0.148	10.00	11.51	1.88	0.22	0.490	0.06			31		152	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	72.01	12.70	3.16	0.141	0.14	0.60	2.51	5.42	0.274	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																80	29	40	30	150			28
LKSD-3 Cert																87.0	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	52.65	15.82	11.17	0.170	6.09	11.02	2.17	0.61	1.095	0.13			35	< 1	267	100	44	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	50.22	20.31	6.25	0.105	0.50	8.10	6.88	1.66	0.278	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	40			
CTA-AC-1 Cert																			54.0	38.0			
BIR-1a Meas	48.19	15.33	11.33	0.169	9.53	13.52	1.80	0.02	0.976	0.01			44	< 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																							
ZW-C Meas																				990			
ZW-C Cert																				1050.00			
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

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																	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
Meas																							
NCS DC86314 Cert																							
NCS DC86314 Meas																							
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NCS DC86314 Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							
Lithium Tetraborate FX-LT 100 lot#220610B 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
355917 Orig																							
355917 Dup																							
355935 Orig																							
355935 Dup																							
355937 Orig	48.51	13.83	12.98	0.278	6.95	13.37	1.75	0.36	0.766	0.05	1.45	100.3	42	2	262	320	48	170	170	90	13	2	< 5
355937 Dup	48.05	14.02	12.84	0.277	6.94	13.48	1.74	0.36	0.783	0.05	1.45	99.98	42	2	259	300	47	170	180	90	13	2	< 5
355949 Orig																							
355949 Dup																							
355954 Orig	71.17	15.32	0.74	0.067	0.15	0.68	2.66	4.86	0.019	0.27	0.72	96.66	< 1	364	8	30	1	< 20	< 10	50	39	5	< 5
355954 Dup	72.76	14.94	0.74	0.067	0.16	0.69	2.68	4.90	0.019	0.27	0.72	97.93	< 1	362	6	30	1	< 20	< 10	60	40	5	< 5
355957 Orig																							
355957 Dup																							
355959 Orig																							
355959 Dup																							
355971 Orig																							
355971 Dup																							
355979 Orig																							
355979 Dup																							
355985 Orig	72.45	15.39	0.90	0.085	0.21	0.51	4.78	2.09	0.029	0.08	1.32	97.84	2	173	6	30	2	< 20	10	130	45	4	< 5
355985 Dup	72.80	15.46	0.91	0.084	0.20	0.52	4.77	2.09	0.030	0.09	1.32	98.29	1	179	5	30	2	< 20	10	120	43	4	< 5
355993 Orig																							
355993 Dup																							
389501 Orig																							
389501 Dup																							
389502 Orig	74.94	14.87	0.66	0.140	0.06	0.26	6.69	0.51	0.005	0.14	0.46	98.75	< 1	342	< 5	30	< 1	< 20	< 10	40	30	6	< 5
389502 Dup	76.77	14.24	0.66	0.135	0.06	0.26	6.58	0.50	0.005	0.14	0.46	99.81	< 1	327	< 5	30	< 1	< 20	< 10	40	30	5	< 5
389515 Orig																							
389515 Dup																							
389519 Orig	48.50	14.54	12.97	0.201	7.86	12.05	1.94	0.24	0.744	0.06	0.91	100.0	40	< 1	262	260	53	130	180	90	13	2	< 5
389519 Split PREP DUP	48.15	14.90	12.58	0.194	7.64	11.77	1.90	0.24	0.754	0.05	0.91	99.08	40	< 1	257	260	53	120	180	90	12	1	< 5
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	0.02			< 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																							
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	3	147	15	34						< 0.5		107											
DNC-1 Cert	5	144.0	18.0	38						0.96		118											
GBW 07113 Meas		41	44	387								507											
GBW 07113 Cert		43.0	43.0	403								506											
LKSD-3 Meas	75					< 2	2.0		3	1.0	2.5			4.5	0.7				11.2	4.6			
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	21	195	19	87	8	< 2					0.9	173	< 0.4	2.4	0.5		2	< 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		1201	113	542								346											
SY-4 Cert		1191	119	517								340											
CTA-AC-1 Meas														1.0	2.7					22.2	4.3		
CTA-AC-1 Cert														1.13	2.65					21.8	4.4		
BIR-1a Meas		110	13	14	< 1					0.6		7		0.6						< 5			
BIR-1a Cert		110	16	18	0.6					0.58		6		0.60						3			
NCS DC86312 Meas																				23.6			
NCS DC86312 Cert																				23.6			
ZW-C Meas	9140				208						256				83.2	330	33.8						
ZW-C Cert	8500				198						260				82	320	34						
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	1.0	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	1.56	19.3	26.7	8.88			

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																						0.20	0.43	
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	0.46	
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	2.31	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.05	2.26	
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	2.31	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86304 Meas																						1.07	2.29	
NCS DC86304 Cert																						1.06	2.29	
NCS DC86314 Meas																						1.81	3.89	
NCS DC86314 Cert																						1.81	3.89	
NCS DC86314 Meas																						1.78	3.83	

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	3.87	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.80	3.88	
NCS DC86314 Cert																							1.81	3.89	
NCS DC86314 Meas																							1.90	4.08	
NCS DC86314 Cert																							1.81	3.89	
Lithium Tetraborate FX-LT 100 lot#220610B Meas																							7.88		
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																							8.10		
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		
355917 Orig																							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
355917 Dup																					0.10	0.21	
355935 Orig																					0.08	0.17	
355935 Dup																					0.08	0.17	
355937 Orig	41	83	16	39	2	4	< 0.5	< 0.2	< 1	0.7	11.5	36	0.6	1.2	0.2	1	0.6	5	0.2	< 0.1			
355937 Dup	39	81	16	39	2	5	< 0.5	< 0.2	< 1	0.6	11.5	36	0.6	1.1	0.2	< 1	0.5	6	0.2	< 0.1			
355949 Orig																					0.07	0.14	
355949 Dup																					0.06	0.13	
355954 Orig	3930	67	< 2	6	31	2	< 0.5	< 0.2	20	< 0.5	662	49	< 0.4	0.6	63.9	2	32.6	9	1.7	1.6			
355954 Dup	3960	66	< 2	5	30	< 2	< 0.5	< 0.2	19	< 0.5	677	49	< 0.4	0.7	60.9	2	35.1	10	1.6	1.5			
355957 Orig																					0.44	0.96	
355957 Dup																					0.44	0.94	
355959 Orig																							2.69
355959 Dup																							2.69
355971 Orig																					0.18	0.38	
355971 Dup																					0.18	0.38	
355979 Orig																					0.51	1.11	
355979 Dup																					0.52	1.11	
355985 Orig	2350	47	< 2	< 4	34	< 2	< 0.5	< 0.2	40	< 0.5	230	12	0.6	< 0.2	30.6	3	15.4	< 5	0.5	1.9			
355985 Dup	2280	48	< 2	< 4	31	2	< 0.5	< 0.2	39	< 0.5	221	12	0.4	< 0.2	30.1	4	14.8	< 5	0.5	1.9			
355993 Orig																					0.05	0.11	
355993 Dup																					0.05	0.11	
389501 Orig																					1.14	2.46	
389501 Dup																					1.13	2.43	
389502 Orig	626	16	< 2	17	60	< 2	< 0.5	< 0.2	9	< 0.5	188	4	0.5	2.4	142	2	4.4	5	8.5	10.3			
389502 Dup	617	16	< 2	17	72	< 2	< 0.5	< 0.2	9	< 0.5	183	4	0.6	2.6	145	2	4.1	6	8.2	10.2			
389515 Orig																					0.03	0.06	
389515 Dup																					0.03	0.06	
389519 Orig	18	99	15	39	2	3	< 0.5	< 0.2	< 1	< 0.5	4.0	27	< 0.4	1.3	< 0.1	< 1	0.2	< 5	0.2	< 0.1	0.05	0.11	
389519 Split PREP DUP	19	97	14	38	2	2	< 0.5	< 0.2	< 1	< 0.5	4.4	27	< 0.4	1.2	0.1	2	0.6	< 5	0.2	< 0.1	0.05	0.11	
Method Blank																							1.00
Method Blank																							1.00
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	

## **Appendix III: Drill Logs**



**GEOLOGICAL CORE LOG**

**SL-17-02**

CLAIM NUMBER: 1245661		DISTRICT of THUNDER BAY	
PROJECT: SEYMOUR LAKE		DATE LOGGED: 8/04/2017	
PROSPECT: NORTH AUBRY		LOGGED BY: Dan Courtney	
DRILL CONTRACTOR: Rugged Aviation Ltd		DATE DRILLED: 7-8/4/2017	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16		AZIMUTH: 90°	
EASTING: 396915	NORTHING: 5585185	ELEVATION: m	DIP: -60°



**ARDIDEN**

Depth From (m)	Depth To (m)	Nested From (m)	Nested To (m)	Oxidation state	Lithology	Lithology texture	Colour	Foliation TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Contact TCA	Pegmatite Zone	Comments	
0.00	0.60				OBO													Overburden, no recovery	
0.60	1.45				GPE	MA	GY							GN				7a	Pegmatite, vcgr massive, approx 50% vcgr gry quartz, 3% grn muscovite <3cm , trace almandine garnet <1cm reddish. 5-8% radiating blades of cleavandite can be intergrown into musc.
1.45	5.75				GPE	MA	WH						Spod	GN				6	Predominantly -approx 80% megacrysts of Kspar stained with fine red lines of fract introduced oxid'n. Much lesser vcgr dark grey quartz , <1% almandine garnet to1cm, quasi sugary texture in spots, massive. Minor grn musc and one 5cm xtal of lt grn spodumene noted with the qtz.
5.75	6.64				GPE	MA	W GN WH						Spod					8	Spodumene, pegmatite, Approx 75% lt green spodumene with dk grn musc inclusions + Vcgr gry Quartz.
6.64	8.55				GPE	MA	WH							Fl/Ap				6	Predominantly megacrysts of creamy white Kspar, with local fine red FC oxid'n. 2% Qtz, <1% reddish hexagonal apatite? Up to 1cm, massive. Qtz locally as vcgr wormy, graphic intergrowths. Local fgr sugary alb with grn apatite. NO Spodumene
8.55	12.43				GPE	MA	DK GY LT GN						Spod	Fl/Ap				8	Pegmatite massive, Mostly gry qtz with approx 5-7% lt grn spodumene commonly with grn musc inclusions. Much lesser megacrysts of creamy white Kspar. Traces dark blue Flour-Apatite, mm crystals. Lesser grn Musc.
12.43	22.95	12.43	17.43		GPE	MA	WH						Spod	Fl/Ap	Nb/Ta			8	Massive Pegmatite, Predominantly creamy white Kspar and gry qtz vcgr to pegmatitic size. Much lesser grn musc. Variable lt grn spodumene typically with musc inclusions. approx 1% Spodumene to 17.43m. Up to 1% Fl-Apatite-grey blue, and traces of fgr blk Nb/Ta oxides. Local intercalation with fgr sugary albite sections up 30cm wide. Apatite oxides have greater affinity to alb sections.
		17.43	22.95		GPE	MA	W GN						Spod	Fl-Ap	Nb/Ta			8	As above but with 15-20% Spodumene - variable.
22.95	24.92				GPE	MA	WH GY							Fl-Ap	Nb/Ta			7a	Sodic zone mostly sugary albite locally with ?remnant clasts of creamy + reddish Kspar, 3% muscovite, variable gry qtz -can be vcgr,
24.92	30.75				VBA	MA	Dk GN BK												Maffic volcanic, fine grain, massive, amphibole rich
		26.05	26.50																Fault
30.75	31.27				GPE	MA	WH							Fl-Ap				7a	Massive Pegmatite, Zone 7a (sodic) Mostly fgr sugary albite, much lesser qtz Qtz, flecked with blue-green Flour-Apatite, 1% grn Muscovite, massive. NO Spodumene
31.27	81.82				VBA	MA	Dk GN BK												Maffic volcanic, fine grain, massive, amphibole rich, very localized pink garnets up to 1mm, 2-3% irregular qtz/carb veining up to 2cm, local bleached areas.
		61.00	61.20																Fault
81.82	83.82				GPE	MA	WH							Fl-Ap	Nb/Ta			2	Massive Pegmatite, Zone 2 (outer sodic zone) Mostly fgr sugary albite, Minor fgr Qtz, Traces of blue-green Flour-Apatite and vgr blk Nb/ta oxides, 2-4% grn Muscovite. NO Spodumene. Core is mod-strongly fractured with chl slips or MnO coatings, often badly broken. Upper contact at 50deg and lower contact at 85deg TCA. No ori line due to broken core
83.82	103.00				VBA	MA	GY GN												Massive basalt; Amph rich, Fgr-mgr pristine and homogenous. Gen featureless except 1-2% irreg often discontinuous qtz/calc veining. Becomes mgr near 93m -coarse flow?





















# GEOLOGICAL CORE LOG

## SL-17-11

Page 1 of 2

CLAIM NUMBER: 1245661		DISTRICT of THUNDER BAY	
PROJECT: SEYMOUR LAKE		DATE LOGGED: 29-30/4/2017	
PROSPECT: NORTH AUBRY		LOGGED BY: Dan Courtney, Gary McLearn	DEPTH: 107m
DRILL CONTRACTOR: Rugged Aviation Ltd		DATE DRILLED: 27/4/2017	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16			AZIMUTH: 90°
EASTING: 396885	NORTHING: 5585165	ELEVATION: m	DIP: -60°



**ARDIDEN**

Depth From (m)	Depth To (m)	Nested From	Nested To	Oxidation state	Lithology	Lithology texture	Colour	Foliation TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Contact TCA	Pegmatite Zone	Comments
0.00	0.90																	Overburden, no recovery
0.90	11.80	0.90	1.70	FRS	VBA	MA PI BA	GY BK	20						GN				Fgr and mgr (locally cgr) mafic volcanic; Can be very blk and hble rich with up to 3-5% pink garnet, 1-5mm xtals; 3-5.35m. Then fgr, gry and locally pillowed with bands of amph/carb/qtz mostly at 20deg TCA. Includes a qtz vein undulating down core axis from 5.35 to 6.2m with very irregular wispy contacts. Gen weakly fractured and competent.
		1.70	1.90	FRS	GPE	MA	GY WH										2	Pegmatite dykelet. Mostly gry qtz with lesser white cleavlandite. Flecked throughout with fgmgr grn musc and blk nb/Ta? Oxides. Sharp contacts at 20deg TCA. NO spodumene
		1.90	11.80															As above in 0.90 to 11.80m
11.80	12.23			FRS	GPE	MA	WH GN							Nb/Ta	FI/Ap		2	Massive Pegmatite; Dominantly fgr sugary off-white, albite -locally as quasi cleavlandite. Much lesser gry qtz and some 5-8% Vcgr books of grn musc. Flecked with vfgr blk Nb/Ta oxides which are locally oxidizing. Also minor but very blue, vfgr FI-apatite. Sharp contacts at 39deg TCA. Ori line suggests a vertical dyke.
12.23	17.27			FRS	VBA	MA FO	BK	12										Fgr/mgr mafic volcanic; very rich in blk amph (hble) -arguably an intrusive amphibolite with weak or faint foliation at 0-15deg TCA. 1% rel planar qtz/calc veining. Competent, weakly fractured and unaltered.
17.27	18.05			FRS	GPE	MA	WH GN							Nb/Ta	FI/Ap		2	Massive Pegmatite; Dominantly fgr sugary off-white, albite -locally intimate with fgr gry qtz. Approx 5-8% Vcgr books of grn musc up to 5cm and concentrated on contacts. Flecked with vfgr blk Nb/Ta oxides which are locally oxidizing and very dk blue, fgr-mgr FI-apatite. Sharp contacts at 38 and 43deg TCA. Ori line suggests a vertical dyke.
18.05	34.40			FRS	VBA	MA FO	BK	12										Fgr/mgr mafic volcanic; rich in mgr blk amph (hble) with interstitial fgr wh fsp -arguably an intrusive amphibolite with weak or faint foliation at 15deg TCA. 1% rel planar qtz/calc veining which very locally resembles pillow selvages. Competent, weakly fractured and unaltered.
34.40	37.90			FRS	VTU	BD	GY BK	25										Bedded (compositionally banded) mafic to intermediate tuff. Intercalated tuffaceous unit. Amph rich beds can be mgr otherwise material is vfgr. 2-3% qtz/fsp/carb as veins or semi-conformable bands. Unaltered,
34.40	43.50			FRS	VBA	MA FO	BK	12						GN				Fgr/mgr mafic volcanic; rich in mgr blk amph (hble) with interstitial fgr wh fsp -arguably an intrusive amphibolite with weak or faint foliation at 15deg TCA. 1% rel planar qtz/calc veining which very locally resembles pillow selvages. Very localized minor pink garnet Competent, weakly fractured and unaltered.
43.50	46.00			FRS	VTU	BD	GY BK	25										Bedded (compositionally banded) mafic to intermediate tuff. Intercalated tuffaceous unit. Amph rich beds can be mgr otherwise material is vfgr. 2-3% qtz/fsp/carb as veins or semi-conformable bands. Unaltered,
46.00	70.12			FRS	VBA	MA FO	BK GY	15										Fgr/mgr mafic volcanic; rich in mgr blk amph (hble) with interstitial fgr wh fsp -mod to strong local foliation and banding at 0-20deg TCA. 1% rel planar qtz/calc veining which very locally resembles pillow selvages. Very localized minor pink garnet Competent, weakly fractured and unaltered. Becomes compositionally laminated at 67.5-70.12m possible intercalated mafic tuff.
70.12	76.00			FRS	GPE	MA	WH GY BE						Spod	Nb/Ta	FI/Ap		8	Massive pegmatite; Dominant mineral is Kspar which is white or beige -common perthitic texture. Very heterogeneous in composition. Gry interstitial qtz and grn musc with books up to 2-3cm. <b>Ave of approx 5-6% lt grn spodumene</b> - locally white. <b>Spodumene is mostly between 71 and 75m.</b> Traces of fgr blue FI-Apatite and local vfgr specks of blk Nb/Ta oxides. irregular upper contact.



**GEOLOGICAL CORE LOG**

**SL-17-12**

CLAIM NUMBER: 1245661		DISTRICT of THUNDER BAY	
PROJECT: SEYMOUR LAKE		DATE LOGGED: 26/4/2017	
PROSPECT: NORTH AUBRY		LOGGED BY: Dan Courtney, Gary McLearn	DEPTH: 110m
DRILL CONTRACTOR: Rugged Aviation Ltd		DATE DRILLED: 24/4/2017	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16			AZIMUTH: 90°
EASTING:	NORTHING:	ELEVATION: m	DIP: -60°



**ARDIDEN**

Depth From (m)	Depth To (m)	Nested From	Nested To	Oxidation state	Lithology	Lithology texture	Colour	Foliation TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Contact TCA	Pegmatite Zone	Comments
0.00	16.10			FRS	VBA	MA FO	GY BK							GN				Mafic volcanic; mgr amph (hble) rich basalt likely -arguably an amphibolite but local banding or possible pillow selvages. Generally foliated at dominantly 10-15deg TCA, but locally massive. 5% carb/qtz bands or irregular veining. Patchy pink garnet up to 3mm in size. Rel competent and weakly fractured. Very irregular, brecciated lower contact.
16.10	18.53			FRS	GPE	MA	WH BE							Nb/Ta			6	Massive Pegmatite; >90% creamy white -beige Vcgr or megacrysts of Kspar. Kspar is commonly perthitic and appears to locally be incipiently replaced with albite or cleavelandite. 5% gry qtz often as graphic intergrowths to Kspar. Minor silvery grn Musc and local traces of vfgr blk Nb/Ta oxides. Sharp lower contact @ 47deg TCA. NO Spodumene
18.53	63.30			FRS	VBA	PI FO MA	GY BK							GN				Mafic volcanic; mgr amph (hble) rich pillowed basalt -banded pillow selvages of amph/carb/qtz. Generally foliated at 5-15deg TCA, but locally massive. 5% carb/qtz bands or irregular veining and patchy bleaching. Patchy pink garnet up to 2mm in size. Rel competent and weakly fractured. Sharp lower contact at 44deg TCA
63.30	64.75			FRS	GPE	MA	WH							Nb/Ta			5	Massive Pegmatite; Dominantly massive gry qtz with one 20cm section rich in fgr sugary albite near lower contact. Approx 2-3% mgr-cgr very light grn Musc and rare trace of cubic blk, fgr Nb/Ta oxides. Lower contact sharp at 45deg TCA
64.75	80.20			FRS	VBA	MA PI	GY BK											Mafic volcanic, pillowed basalt; fgr phaneritic, mostly massive to very faintly foliated. Amph rich. Local pillow selvages of amph/qtz/carb. 1% irregular calc +/- qtz veining. Generally competent and weakly fractured. Sharp lower contact n chlorite + gouge filled narrow structure @ 20deg TCA
80.20	81.20			FRS	GPE	MA	WH							Nb/Ta			2	Massive Pegmatite; Dominantly fgr sugary albite with gry qtz. Approx 2-5% mgr-cgr very light grn or silvery Musc and rare trace vfgr blk, fgr Nb/Ta oxides. Core is strongly broken. NO Spodumene
81.20	86.40	81.20	84.23	WOX	GPE	MA	WH GY BE							Spod	Nb/Ta		7a	Massive Pematite; Kspar rich to 82.3m with near megacrysts of beige to pinkish Kspar xtal's which can be weakly oxidized about micro fracturing. After 82.3m material becomes sodic or albite rich with fgr sugary beige albite and gry qtz. 5-8% bcgr grn Musc and 3-5% Spodumene, however Spod is commonly altered and oxidized rusty brown and soft, ie leached of Lithium. Traces of vfgr blk Sharp lower contact @ 27deg TCA. Core is commonly badly broken and laced with blk MnO or chloritic filled fracturing.
		84.23	84.85	FRS	GDB	MA	BK											Diabase dykelet; Very massive, vfgr homogenous and featureless. Sharp contacts @ 40 and 25deg TCA
		84.85	86.40	WOX	GPE	MA	WH GY BE							Spod	Nb/Ta		7a	As above in 81.2 to 86.4m
86.40	96.23	86.40	96.23	FRS	VBA	MA FO	GY BK	20										Mafic volcanic, pillowed basalt; fgr phaneritic, Weakly foliated at 20deg TCA. Amph rich. Local pillow selvages of amph/qtz/carb. 1% irregular calc/qtz/fsp veining. Generally competent and moderately to strongly fractured -core can be badly broken with chl/calc filled fracturing at very shallow angles to core axis. Sharp lower chloritic contact at 32deg TCA.
96.23	98.10	96.23	98.10	FRS	GPE	MA	WH							Nb/Ta	FI/Ap		2	Massive Pegmatite; Dominantly fgr sugary beige albite commonly with gry qtz intergrowths. Approx 2-5% cgr very light grn or silvery musc. Local minor fgr bluish FI-apatite and rare trace vfgr blk, fgr Nb/Ta oxides. NO Spodumene.







**GEOLOGICAL CORE LOG**

**SL-17-16**

CLAIM NUMBER: 1245661		DISTRICT of THUNDER BAY	
PROJECT: SEYMOUR LAKE		DATE LOGGED: 22/5/2017	
PROSPECT: NORTH AUBRY		LOGGED BY: Dan Courtney	
DRILL CONTRACTOR: Rugged Aviation Ltd		DATE DRILLED: 20/5/2017	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16		AZIMUTH: 200°	
EASTING: 396990	NORTHING: 5585192	ELEVATION: m	DIP: -60°



**ARDIDEN**

Depth From (m)	Depth To (m)	Oxidation state	Lithology	Lithology texture	Colour	Foliation TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Contact TCA	Pegmatite Zone	Comments
0.00	3.15		OVBN													Overburden; 1.2m of ground cobbles recovered
3.15	24.95	FRS	VMA	MA PI	GY BK WH							EP				Mafic volcanic; Pillowed basalt: Gen fgr although amph can reach mgr. Massive but pillowed with irreg epid/carb/hble/qtz selvages. 3-4% very irreg ragged cal/qtz veining. Local bleaching and patchy epid alt'n. 19.0 to 21.0 is mgr very massive and homogenous. Sharp lower contact with dyke @ 24deg TCA
24.95	26.35	FRS	GPO	MA	GY WH											Granitic dyke: Vfgr felsic grndms spotted throughout with white fsp mm pheno's. Competent hard, very weakly fractured and pristine. Sharp lower contact at 16deg TCA
26.35	38.70	FRS	VMA	MA PI	GY BK WH							EP				Mafic volcanic; massive basalt: Gen fgr although amph can reach mgr. Massive, very local possible pillows with irreg epid/carb/hble/qtz selvages. 1-2% very irreg ragged cal/qtz veining. Local bleaching and patchy epid alt'n. Sharp lower contact with pegmatite @ 51deg TCA
38.70	39.47	FRS	GPE	MA	WH GY							Nb/Ta	Fl/Ap	2		massive pegmatite; Sodic phase. Dominantly vfgr sugary white albite -can be intimate with vfgr qtz. Local vcgr gry qtz mostly near contacts. 1% fgr blue Flour-apatite speckled mostly throughout and possible traces of vfgr blk Nb/Ta oxides. Lower contact in ground core. <b>NO Spodumene</b>
39.47	41.45	FRS	VMA	MA PI	GY BK WH											Mafic volcanic; massive basalt: Gen fgr although amph can reach mgr. Massive, one local possible pillow with irreg epid/carb/hble/qtz selvages. 1-2% very irreg ragged and coarse cal/qtz veining. Local bleaching. Sharp lower contact with pegmatite is wavy and irregular.
41.45	52.65	FRS	GPE	MA	WH GY						Spod	Nb/Ta	Fl/Ap	7a		massive pegmatite; Sodic phase mostly. Dominantly vfgr sugary white albite -very local megacrysts of creamy white Kspar near upper contact and central to intrusion. Vcgr gry qtz throughout and approx 5% mostly mgr grn Musc. Minor spodumene until 43.75, <b>43.75 to 52.65 averages 5 to locally 15% lt grn Spodumene with minor musc inclusions.</b> Traces of fgr blue Flour-apatite and traces of vfgr blk Nb/Ta oxides.
52.65	78.40	FRS	VMA	MA PI	GY BK WH	20						EP				Mafic volcanic; Pillowed basalt: Gen fgr although amph can reach mgr or cgr. Massive and locally foliated @ 20deg TCA. pillowed with irreg carb/hble/qtz +/- epid selvages. 3-4% very irreg ragged discontinuous calc/qtz veining. Local bleaching.
78.40	78.55	FRS	GPE	MA	WH GY							Nb/Ta		2		Pegmatite; Sodic phase. Dominantly white, radiating blades of cleavandite -can be intimate with vfgr gry qtz. traces of vfgr blk Nb/Ta oxides. Upper contact in ground core, lower contact in sand/gravel fault -dyke was likely cut off by faulting. <b>NO Spodumene</b>
78.55	78.84		FLT													Fault, late brittle; sand, gravel and some clay. Gravel contains broken fine pegmatite fragments. Pegmatite dyke / sill was likely faulted off.
78.84	88.12	FRS	VMA	MA PI	GY BK WH	35						EP				Mafic volcanic; Pillowed basalt: Gen fgr although amph can reach mgr or cgr. Massive and locally foliated @ 35deg TCA. pillowed with irreg carb/hble/qtz +/- epid selvages. 3-4% very irreg ragged discontinuous calc/qtz veining. Local bleaching. 80.75 to 81.3 is a massive qtz/calc vein. Lower contact sharp and irregular but at approx 55deg TCA.









**GEOLOGICAL CORE LOG**

**SL-17-22**

CLAIM NUMBER: 1245661		DISTRICT of THUNDER BAY	
PROJECT: SEYMOUR LAKE		DATE LOGGED: 18/5/2017	
PROSPECT: NORTH AUBRY		LOGGED BY: Dan Courtney	
DRILL CONTRACTOR: Rugged Aviation Ltd		DATE DRILLED: 16/5/2017	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16			
EASTING:		NORTHING:	
		ELEVATION: m	
		AZIMUTH: °	
		DIP: -60°	



**ARDIDEN**

Depth From (m)	Depth To (m)	Nested From	Nested To	Oxidation state	Lithology	Lithology texture	Colour	Foliation TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Contact TCA	Pegmatite Zone	Comments
0.00	1.10				OVBN													Overburden, no recovery
1.10	35.90	1.10	13.40	FRS	VMA	FO PI MA	GY WH BK	30										Fgr mafic volcanic; pillowed basalt with local carb/amph/qtz selvages. Generally foliated dominantly at 30deg TCA, but locally massive. Riddled with 8-12% very irreg carb/qtz veining -blotchy and ragged or as crude discontinuous bands. Becomes mgr and more homogenous with less veining near 17.3m. Sharp lower contact with chlorite at 35deg TCA
		13.40	14.80	FRS	GDB	MA	BK											Massive diabase dyke; Vfgr homogenous and featureless except being strongly fractured often with chl infill. Sharp chilled contacts at 18 and 25deg TCA -no ori line with broken core.
		14.80	18.90															As above in 1.1 to 35.9m
		18.90	18.97		FLT			25										Late brittle fault, chl/carb at 25deg TCA
		18.97	35.90															As above in 1.1 to 35.9m
35.90	46.90			FRS	GPE	MA	WH GY GN						Spod	Fl/Ap			8	Massive pegmatite: Vcgr to megacrysts of white-pinkish Kspar with interstitial gry qtz and 3-7% cgr books of lt silvery grn Musc up to 3cm wide. <b>Ave of 15% Spodumene from 35.9 to 43.3m</b> including large xtals running down core axis from 42.2 to 43.3m. Spodumene is locally white or greenish with common musc inclusions. Minor Spod only after 43.3m Trace fgr blue Flour-apatite
46.90	51.54			FRS	GPE	MA	WH GY GN						Spod	Fl/Ap	Nb/Ta		7b	Massive Pegmatite: Dominantly fgr sugary albite with inclusions of graphic or diffuse gry qtz. 2-4% cgr ggrn musc. Material is flecked throughout with vfgr blk Nb/Ta oxides which is commonly incipiently oxidized and also flecked with fgr-mgr blue/grn Flour-apatite. <b>NO Spodumene</b>
51.54	53.96			FRS	GPE	MA	WH GY GN						Spod	Fl/Ap			8	Massive pegmatite: Vcgr to megacrysts of white-pinkish Kspar with interstitial (locally graphic) gry qtz and % cgr books of lt silvery grn Musc up to 3cm wide. <b>Less than 1% Spodumene</b> . Rare trace fgr blue Flour-apatite and very minor vfgr blk Nb/Ta oxides. Sharp lower contact in broken core at 47deg TCA
53.96	59.00			FRS	VTU	FO BD	GY WH BK	40						GN				Mafic to intermediate tuff; Both poorly and well developed bedding. Metamorphosed to amphibolite facies. 4-6% carb(calc)/qtz veining is mostly conformable to fabric but also irregular. 1-3mm pink subhedral garnet mostly throughout. Weak to mod fracturing, unaltered.
59.00	92.21	59.00	68.85	FRS	VMA	MA	GY	30										Mafic volcanic; Fgr & mgr generally massive basalt with local foliation at 30deg TCA. Laced with 3-6% irregular discontinuous and planar carb/qtz veining. Weak to mod fracturing, competent and rel pristine. Local Fract introduced bleaching.
		68.70	69.00		FLT			15										Late brittle fault with 4cm of gouge + chl/carb at 15deg TCA which chloritized host for 30cm above fault
		68.85	92.21															As above in 59.0 to 92.2m Sharp lower contact @ 49deg TCA
92.21	93.00			FRS	GPE	MA	WH GY GN							Fl/Ap	Nb/Ta		2	Massive Pegmatite: Dominantly fgr sugary albite intimate with vfgr diffuse gry qtz. 2-4% cgr ggrn musc. Material is flecked throughout with vfgr blk Nb/Ta oxides (locally up to 2mm cube), also flecked with fgr-mgr blue/grn Flour-apatite. <b>NO Spodumene</b> . Sharp undulating lower contact at 54deg TCA.
106.75	107.21			FRS	GPE	MA	WH GY										2	Massive Pegmatite: White Kspar with crackle Bx texture with vfgr qtz/alb matrix. Vcgr gry qtz concentrated near contacts with very minor fgr grn musc. Lower contact sharp @ 47deg TCA
107.21	107.72			FRS	VMA	MA	GY	30										Mafic volcanic; Fgr & mgr generally massive homogenous and featureless, rel leucocratic. Competent and rel pristine. Sharp lower contact @ 69deg TCA
107.72	108.26			FRS	GPE	MA	WH GY GN						Spod				10	Massive Pegmatite: <b>Approx 45% white Spodumene</b> with gry interstitial qtz, and very minor grn musc.



**GEOLOGICAL CORE LOG**

**SL-17-23**

CLAIM NUMBER: 1245661		DISTRICT of THUNDER BAY	
PROJECT: SEYMOUR LAKE		DATE LOGGED: 16/5/2017	
PROSPECT: NORTH AUBRY		LOGGED BY: Dan Courtney	
DRILL CONTRACTOR: Rugged Aviation Ltd		DEPTH: 114m	
DATE DRILLED: 14/5/2017			
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16			
AZIMUTH: 145°		EASTING: 396920	
NORTHING: 5585246		ELEVATION: m	
DIP: -60°			



Depth From (m)	Depth To (m)	Nested From	Nested To	Oxidation state	Lithology	Lithology texture	Colour	Foliation TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Contact TCA	Pegmatite Zone	Comments
0.00	3.50				OVBN													1.2m of drill ground rubble, In part host mafic volcanic 2.5 to 3.5?
3.50	7.13			FRS	MVA	FO	GY BK	20										Fgr-mgr mafic volcanic. Amph (hble) rich. Generally well foliated at 20deg TCA. Competent and unaltered. 1-2% planar -conformable and also irreg Carb/qtz veining. Lower contact with dykelet is in broken rubble.
7.13	7.34			FRS	GPE	MA	WH							Nb/Ta			2	Massive Pegmatite dykelet; mostly cgr radiating cleavelandite or fgr albite (sodic phase) with lesser gry qtz. Traces of vfgr blk Nb/Ta oxides. Upper contact in broken rubble. Lower contact sharp and x-cutting host fabric at 68deg TCA. NO Spodumene
7.34	16.40			FRS	MVA	FO	GY BK	20										Fgr-mgr mafic volcanic. Amph (hble) rich. Generally well foliated at 10 to 30deg TCA. Competent and unaltered. 2-3% planar -conformable and also irreg coarse Carb/qtz veining. Weakly fractured.
16.40	17.24			FRS	GPE	MA	WH GY GN							Nb/Ta	Fl/Ap		2	Massive Pegmatite; mostly fgr albite (sodic phase) with lesser gry qtz and local poorly developed cleavelandite. 3% grn musc up to 2cm books. Flecked locally with bluish of vfgr Flour-Apatite. Rare traces of vfgr blk Nb/Ta oxides. Upper contact is sharp at 42deg, lower contact sharp and x-cutting host fabric at 58deg TCA. NO Spodumene
17.24	34.30			FRS	MVA	MA FO	GY BK	20										Fgr-mgr mafic volcanic. Amph (hble) rich. Generally massive, locally foliated at 10 to 30deg TCA. Competent and unaltered. 2-3% planar -conformable and also very irreg coarse Carb/qtz veining up to 15cm wide. Weakly fractured.
34.30	39.20			FRS	VTU	BD FO	GY BK	30								GN		Mafic to intermediate bedded tuff. Very fgr aphanitic relatively felsic beds and sections alternate with hble rich darker beds and sections. Mafic or amph rich sections often contain 1-2mm pink garnets. 1-2% narrow planar qtz/fsp veining. Weak to moderate fracturing commonly with chl coatings.
39.20	47.10			FRS	MVA	MA FO	GY BK	30										Fgr mafic volcanic. Moderate Amph (hble). Generally well foliated at 10 to 30deg TCA. Competent and unaltered. 2-3% planar -conformable and also irreg coarse Carb/qtz veining. Weakly fractured. Sharp slightly wavy lower contact at 18deg TCA
47.10	51.44			FRS	GPE	MA	WH GY GN						Spod	Fl/Ap	Nb/Ta		8	Massive Pegmatite: Dominantly creamy white/beige and yellowish vcgr Kspar (local megacrysts) with interstitial gry qtz and 5-8% books of grn musc up to 3 or 4cm wide. Rock is massive but with local crackle breccia. Spodumene appears at 49.5m and is approx 5-7% It grn spodumene from here to 51.44. Last 15cm of unit is albitic and flecked with blue-grn Flour apatite. Very local subhedral blk Nb/Ta oxides. Sharp irregular contacts at 18 and 75deg TCA
51.44	53.30			FRS	MVA	MA FO	GY BK	60										Fgr mafic volcanic. Amph (hble) rich . Massive to weakly foliated at 60deg TCA. Competent and unaltered. <1% planar -conformable Carb/qtz veining. Weakly fractured competent and unaltered. Sharp wavy lower contact at approx 15deg TCA
53.30	56.95	53.30	54.46	FRS	GPE	MA	WH GN						Spod	Fl/Ap	Nb/Ta		7a	Massive Pegmatite: Sodic zone with mostly fgr sugary white albite with much lesser interstitial gry qtz and 5-10% books of light grn musc up to 3cm wide. Patchy vcgr It grn Spodumene 0 to 10% Spodumene is found between 53.3 to 53.8 and 55.2 to 56.95. Locally flecked with blue-grn Flour apatite. Very local trace subhedral blk Nb/Ta oxides. Sharp irregular contacts at 18 and 75deg TCA Sharp but very irregular upper contact. Lower contact is curvilinear and at 35deg TCA
		54.46	55.17	FRS	MVA	MA FO	GY BK	25										Fgr mafic volcanic. Amph (hble) rich . Wavy weak foliation at approx 25deg TCA. Competent and unaltered. <1% planar -conformable Carb/qtz veining. Weakly fractured competent and unaltered. Sharp wavy lower contact at approx 15deg TCA
		54.46	56.96														7a	As above in 53.3 to 56.96



**GEOLOGICAL CORE LOG**

**SL-17-24**

CLAIM NUMBER: 1245661		DISTRICT of THUNDER BAY	
PROJECT: SEYMOUR LAKE		DATE LOGGED: 30/4/2017	
PROSPECT: NORTH AUBRY		LOGGED BY: Dan Courtney, Gary McLearn	
DRILL CONTRACTOR: Rugged Aviation Ltd		DATE DRILLED: 29/4/2017	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16		AZIMUTH: 145°	
EASTING: 396901	NORTHING: 5585273	ELEVATION: m	DIP: -60°



**ARDIDEN**

Depth From (m)	Depth To (m)	Nested From	Nested To	Oxidation state	Lithology	Lithology texture	Colour	Foliation TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Contact TCA	Pegmatite Zone	Comments
0.00	3.40				OVBN													Overburden, no recovery
3.40	106.30	3.40	83.75	FRS	VTU	BA BD	GY BK	15										Mafic to intermediate tuff; Recrystallized to amphibolite facies. Bedded and compositionally layered at 0-25deg TCA. Vfgr aphanitic light gry beds and laminae alternate with blk hble rich beds. Patchy mm pink garnet shows affinity to mafic hble rich beds and sections. Possibly locally intercalated with basalt-flow from 27 to 34m and elsewhere as narrow sections. Gen weakly fractured, competent and unaltered. Near 64m banding -bedding swings to 30-45deg TCA.
		83.75	83.95	FRS	FLT		BK WH	35										Chloritic shear zone -fault. Healed with qtz catb. At 35/045deg TCA
		83.95	105.52			BD	GY BK	35										As above in 3.4 to 106.3m
		105.52	105.68	FRS	GPE	MA	WH GY							Nb/Ta				2 Massive Pegmatite dykelet; Mostly fgr sugary albite (Sodic phase) which can be intimate or mottled with gry qtz. 1-3% fgr-mgr grn musc. Flecked with vfgr blk Nb/Ta oxides which are often incipiently oxidizing. Sharp contacts at 38 and 32deg TCA. Ori line suggests a vertical dyke.
		105.68	106.30															As above in 3.4 to 106.3m
106.30	106.95			FRS	GPE	MA	WH GY							Nb/Ta				2 Massive Pegmatite dykelet; Mostly fgr sugary albite (Sodic phase) which can be intimate or mottled with gry qtz. 5-8% fgr-mgr grn musc concentrated near contacts. Flecked with vfgr blk Nb/Ta oxides and local fgr bl-grn Fl/Apatite. Irregular -undulatory and brecciated contacts.
106.95	108.00			FRS	VBA	BA BD	GY	45										Mafic volcanic; Fgr weakly foliated Basalt; Weak fabric @ 45deg TCA. Mod hble -amph. Unaltered. Lower contact with Pegmatite in badly broken core.
108.00	110.25			FRS	GPE	MA	WH GY GN						Spod	Fl/Ap				7a Massive Pegmatite; Sodic phase -fgr sugary white albite with greater amounts of Gry qtz which can be mottled or of a graphic texture. <b>Approx average of 5% Spodumene, locally higher vcgr and light grn.</b> Somewhat sporadic or patchy distribution. 5-8% It grn Musc. Local fgr blue Fl-apatite. Upper contact in rubble, lower contact sharp at 35deg TCA -no ori line here.
		109.06	109.44	FRS	VBA	BA BD	GY BK											Mafic volcanic -Xenolith; Fgr waky foliated Basalt; Mod hble -amph. Unaltered. Unit undulates along core axis.
		109.44	110.25															7a As above in 108 to 110.25m
110.25	117.38			FRS	VBA	BA BD	GY BK											Mafic volcanic; Basalt, quite massive, homogenous and rel featureless. Very dark, rich in fgr-mgr blk amphibole (hble). 1% irregular fine qtz/fsp/carb veinlets -often discontinuous.
		110.68	110.79	FRS	GPE	MA	WH GY							Fl/Ap				2 Massive Pegmatite dykelet; Mostly fgr sugary albite (Sodic phase) which can be intimate or mottled with gry qtz. 5% fgr-mgr grn musc concentrated near contacts. Flecked with vfgr bluish Fl-apatite. Sharp contacts at 38deg TCA
		110.79	112.25															As above in 110.25 to 117.38
		112.25	113.17	FRS	GPE	MA	WH GY											5 Massive qtz >98%; gry bull qtz with very minor FC musc. Contacts are very irregular and qtz van undulate down core axis.
		113.17	117.38															As above in 110.25 to 117.38













































# GEOLOGICAL CORE LOG

## SL-17-54

Page 1 of 1

CLAIM NUMBER: 1245661		DISTRICT of THUNDER BAY	
PROJECT: SEYMOUR LAKE	DATE LOGGED: 6/8/2017		
PROSPECT: NORTH AUBRY	LOGGED BY: Dan Courtney		DEPTH: 126m
DRILL CONTRACTOR: Rugged Aviation Ltd	DATE DRILLED: 4/8/2017		
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16			AZIMUTH: 200°
EASTING: 397075	NORTHING: 5585247	ELEVATION: m	DIP: -60°



**ARDIDEN**

Depth From (m)	Depth To (m)	Oxidation state	Lithology	Lithology texture	Colour	Foliation TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Contact TCA	Pegmatite Zone	Comments
0.00	0.96		OVBN													Overburden, some ground cobbles recovered
0.96	41.70	FRS	VMA	MA PI	GY BK GN WH							EP				Mafic volcanic; Fgr massive pillowed basalt. Random hble/calc/epid +/- qtz selvages throughout. Also patchy F.C. or spotty carb/epid quasi alt'n. Competent and gen wkly fract'd commonly with carb +/- MnO coatings. 1-3% calc/epid veining. Lower contact seemingly gradational.
41.70	75.00	FRS	GAB	MA	DK GY											Massive mafic; Fgr phaneritic to mgr. Very massive, homogenous and rel featureless except 1-2% planar qtz/carb veining. Competent, pristine and wkly fractured. Lower contact in broken core but appears to be @ 90deg TCA
75.00	76.76	FRS	GPE	MA	WH GY GN						Spod	Nb/Ta	Fl/Ap		7a	Massive pegmatite; sodic phase dominantly fgr sugary alb which locally appears to be replacing Kspar. Alb is graphic with or intimate with gry qtz. 8% coarse books of grn Musc. Locally flecked with blue Fl-apatite and traces of vfgr blk Nb/Ta oxides. Very localized lt grn <b>Spodumene</b> <1 or 2%. Sharp contacts at 90 and 53deg TCA.
76.76	77.15	FRS	GAB	MA	DK GY											Massive mafic intrusive; mgr, featureless and pristine. Lower contact sharp @ 70deg TCA
77.15	78.32		GPE	MA	WH GY GN						Spod	Nb/Ta	Fl/Ap		7a	Massive pegmatite; sodic phase, fgr sugary alb as fsp component. Alb is graphic with or intimate with gry qtz. 5% mgr-cgr books of grn Musc. Very locally flecked with blue Fl-apatite and traces of vfgr blk Nb/Ta oxides. <b>Ave of approx 18% lt grn Spodumene</b> . Sharp lower contact at 41deg TCA.
78.32	80.00		GAB	MA	DK GY											Massive (to very wkly foliated) mafic intrusive; mgr, featureless and pristine. Undulating contact sharp @ approx 15deg TCA
80.00	87.60		GPE	MA	WH GY GN						Spod	Nb/Ta	Fl/Ap		8	Massive Pegmatite; Potassic phase except 40cm at upper contact. Dominantly creamy wh Kspar up to 25cm, also sections mosaic of very coarse qtz and grn Musc. Lt grn to locally white <b>Spodumene</b> from 0.5 to 15%. See Sample Sheet for sasample estimates. Local, rare blue Fl-apatite and vfgr blk Nb/Ta oxides. Lower contact sharp @ 40deg TCA
87.60	94.45		VMA	MA PI	BK WH GN								EP			Mafic volcanic; Fgr -mgr, massive and pristine. Very local pillow selvages with epid, <1% fine calc veining. Lower contact sharp at 62 deg TCA.
94.45	95.45		GPE	MA	WH GY GN						Spod	Nb/Ta	Fl/Ap		7a	Massive pegmatite; sodic phase, fgr sugary alb intimate with gry qtz. 5% mgr books of grn Musc. Flecked with blue Fl-apatite and vfgr blk Nb/Ta oxides. <b>Ave of 2-3% lt grn mgr Spodumene</b> . Sharp lower contact at 41deg TCA.
95.45	114.25		VMA	MA PI	BK WH GN								EP			Mafic volcanic; Fgr massive pillowed basalt. Mod-str patchy epid +/- calc alt'n, 3% calc qtz veining. Lower contact is ragged and irregular.
114.25	118.00		GPE	MA	WH GY GN						Spod	Nb/Ta	Fl/Ap		8	Massive pegmatite; Dominantly Potassic -Kspar with local 20cm sections of fgr sugary alb intimate with gry qtz. 5% mgr books of grn Musc. Locally flecked with blue Fl-apatite and minor vfgr blk Nb/Ta oxides. <b>Ave of &lt;2% Spodumene</b> - very sporadic and locally oxid'd and alt'd, mgr and lt grn. Sharp lower contact at 63deg TCA.
118.00	126.00		VMA	MA	GY GN								EP			Mafic volcanic; Fgr massive pillowed basalt. Mod-str patchy epid +/- calc alt'n, 3% calc qtz veining. Lower contact is ragged and irregular.



















# GEOLOGICAL CORE LOG

## SL-17-63

Page 1 of 1

CLAIM NUMBER: 1245661		DISTRICT of THUNDER BAY	
PROJECT: SEYMOUR LAKE		DATE LOGGED: 17/8/2017	
PROSPECT: NORTH AUBRY		LOGGED BY: Dan Courtney, Andrew Graba	
DRILL CONTRACTOR: Rugged Aviation Ltd		DATE DRILLED: 15/8/2017	
GPS COLLAR COORDINATES: UTM NAD 83 Zone 16		AZIMUTH: 200°	
EASTING: 397053	NORTHING: 5585254	ELEVATION: m	DIP: -60°



Depth From (m)	Depth To (m)	Oxidation state	Lithology	Lithology texture	Colour	Foliation TCA	Alteration 1	Alteration 2	Alteration 3	Alteration style	Mineral 1	Mineral 2	Mineral 3	Contact TCA	Pegmatite Zone	Comments
0.00	1.00		OVBN													Overburden, some ground cobbles recovered
1.00	17.60	FRS	VMA	MA PI	GY BK WH						CH	EP	CA			Mafic Volcanic; fgr pillowed basalt flow. Gen massive, 2-5% calc/qtz veining with patchy -blotchy calc/epid alt'n-flooding + FC bleach'g. Mod to str fracturing commonly with chl infill which can be slickensided. Common late brittle chl'c fract'g. Sharp lower contact @ 32deg TCA
17.60	24.05	FRS	GPE	MA	GY OR WH								Nb/Ta		2	Massive Pegmatite; Apparently different texturally and compositionally to the spodumene pegmatites of N Aubry (less fractionated and evolved). Cloudy texture of fgr sugary alb +/- sil. Local cgr Kspar being replaced by fgr alb. Core shows wk fract introduced oxid'n becoming nearly pervasive. Minor fgr musc. Vfgr blk oxides (Nb/Ta??) Lower contact undulates down core axis. This is likely a late sub-vertical dyke. No Spodumene
24.05	36.50	FRS	VMA	MA PI	GY BK WH						CH	EP	CA			Mafic Volcanic; fgr pillowed basalt flow. Gen massive, 2-5% calc/qtz veining with patchy -blotchy calc/epid alt'n-flooding + FC bleach'g. Mod to str fracturing commonly with chl infill which can be slickensided. Common late brittle chl'c fract'g.
36.50	44.14	FRS	GPE	MA	GY OR WH								Nb/Ta		2	Massive Pegmatite; Apparently different texturally and compositionally to the spodumene pegmatites of N Aubry (less fractionated and evolved). Cloudy texture of fgr sugary alb +/- sil. Local cgr Kspar being replaced by fgr alb. Diffuse xtal boundaries -blebby qtz. Core shows wk fract introduced oxid'n becoming nearly pervasive. Minor fgr musc. Vfgr blk oxides (Nb/Ta??) Upper contact undulates down core axis. lower contact sharp @ 29deg TCA. This is likely a late sub-vertical dyke. No Spodumene
44.14	69.80	FRS	VMA	MA PI	GY BK WH						CH	EP	CA			Mafic Volcanic; fgr pillowed basalt flow. Gen massive, 2-5% calc/qtz veining with patchy -blotchy calc/epid alt'n-flooding + FC bleach'g. Mod to str fracturing commonly with chl infill which can be slickensided. Common late brittle chl'c fract'g.
69.80	72.20	FRS	GPE	MA	GY OR WH								Nb/Ta		2	Massive Pegmatite; Late sub-vertical dyke. Cloudy texture of fgr sugary alb +/- sil. Local cgr Kspar being replaced by fgr alb. Diffuse xtal boundaries -blebby qtz. Core shows wk fract introduced oxid'n becoming nearly pervasive. Minor fgr musc. Vfgr blk oxides (Nb/Ta??) Upper contact @ 5deg TCA. Chl'c,calc'c lower contact @ 10deg TCA. No Spodumene
72.20	95.84	FRS	VMA	MA PI	GY BK WH						CH	EP	CA			Mafic Volcanic; fgr pillowed basalt flow. Gen massive, 2-5% calc/qtz veining with patchy -blotchy calc +/- epid alt'n-flooding + FC bleach'g. Mod to str fracturing commonly with chl infill which can be slickensided. Common late brittle chl'c fract'g.
94.84	110.13	FRS	GPE	MA	GY GN WH						SPOD	Nb/Ta			8	Massive pegmatite; Potassic phase. Sections or megacrysts of creamy wh perthitic Kspar alternates with very coarse mosaic like gry qtz/grn Musc and lt grn Spodumene. <b>Ave of approx 9% Spodumene from 98.0 to 110.13m.</b> Distribution is unequal and reaches ~18%. Spod commonly has musc inclusions. Local narrow fgr alb sodic zones with fgr blk Nb/Ta oxides. Lower contact @ 75deg TCA.
110.13	120.00	FRS	VMA	MA PI	GY BK WH						CH	EP	CA			Mafic Volcanic; fgr pillowed basalt flow. Gen massive, 1-3% calc/qtz veining mostly with pillow selvages. Weak fracturing commonly with chl infill. Gen competent and rel pristine.



































HoleID	Survey Tool	Depth (m)	Dip	Azimuth
SL-17-01	Assign_Collar		-59.4	95.9
SL-17-01	REFLEX	6	-59.4	95.9
SL-17-01	REFLEX	111	-57.4	93.8
SL-17-02	Assign_Collar	0	-59.3	89.9
SL-17-02	REFLEX	4	-59.3	89.9
SL-17-02	REFLEX	110	-57.6	90.2
SL-17-03	Assign_Collar	0	-60.2	91.3
SL-17-03	REFLEX	6	-60.2	91.3
SL-17-03	REFLEX	111	-59.3	92.9
SL-17-04	Assign_Collar	0	-59.1	93.9
SL-17-04	REFLEX	6	-59.1	93.9
SL-17-04	REFLEX	111	-59.9	93.9
SL-17-05	Assign_Collar	0	-61.2	97.7
SL-17-05	REFLEX	14	-61.2	97.7
SL-17-05	REFLEX	131	-58.6	99.6
SL-17-06	Assign_Collar	0	-59.4	102.8
SL-17-06	REFLEX	4	-59.4	102.8
SL-17-06	REFLEX	111	-58.2	102.6
SL-17-07	Assign_Collar	0	-60	90
SL-17-07	Assign_EOH	19	-60	90
SL-17-08	Assign_Collar	0	-59.8	99.7
SL-17-08	REFLEX	6	-59.8	99.7
SL-17-08	REFLEX	111	-58.6	101.8
SL-17-10	Assign_Collar	0	-59.1	87.3
SL-17-10	REFLEX	6	-59.1	87.3
SL-17-10	REFLEX	108	-57.5	88.4
SL-17-11	Assign_Collar	0	-60.2	92.7
SL-17-11	REFLEX	6	-60.2	92.7
SL-17-11	REFLEX	107	-58.5	94
SL-17-12	Assign_Collar	0	-60.7	97.4
SL-17-12	REFLEX	4	-60.7	97.4
SL-17-12	Reflex	110	-58.8	97.8
SL-17-13	Assign_Collar	0	-61	92
SL-17-13	REFLEX	9	-61	92
SL-17-13	REFLEX	121	-59.6	91.1
SL-17-14	Assign_Collar	0	-58.5	206.8
SL-17-14	REFLEX	6	-58.5	206.8
SL-17-14	REFLEX	118	-56.8	208.9
SL-17-16	Assign_Collar	0	-59.3	208.7
SL-17-16	REFLEX	6	-59.3	208.7
SL-17-16	REFLEX	120	-57.2	210.5
SL-17-19	Assign_Collar	0	-59.1	213.3
SL-17-19	REFLEX	6	-59.1	213.3
SL-17-19	REFLEX	132	-57.2	216.4
SL-17-21	Assign_Collar	0	-59.3	202.6
SL-17-21	REFLEX	6	-59.3	202.6
SL-17-21	REFLEX	144	-57.4	204
SL-17-22	Assign_Collar	0	-57.7	156.9
SL-17-22	REFLEX	9	-57.7	156.9
SL-17-22	REFLEX	123	-55.8	147.5

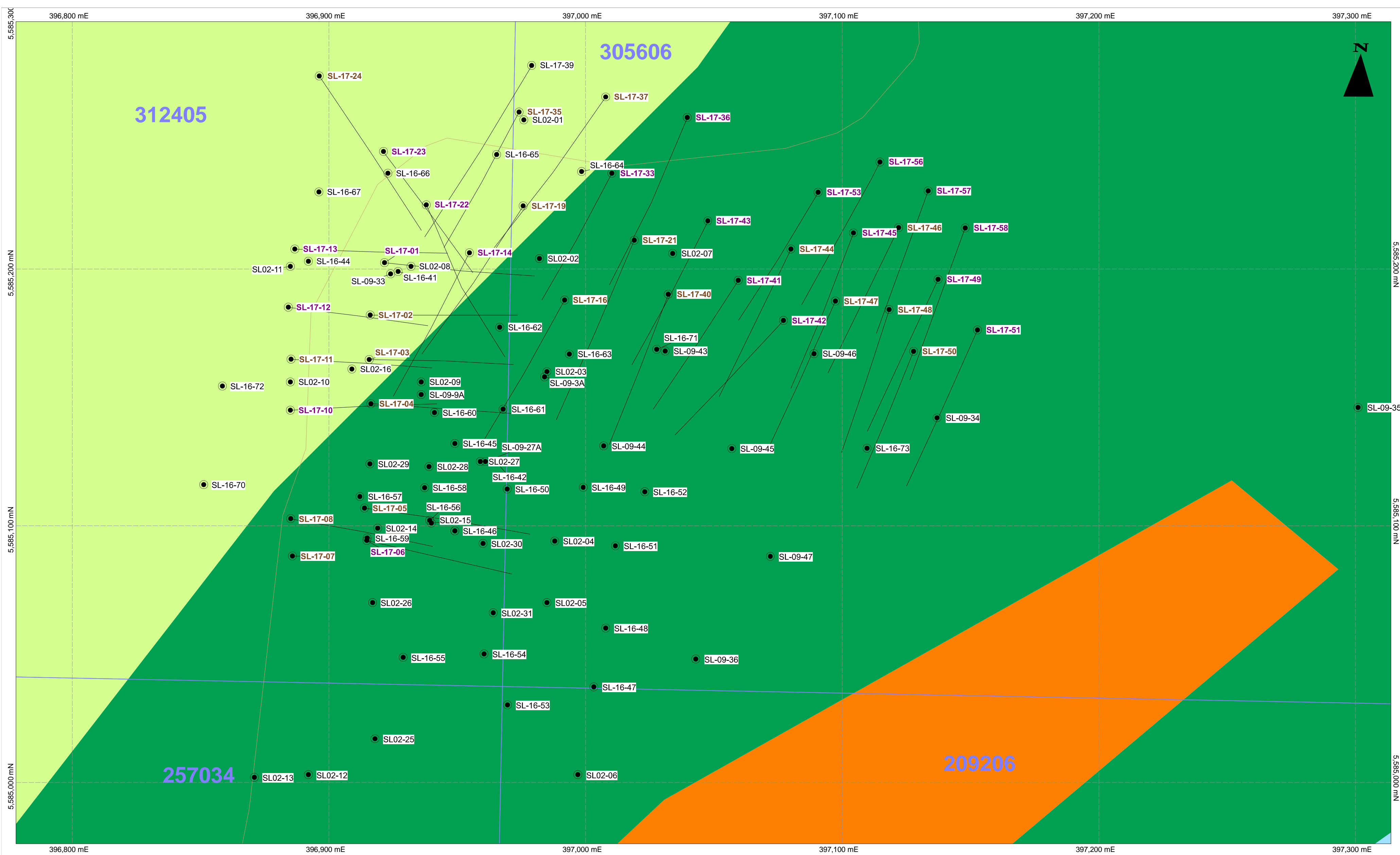
HoleID	Survey Tool	Depth (m)	Dip	Azimuth
SL-17-23	Assign_Collar	0	-59.6	142.7
SL-17-23	REFLEX	9	-59.6	142.7
SL-17-23	REFLEX	114	-58.5	144.2
SL-17-24	Assign_Collar	0	-59.9	145.8
SL-17-24	REFLEX	6	-59.9	145.8
SL-17-24	REFLEX	140	-58.2	146.6
SL-17-33	Assign_Collar	0	-59.9	207.5
SL-17-33	REFLEX	6	-59.9	207.5
SL-17-33	REFLEX	111	-58.8	209.8
SL-17-35	Assign_Collar	0	-57.9	208.3
SL-17-35	REFLEX	6	-57.9	208.3
SL-17-35	REFLEX	111	-55.9	209.5
SL-17-36	Assign_Collar	0	-61	203.3
SL-17-36	REFLEX	4	-61	203.3
SL-17-36	REFLEX	144	-58.9	207
SL-17-37	Assign_Collar	0	-60.2	214.8
SL-17-37	REFLEX	4	-60.2	214.8
SL-17-37	REFLEX	140	-57.2	218.3
SL-17-39	Assign_Collar	0	-60.5	211.3
SL-17-39	REFLEX	3	-60.5	211.3
SL-17-39	REFLEX	153	-58.4	212.9
SL-17-40	Assign_Collar	0	-60.8	201
SL-17-40	REFLEX	4	-60.8	201
SL-17-40	REFLEX	126	-59.3	201.8
SL-17-41	Assign_Collar	0	-62.2	212.8
SL-17-41	REFLEX	6	-62.2	212.8
SL-17-41	REFLEX	126	-61	214.1
SL-17-42	Assign_Collar	0	-61.1	223.1
SL-17-42	REFLEX	9	-61.1	223.1
SL-17-42	REFLEX	123	-59.3	224.3
SL-17-43	Assign_Collar	4	-60.4	207.1
SL-17-43	REFLEX	4	-60.4	207.1
SL-17-43	REFLEX	125	-58.7	208.5
SL-17-44	Assign_Collar	0	-60.3	205.8
SL-17-44	REFLEX	9	-60.3	205.8
SL-17-44	REFLEX	126	-59	206.3
SL-17-45	Assign_Collar	0	-59.4	200.7
SL-17-45	REFLEX	6	-59.4	200.7
SL-17-45	REFLEX	125	-57.8	202.5
SL-17-46	Assign_Collar	0	-58.4	205.6
SL-17-46	REFLEX	4	-58.4	205.6
SL-17-46	REFLEX	114	-56.7	206
SL-17-46	Assign_EOH	117	-56.7	206
SL-17-47	Assign_Collar	0	-60.6	204
SL-17-47	REFLEX	12	-60.6	204
SL-17-47	REFLEX	126	-59.4	205
SL-17-48	Assign_Collar	0	-59.8	198.3
SL-17-48	REFLEX	6	-59.8	198.3
SL-17-48	REFLEX	114	-58.2	198.8
SL-17-49	Assign_Collar	0	-58.4	204.6

HoleID	Survey Tool	Depth (m)	Dip	Azimuth
SL-17-49	REFLEX	6	-58.4	204.6
SL-17-49	REFLEX	120	-56.5	205
SL-17-50	Assign_Collar	0	-60.8	202.2
SL-17-50	REFLEX	4	-60.8	202.2
SL-17-50	REFLEX	114	-58.5	202.8
SL-17-51	Assign_Collar	0	-58.1	204.1
SL-17-51	REFLEX	4	-58.1	204.1
SL-17-51	REFLEX	123	-56.2	204.6
SL-17-53	Assign_Collar	0	-59.1	211.3
SL-17-53	REFLEX	4	-59.1	211.3
SL-17-53	REFLEX	114	-58.6	212.9
SL-17-56	Assign_Collar	0	-60.8	206.5
SL-17-56	REFLEX	4	-60.8	206.5
SL-17-56	Assign_EOH	124	-59.4	208.5
SL-17-57	Assign_Collar	0	-61.5	200
SL-17-57	REFLEX	6	-61.5	200
SL-17-57	REFLEX	120	-60.4	200
SL-17-58	Assign_Collar	0	-60	200
SL-17-58	Assign_EOH	126	-60	200

Hole ID	Depth (m)	Azimuth	Dip
SL-17-59	0	200	-60
SL-17-59	132	200	-60
SL-17-60	0	200	-60
SL-17-60	129	200	-60
SL-17-61	0	200	-60
SL-17-61	138	200	-60
SL-17-62	0	200	-60
SL-17-62	129	200	-60
SL-17-63	0	200	-60
SL-17-63	120	200	-60
SL-17-64	0	200	-60
SL-17-64	6	201	-61
SL-17-64	132	203	-59
SL-17-65	0	200	-60
SL-17-65	150	200	-60
SL-17-66	0	200	-60
SL-17-66	141	200	-60
SL-17-67	0	200	-60
SL-17-67	153	200	-60
SL-17-68	0	200	-60
SL-17-68	141	200	-60
SL-17-69	0	200	-60
SL-17-69	156	200	-60
SL-17-70	0	200	-60
SL-17-70	156	200	-60
SL-17-71	0	200	-60
SL-17-71	165	200	-60
SL-17-72	0	200	-60
SL-17-72	120	200	-60
SL-17-73	0	200	-60
SL-17-73	100	200	-60
SL-17-74	0	200	-60
SL-17-74	102	200	-60
SL-17-75	0	200	-60
SL-17-75	108	200	-60
SL-17-76	0	200	-60
SL-17-76	81	200	-60
SL-17-77	0	200	-60
SL-17-77	75	200	-60

## **Appendix IV: Drill Vertical Sections**





### Legend

**Lithology Legend**

- Mafic Volcanic
- Gabbro
- Intermediate Volcanic

**Mineral Claims**

- 345678 Claim Number

**Drillhole**

- Drillhole
- Drillhole Trace

**Title: Seymour Lake Project  
Drillhole Location Map**


Date: April 04/2019

Author: C Jeffs

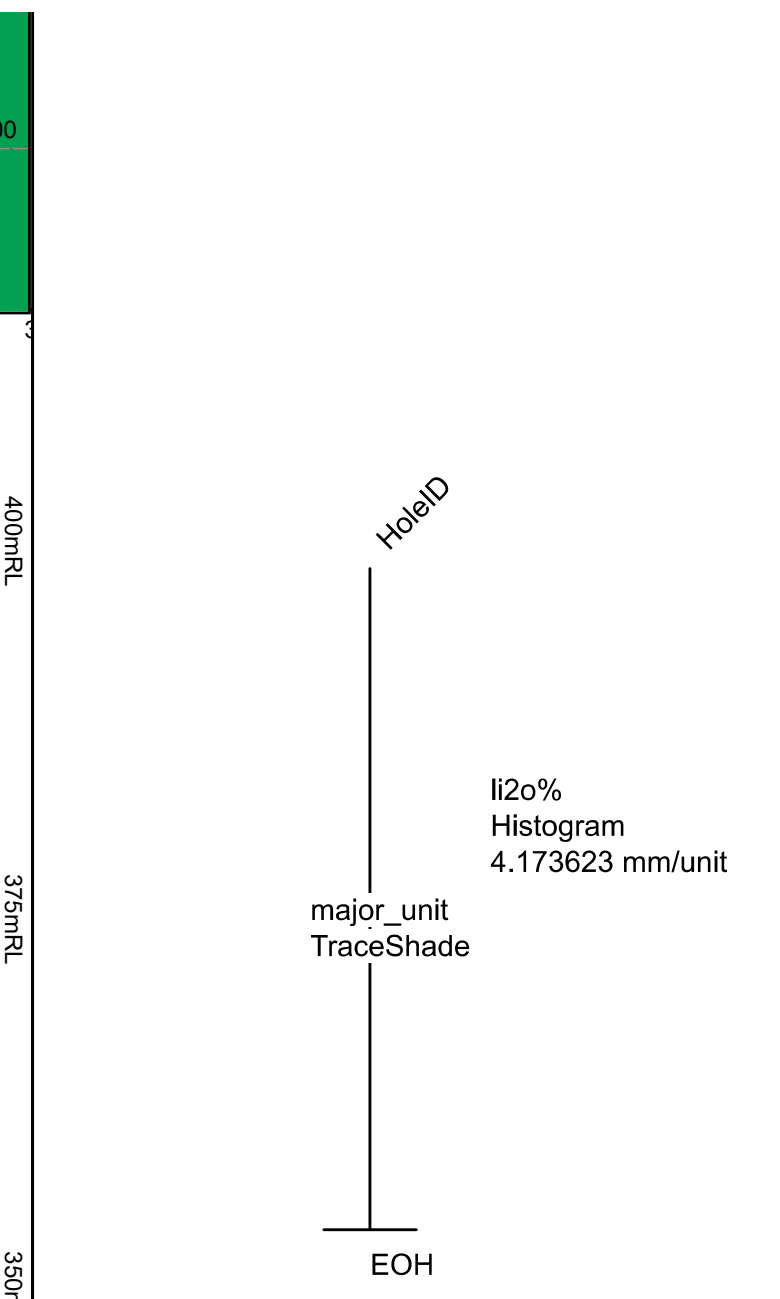
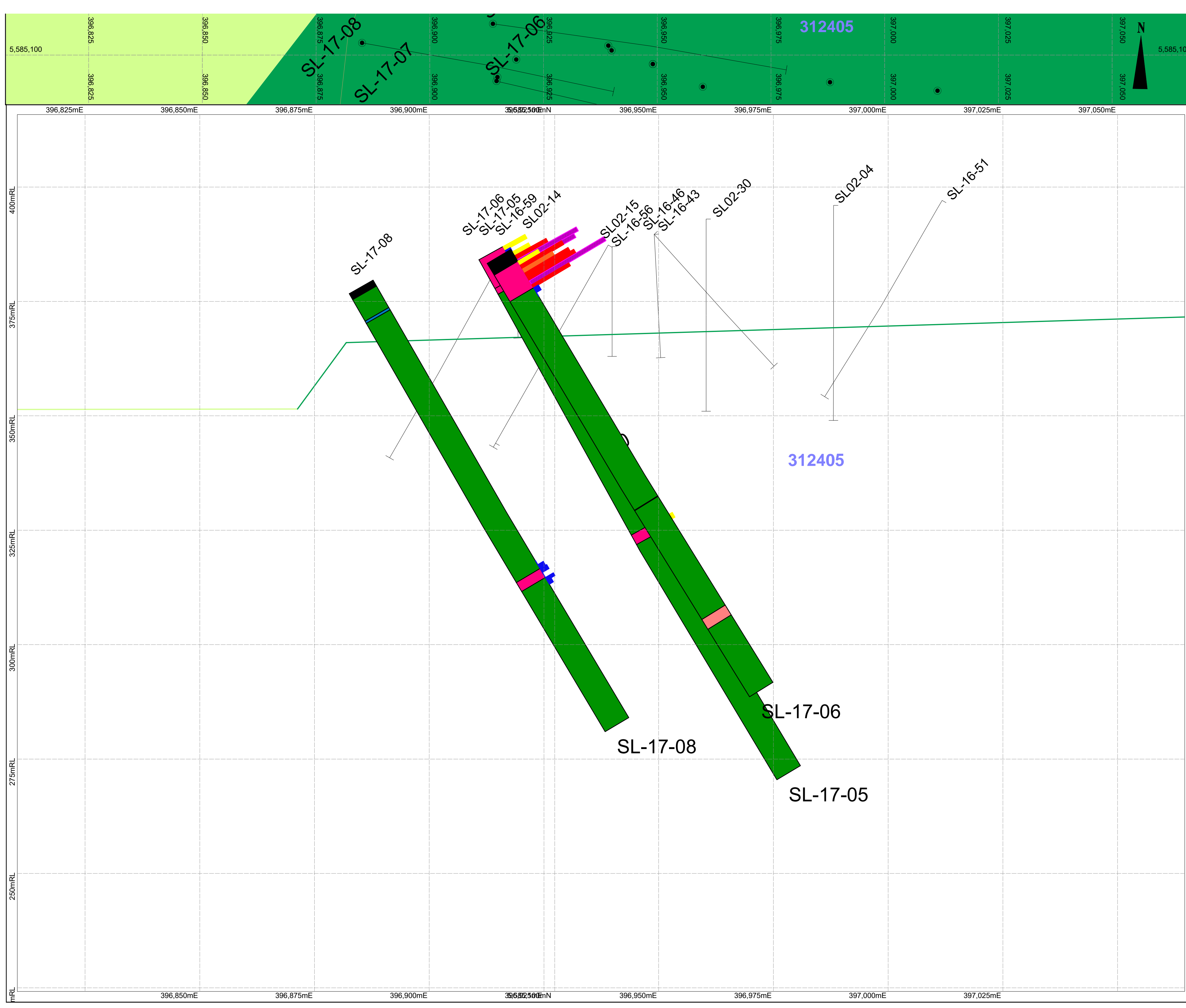
Office:

Scale: 1:1,000

Projection: North American Datum 1983 Zone 16




Geology after Pye, EG 1968 P3613



mm given at scale of 1:1000

**Geology Legend  
Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend  
Li2O%**

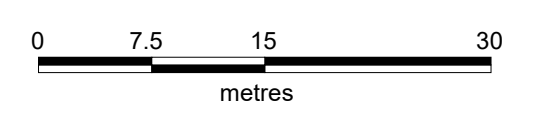
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

**4356798** Mineral Claim outline and number

Geology after Pye, EG 1968 P3616

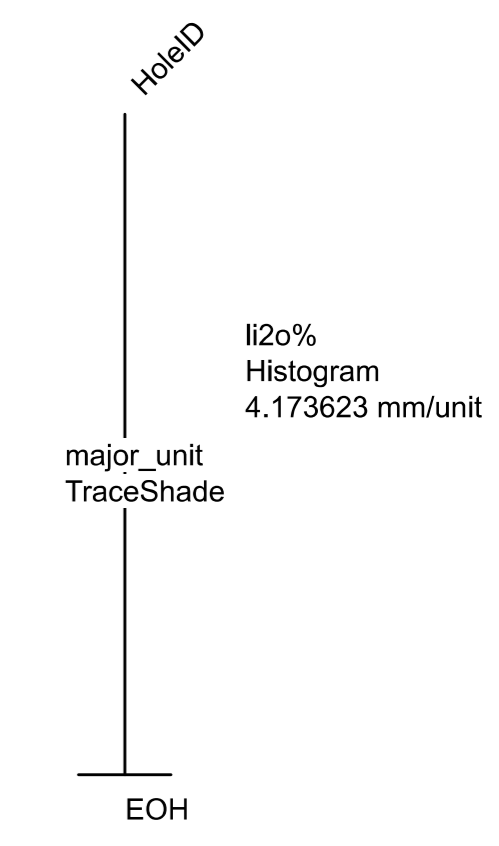
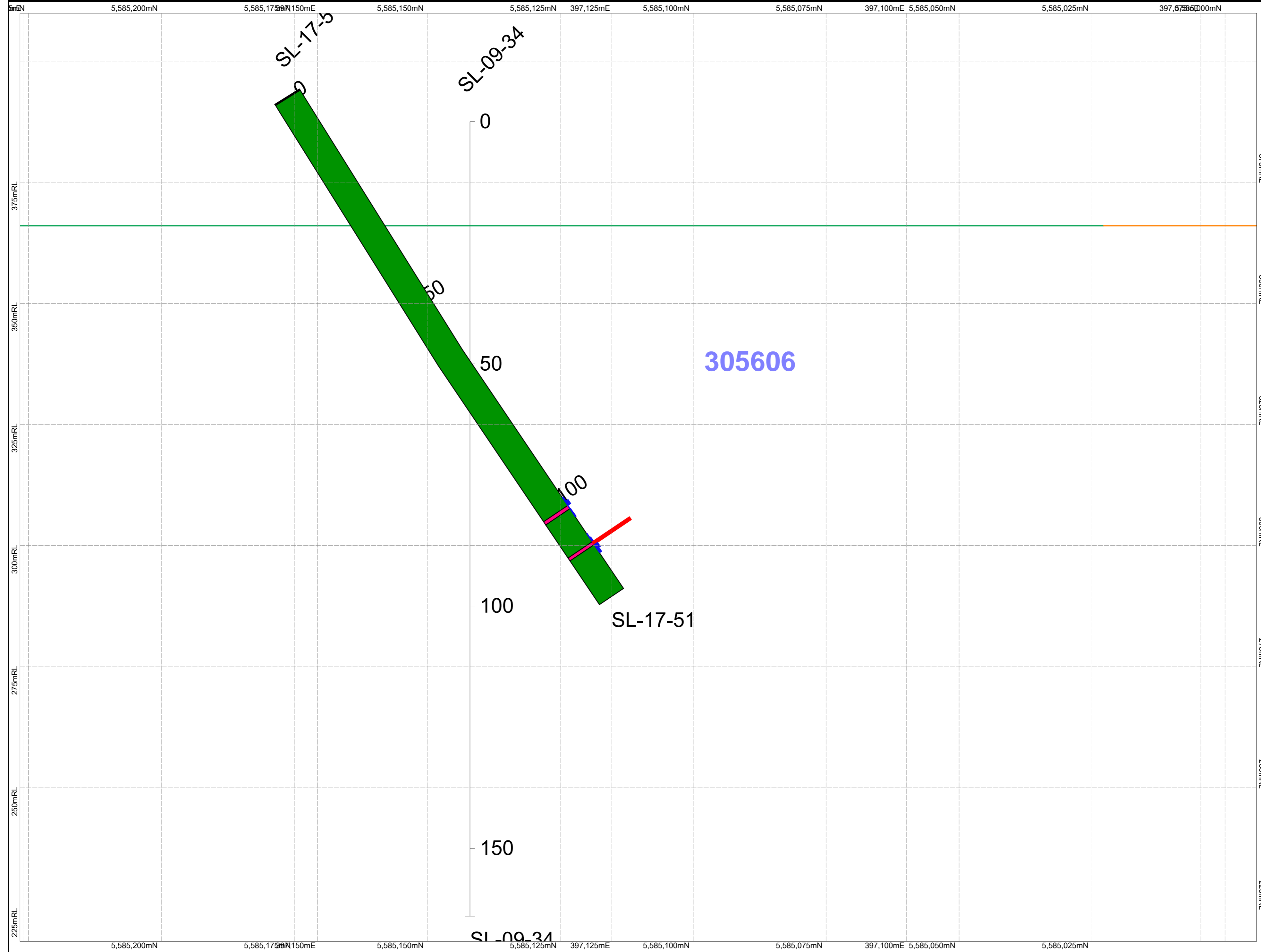
**Ardiden Limited**

Date: 4/2/2019	Seymour Lake Project Vertical Section SL-17-05, 06, 08 Looking North
Author: Caitlin Jeffs	
Office:	
Drawing:	
Scale: 1:500	
Projection: Non-Earth (meters)	



SL-17-51

305606



mm given at scale of 1:1000

**Geology Legend**  
**Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend**  
**Li2O%**

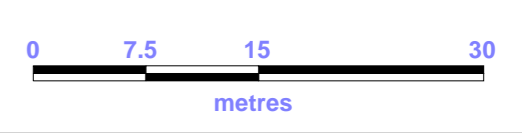
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

4356798 Mineral Claim outline and number

Geology after Pye, EG 1968 P3616

# Ardiden Limited

Seymour Lake Project SL-17-51 Vertical Section Facing North	
Date: 4/2/2019	
Author: Caitlin Jeffs	
Office:	
Drawing:	
Scale: 1:500	NAD83 Zone 16

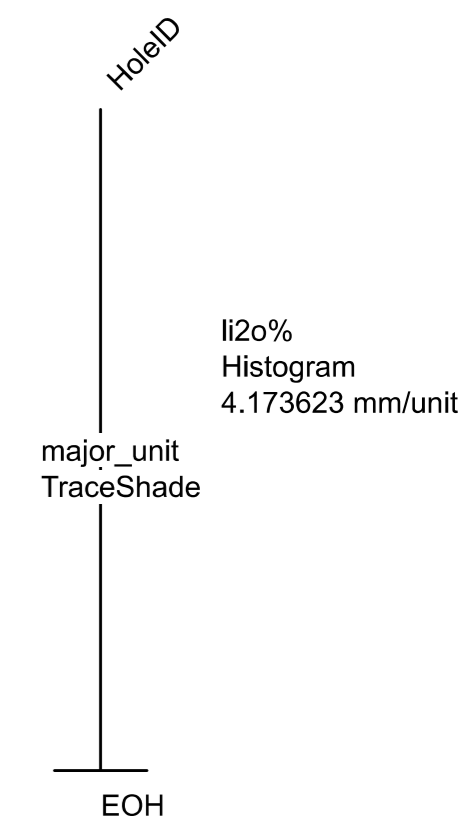
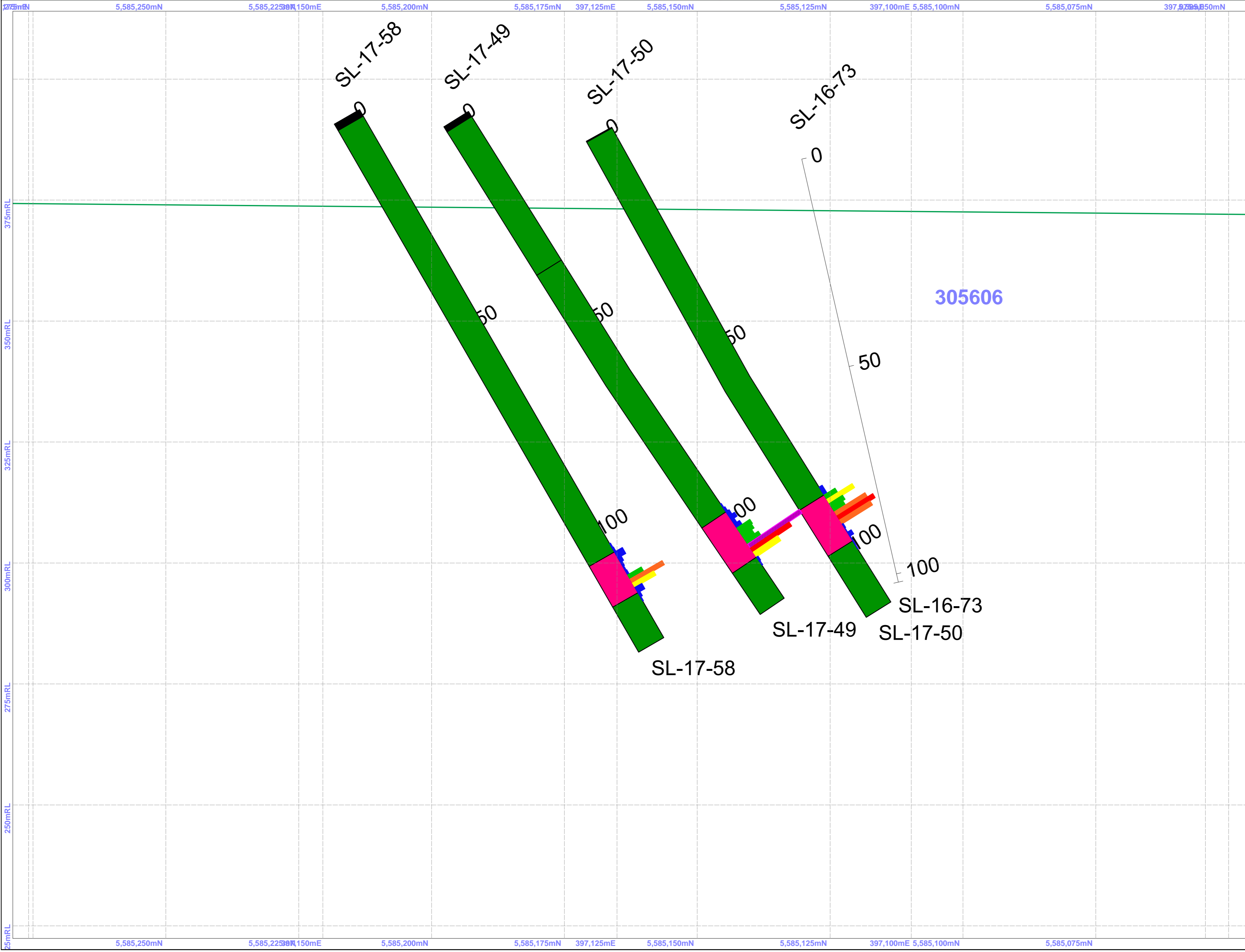


SL-17-58

SL-17-49

SL-17-50

305606



mm given at scale of 1:1000

**Geology Legend  
Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend  
Li2O%**

- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

4356798 Mineral Claim outline and number

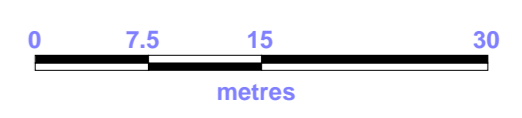
Geology after Pye, EG 1968 P3616

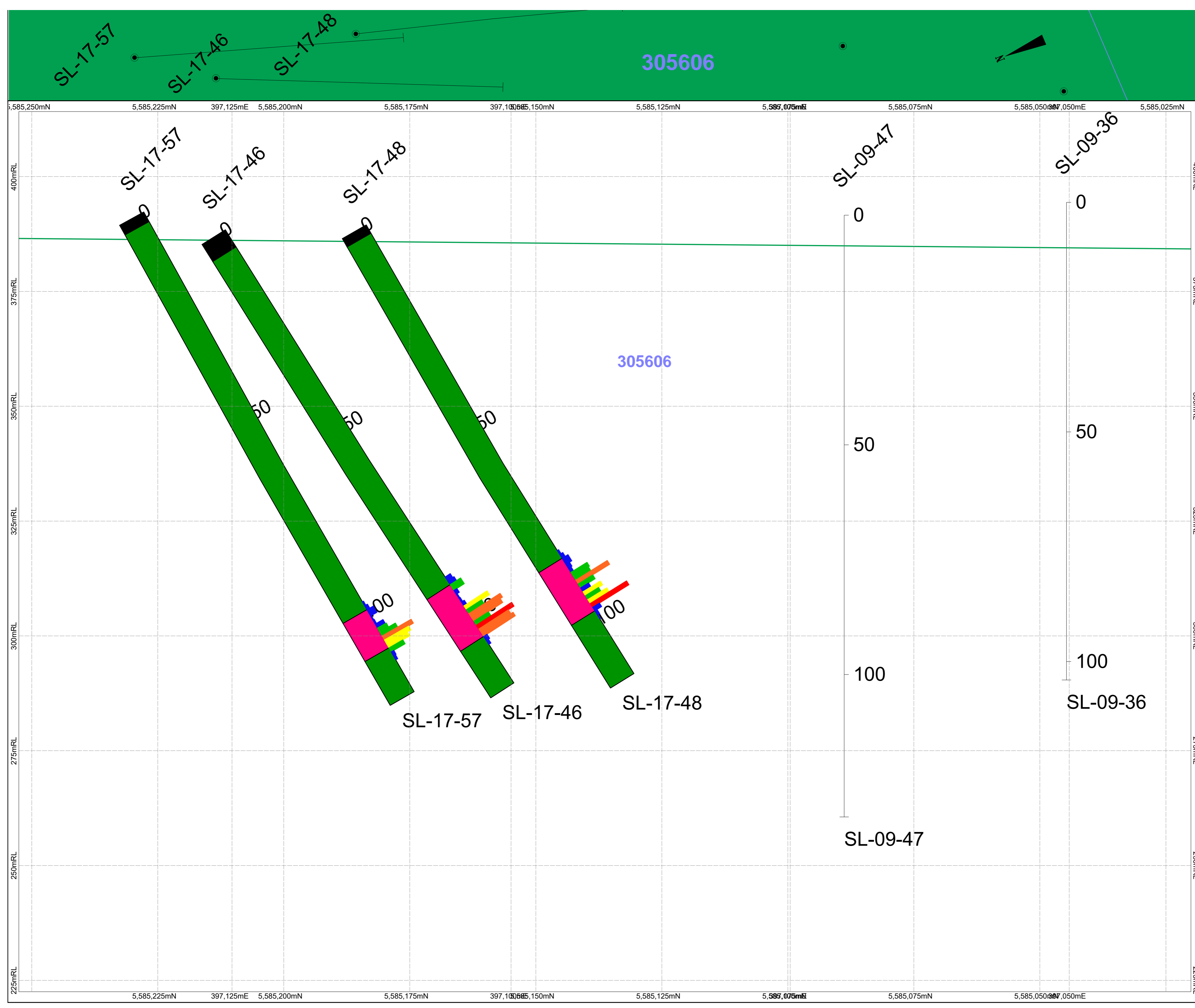
# Ardiden Limited

Date: 4/2/2019  
 Author: Caitlin Jeffs  
 Office:  
 Drawing:

## Seymour Lake Project SL-17-49, 50, 58 Vertical Section Looking

Scale: 1:500 NAD83 Zone 16





HoleID

Li<sub>2</sub>O% Histogram  
4.173623 mm/unit

major\_unit  
TraceShade

EOH

mm given at scale of 1:1000

**Geology Legend  
Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend  
Li<sub>2</sub>O%**

- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

4356798 Mineral Claim outline and number

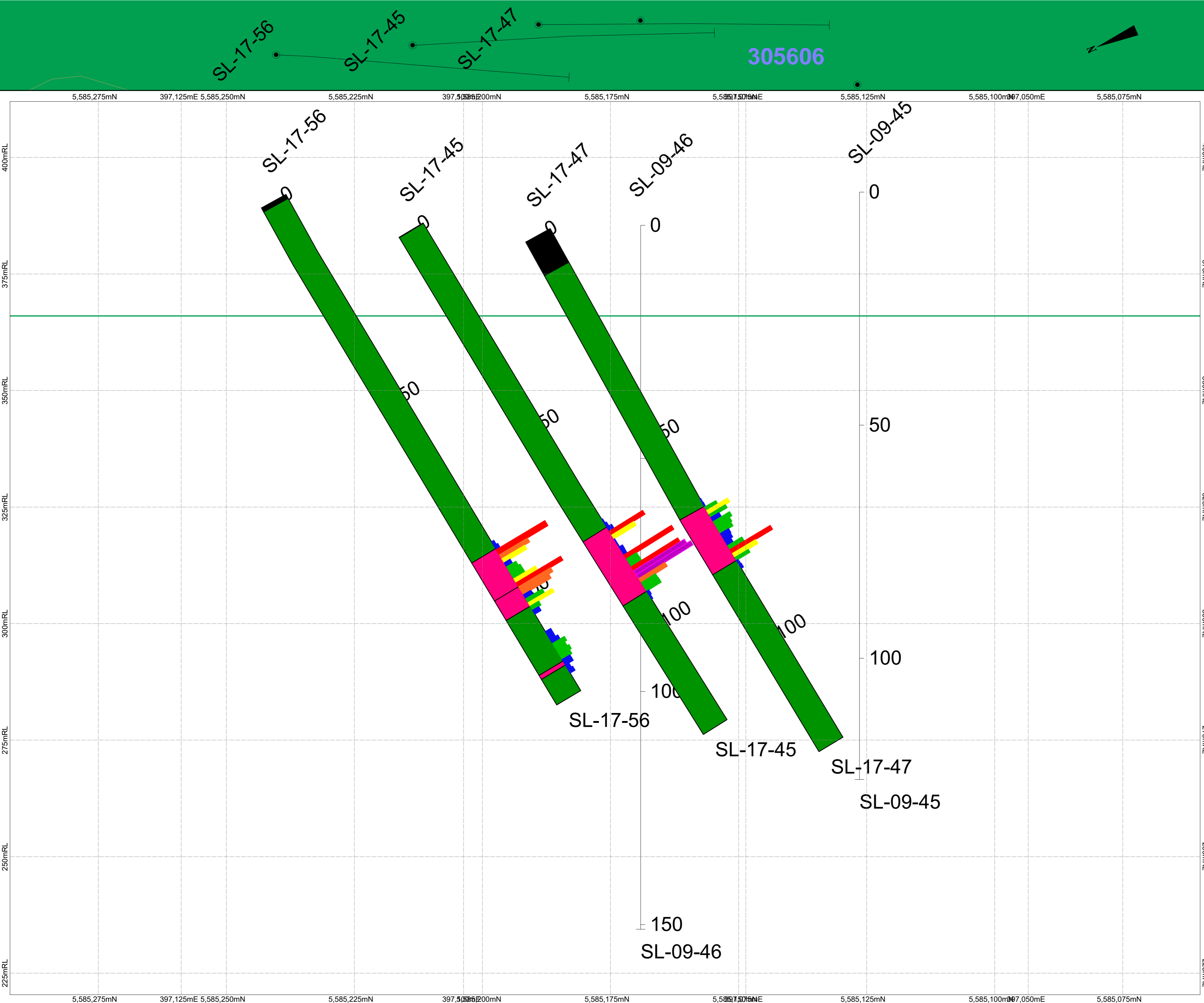
Geology after Pye, EG 1968 P3616

**Ardiden Limited**

Seymour Lake Project  
SL-17-46, 48, 57  
Vertical Section  
Looking East

Date: 4/2/2019	
Author: Caitlin Jeffs	
Office:	
Drawing:	
Scale: 1:500	Projection: Non-Earth (meters)

0 7.5 15 30 metres



305606



HoleID

Li2O%  
Histogram  
4.173623 mm/unit

major\_unit  
TraceShade

EOH

mm given at scale of 1:1000

**Geology Legend**  
**Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend**  
**Li2O%**

- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

**4356798** Mineral Claim outline and number

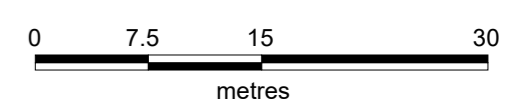
Geology after Pye, EG 1968 P3616

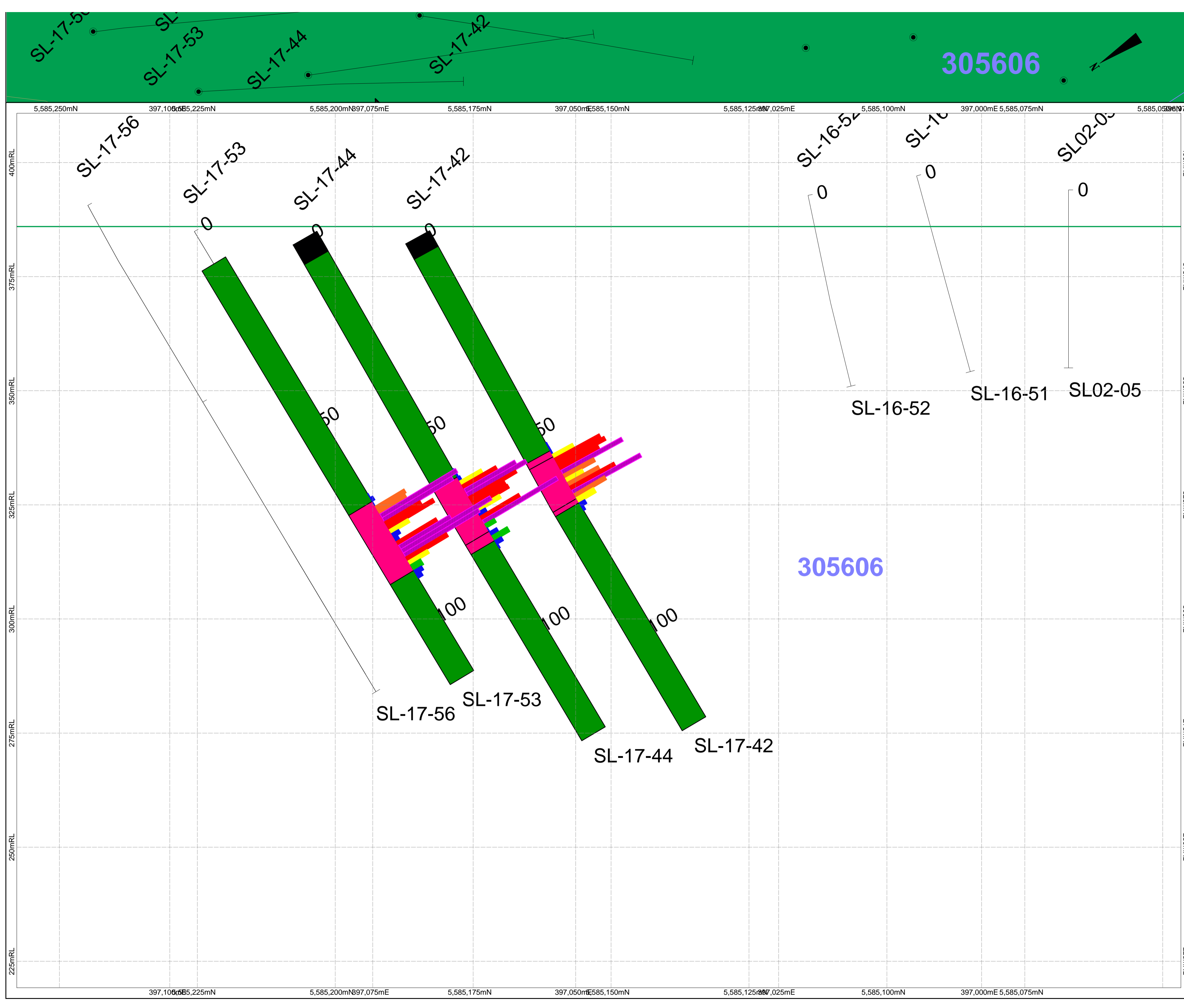
**Ardiden Limited**

Seymour Lake Project  
SL-17-45, 47, 56  
Vertical Section  
Looking East

Date: 4/2/2019  
Author: Caitlin Jeffs  
Office:  
Drawing:

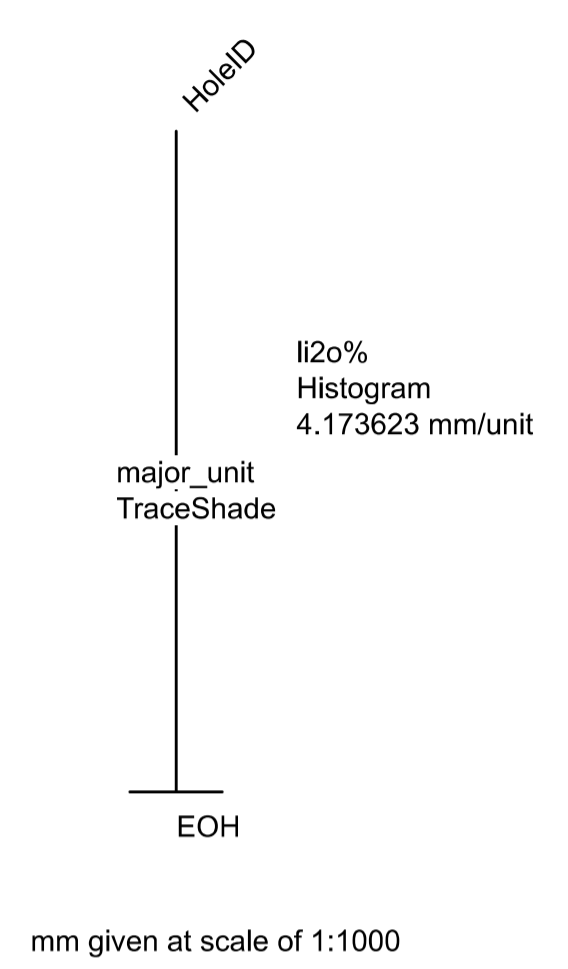
Scale: 1:500 NAD83 Zone 16





305606

305606



**Geology Legend  
 Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend  
 Li2O%**

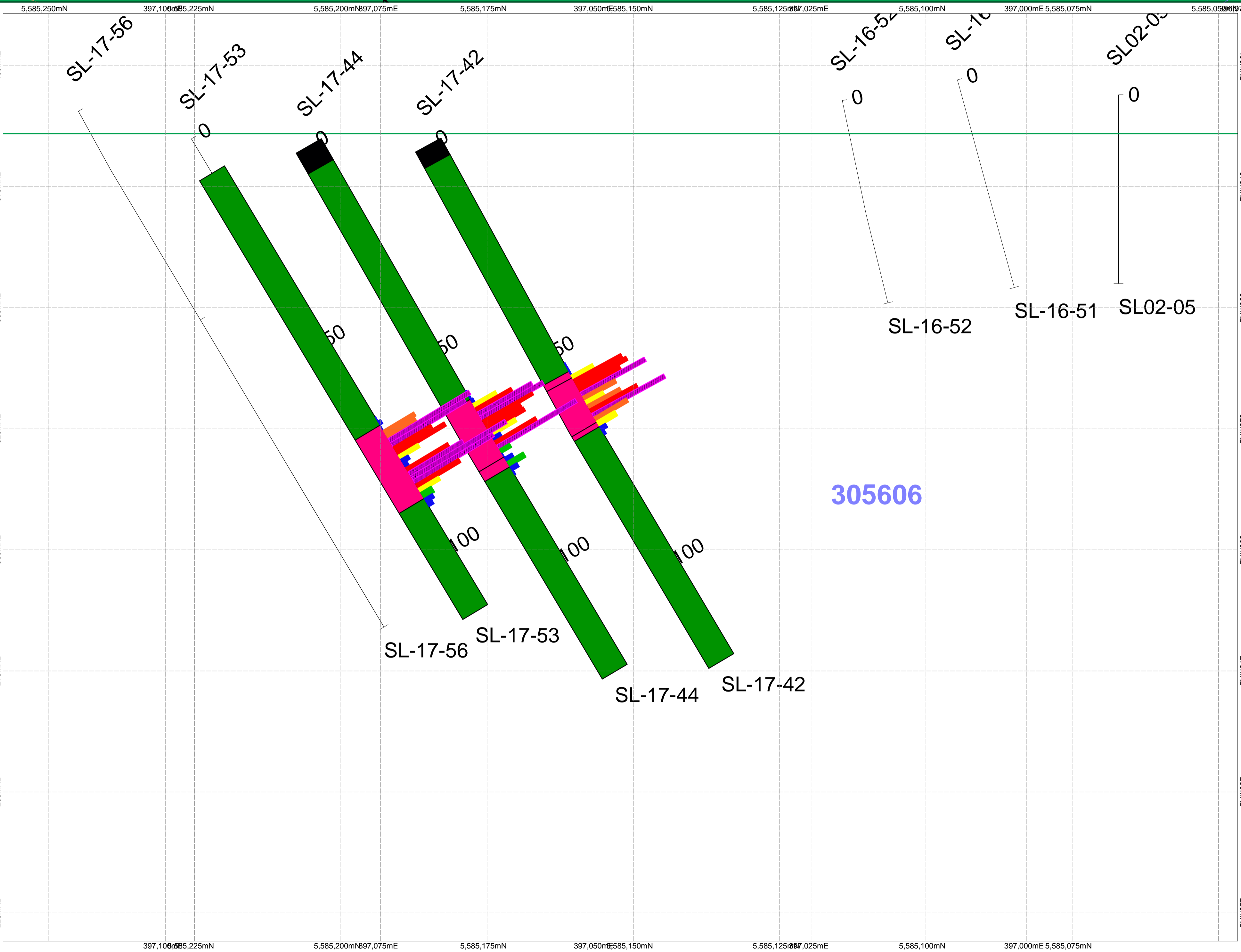
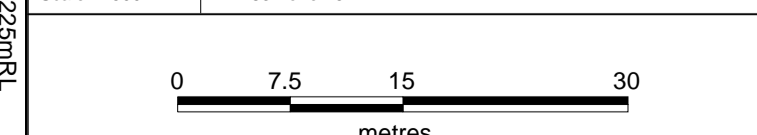
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

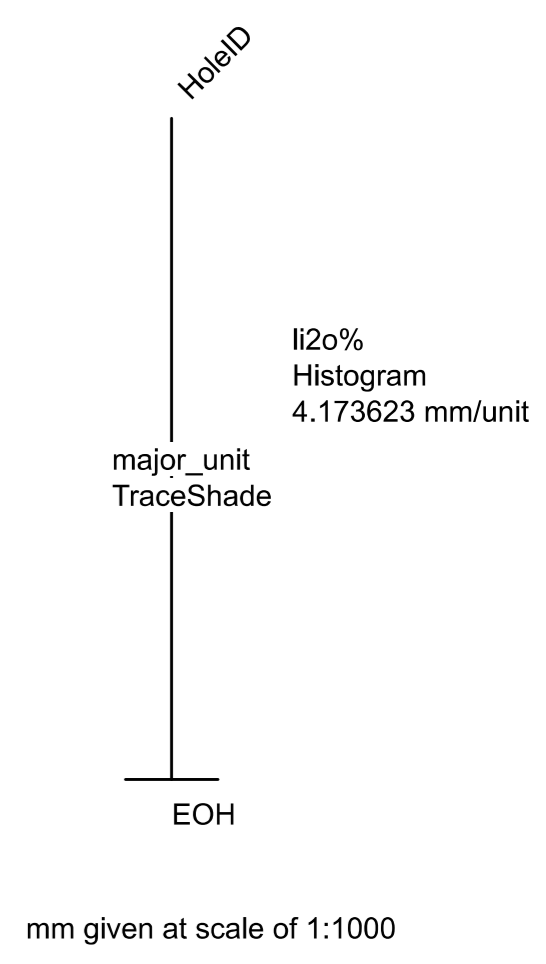
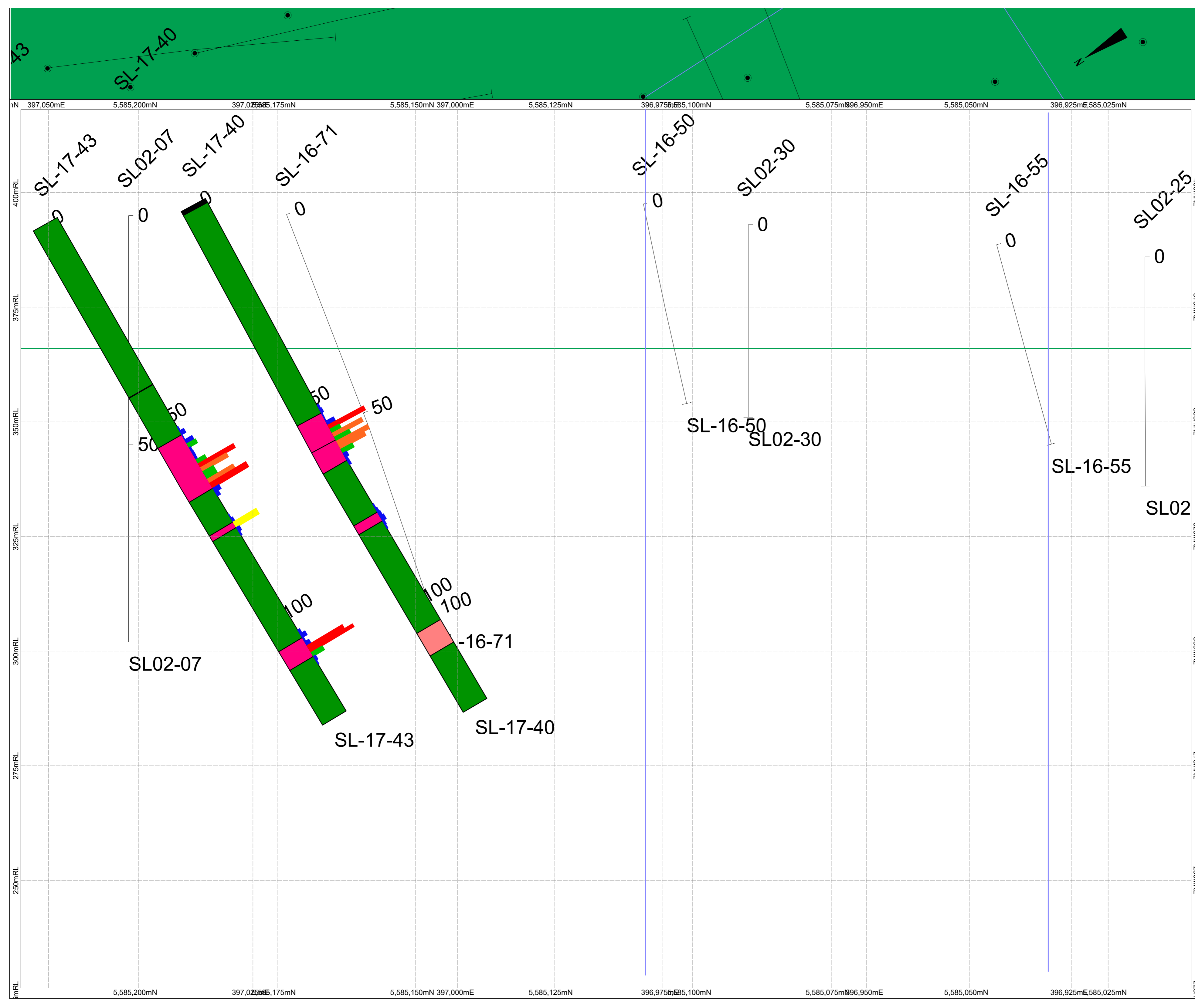
**4356798** Mineral Claim outline and number

Geology after Pye, EG 1968 P3616

**Ardiden Limited**

Seymour Lake Project  
 SL-17-42, 44, 53  
 Vertical Section  
 Looking East





- Geology Legend  
Downhole Lithology**
- Overburden
  - Mafic Volcanic
  - Pegmatite
  - Gabbro
  - Porphyry
  - Mafic Tuff
  - Gabbro Dyke
- Assay Legend  
Li2O%**
- 0 - 0.5
  - 0.5 - 1
  - 1 - 1.5
  - 1.5 - 2
  - 2 - 3
  - 3 - 7
- 4356798** Mineral Claim outline and number
- Geology after Pye, EG 1968 P3616

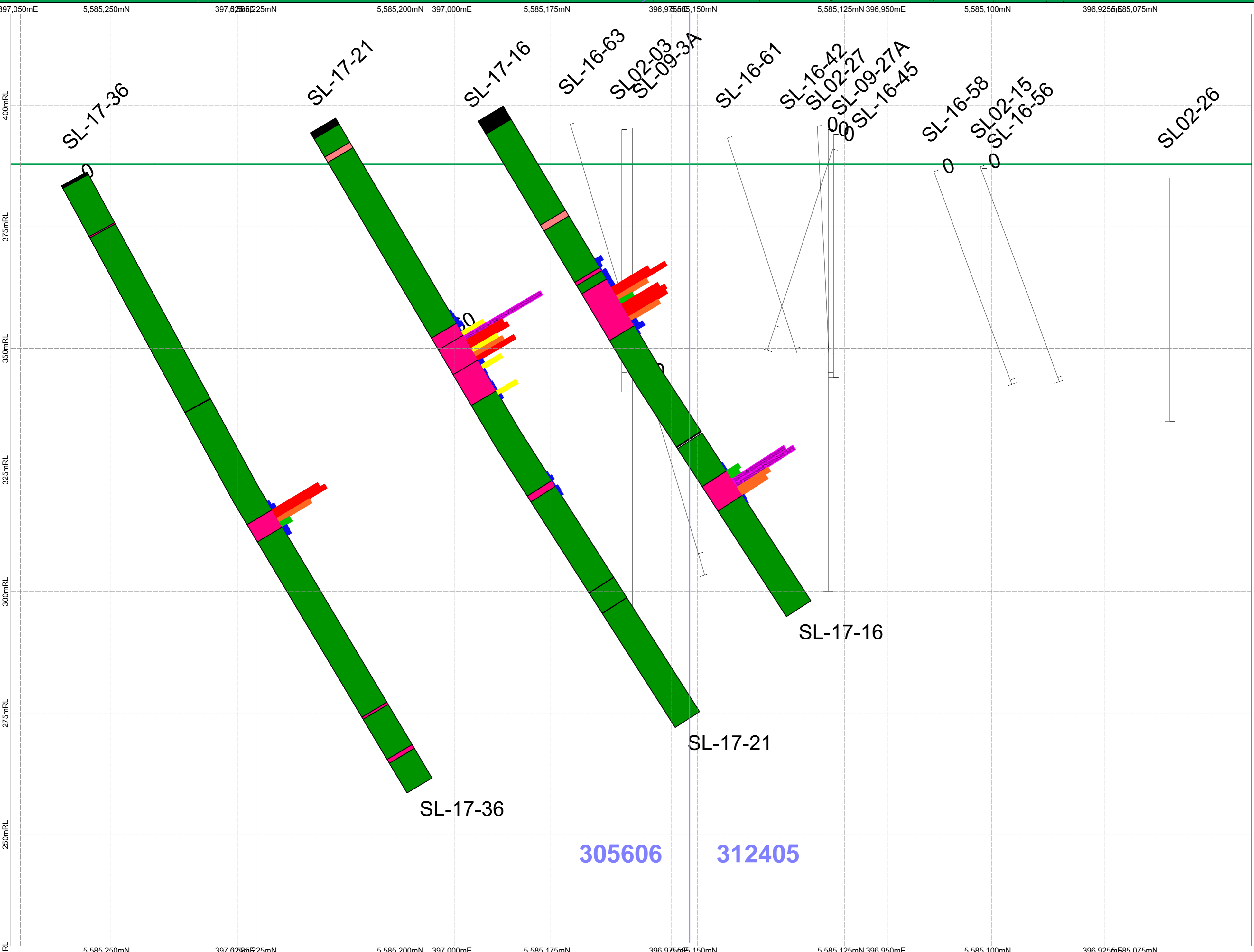
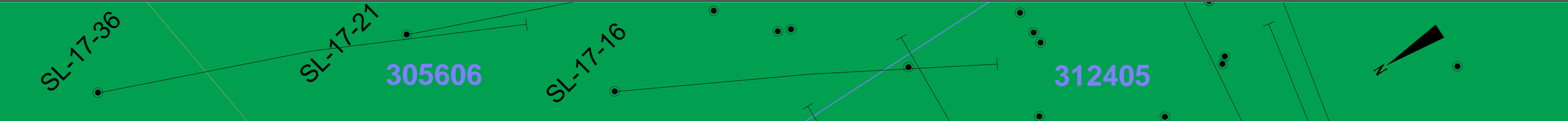
**Ardiden Limited**

Seymour Lake Project  
SL-17-40, 43  
Vertical Section  
Looking East

Date: 4/2/2019	
Author: Caitlin Jeffs	
Office:	
Drawing:	
Scale: 1:500	
NAD83 Zone 16	

0      7.5      15      30  
metres





HoleID

Li2O% Histogram  
4.173623 mm/unit

major\_unit  
TraceShade

EOH

mm given at scale of 1:1000

**Geology Legend**  
**Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend**  
**Li2O%**

- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

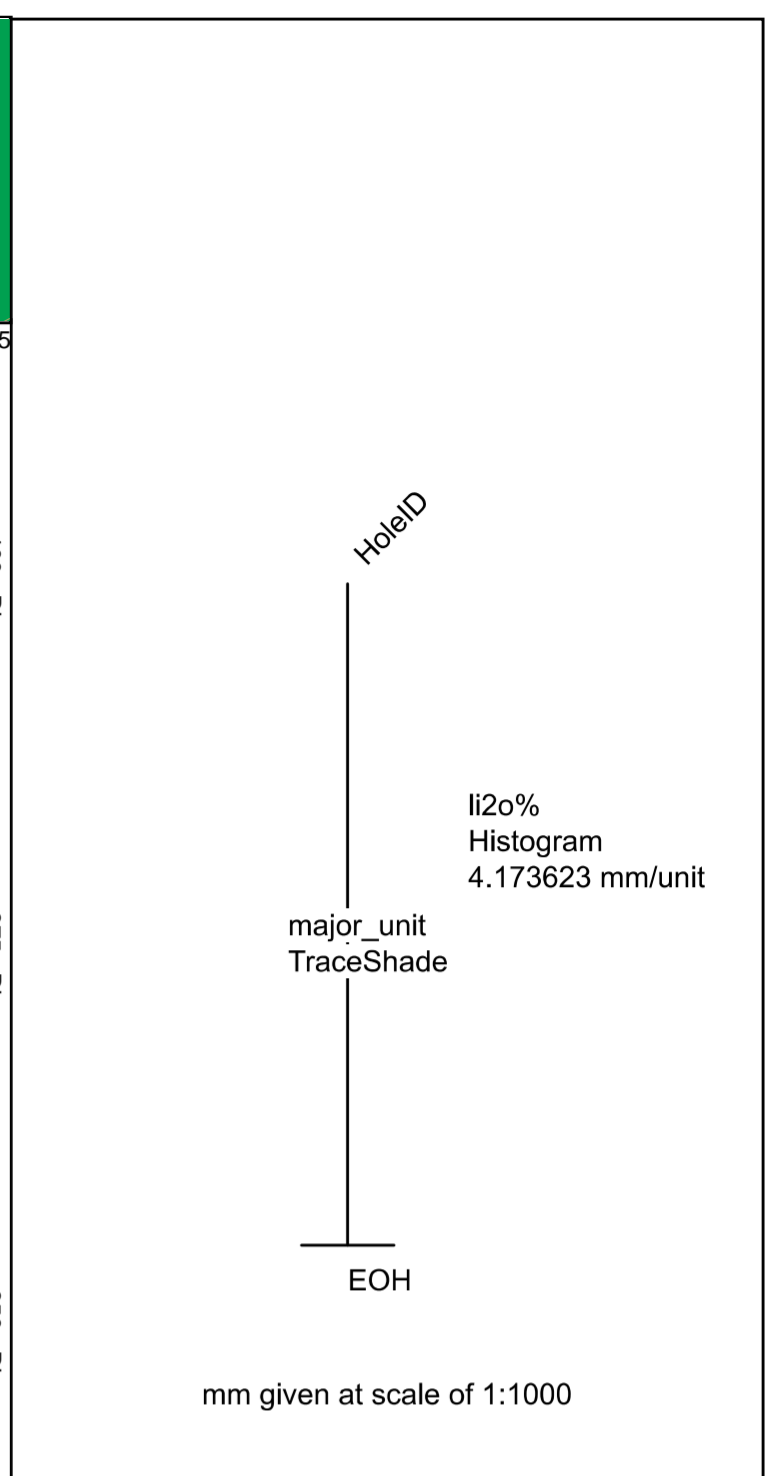
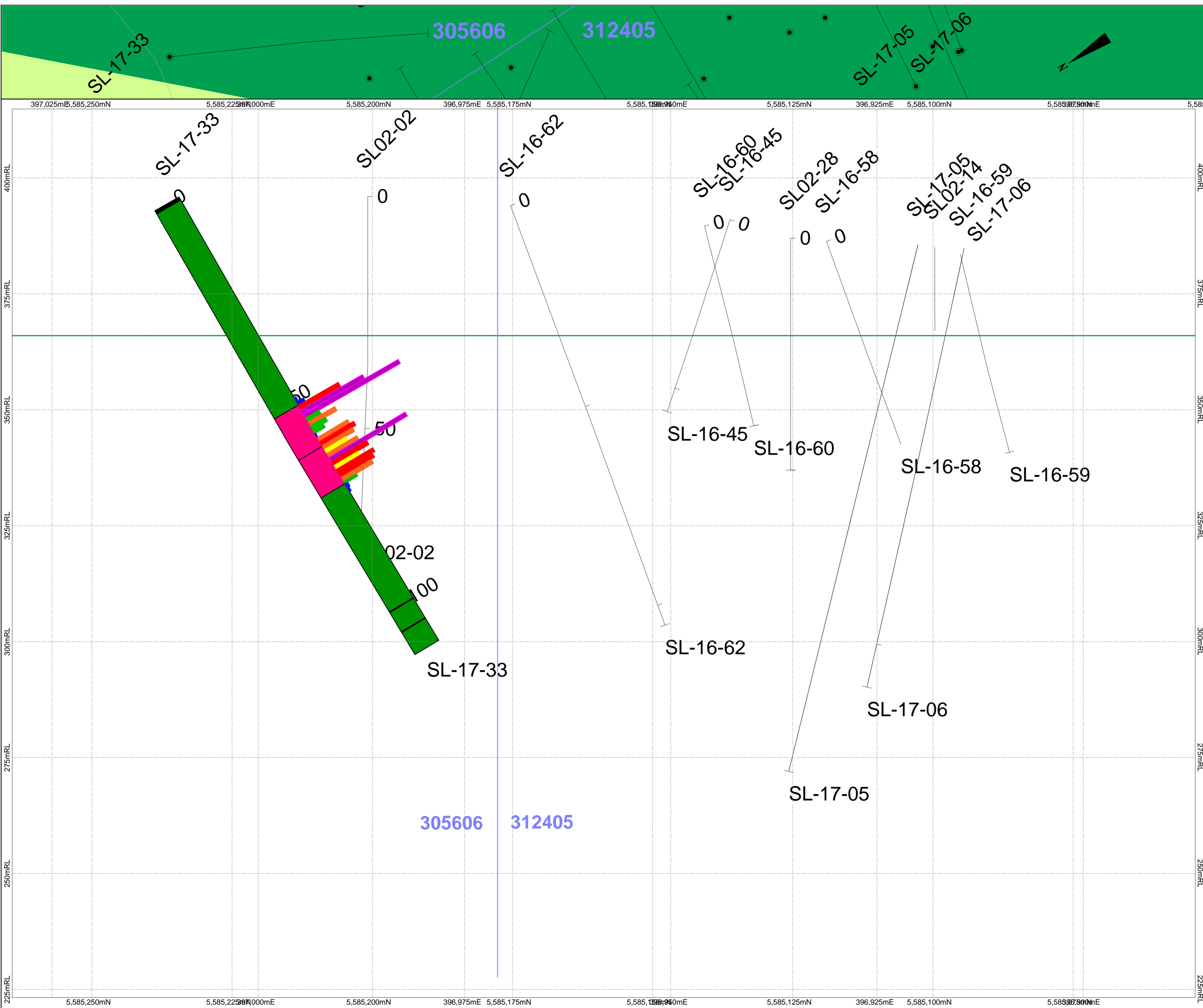
4356798 Mineral Claim outline and number

Geology after Pye, EG 1968 P3616

**Ardiden Limited**

Date: 4/2/2019	Seymour Lake Project SL-17-16, 21, 36 Vertical Section Looking East
Author: Caitlin Jeffs	
Office:	
Drawing:	
Scale: 1:500	NAD83 Zone 16

0    7.5    15    30  
metres



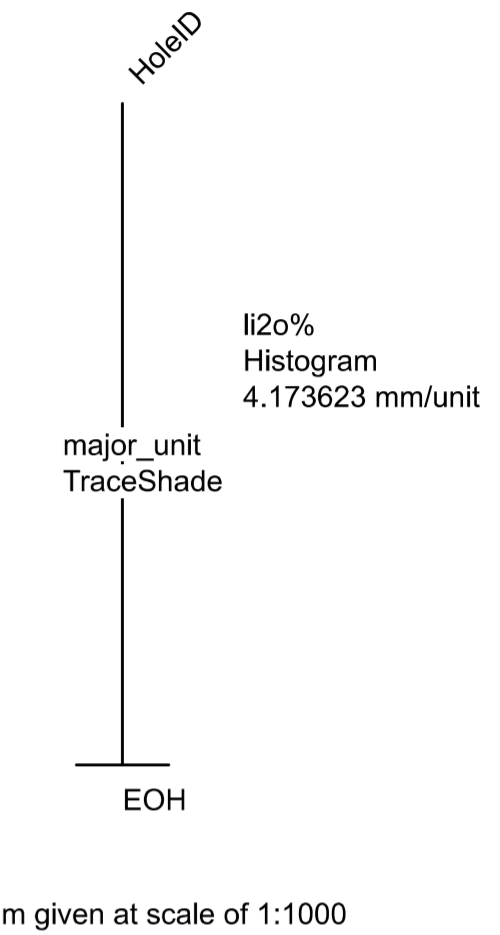
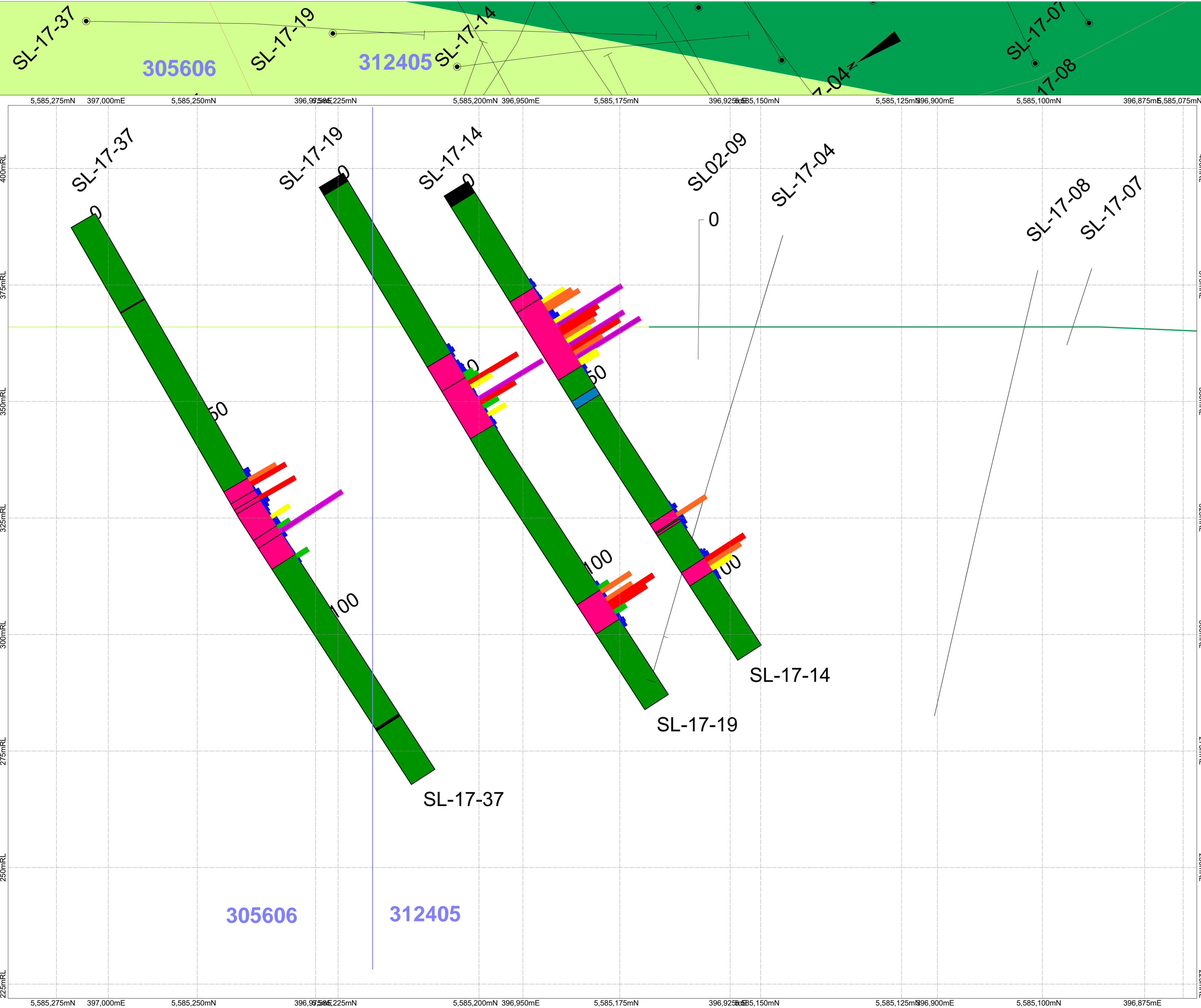
- Geology Legend  
Downhole Lithology**
- Overburden
  - Mafic Volcanic
  - Pegmatite
  - Gabbro
  - Porphyry
  - Mafic Tuff
  - Gabbro Dyke
- Assay Legend  
Li2O%**
- 0 - 0.5
  - 0.5 - 1
  - 1 - 1.5
  - 1.5 - 2
  - 2 - 3
  - 3 - 7
- 4356798 Mineral Claim outline and number
- Geology after Pye, EG 1968 P3616

**Ardiden Limited**

Seymour Lake Project  
SL-17-33  
Vertical Section  
Looking East

Date: 4/2/2019  
Author: Caitlin Jeffs  
Office:  
Drawing:  
Scale: 1:500 NAD83 Zone 16

0 7.5 15 30 metres



**Geology Legend**  
**Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend**  
**Li2O%**

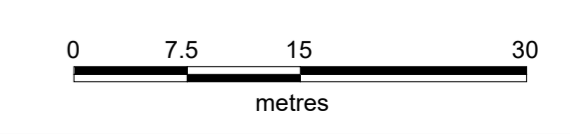
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

4356798 Mineral Claim outline and number

Geology after Pye, EG 1968 P3616

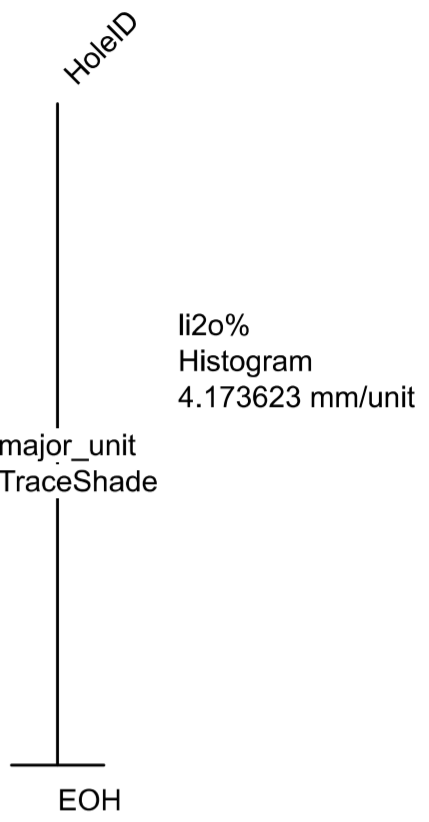
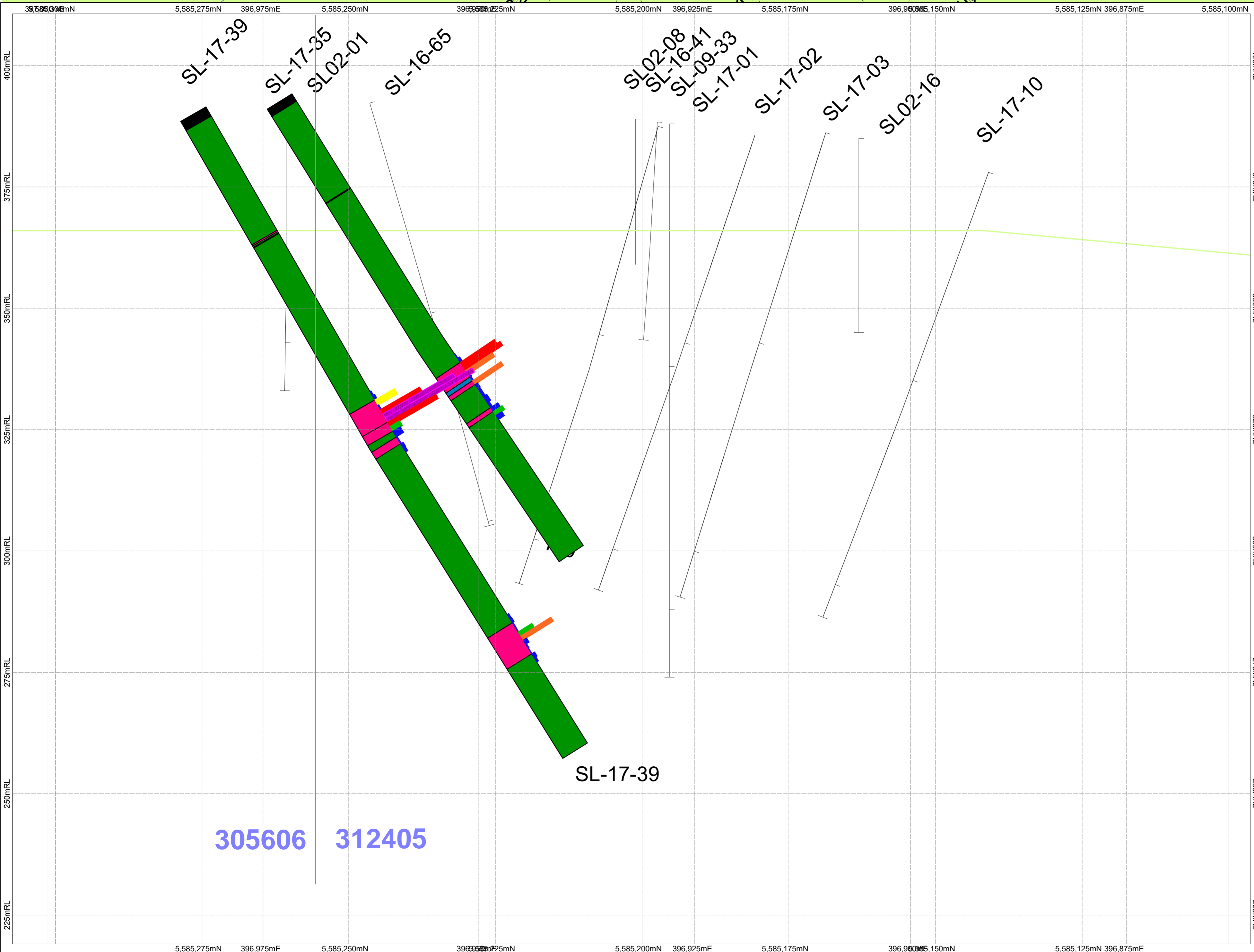
**Ardiden Limited**

Date: 4/2/2019	<b>Seymour Lake Project</b> <b>SL-17-19, 37, 14</b> <b>Vertical Section</b> <b>Facing East</b>
Author: Caitlin Jeffs	
Office:	
Drawing:	
Scale: 1:500	NAD83 Zone 16



305606

312405



mm given at scale of 1:1000

**Geology Legend**  
**Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend**  
**Li2O%**

- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

4356798 Mineral Claim outline and number

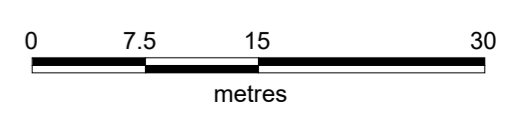
Geology after Pye, EG 1968 P3616

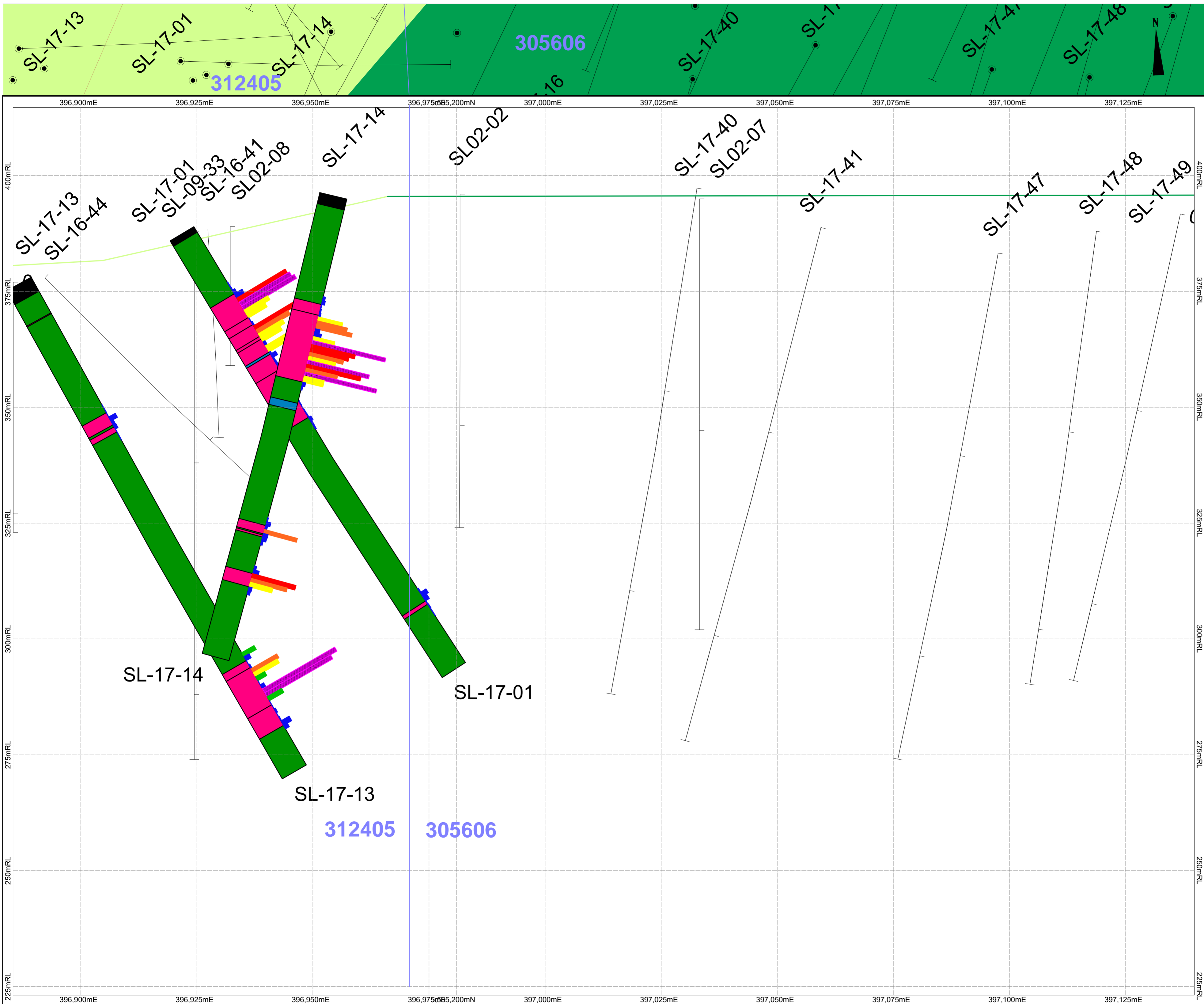
# Ardiden Limited

Date: 4/2/2019  
 Author: Caitlin Jeffs  
 Office:  
 Drawing:

Seymour Lake Project  
 SL-17-35, 39  
 Vertical Section  
 Looking East

Scale: 1:500 NAD83 Zone 16





li<sub>2</sub>o% Histogram  
4.173623 mm/unit

major\_unit  
TraceShade

EOH

mm given at scale of 1:1000

**Geology Legend  
Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend  
Li<sub>2</sub>O%**

- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

4356798 Mineral Claim outline and number

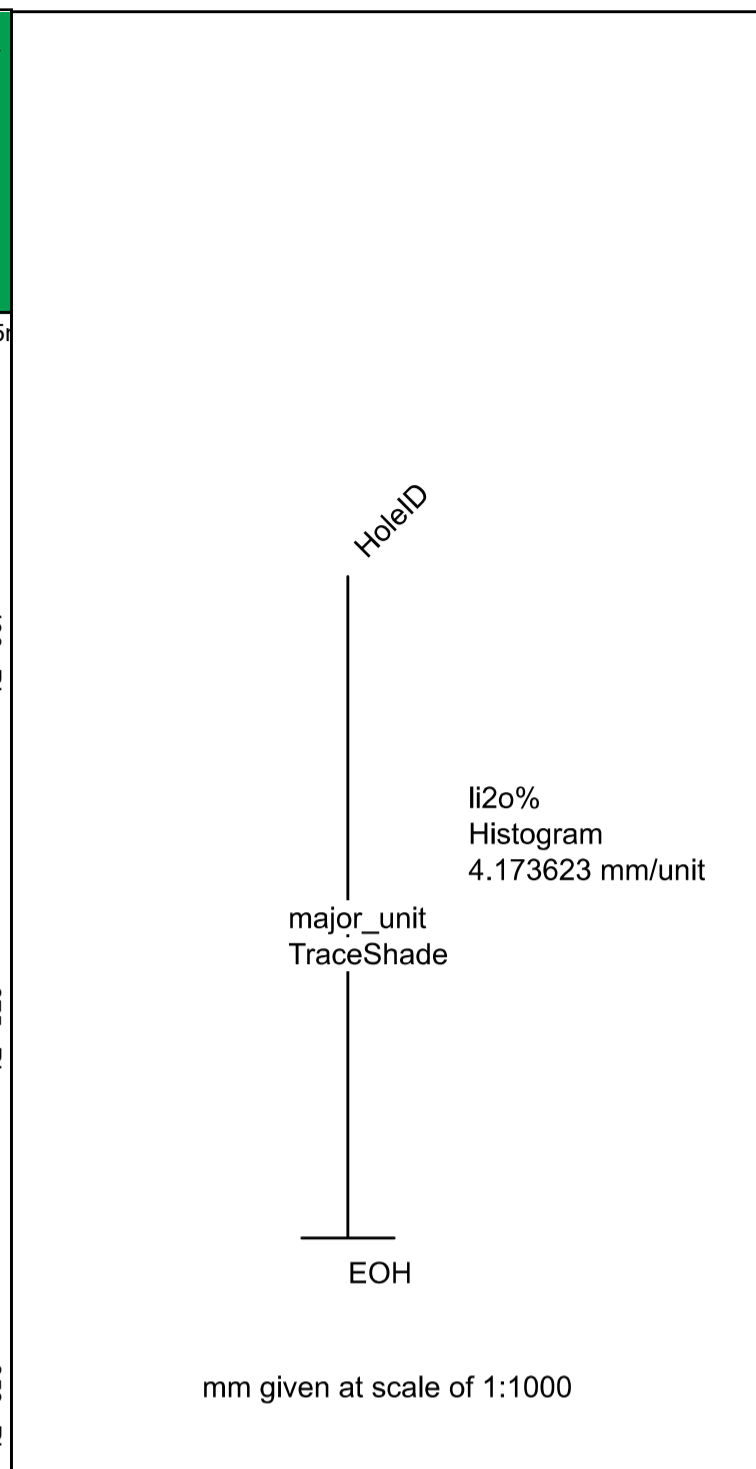
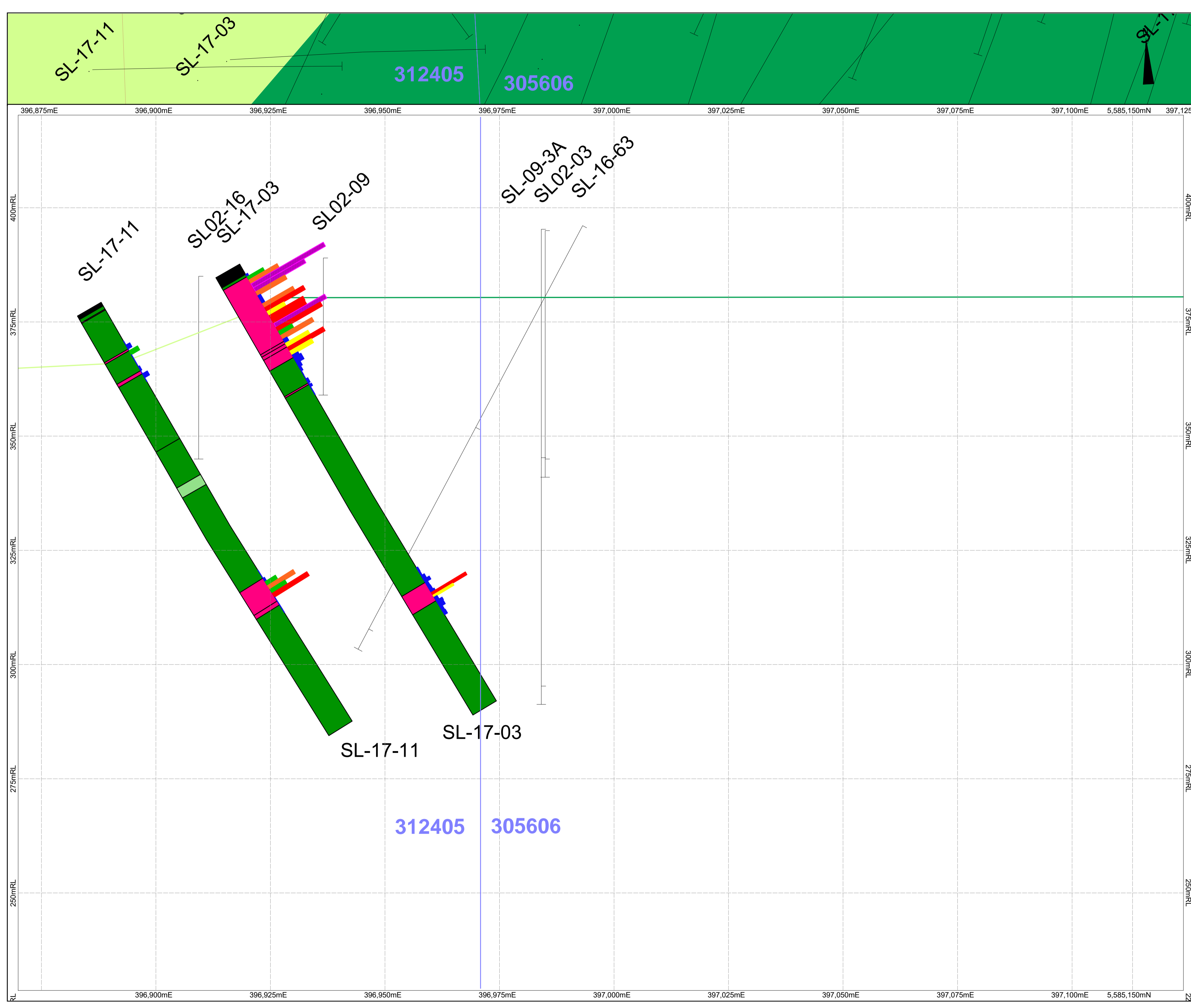
Geology after Pye, EG 1968 P3616

**Ardiden Limited**

Seymour Lake Project  
SL-17-01, 13, 14  
Vertical Section  
Looking

Date: 4/2/2019  
Author: Caitlin Jeffs  
Office:  
Drawing:  
Scale: 1:500 NAD83 Zone 16

0 7.5 15 30 metres



- Geology Legend**  
Downhole Lithology
- Overburden
  - Mafic Volcanic
  - Pegmatite
  - Gabbro
  - Porphyry
  - Mafic Tuff
  - Gabbro Dyke
- Assay Legend**  
Li<sub>2</sub>O%
- 0 - 0.5
  - 0.5 - 1
  - 1 - 1.5
  - 1.5 - 2
  - 2 - 3
  - 3 - 7

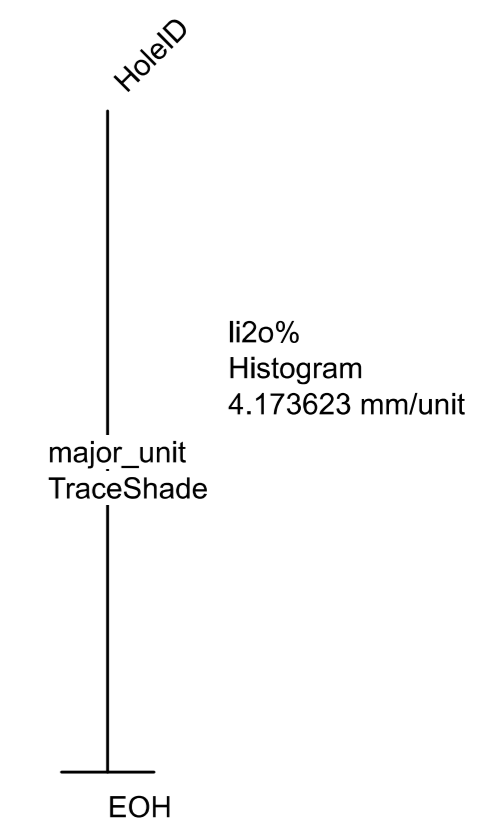
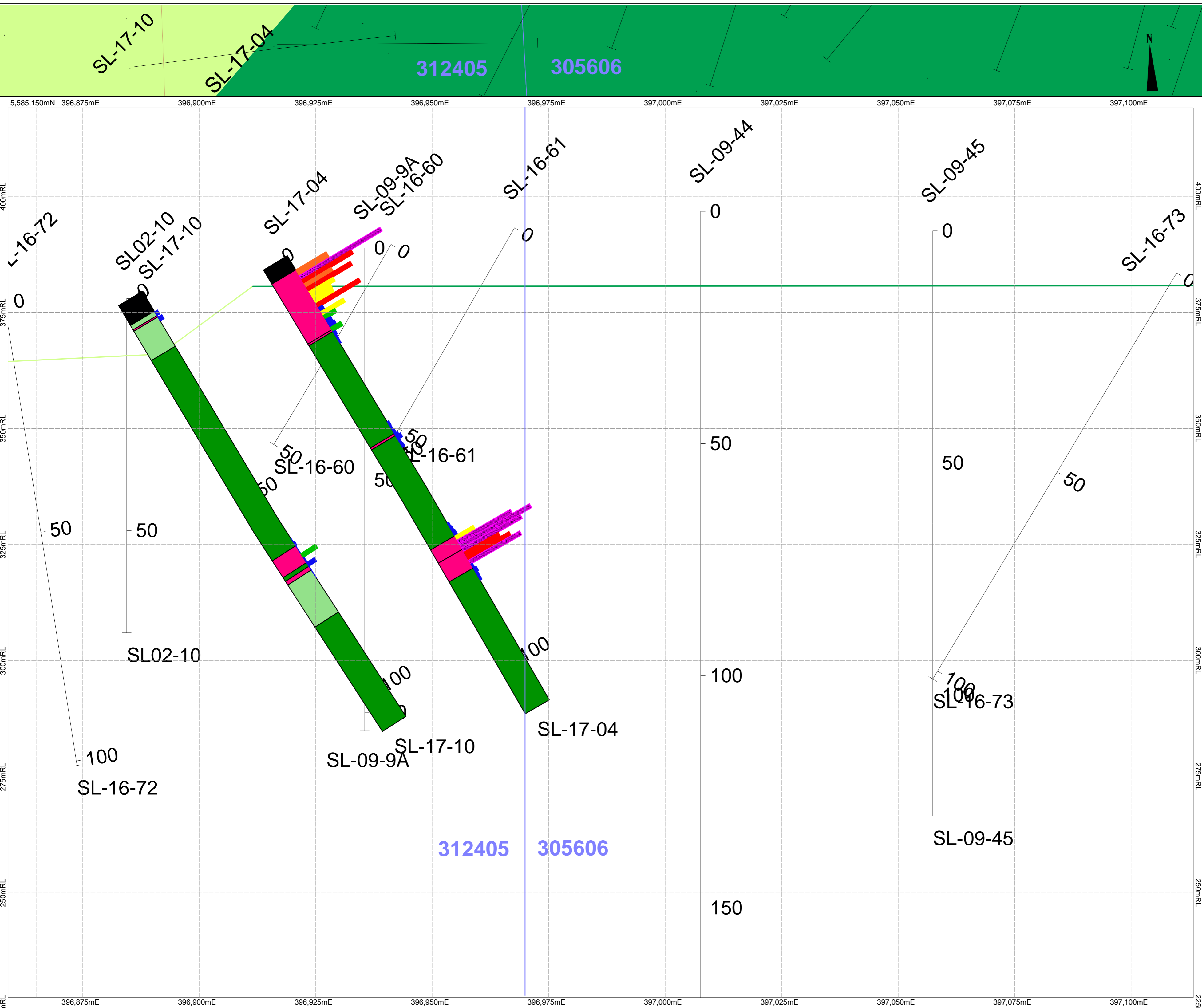
**4356798** Mineral Claim outline and number  
Geology after Pye, EG 1968 P3616

**Ardiden Limited**

Seymour Lake Project  
SL-17-03, 11  
Vertical Section Facing

Date: 4/3/2019  
Author: Caitlin Jeffs  
Office:  
Drawing:  
Scale: 1:500 NAD83 Zone 16

0 7.5 15 30 metres



mm given at scale of 1:1000

**Geology Legend  
Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend  
Li2O%**

- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

**4356798** Mineral Claim outline and number

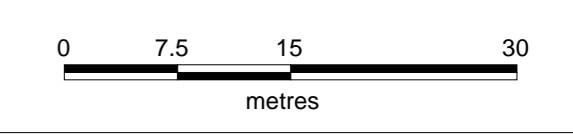
Geology after Pye, EG 1968 P3616

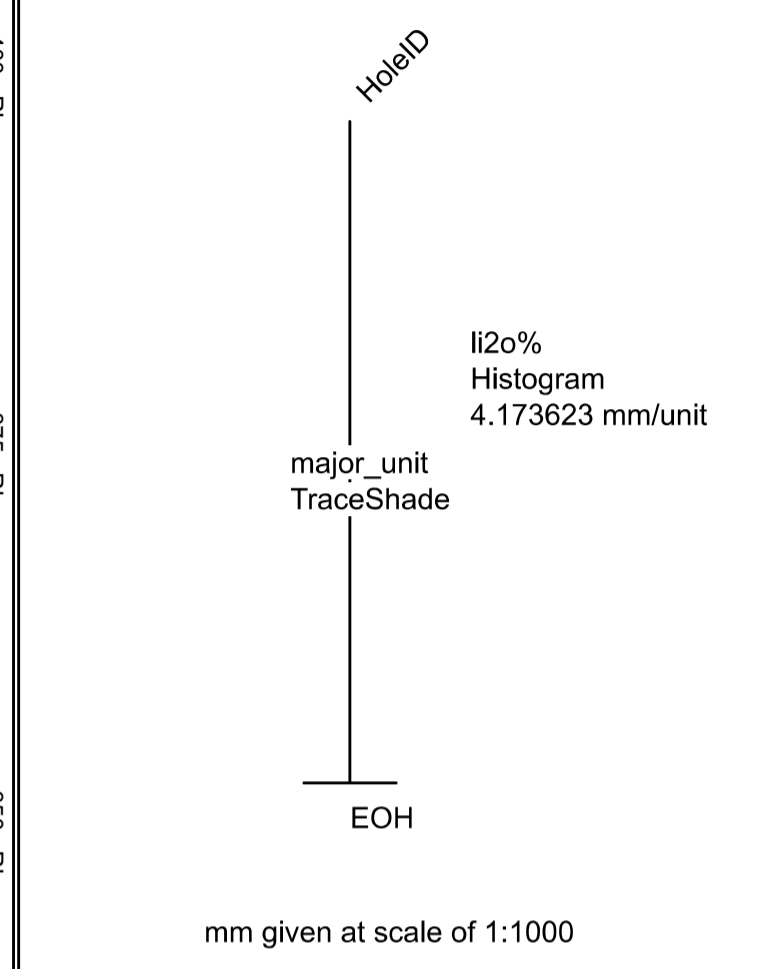
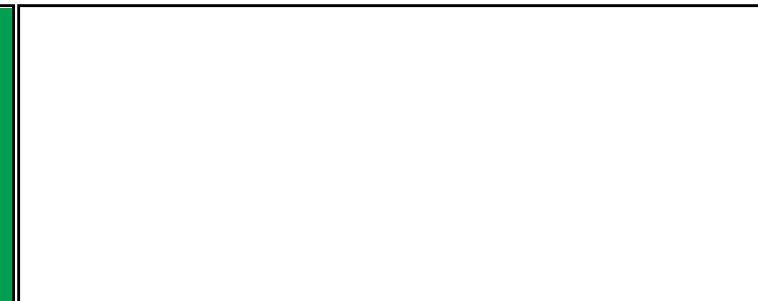
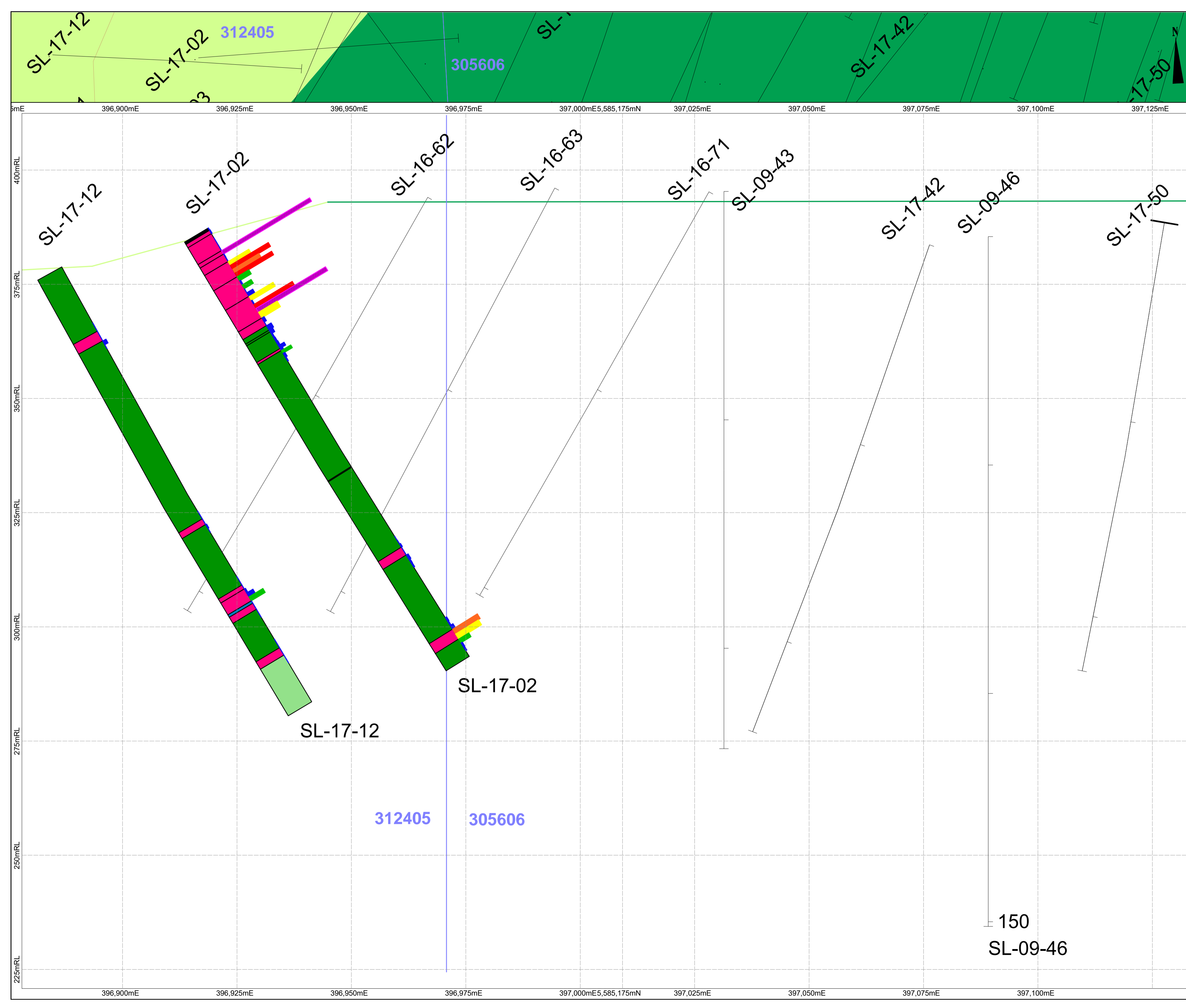
**Ardiden Limited**

Seymour Lake Project  
SL-17-04, 10  
Vertical Section  
Looking

Date: 4/3/2019  
Author: Caitlin Jeffs  
Office:  
Drawing:  
Scale: 1:500

NAD83 Zone 16





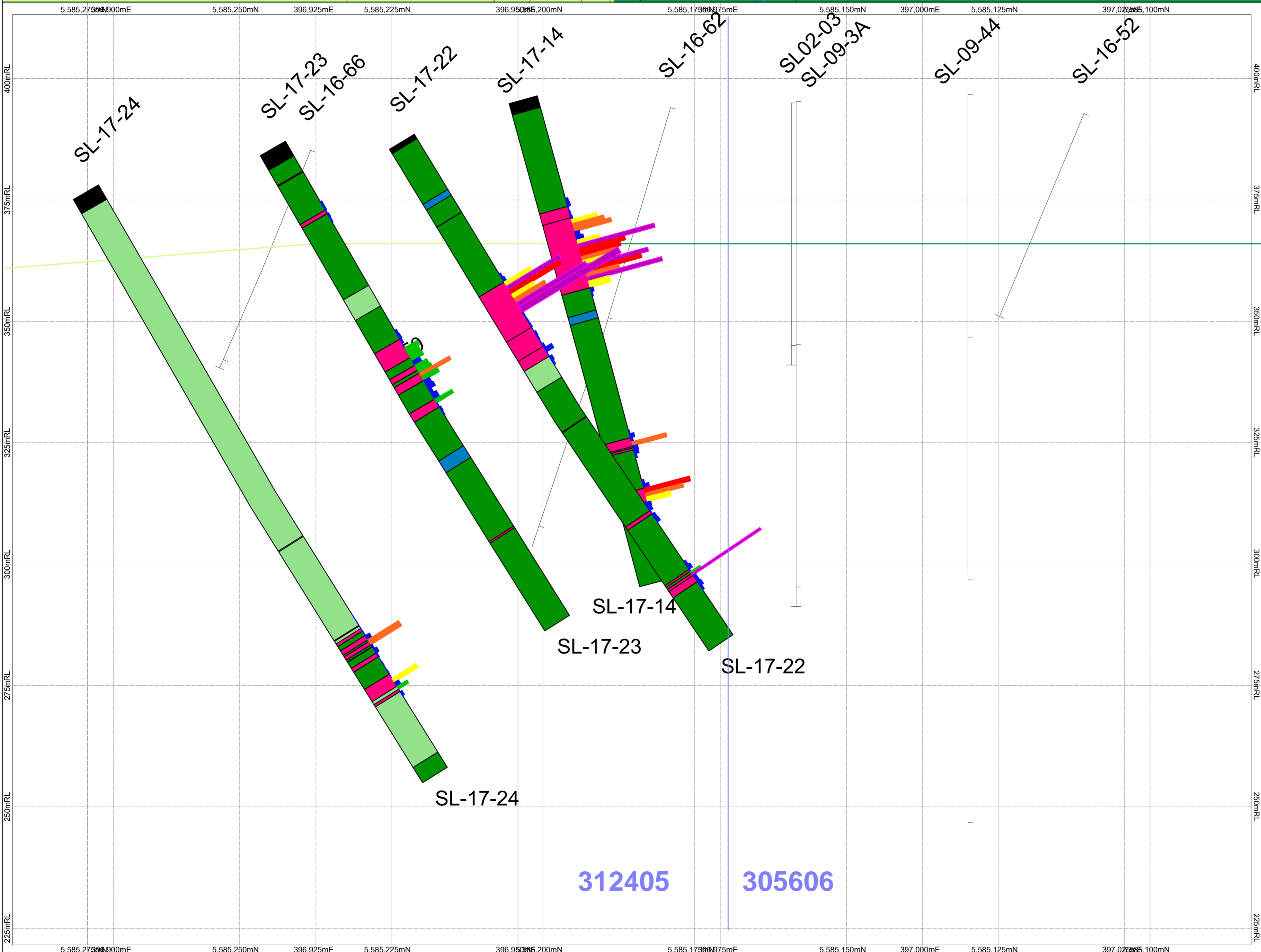
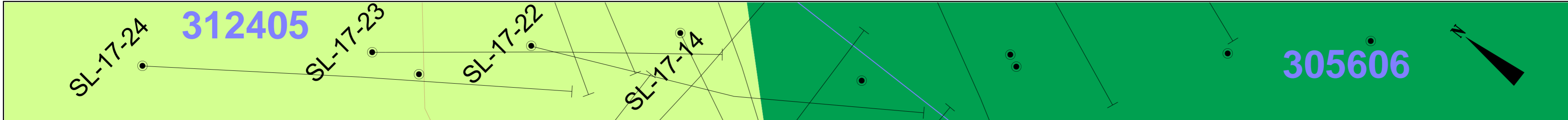
- Geology Legend  
Downhole Lithology**
- Overburden
  - Mafic Volcanic
  - Pegmatite
  - Gabbro
  - Porphyry
  - Mafic Tuff
  - Gabbro Dyke
- Assay Legend  
Li2O%**
- 0 - 0.5
  - 0.5 - 1
  - 1 - 1.5
  - 1.5 - 2
  - 2 - 3
  - 3 - 7
- 4356798 Mineral Claim outline and number
- Geology after Pye, EG 1968 P3616

**Ardiden Limited**

Date: 4/3/2019	Seymour Lake Project SL-17-02, 12 Vertical Section Looking
Author: Caitlin Jeffs	
Office:	
Drawing:	
Scale: 1:500	NAD83 Zone 16

150  
SL-09-46





400mRL  
375mRL  
350mRL  
325mRL  
300mRL  
275mRL  
250mRL  
225mRL

400mRL  
375mRL  
350mRL  
325mRL  
300mRL  
275mRL  
250mRL  
225mRL

HoleID

Li2O%  
Histogram  
4.173623 mm/unit

major\_unit  
TraceShade

EOH

mm given at scale of 1:1000

**Geology Legend  
Downhole Lithology**

- Overburden
- Mafic Volcanic
- Pegmatite
- Gabbro
- Porphyry
- Mafic Tuff
- Gabbro Dyke

**Assay Legend  
Li2O%**

- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 7

4356798 Mineral Claim outline and number

Geology after Pye, EG 1968 P3616

**Ardiden Limited**

Seymour Lake Project  
SL-17-14, 22, 23, 24  
Vertical Section  
Looking Northeast

Date: 4/3/2019  
Author: Caitlin Jeffs  
Office:  
Drawing:

Scale: 1:500 NAD83 Zone 16

0 7.5 15 30 metres

**Appendix VI: Work Summary and Expenditures**